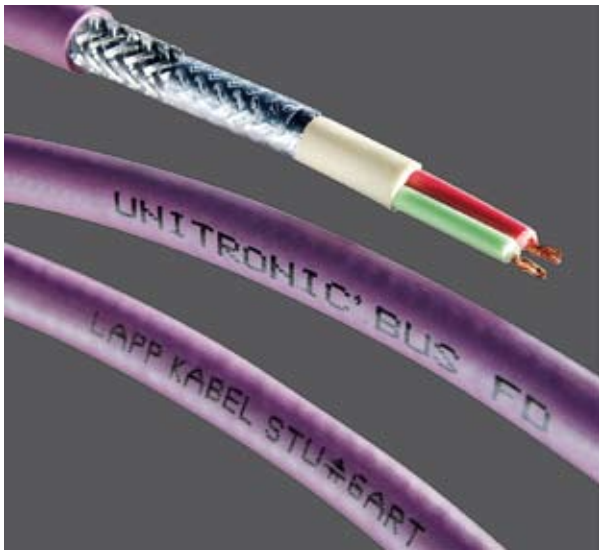
LAPP GROUP

UNITRONIC®

Data communication systems



UNITRONIC® 100

Info

- **UNITRONIC® colour code with protective conductor**

UNITRONIC® 100 CY

Benefits

UNITRONIC® 100 CY

- Reliable data transmission thanks to effective screening
- Essentially resistant against acids, lyes and certain oils at room temperature
- Robust, flexible and resistant outer sheath
- Small external diameter despite high number of cores
- Cable similar to UNITRONIC® 100, but with copper braid
- Flame retardant according to IEC 60332-1-2

Application range

UNITRONIC® 100

- These control and signal cables are used in the milliampere range for computer systems, electronic control equipment, office machines, scales etc. and wherever the thinnest possible control cables are required.

UNITRONIC® 100 CY

- Reliable data transmission in intrinsically safe circuits
- These control and signal cables are used in the milliampere range for computer systems, electronic control equipment, office machines, scales etc. and wherever the thinnest possible control cables are required.

Product features

UNITRONIC® 100

- Robust, flexible and resistant outer sheath
- Small external diameter despite high number of cores
- Flame retardant according to IEC 60332-1-2

UNITRONIC® 100 CY

- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

UNITRONIC® 100

- Stranded bare copper conductor
- PVC core insulation
- 3 cores and more: (Green/yellow) 2 cores (black/blue)
- PVC outer sheath
- Colour: silver grey (RAL 7001)

UNITRONIC® 100 CY

- Stranded bare copper conductor PVC core insulation
- 3 cores and more: (Green/yellow) 2 cores (black/blue)
- PVC inner sheath surrounded by tinned copper wire braid
- PVC outer sheath
- For the cross section of 0.14 mm², a polyester tape is used underneath the screen braiding instead of the inner sheath.

Technical data

Core identification code
UNITRONIC® colour code see table T7

Mutual capacitance
Approx. 120 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0814: (DIN 47414)
or VDE 0812

Specific insulation resistance
> 10 GOhm x cm

Inductivity
Approx 0.7 mH/km

Conductor stranding
UNITRONIC® 100
Strand, fine wire
except 0.34 mm², 7 wire
UNITRONIC® 100 CY
Strand, fine wire except 0.34 mm², 7-wire

Minimum bending radius
UNITRONIC® 100
Flexing:
15 x cable diameter
UNITRONIC® 100 CY
For flexible applications:
20 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
UNITRONIC® 100
1500 V core/core
UNITRONIC® 100 CY
Core/core: 1500 V
Core/screen: 1500 V

Protective conductor
Green/yellow

Range of temperature
Occasional flexing: -5°C up to +70°C
Static:
-30°C up to +80°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® 100				
0028009	2 x 0,14	3.0	2.7	12.0
0028010	3 x 0,14	3.2	4.0	17.0
0028011	4 x 0,14	3.4	5.4	19.0
0028012	5 x 0,14	3.7	6.7	22.0
0028014	7 x 0,14	4.0	9.4	27.0
0028015	10 x 0,14	5.0	13.5	41.0
0028019	24 x 0,14	7.2	32.4	94.0
0028020	27 x 0,14	7.4	36.5	107.0
0028023	40 x 0,14	8.9	54.0	152.0
0028025	52 x 0,14	10.0	70.2	198.0
0028030	3 x 0,25	3.8	7.2	21.0
0028031	7 x 0,25	4.9	16.8	48.0
0028032	10 x 0,25	6.4	24.0	77.0
0028033	14 x 0,25	6.9	33.6	95.0
0028034	16 x 0,25	7.3	38.4	112.0
0028035	21 x 0,25	8.5	50.4	139.0
0028036	24 x 0,25	9.0	57.6	163.0
0028037	27 x 0,25	9.2	64.8	171.0
0028038	30 x 0,25	9.9	72.0	187.0
0028039	36 x 0,25	10.7	86.4	235.0
0028040	40 x 0,25	11.6	96.1	266.0
0028041	44 x 0,25	12.0	105.7	290.0
0028042	52 x 0,25	12.5	124.9	343.0
0028044	61 x 0,25	13.3	146.4	398.0

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0028047	3 x 0,34	4.2	9.8	33.0
0028048	7 x 0,34	5.5	22.8	62.0
0028049	10 x 0,34	7.2	32.6	89.0
0028050	14 x 0,34	7.8	45.7	118.0
0028051	16 x 0,34	8.3	52.0	131.0
0028052	21 x 0,34	10.0	69.0	167.0
0028054	27 x 0,34	10.8	88.0	208.0
0028056	36 x 0,34	12.1	118.0	292.0
0028057	40 x 0,34	13.1	131.0	330.0
0028059	52 x 0,34	14.6	170.0	424.0
0028061	61 x 0,34	15.5	199.0	508.0
UNITRONIC® 100 CY				
0034006	2 x 0,14	3.7	12.0	20.0
0034007	3 x 0,14	3.9	13.0	28.0
0034008	4 x 0,14	4.1	14.3	33.0
0034009	5 x 0,14	4.4	15.5	38.0
0034010	7 x 0,14	4.7	19.0	49.0
0034011	10 x 0,14	5.7	28.5	66.0
0034012	14 x 0,14	6.3	32.0	80.0
0034013	16 x 0,14	6.6	43.0	90.0
0034016	27 x 0,14	8.1	65.0	148.0
0031031	3 x 0,25	5.4	20.2	48.0
0031066	4 x 0,25	5.7	24.0	61.0
0031067	5 x 0,25	6.3	29.0	72.0
0031032	7 x 0,25	6.7	32.8	82.0
0031033	10 x 0,25	8.2	54.0	129.0
0031034	14 x 0,25	8.7	64.6	147.0
0031068	2 x 0,34	5.6	20.0	45.0
0031048	3 x 0,34	5.8	24.0	62.0
0031069	4 x 0,34	6.4	29.0	65.0
0031070	5 x 0,34	6.9	42.0	95.0
0031049	7 x 0,34	7.3	50.0	106.0
0031050	10 x 0,34	9.0	89.6	167.0
0031052	16 x 0,34	10.5	120.0	219.0
0031060	52 x 0,34	17.6	336.0	629.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

■ Accessories

UNITRONIC® 100

- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® 100 CY

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® LiYY

Benefits

- Considering economic minimum quantities the outer sheath can also be produced in special colours on request which match the special colour design of a device for example.
- Essentially resistant against acids, lyes and certain oils at room temperature

Application range

- UNITRONIC® LiYY is also used as a control and signal cable in electronics of computer systems, electronic control equipment, office machines, balances, etc.
- Dry and damp indoors
- Occasional flexing

Product features

- Despite the large number of cores, LiYY data cables have small outer diameters
- Core colour code in accordance with DIN 47100 but no colour repetition
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- PVC core insulation and outer sheath
- Cores twisted in layers
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, Appendix T9, without colour repetition

Mutual capacitance
Approx. 120 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire
0.34 mm², 7 wire

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications: 10 x cable diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYY				
0028202	2 x 0.14	3.2	2.7	13.2
0028203	3 x 0.14	3.4	4.0	16.0
0028204	4 x 0.14	3.6	5.4	18.9
0028205	5 x 0.14	3.9	6.7	22.2
0028207	7 x 0.14	4.2	9.4	28.4
0028208	8 x 0.14	4.9	10.2	35.2
0028210	10 x 0.14	5.2	13.5	41.2
0028212	12 x 0.14	5.6	16.2	48.4
0028214	14 x 0.14	5.8	18.9	52.9
0028216	16 x 0.14	6.1	21.6	59.1
0028220	20 x 0.14	7.0	27.0	70.8
0028225	25 x 0.14	7.8	33.6	87.2
0028236	36 x 0.14	8.6	48.6	126.8
0028237	37 x 0.14	8.9	49.7	118.0
0028240	40 x 0.14	9.3	54.0	139.1
0028250	50 x 0.14	10.4	67.5	170.9
0028256	56 x 0.14	10.7	75.3	187.0
0028302	2 x 0.25	3.8	4.8	18.0
0028303	3 x 0.25	4.0	7.2	22.0
0028304	4 x 0.25	4.3	9.6	26.2
0028305	5 x 0.25	4.7	12.0	31.0
0028307	7 x 0.25	5.1	16.8	42.0
0028308	8 x 0.25	6.2	19.2	49.2
0028310	10 x 0.25	6.8	24.0	58.0
0028312	12 x 0.25	7.0	28.8	67.0
0028314	14 x 0.25	7.3	33.6	75.3
0028316	16 x 0.25	7.7	38.4	84.3
0028318	18 x 0.25	8.1	43.2	93.0
0028320	20 x 0.25	8.6	48.0	102.0
0028325	25 x 0.25	9.6	60.0	134.0
0028330	30 x 0.25	10.3	72.0	155.0
0028332	32 x 0.25	10.7	76.8	164.0
0028336	36 x 0.25	11.1	86.4	182.2
0028337	37 x 0.25	11.4	88.8	185.0
0028340	40 x 0.25	12.0	96.1	200.0
0028350	50 x 0.25	12.9	120.0	257.1
0028402	2 x 0.34	4.2	6.6	25.0
0028403	3 x 0.34	4.4	9.9	31.0
0028404	4 x 0.34	4.8	13.1	43.2
0028405	5 x 0.34	5.5	16.5	53.8
0028407	7 x 0.34	5.9	22.8	62.0
0028408	8 x 0.34	7.1	26.1	73.1
0028410	10 x 0.34	7.6	32.6	82.0
0028412	12 x 0.34	7.8	39.1	102.0
0028414	14 x 0.34	8.2	45.7	109.0
0028416	16 x 0.34	8.7	52.0	127.0
0028420	20 x 0.34	9.6	65.2	159.3
0028421	21 x 0.34	10.4	68.6	167.0
0028425	25 x 0.34	11.2	81.6	190.0
0028430	30 x 0.34	11.6	98.0	226.0

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0028436	36 x 0.34	12.5	118.0	284.0
0028440	40 x 0.34	13.5	131.0	317.0
0028450	50 x 0.34	15.0	163.0	407.0
0028502	2 x 0.50	4.7	9.6	40.0
0028503	3 x 0.50	5.0	14.4	47.0
0028504	4 x 0.50	5.6	19.2	56.0
0028505	5 x 0.50	6.1	24.0	65.0
0028507	7 x 0.50	6.9	33.6	82.0
0028508	8 x 0.50	8.0	38.4	90.0
0028510	10 x 0.50	8.6	48.0	117.0
0028512	12 x 0.50	8.9	58.0	133.0
0028516	16 x 0.50	10.2	77.0	170.0
0028520	20 x 0.50	11.4	96.0	214.0
0028525	25 x 0.50	12.3	120.0	265.0
0028530	30 x 0.50	13.2	144.0	304.0
0028540	40 x 0.50	15.8	192.0	392.0
0028602	2 x 0.75	5.1	14.4	48.0
0028603	3 x 0.75	5.6	21.6	57.0
0028604	4 x 0.75	6.1	28.8	69.0
0028605	5 x 0.75	6.9	36.0	78.0
0028607	7 x 0.75	7.5	50.0	112.0
0028608	8 x 0.75	8.7	58.0	126.0
0028610	10 x 0.75	9.4	72.0	149.0
0028612	12 x 0.75	10.1	86.0	176.0
0028616	16 x 0.75	11.2	115.0	218.0
0028620	20 x 0.75	12.4	144.0	274.0
0028625	25 x 0.75	14.0	180.0	285.0
0028702	2 x 1.00	5.6	19.2	55.0
0028703	3 x 1.00	5.9	29.0	70.0
0028705	5 x 1.00	7.3	48.0	98.0
0028802	2 x 1.50	6.8	29.0	74.0
0028803	3 x 1.50	7.2	43.0	89.0
0028804	4 x 1.50	7.8	58.0	105.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

UNITRONIC® LiYY A

Info

- **A for Advanced**
  here: UL and CSA approbations

Application range

- Wiring of devices, machines and plants intended for export to the North American market or countries in which largely UL-/CSA approved cables are used.

Product features

- Colour coded in accordance with DIN 47100
- Flame retardant according to IEC 60332-1

Approvals (Norm references)

Design

- Structure as for basic types LiYY, LiYCY and LiYCY (TP)
- Core insulation: Based on PVC, multi-coloured according to colour code DIN 47100, outer sheath PVC compound, outer sheath dark grey (chrome)

Technical data

Approvals
UL AWM Style 2464
CSA AWM I/II A

Peak working voltage
(not for power applications) 300 V

Minimum bending radius
Flexing: 15 x cable diameter

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and AWG per conductor	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYY A					
0022403	3 x AWG26/7	3 x 0.14	3.8	4.2	19.7
0022404	4 x AWG26/7	4 x 0.14	4.0	5.6	23.0
0022405	5 x AWG26/7	5 x 0.14	4.3	7.0	25.0
0022408	8 x AWG26/7	8 x 0.14	5.1	11.2	34.0
0022412	12 x AWG26/7	12 x 0.14	5.7	16.8	47.0
0022416	16 x AWG26/7	16 x 0.14	6.3	22.4	58.0
0022421	21 x AWG26/7	21 x 0.14	7.1	29.4	63.0
0022502	2 x AWG24/7	2 x 0.23	4.0	4.6	26.2
0022505	5 x AWG24/7	5 x 0.23	4.8	11.3	39.4
0022508	8 x AWG24/7	8 x 0.23	5.7	16.5	52.5
0022512	12 x AWG24/7	12 x 0.23	6.6	27.6	72.2
0022602	2 x AWG22/7	2 x 0.34	4.8	6.8	32.8
0022603	3 x AWG22/7	3 x 0.34	5.0	10.5	35.0
0022604	4 x AWG22/7	4 x 0.34	5.4	14.0	45.9
0022605	5 x AWG22/7	5 x 0.34	5.9	16.6	55.8
0022607	7 x AWG22/7	7 x 0.34	6.4	23.3	68.9
0022608	8 x AWG22/7	8 x 0.34	7.0	26.6	75.5
0022612	12 x AWG22/7	12 x 0.34	8.5	40.8	103.0
0022616	16 x AWG22/7	16 x 0.34	9.5	56.0	131.2
0022624	24 x AWG22/7	24 x 0.34	11.3	84.0	190.0
0022632	2 x AWG20/7	2 x 0.50	5.3	11.2	29.0
0022642	2 x AWG19/19	2 x 0.75	5.9	15.0	48.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 152 m; Drum 305 m

UNITRONIC® LiYCY

Application range

- Used for computer systems, MSR technology, office machinery, scales - screened cables with small dimensions.
- Dry and damp indoors

Product features

- Colour code in accordance with DIN 47100
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- PVC core insulation and outer sheath
- Tinned copper braid
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100 without colour repetition, see Appendix T9

Mutual capacitance
C/C approx. 120 nF/km
C/S: approx. 160 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire
0.34 mm², 7 wire

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
15 x cable diameter
fixed installation:
6 x cable diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYCY				
0034302	2 x 0.14	3.9	12.0	20.0
0034303	3 x 0.14	4.1	13.0	28.0
0034304	4 x 0.14	4.3	14.3	33.0
0034305	5 x 0.14	4.6	15.5	38.0
0034306	6 x 0.14	4.9	18.2	38.0
0034307	7 x 0.14	4.9	19.0	49.0
0034308	8 x 0.14	5.8	21.2	56.0
0034310	10 x 0.14	6.1	28.5	66.0
0034312	12 x 0.14	6.3	30.4	78.0
0034314	14 x 0.14	6.7	32.0	80.0
0034315	15 x 0.14	6.9	37.8	86.0
0034316	16 x 0.14	7.0	43.0	90.0
0034318	18 x 0.14	7.3	48.8	104.0
0034320	20 x 0.14	7.7	53.9	116.0
0034321	21 x 0.14	7.9	55.5	121.0
0034325	25 x 0.14	8.4	63.0	149.0
0034328	28 x 0.14	8.5	66.1	153.0
0034330	30 x 0.14	8.7	69.0	158.0
0034332	32 x 0.14	9.0	73.6	164.0
0034336	36 x 0.14	9.3	83.0	183.0
0034340	40 x 0.14	10.4	87.5	210.0
0034344	44 x 0.14	10.7	110.5	225.0
0034350	50 x 0.14	11.1	122.5	253.0
0034402	2 x 0.25	4.5	16.0	32.0
0034403	3 x 0.25	4.7	21.0	37.0
0034404	4 x 0.25	5.0	24.0	41.3
0034405	5 x 0.25	5.6	29.0	51.2
0034406	6 x 0.25	6.0	30.0	58.0
0034407	7 x 0.25	6.0	37.0	65.0
0034408	8 x 0.25	7.1	42.0	73.0
0034410	10 x 0.25	7.5	46.0	82.0
0034412	12 x 0.25	7.7	53.0	145.0
0034414	14 x 0.25	8.0	59.0	99.0
0034415	15 x 0.25	8.3	61.0	111.0
0034416	16 x 0.25	8.4	64.0	124.0
0034418	18 x 0.25	8.8	83.0	143.0
0034420	20 x 0.25	9.3	88.0	152.3
0034421	21 x 0.25	9.6	93.0	161.0
0034425	25 x 0.25	10.7	114.0	172.0
0034428	28 x 0.25	10.8	126.0	181.1
0034430	30 x 0.25	11.0	132.0	189.0
0034432	32 x 0.25	11.4	138.0	203.0
0034436	36 x 0.25	11.8	148.0	220.0
0034440	40 x 0.25	12.7	157.0	248.0
0034450	50 x 0.25	13.8	178.0	318.0
0034461	61 x 0.25	15.0	205.0	365.2
0034502	2 x 0.34	4.9	21.0	37.0
0034503	3 x 0.34	5.1	27.0	49.0
0034504	4 x 0.34	5.7	28.0	59.0

DIN colour code

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0034505	5 x 0.34	6.2	30.0	66.0
0034506	6 x 0.34	6.8	45.0	79.0
0034507	7 x 0.34	6.8	48.0	83.0
0034508	8 x 0.34	7.8	52.0	94.0
0034510	10 x 0.34	8.3	74.0	129.2
0034512	12 x 0.34	8.5	80.0	142.0
0034514	14 x 0.34	8.9	86.0	154.0
0034515	15 x 0.34	9.2	90.0	155.0
0034516	16 x 0.34	9.4	94.0	160.0
0034518	18 x 0.34	10.2	103.0	173.0
0034520	20 x 0.34	10.7	112.0	192.0
0034521	21 x 0.34	11.1	116.0	199.2
0034525	25 x 0.34	11.9	135.0	259.0
0034528	28 x 0.34	12.0	153.0	280.0
0034530	30 x 0.34	12.3	159.0	291.1
0034532	32 x 0.34	13.0	165.0	305.0
0034536	36 x 0.34	13.4	179.0	331.0
0034540	40 x 0.34	14.8	200.0	365.0
0034550	50 x 0.34	15.9	235.0	431.0
0034602	2 x 0.50	5.6	29.0	54.0
0034603	3 x 0.50	5.9	38.0	67.0
0034604	4 x 0.50	6.3	43.0	77.0
0034605	5 x 0.50	7.0	51.0	90.0
0034606	6 x 0.50	7.6	59.0	104.0
0034607	7 x 0.50	7.6	65.0	112.0
0034608	8 x 0.50	8.7	70.0	135.0
0034610	10 x 0.50	9.3	88.0	160.0
0034612	12 x 0.50	9.6	99.0	177.0
0034618	18 x 0.50	11.8	134.0	239.0
0034620	20 x 0.50	12.1	149.0	276.0
0034625	25 x 0.50	13.7	211.0	352.0
0034630	30 x 0.50	14.5	230.0	397.0
0034702	2 x 0.75	6.0	38.0	64.0
0034703	3 x 0.75	6.3	49.0	76.0
0034704	4 x 0.75	7.0	58.0	92.0
0034705	5 x 0.75	7.6	67.0	109.0
0034707	7 x 0.75	8.2	100.0	156.0
0034710	10 x 0.75	10.5	130.0	187.0
0034712	12 x 0.75	10.8	154.0	218.0
0034718	18 x 0.75	13.0	195.0	327.0
0034725	25 x 0.75	15.3	280.0	454.0
0034730	30 x 0.75	15.8	312.0	486.0
0034802	2 x 1.00	6.3	43.0	72.0
0034803	3 x 1.00	6.8	56.0	90.0
0034804	4 x 1.00	7.3	68.0	109.0
0034805	5 x 1.00	8.0	79.0	126.0
0034807	7 x 1.00	8.6	118.0	171.0
0034810	10 x 1.00	11.1	140.0	228.0
0034812	12 x 1.00	11.4	168.0	259.0
0034818	18 x 1.00	13.4	252.0	389.0
0034825	25 x 1.00	16.2	335.0	517.0
0034902	2 x 1.50	7.5	58.0	90.0
0034903	3 x 1.50	7.9	74.0	115.0
0034904	4 x 1.50	8.5	108.0	153.0
0034905	5 x 1.50	9.3	129.0	176.0
0034907	7 x 1.50	10.5	164.0	220.0
0034912	12 x 1.50	13.7	254.0	376.0
0034918	18 x 1.50	16.3	350.0	519.0
0034925	25 x 1.50	19.9	550.0	901.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

■ Comparable products

- Li2YCY see page 211
- Li5YC5Y see page 211

■ Accessories

- SKINTOP® MS-SC see page 712
- Multipurpose shears A and B see page 902

UNITRONIC® LiYCY A

Info

- **A for Advanced here: UL and CSA approbations**

Application range

- Wiring of devices, machines and plants intended for export to the North American market or countries in which largely UL-/CSA approved cables are used.

Product features

- Colour coded in accordance with DIN 47100
- Flame retardant according to IEC 60332-1

Approvals (Norm references)

RoHS

Design

- Structure as for basic types LiYY, LiYCY and LiYCY (TP)
- Core insulation: Based on PVC, multi-coloured according to colour code DIN 47100, outer sheath PVC compound, outer sheath dark grey (chrome)

Technical data

Approvals
UL AWM Style 2464
CSA AWM I/II A

Peak working voltage
(not for power applications) 300 V

Minimum bending radius
Flexing: 15 x cable diameter

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and AWG per conductor	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYCY A					
0044602	2 x AWG26/7	2 x 0.14	4.3	15.6	29.5
0044604	4 x AWG26/7	4 x 0.14	4.7	18.0	33.0
0044652	2 x AWG24/7	2 x 0.23	4.7	17.6	36.1
0044655	5 x AWG24/7	5 x 0.23	5.5	28.5	51.0
0044658	8 x AWG24/7	8 x 0.23	6.4	31.1	72.2
0044662	12 x AWG24/7	12 x 0.23	7.3	51.8	96.0
0044702	2 x AWG22/7	2 x 0.34	5.5	17.6	32.0
0044703	3 x AWG22/7	3 x 0.34	5.7	21.2	36.0
0044704	4 x AWG22/7	4 x 0.34	6.1	27.3	44.0
0044705	5 x AWG22/7	5 x 0.34	6.6	30.8	53.0
0044707	7 x AWG22/7	7 x 0.34	7.1	46.4	71.0
0044712	12 x AWG22/7	12 x 0.34	8.9	66.8	120.0
0044716	16 x AWG22/7	16 x 0.34	9.8	83.9	145.0
0044721	21 x AWG22/7	21 x 0.34	11.3	109.4	170.0
0044732	2 x AWG20/7	2 x 0.50	6.0	24.4	41.0
0044733	3 x AWG20/7	3 x 0.50	6.3	29.9	47.0
0044735	5 x AWG20/7	5 x 0.50	7.3	49.2	72.0
0044738	8 x AWG20/7	8 x 0.50	8.5	70.8	102.0
0044850	7 x AWG18/19	7 x 1.00	8.9	93.2	160.8
0044851	10 x AWG18/19	10 x 1.00	11.5	130.9	200.0
0044912	12 x AWG16/19	12 x 1.50	13.7	248.6	375.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 152 m; Drum 305 m

UNITRONIC® LiYY (TP)

Info

- TP = twisted pair

Benefits

- Essentially resistant against acids, lyes and certain oils at room temperature

Application range

- Electronic systems normally have little space available for cable installation. Cable is made especially for short distances and small bending radiuses.
- Dry and damp indoors

Product features

- Colour code in accordance with DIN 47100
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- PVC core insulation and outer sheath
- Twisted in pairs to considerably reduce decoupling. Often, no additional screening is required.
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
Approx. 120 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0814: (DIN 47414)
or VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine copper wire strands

Minimum bending radius
For flexible applications: 10 x cable diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of pairs and conductor cross-section, mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYY (TP)				
0035101	2 x 2 x 0.14	4.8	5.4	25.5
0035102	3 x 2 x 0.14	4.9	8.0	32.0
0035103	4 x 2 x 0.14	5.5	10.7	38.5
0035104	5 x 2 x 0.14	5.7	13.4	45.5
0035105	6 x 2 x 0.14	6.2	16.1	51.0
0035108	10 x 2 x 0.14	8.0	26.9	77.5
0035110	12 x 2 x 0.14	8.2	32.3	94.5
0035113	16 x 2 x 0.14	9.1	43.0	110.5
0035160	2 x 2 x 0.25	6.1	9.6	38.0
0035161	3 x 2 x 0.25	6.2	14.4	48.0
0035162	4 x 2 x 0.25	6.9	19.2	59.0
0035163	6 x 2 x 0.25	7.8	28.8	80.0
0035164	8 x 2 x 0.25	9.2	38.4	98.0
0035165	10 x 2 x 0.25	10.3	48.0	115.0
0035170	2 x 2 x 0.5	7.9	19.2	72.0
0035171	3 x 2 x 0.5	8.0	28.8	83.0
0035172	4 x 2 x 0.5	8.7	38.4	115.0
0035174	8 x 2 x 0.5	12.2	76.8	206.0
0035175	10 x 2 x 0.5	13.2	96.0	247.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- For special applications with additional screening, we recommend the version UNITRONIC® LiYCY (TP)

UNITRONIC® LiYCY (TP)

Info

- TP = twisted pair

Benefits

- Data transmission with good screening, twisted pairs (TP) decouples the cable circuits

Application range

- Good protection against the capacitive influence due to electric fields (e.g. power cable)
- Dry and damp indoors

Product features

- Colour code in accordance with DIN 47100
- Flame retardant according to IEC 60332-1-2
- Excellent screening against electrical interference
- Twisted core pairs are covered with an impervious copper braid

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- PVC core insulation and outer sheath
- TP structure
- Screen braiding made from tinned copper wire
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 120 nF/km
C/S: approx. 160 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0814: (DIN 47414)
or VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.50 mH/km

Conductor stranding
Fine copper wire strands

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Loop resistance
2 x value in table conductor resistances, see Appendix T 11

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYCY (TP) MS				
0035131	2 x 2 x 0.14	5.7	18.5	39.0
0035141	3 x 2 x 0.14	5.8	23.0	48.0
0035132	4 x 2 x 0.14	6.2	26.6	54.0
0035133	6 x 2 x 0.14	7.1	48.5	85.0
0035150	8 x 2 x 0.14	8.2	53.7	97.0
0035134	10 x 2 x 0.14	8.7	59.0	110.0
0035135	12 x 2 x 0.14	8.9	66.0	142.0
0035136	16 x 2 x 0.14	10.2	79.0	154.0
0035142	20 x 2 x 0.14	11.3	97.0	184.0
0035137	25 x 2 x 0.14	12.5	113.0	238.0
0035800	2 x 2 x 0.25	7.0	28.0	54.0
0035801	3 x 2 x 0.25	7.1	39.6	68.5
0035802	4 x 2 x 0.25	7.6	44.9	81.0
0035803	6 x 2 x 0.25	8.5	69.5	115.0
0035804	8 x 2 x 0.25	10.3	76.9	130.0
0035805	10 x 2 x 0.25	11.0	102.0	158.0
0035806	12 x 2 x 0.25	11.3	120.0	190.0
0035807	16 x 2 x 0.25	12.5	146.5	238.0
0035808	25 x 2 x 0.25	16.1	205.0	344.0
0035810	2 x 2 x 0.5	8.6	48.1	93.0
0035811	3 x 2 x 0.5	8.7	73.7	129.0
0035812	4 x 2 x 0.5	9.4	82.0	146.0
0035813	6 x 2 x 0.5	11.1	110.0	198.0
0035814	8 x 2 x 0.5	13.1	139.0	259.0
0035816	12 x 2 x 0.5	14.9	198.3	354.0
0035817	16 x 2 x 0.5	16.5	240.0	459.0
0035820	2 x 2 x 0.75	8.5	58.0	106.0
0035821	3 x 2 x 0.75	9.4	84.0	140.0
0035822	4 x 2 x 0.75	10.7	108.0	179.0
0035827	5 x 2 x 0.75	11.1	126.0	215.0
0035823	6 x 2 x 0.75	12.1	146.0	246.0
0035824	8 x 2 x 0.75	14.7	180.0	305.0
0035825	12 x 2 x 0.75	16.2	261.0	456.0
0035830	2 x 2 x 1	10.3	84.0	142.0
0035831	3 x 2 x 1	10.4	96.0	173.0
0035832	4 x 2 x 1	11.3	121.0	212.0
0035836	5 x 2 x 1	11.8	161.0	266.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® CY PiDY (TP) see page 273
- We recommend our UNITRONIC® CY PiDY (TP) if paired screening is required due to crosstalk attenuation.

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- STAR STRIP stripping tool see page 908

UNITRONIC® LiYCY (TP) A

Info

- **A for Advanced**
  here: UL and CSA approbations

Application range

- Wiring of devices, machines and plants intended for export to the North American market or countries in which largely UL-/CSA approved cables are used.

Product features

- Colour code in accordance with DIN 47100
- Flame retardant according to IEC 60332-1

Approvals (Norm references)

RoHS

Design

- Structure as for basic types LiYY, LiYCY and LiYCY (TP)
- Core insulation: Based on PVC, multi-coloured according to colour code DIN 47100, outer sheath PVC compound, outer sheath dark grey (chrome)

Technical data

Approvals
UL AWM Style 2464
CSA AWM I/II A

Peak working voltage
(not for power applications) 300 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and AWG per conductor	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYCY (TP) A					
0066202	2 x AWG26/7	2 x 2 x 0.14	5.7	18.0	45.9
0066204	4 x AWG26/7	4 x 2 x 0.14	6.4	24.0	52.5
0066205	5 x AWG26/7	5 x 2 x 0.14	7.0	30.0	68.9
0066208	8 x AWG26/7	8 x 2 x 0.14	7.9	53.0	95.1
0066210	10 x AWG26/7	10 x 2 x 0.14	8.8	55.0	111.6
0066212	12 x AWG26/7	12 x 2 x 0.14	9.1	64.0	124.7
0066216	16 x AWG26/7	16 x 2 x 0.14	10.1	87.0	150.9
0066232	2 x AWG24/7	2 x 2 x 0.23	6.1	24.5	57.0
0066233	3 x AWG24/7	3 x 2 x 0.23	6.4	28.9	62.0
0066234	4 x AWG24/7	4 x 2 x 0.23	6.9	33.5	70.0
0066235	5 x AWG24/7	5 x 2 x 0.23	7.5	46.3	91.0
0066238	2 x AWG22/7	2 x 2 x 0.34	7.4	38.0	45.0
0066239	3 x AWG22/7	3 x 2 x 0.34	7.8	45.1	64.0
0066240	4 x AWG22/7	4 x 2 x 0.34	8.7	54.6	75.0
0066242	2 x AWG20/7	2 x 2 x 0.5	8.2	49.7	93.0
0066243	3 x AWG20/7	3 x 2 x 0.5	8.9	60.1	102.0
0066244	4 x AWG20/7	4 x 2 x 0.5	9.8	78.7	120.0
0066262	2 x AWG19/19	2 x 2 x 0.75	9.0	65.2	140.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 152 m; Drum 305 m

UNITRONIC® PUR CP

Application range

- Further development of the UNITRONIC® range for harsher ambient conditions where robust and screened cables in small dimensions are required.

Product features

- Screened data transmission cables with PUR outer sheath
- Copper braiding screens cable against electrical interference
- PUR outer sheath resistant against a multitude of oils
- Special notch and tear resistance
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare conductor, PVC core insulation, core colours in accordance with DIN 47100, tin plated copper braid, PUR outer sheath, resistant to hydrolysis and microbes
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100 without colour repetition, see Appendix T9

Mutual capacitance
C/C approx. 120 nF/km
C/S: approx. 160 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire
0.34 mm², 7 wire

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
15 x cable diameter
fixed installation:
6 x cable diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® PUR CP				
0032801	3 x 0.25	4.7	21.0	40.0
0032802	4 x 0.25	5.0	24.0	44.0
0032803	5 x 0.25	5.6	29.0	55.0
0032804	7 x 0.25	6.0	37.0	68.0
0032805	10 x 0.25	7.5	46.0	85.0
0032806	12 x 0.25	7.7	59.0	91.0
0032810	2 x 0.34	4.9	21.0	40.0
0032812	4 x 0.34	5.7	28.0	63.0
0032813	5 x 0.34	6.2	30.0	69.0
0032814	7 x 0.34	6.8	48.0	86.0
0032821	3 x 0.50	5.9	38.0	70.0
0032822	4 x 0.50	6.3	43.0	80.0
0032823	5 x 0.50	7.0	51.0	94.0
0032824	7 x 0.50	7.6	65.0	115.0
0032825	10 x 0.50	9.3	88.0	140.0
0032830	2 x 0.75	6.0	38.0	67.0
0032831	3 x 0.75	6.3	49.0	79.0
0032834	7 x 0.75	8.2	100.0	160.0
0032836	12 x 0.75	10.8	154.0	225.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- SMARTSTRIP stripping tool see page 909

UNITRONIC® PUR CP (TP)

Info
- TP = twisted pair

Benefits
- Twisted pair construction permits largely interference-free operation (decoupling).

Application range
- Everywhere, where robust and screened cables with small dimensions are necessary

Product features
- TP structure decouple circuits
- Copper braiding screens cable against electrical interference
- PUR outer sheath resistant against a multitude of oils
- Special notch and tear resistance
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)
RoHS

Design
- Stranded bare conductor, PVC core insulation, core colours in accordance with DIN 47100, tin plated copper braid, PUR outer sheath, resistant to hydrolysis and microbes
- Colour: pebble grey (RAL 7032)

Technical data
Core identification code
DIN 47100 without colour repetition, see Appendix T9

Mutual capacitance
C/C approx. 120 nF/km
C/S: approx. 160 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0814: (DIN 47414)
or VDE 0812

Insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine copper wire strands

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
At 0.14 mm2: 1200 V
> 0.14 mm²: 1500 V

Loop resistance
2 x value of table
Conductor resistances see Appendix T11

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of pairs and conductor cross-section, mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® PUR CP (TP)				
0032850	2 x 2 x 0.25	6.3	28.0	54.0
0032851	3 x 2 x 0.25	7.1	39.6	66.0
0032852	4 x 2 x 0.25	7.6	44.9	81.0
0032854	6 x 2 x 0.25	8.5	69.5	115.0
0032860	2 x 2 x 0.5	8.6	48.1	93.0
0032861	3 x 2 x 0.5	8.7	73.7	129.0
0032862	4 x 2 x 0.5	9.4	82.0	146.0
0032864	6 x 2 x 0.5	11.1	110.0	198.0
0032872	4 x 2 x 0.75	10.7	108.0	179.0
0032873	5 x 2 x 0.75	11.1	113.0	215.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories
- SKINTOP® MS-SC-M see page 657
- SMARTSTRIP stripping tool see page 909

UNITRONIC® LiHH

Benefits

- Halogen-free data cable

Application range

- Suited for areas with a high density of people, e.g. public buildings or transport systems, as well as high-value property that must be protected in case of fire.
- Dry and damp indoors

Product features

- Robust outer sheath makes the cable resistant
- Have small outer diameters despite a high number of cores
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare conductor, fine wire / 7-wire (only 0.34 mm²)
- Halogen-free core insulation
- Core colour code in accordance with DIN 47100 but no colour repetition
- Halogen-free outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, Appendix T9, without colour repetition

Mutual capacitance
Approx. 80 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire
0.34 mm², 7 wire

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
15 x cable diameter
fixed installation:
6 x cable diameter

Test voltage
1200 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiHH				
0037100	2 x 0.14	3.4	2.7	12.0
0037101	3 x 0.14	3.6	4.0	15.0
0037102	4 x 0.14	3.8	5.4	17.0
0037103	5 x 0.14	4.1	6.7	22.0
0037104	6 x 0.14	4.4	8.1	25.0
0037105	7 x 0.14	4.4	9.4	26.0
0037106	8 x 0.14	5.1	10.8	29.0
0037107	10 x 0.14	5.4	13.4	35.0
0037108	12 x 0.14	5.8	16.1	43.0
0037109	20 x 0.14	7.2	26.8	73.0
0037110	25 x 0.14	8.0	34.6	91.0
0037120	2 x 0.25	4.0	4.8	22.0
0037121	3 x 0.25	4.2	7.2	25.0
0037122	4 x 0.25	4.5	9.6	28.0
0037123	5 x 0.25	4.9	12.0	34.0
0037124	6 x 0.25	5.3	14.4	39.0
0037125	7 x 0.25	5.3	16.8	42.0
0037126	8 x 0.25	6.4	19.2	50.0
0037127	10 x 0.25	7.0	24.0	60.0
0037128	12 x 0.25	7.2	28.8	67.0
0037129	16 x 0.25	7.9	38.4	85.0

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0037140	2 x 0.34	4.4	6.5	28.0
0037141	3 x 0.34	4.6	9.8	30.0
0037142	4 x 0.34	5.0	13.1	40.0
0037143	5 x 0.34	5.7	16.3	44.0
0037144	7 x 0.34	6.1	22.8	60.0
0037146	10 x 0.34	7.8	32.6	80.0
0037147	12 x 0.34	8.0	39.2	97.0
0037150	2 x 0.5	4.9	9.6	31.0
0037151	3 x 0.5	5.2	14.4	37.0
0037152	4 x 0.5	5.8	19.2	45.0
0037153	5 x 0.5	6.3	24.0	58.0
0037154	7 x 0.5	7.0	33.6	72.0
0037155	12 x 0.5	9.1	57.6	117.0
0037160	2 x 0.75	5.3	14.4	41.0
0037162	4 x 0.75	6.3	28.8	60.0
0037163	5 x 0.75	7.1	36.0	70.0
0037164	7 x 0.75	7.7	50.4	85.0
0037165	12 x 0.75	10.4	86.4	165.0
0037171	3 x 1	6.1	28.8	57.0
0037172	4 x 1	6.6	38.4	67.0
0037181	3 x 1.5	7.4	43.2	72.0
0037182	4 x 1.5	8.0	57.6	87.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

UNITRONIC® LiHCH

Benefits

- Halogen-free data cable

Application range

- Suited for areas with a high density of people, e.g. public buildings or transport systems, as well as high-value property that must be protected in case of fire.

Product features

- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- Halogen-free core insulation and outer sheath
- Core colour code in accordance with DIN 47100 but no colour repetition
- Tinned copper braid
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100 without colour repetition, see Appendix T9

Mutual capacitance
C/C approx. 80 nF/km
C/S approx. 120 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0812

Insulation resistance
> 20 GOhm x cm

Coupling
LiHCH (TP): At 1 kHz:
Approx. 300 pF/100 m

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire
0.34 mm², 7 wire

Conductor resistance
see Appendix T11

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
1200 V

Loop resistance
LiHCH (TP): 2x value in table T11

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiHCH				
0037302	2 x 0.14	4.1	12.0	22.0
0037303	3 x 0.14	4.3	14.1	25.0
0037304	4 x 0.14	4.5	15.9	29.0
0037306	6 x 0.14	5.1	22.0	35.0
0037307	7 x 0.14	5.1	24.0	38.0
0037308	8 x 0.14	6.0	26.0	41.0
0037312	12 x 0.14	6.5	30.4	78.0
0037316	16 x 0.14	7.2	43.0	90.0
0037325	25 x 0.14	8.7	63.0	149.0
0037402	2 x 0.25	4.7	15.0	25.0
0037403	3 x 0.25	4.9	18.0	30.0
0037404	4 x 0.25	5.2	22.0	35.0
0037406	6 x 0.25	6.2	30.0	49.0
0037407	7 x 0.25	6.2	32.0	52.0
0037408	8 x 0.25	7.3	35.0	58.0
0037410	10 x 0.25	7.7	42.0	81.0
0037425	25 x 0.25	10.9	114.0	172.0
0037502	2 x 0.34	5.1	17.0	30.0
0037503	3 x 0.34	5.3	21.0	35.0
0037504	4 x 0.34	5.9	25.0	42.0
0037505	5 x 0.34	6.4	30.0	53.0
0037507	7 x 0.34	7.0	42.0	73.0
0037508	8 x 0.34	8.0	45.0	84.0
0037510	10 x 0.34	8.5	63.0	101.0
0037516	16 x 0.34	9.6	94.0	160.0
0037525	25 x 0.34	12.1	144.0	259.0
0037602	2 x 0.5	5.8	29.0	38.0
0037603	3 x 0.5	6.1	35.0	47.0
0037604	4 x 0.5	6.5	45.0	67.0
0037605	5 x 0.5	7.2	50.0	76.0
0037606	6 x 0.5	7.8	59.0	84.0
0037607	7 x 0.5	7.8	68.0	91.0
0037608	8 x 0.5	8.9	75.0	135.0
0037610	10 x 0.5	9.5	93.0	131.0
0037612	12 x 0.5	9.8	99.0	177.0
0037618	18 x 0.5	11.7	134.0	239.0
0037625	25 x 0.5	13.9	211.0	352.0
0037702	2 x 0.75	6.2	35.0	45.0
0037703	3 x 0.75	6.5	46.0	69.0
0037704	4 x 0.75	7.2	56.0	80.0
0037705	5 x 0.75	7.8	70.0	99.0
0037707	7 x 0.75	8.3	90.0	120.0
0037802	2 x 1	6.5	43.0	72.0
0037803	3 x 1	7.0	56.0	90.0
0037804	4 x 1	7.5	68.0	109.0
0037807	7 x 1	8.8	118.0	171.0
0037902	2 x 1.5	7.7	58.0	90.0
0037903	3 x 1.5	8.1	74.0	115.0
0037905	5 x 1.5	9.5	129.0	176.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902

UNITRONIC® LiHCH (TP)

Info

- TP = twisted pair

Benefits

- Halogen-free data cable

Application range

- For use in computer systems, in instrumentation, office equipment, balances - useful where screened, halogen-free small-diameter cables are needed.
- Suited for areas with a high density of people, e.g. public buildings or transport systems, as well as high-value property that must be protected in case of fire.

Product features

- Flame retardant according to IEC 60332-1-2
- Core colour code in accordance with DIN 47100

Approvals (Norm references)

RoHS

Design

- Bare copper wire stranded conductor
- Halogen-free core insulation and outer sheath
- TP structure
- Tinned copper braid
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 80 nF/km
C/S approx. 120 nF/km

Peak working voltage
(not for power applications) 250 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Fine copper wire strands

Conductor resistance
see Appendix T11

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
1200 V

Loop resistance
2 x value in table conductor resistances, see Appendix T 11

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiHCH (TP)				
0038302	2 x 2 x 0.14	5.9	18.5	39.0
0038303	3 x 2 x 0.14	6.0	23.0	48.0
0038304	4 x 2 x 0.14	6.4	26.6	54.0
0038306	6 x 2 x 0.14	7.3	48.5	85.0
0038308	8 x 2 x 0.14	8.4	53.7	97.0
0038310	10 x 2 x 0.14	8.9	59.0	110.0
0038312	12 x 2 x 0.14	9.1	66.0	142.0
0038316	16 x 2 x 0.14	10.4	79.0	154.0
0038320	20 x 2 x 0.14	11.5	97.0	184.0
0038325	25 x 2 x 0.14	12.7	113.0	238.0
0038402	2 x 2 x 0.25	7.2	28.0	54.0
0038403	3 x 2 x 0.25	7.3	39.6	66.0
0038404	4 x 2 x 0.25	7.8	44.9	81.0
0038406	6 x 2 x 0.25	8.7	69.5	115.0
0038408	8 x 2 x 0.25	10.5	76.9	130.0
0038412	12 x 2 x 0.25	11.5	120.0	190.0
0038416	16 x 2 x 0.25	12.7	146.5	238.0
0038602	2 x 2 x 0.5	8.8	48.1	93.0
0038603	3 x 2 x 0.5	8.9	73.7	129.0
0038604	4 x 2 x 0.5	9.6	82.0	146.0
0038606	6 x 2 x 0.5	11.3	110.0	198.0
0038608	8 x 2 x 0.5	13.3	139.0	259.0
0038612	12 x 2 x 0.5	15.1	198.3	354.0
0038616	16 x 2 x 0.5	16.7	240.0	459.0
0038702	2 x 2 x 0.75	9.5	58.0	106.0
0038703	3 x 2 x 0.75	9.6	84.0	140.0
0038704	4 x 2 x 0.75	10.9	108.0	179.0
0038708	8 x 2 x 0.75	14.9	180.0	305.0
0038802	2 x 2 x 1	10.5	84.0	142.0
0038803	3 x 2 x 1	10.6	96.0	173.0
0038804	4 x 2 x 1	11.5	121.0	212.0
0038805	5 x 2 x 1	12.0	161.0	266.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902

UNITRONIC® 300 / UNITRONIC® 300 CY

Info

- **Unscreened + screened control and signal cables for industry**
- **PLTC = Power Limited Tray Cable**

Benefits

- Several approvals, such as UL Type PLTC, UL CMG, UL Oil Res I, CSA CMG and CE.
- PLTC for open installation ("Exposed Run"/ Open Wiring). Allows cabling without a cable duct.
- Cable UV resistant and approved for direct burial

Application range

- Control and signal cables for internal and external wiring

Approvals (Norm references)

CE, CSA, UL, RoHS

Design

- Finely stranded tinned copper conductors
- PVC blended insulation
- UNITRONIC® 300 CY with overall foil tape wrap, drain wire, tinned copper braiding (75% coverage)
- Oil resistant grey PVC outer sheath

Technical data

Core identification code
see table T9

Approvals
UL CMG, PLTC, Open Wiring, AWM 2464, Oil Res I
CSA CMG/FT4, CSA AWM II A/B, NOM SCFI 1994

Minimum bending radius
For installation: 4 x cable diameter
Screed: 6 x cable diameter

Rated voltage
According to UL: 300 V
IEC: not for power purposes

Test voltage
2000V

Range of temperature
-25 °C to +105 °C

Part number	Article designation	Number of cores and AWG size	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® 300					
301602	UNITRONIC® 300	2 x AWG16	6.7	25.0	83.0
301802	UNITRONIC® 300	2 x AWG18	6.1	18.3	61.0
302006	UNITRONIC® 300	6 x AWG20	7.5	29.5	97.0
302015	UNITRONIC® 300	15 x AWG20	11.5	73.7	178.0
302020	UNITRONIC® 300	20 x AWG20	12.6	98.1	259.0
302025	UNITRONIC® 300	25 x AWG20	14.1	122.6	354.0
302204	UNITRONIC® 300	4 x AWG22	5.0	13.7	33.0
302210	UNITRONIC® 300	10 x AWG22	7.0	34.2	67.0
302215	UNITRONIC® 300	15 x AWG22	7.9	51.3	91.0
302220	UNITRONIC® 300	20 x AWG22	9.0	68.5	116.0
302225	UNITRONIC® 300	25 x AWG22	10.5	85.6	142.0
302410	UNITRONIC® 300	10 x AWG24	6.4	21.4	51.0
UNITRONIC® 300 CY					
301602S	UNITRONIC® 300 CY	2 x AWG16	7.6	50.6	101.0
301606S	UNITRONIC® 300 CY	6 x AWG16	9.9	105.7	210.0
301802S	UNITRONIC® 300 CY	2 x AWG18	6.8	37.2	75.0
301803S	UNITRONIC® 300 CY	3 x AWG18	7.3	49.1	85.0
301804S	UNITRONIC® 300 CY	4 x AWG18	7.9	59.6	104.0
301825S	UNITRONIC® 300 CY	25 x AWG18	16.8	278.4	448.0
302002S	UNITRONIC® 300 CY	2 x AWG20	6.3	28.3	60.0
302004S	UNITRONIC® 300 CY	4 x AWG20	7.3	40.2	88.0
302006S	UNITRONIC® 300 CY	6 x AWG20	8.4	55.1	119.0
302206S	UNITRONIC® 300 CY	6 x AWG22	6.4	20.5	68.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil 152 m; Drum 305 m

Comparable products

- ÖLFLEX® TRAY II see page 47
- ÖLFLEX® TRAY II CY see page 48

- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® FD

Application range

- Automated production processes require data transmission cables of ever more flexibility and durability
- UNITRONIC® FD series cables are especially suited for power chain use

Product features

- The PVC outer sheath prevents mutual adhesion between several cables in the power chain
- Flame retardant according to IEC 60332-1-2
- Please observe the Installation Guidelines in Table T3.

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor, superfine
- PVC core insulation
- PVC outer sheath
- Colour: grey (RAL 7001)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 100 nF/km
C/S: approx. 100 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire in accordance with VDE 0295, single wire diameter 0.1 mm

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
5 x cable diameter

Test voltage
1500 V

Range of temperature
Flexing: -5°C up to +70°C
fixed installation:
-40°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® FD				
0027841	3 x 0.14	4.1	4.2	26.0
0027842	4 x 0.14	4.4	5.6	31.0
0027843	5 x 0.14	4.7	7.0	35.0
0027844	7 x 0.14	5.4	9.8	50.0
0027845	10 x 0.14	6.4	14.0	63.0
0027846	14 x 0.14	6.5	19.6	77.0
0027847	18 x 0.14	7.1	25.2	91.0
0027848	25 x 0.14	8.6	35.0	125.0
0027855	2 x 0.25	4.6	5.0	27.0
0027856	3 x 0.25	4.7	7.5	33.0
0027857	4 x 0.25	5.1	10.0	40.0
0027858	5 x 0.25	5.6	12.5	51.0
0027859	7 x 0.25	6.4	17.5	51.0
0027860	10 x 0.25	7.7	25.0	84.0
0027861	14 x 0.25	7.8	35.0	108.0
0027863	18 x 0.25	8.8	45.0	130.0
0027865	25 x 0.25	10.8	62.5	178.0
0027870	2 x 0.34	4.9	6.8	30.0
0027871	3 x 0.34	5.2	10.2	43.0
0027872	4 x 0.34	5.7	13.6	57.0
0027873	5 x 0.34	6.2	17.0	65.0
0027874	7 x 0.34	7.1	23.8	85.0
0027875	10 x 0.34	8.8	34.0	117.0
0027876	14 x 0.34	8.9	47.6	151.0
0027877	18 x 0.34	10.0	61.2	182.0
0027878	25 x 0.34	12.3	85.0	250.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® FD CY see page 264
- UNITRONIC® FD P plus see page 265

Accessories

- SILVYN® CHAIN

UNITRONIC® FD CY

Application range

- Automated production processes require data transmission cables of increasingly higher flexibility, stability and good screening
- UNITRONIC® FD series cables are especially suited for power chain use

Product features

- Highly flexible data transmission cable with copper braiding for power chain use
- The PVC outer sheath prevents mutual adhesion between several cables in the power chain
- Flame retardant according to IEC 60332-1-2
- Please observe the Installation Guidelines in Table T3.

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor, superfine
- PVC core insulation
- Tinned copper braiding
- PVC outer sheath
- Colour: grey (RAL 7001)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 110 nF/km
C/S: approx. 110 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire in accordance with VDE 0295, single wire diameter 0.1 mm

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
7.5 x cable diameter

Test voltage
1500 V

Range of temperature
Flexing: -5°C up to +70°C
fixed installation:
-40°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® FD CY				
0027411	3 x 0.14	4.7	14.1	37.0
0027412	4 x 0.14	5.0	15.5	42.0
0027413	5 x 0.14	5.4	18.3	47.0
0027414	7 x 0.14	6.0	27.6	70.0
0027416	10 x 0.14	7.0	39.3	90.0
0027418	14 x 0.14	7.1	45.3	106.0
0027420	18 x 0.14	7.7	54.1	123.0
0027422	25 x 0.14	9.2	68.4	163.0
0027425	2 x 0.25	5.1	14.9	39.0
0027426	3 x 0.25	5.4	18.8	46.0
0027427	4 x 0.25	5.8	21.3	53.0
0027428	5 x 0.25	6.2	31.0	71.0
0027429	7 x 0.25	7.0	39.6	75.0
0027431	10 x 0.25	8.5	53.9	114.0
0027434	14 x 0.25	8.6	64.2	141.0
0027436	18 x 0.25	9.4	78.4	167.0
0027438	25 x 0.25	11.4	101.0	221.0
0027440	2 x 0.34	5.6	16.1	47.0
0027441	3 x 0.34	5.9	28.7	63.0
0027442	4 x 0.34	6.3	35.7	81.0
0027443	5 x 0.34	6.8	39.1	89.0
0027444	7 x 0.34	7.7	52.7	117.0
0027446	10 x 0.34	9.4	67.4	155.0
0027448	14 x 0.34	9.5	85.3	194.0
0027450	18 x 0.34	10.7	99.7	225.0
0027452	25 x 0.34	12.9	155.0	327.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® FD CP plus see page 266

Accessories

- SKINTOP® MS-SC-M see page 657
- SILVYN® CHAIN
- STAR STRIP stripping tool see page 908

UNITRONIC® FD P plus

Benefits
- For power chain use

Application range
- Highly flexible data cable with PUR outer sheath, meets the highest service life requirements, even under rough climatic conditions, UL/CSA approved (CMX), ideal for the export-oriented machine manufacturer.

Product features
- PUR outer sheath, tear resistant and notch ductile, resistant to mineral oils and abrasion when used in power chains
- Temperatures up to -40°C possible
- Cable is halogen-free and has low capacitance
- Flame retardant according to IEC 60332-1-2
- Adhesion free, resistant to hydrolysis and microbes

Approvals (Norm references)
cULus RoHS

Design
- Stranded bare copper conductor, superfine
- Polyolefine core insulation
- PUR outer sheath
- Colour: grey (RAL 7001)

Technical data
Core identification code
DIN 47100, see Appendix T9

Approvals
CMX (UL/CSA)

Mutual capacitance
C/C approx. 60 nF/km

Peak working voltage
(not for power applications) 250 V

Specific insulation resistance
> 5 GOhm x km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire in accordance with VDE 0295, single wire diameter 0.1 mm

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
5 x cable diameter

Test voltage
1500 V

Range of temperature
Flexing: -5°C up to +70°C
fixed installation:
-40°C up to +70°C

Part number	Number of cores and mm² per conductor	AWG size	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® FD P plus					
0028850	3 x 0.14	26 AWG	4.1	4.1	25.0
0028851	4 x 0.14	26 AWG	4.4	5.6	30.0
0028852	5 x 0.14	26 AWG	4.7	7.0	34.0
0028853	7 x 0.14	26 AWG	5.4	9.8	48.0
0028854	10 x 0.14	26 AWG	6.4	14.0	60.0
0028855	14 x 0.14	26 AWG	6.5	19.6	74.0
0028856	18 x 0.14	26 AWG	7.1	25.2	87.0
0028857	25 x 0.14	26 AWG	8.6	35.0	120.0
0028858	2 x 0.25	24 AWG	4.5	5.0	27.0
0028859	3 x 0.25	24 AWG	4.7	7.5	32.0
0028860	4 x 0.25	24 AWG	5.1	10.0	39.0
0028861	5 x 0.25	24 AWG	5.6	12.5	49.0
0028862	7 x 0.25	24 AWG	6.4	17.5	61.0
0028863	10 x 0.25	24 AWG	7.7	25.0	80.0
0028864	14 x 0.25	24 AWG	7.8	35.0	103.0
0028865	18 x 0.25	24 AWG	8.8	45.0	125.0
0028866	25 x 0.25	24 AWG	10.8	62.5	171.0
0028867	2 x 0.34	22 AWG	4.9	6.8	33.0
0028868	3 x 0.34	22 AWG	5.2	10.2	41.0
0028869	4 x 0.34	22 AWG	5.7	13.6	55.0
0028870	5 x 0.34	22 AWG	6.2	17.0	62.0
0028871	7 x 0.34	22 AWG	7.1	23.8	80.0
0028872	10 x 0.34	22 AWG	8.8	34.0	110.0
0028873	14 x 0.34	22 AWG	8.9	47.6	144.0
0028874	18 x 0.34	22 AWG	10.0	61.2	175.0
0028875	25 x 0.34	22 AWG	12.3	85.0	239.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories
- SILVYN® CHAIN
- SMARTSTRIP stripping tool see page 909

UNITRONIC® FD CP plus

Benefits

- UL/CSA approved, highly flexible data transmission cable with copper braiding and PUR outer sheath for power chain use

Application range

- Highly flexible data cable meets the highest service life requirements, even under rough climatic conditions, UL/CSA approved (CMX), ideal for export-oriented machine manufacturer

Product features

- Cable is halogen-free and has low capacitance
- PUR outer sheath, tear resistant and notch ductile, resistant to mineral oils and abrasion when used in power chains
- Adhesion free, resistant to hydrolysis and microbes
- Temperatures up to -40°C possible
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

c UL us RoHS

Design

- Stranded bare copper conductor, superfine
- Polyolefine core insulation
- Copper braiding, tinned
- PUR outer sheath
- Colour: grey (RAL 7001)

Technical data

Core identification code
DIN 47100, see Appendix T9

Approvals
CMX (UL/CSA)

Mutual capacitance
C/C approx. 60 nF/km

Peak working voltage
(not for power applications) 250 V

Specific insulation resistance
> 5 GOhm x km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire in accordance with VDE 0295, single wire diameter 0.1 mm

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
7.5 x cable diameter

Test voltage
1500 V

Range of temperature
Flexing: -5°C up to +70°C
fixed installation:
-40°C up to +70°C

Part number	Number of cores and mm² per conductor	AWG size	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® FD CP plus					
0028880	2 x 0.14	26 AWG	4.5	11.2	33.0
0028881	3 x 0.14	26 AWG	4.7	14.1	36.0
0028882	4 x 0.14	26 AWG	5.1	15.5	40.0
0028883	5 x 0.14	26 AWG	5.4	18.3	45.0
0028884	7 x 0.14	26 AWG	6.0	27.8	67.0
0028885	10 x 0.14	26 AWG	7.0	39.3	87.0
0028886	14 x 0.14	26 AWG	7.1	45.3	102.0
0028887	18 x 0.14	26 AWG	7.7	54.1	118.0
0028888	25 x 0.14	26 AWG	9.2	68.4	157.0
0028889	2 x 0.25	24 AWG	5.1	14.9	38.0
0028890	3 x 0.25	24 AWG	5.4	18.8	45.0
0028891	4 x 0.25	24 AWG	5.8	21.3	52.0
0028892	5 x 0.25	24 AWG	6.2	31.0	69.0
0028893	7 x 0.25	24 AWG	7.0	39.6	84.0
0028894	10 x 0.25	24 AWG	8.5	53.9	109.0
0028895	14 x 0.25	24 AWG	8.6	64.2	136.0
0028896	18 x 0.25	24 AWG	9.4	78.4	161.0
0028897	25 x 0.25	24 AWG	11.4	101.0	213.0
0028898	2 x 0.34	22 AWG	5.6	18.1	45.0
0028899	3 x 0.34	22 AWG	5.9	28.7	61.0
0028900	4 x 0.34	22 AWG	6.3	35.7	77.0
0028901	5 x 0.34	22 AWG	6.8	39.1	83.0
0028902	7 x 0.34	22 AWG	7.7	52.7	109.0
0028903	10 x 0.34	22 AWG	9.4	67.4	147.0
0028904	14 x 0.34	22 AWG	9.5	85.8	186.0
0028905	18 x 0.34	22 AWG	10.7	99.7	216.0
0028906	25 x 0.34	22 AWG	12.9	155.0	314.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- SILVYN® CHAIN
- SMARTSTRIP stripping tool see page 909

UNITRONIC® FD CP (TP) plus

Benefits

- UL/CSA approved, highly flexible and pair-twisted data transmission cable with copper braiding and PUR outer sheath for power chain use
- Ideal for export-oriented machinery and equipment manufacturers
- Copper braiding protects against interference
- Halogen-free
- Cut and abrasion resistant PUR outer sheath
- Adhesion free, resistant to hydrolysis and microbes
- Flame retardant according to IEC 60332-1-2

Application range

- Power chains
- Linear robots
- Automated handling equipment

Product features

- Decoupling by means of twisted pair (TP) cable design, low capacitance

Approvals (Norm references)

cULus RoHS

Design

- Stranded bare copper conductor
- Polyolefine core insulation
- Tinned copper braiding
- PUR outer sheath
- Colour: grey (RAL 7001)

Technical data

Core identification code
DIN 47100, see Appendix T9

Approvals
CMX (UL/CSA)

Mutual capacitance
Up to 0.5 mm²: 60 nF/km
Up to 1.0 mm²: 70 nF/km

Peak working voltage
(not for power applications) 250 V

Specific insulation resistance
> 5 GOhm x km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire Class 6 in accordance with VDE 0295

Minimum bending radius
For flexible applications: 7.5 x outside diameter

Test voltage
C/C: 1500 V
C/S 500 V

Range of temperature
Flexing: -5°C up to +70°C
fixed installation:
-40°C up to +70°C

Part number	Number of pairs and mm² per conductor	AWG size	Outer diameter	Copper index kg/km	Weight kg/km approx.
UNITRONIC® FD CP (TP) plus					
0030910	2 x 2 x 0.14	26 AWG	6.2	19.4	42.0
0030911	3 x 2 x 0.14	26 AWG	6.5	23.4	53.0
0030912	4 x 2 x 0.14	26 AWG	6.8	27.1	59.0
0030913	5 x 2 x 0.14	26 AWG	7.3	37.4	75.0
0030914	6 x 2 x 0.14	26 AWG	7.5	49.4	91.0
0030915	8 x 2 x 0.14	26 AWG	8.8	54.8	109.0
0030916	10 x 2 x 0.14	26 AWG	10.0	60.1	120.0
0030962	1 x 2 x 0.25	24 AWG	5.1	14.0	27.0
0030919	2 x 2 x 0.25	24 AWG	7.3	32.0	60.0
0030920	3 x 2 x 0.25	24 AWG	7.7	38.4	72.0
0030921	4 x 2 x 0.25	24 AWG	8.3	43.2	85.0
0030922	5 x 2 x 0.25	24 AWG	8.9	51.5	103.0
0030923	6 x 2 x 0.25	24 AWG	9.2	71.8	131.0
0030924	8 x 2 x 0.25	24 AWG	10.8	74.4	155.0
0030925	10 x 2 x 0.25	24 AWG	12.4	90.0	186.0
0030926	14 x 2 x 0.25	24 AWG	12.6	111.2	219.0
0030963	1 x 2 x 0.34	22 AWG	5.6	20.0	36.0
0030928	2 x 2 x 0.34	22 AWG	8.8	41.0	81.0
0030929	3 x 2 x 0.34	22 AWG	8.7	52.0	101.0
0030930	4 x 2 x 0.34	22 AWG	9.5	59.0	119.0
0030932	6 x 2 x 0.34	22 AWG	11.0	86.2	165.0
0030933	8 x 2 x 0.34	22 AWG	12.2	107.3	221.0
0030934	10 x 2 x 0.34	22 AWG	14.2	131.1	274.0
0030964	1 x 2 x 0.5	20 AWG	6.2	22.0	47.0
0030937	2 x 2 x 0.5	20 AWG	9.3	50.0	99.0
0030938	3 x 2 x 0.5	20 AWG	10.1	71.8	130.0
0030939	4 x 2 x 0.5	20 AWG	10.7	74.4	148.0
0030940	5 x 2 x 0.5	20 AWG	11.8	84.5	168.0
0030941	6 x 2 x 0.5	20 AWG	12.2	99.6	194.0
0030942	8 x 2 x 0.5	20 AWG	14.4	144.3	284.0
0030943	10 x 2 x 0.5	20 AWG	16.4	176.0	343.0
0030944	14 x 2 x 0.5	20 AWG	16.7	215.4	401.0
0030965	1 x 2 x 0.75	19 AWG	6.6	34.0	61.0
0030946	2 x 2 x 0.75	19 AWG	10.2	60.0	112.0
0030947	3 x 2 x 0.75	19 AWG	10.9	85.7	157.0
0030948	4 x 2 x 0.75	19 AWG	11.7	93.6	172.0
0030950	6 x 2 x 0.75	19 AWG	13.2	130.4	231.0
0030951	8 x 2 x 0.75	19 AWG	15.7	192.2	342.0
0030952	10 x 2 x 0.75	19 AWG	17.8	258.0	466.0
0030953	14 x 2 x 0.75	19 AWG	18.7	316.6	545.0
0030955	1 x 2 x 1	18 AWG	7.0	42.0	71.0
0030956	2 x 2 x 1	18 AWG	11.0	73.0	129.0
0030957	3 x 2 x 1	18 AWG	11.9	93.6	169.0
0030958	4 x 2 x 1	18 AWG	12.5	117.8	204.0
0030959	5 x 2 x 1	18 AWG	14.1	139.0	237.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SILVYN® CHAIN see page P142668]

UNITRONIC® EB CY (TP)

Info

- **Hazard protection type -i- is required where risk of explosions occur**

Benefits

- Reliable data transmission thanks to effective screening
- Essentially resistant against acids, lyes and certain oils at room temperature

Application range

- Complies with VDE 0165 Section 12.2.2.6. Marking of wire and cable for hazard type -i- (intrinsically safe) is specified
- Reliable data transmission in intrinsically safe circuits

Product features

- Flame retardant according to IEC 60332-1-2
- Decoupling of circuits by means of twisted pair (TP)-construction (crosstalk effects)

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor
- PVC core insulation
- TP structure
- Tinned copper screen braid outer sheath: PVC
- Colour: sky blue

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 100 nF/km
C/S approx. 140 nF/km

Peak working voltage
(not for power applications)
900 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Stranded, fine wire in accordance with VDE 0295, Class 5 / IEC 60228 Cl. 5

Conductor resistance
(loop) see Appendix T11

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
2500 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of pairs and conductor cross-section, mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® EB CY (TP)				
0012620	2 x 2 x 0.75	8.7	58.0	106.0
0012621	3 x 2 x 0.75	9.6	84.0	140.0
0012622	4 x 2 x 0.75	10.9	108.0	179.0
0012624	6 x 2 x 0.75	12.3	146.0	246.0
0012626	10 x 2 x 0.75	16.1	220.0	392.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- Multipurpose shears A and B see page 902
- SKINTOP® K-M ATEX plus blue see page 649

UNITRONIC® EB JE-LiYCY...BD

Benefits

- UNITRONIC® EB JE-LiYCY...BD is a connecting cable in the Electronics, in measurement and control engineering, can also be used as pulse and data transmission cable
- Can be used for MAXI-TERMI-POINT® wiring

Application range

- Industrial electronics
- In static systems on and under plaster in dry and wet interiors. Outdoor use only under plaster.

Product features

- Complies with VDE 0165 Section 12.2.2.6.
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor
- PVC core insulation
- Tinned copper braiding
- PVC outer sheath
- Colour: sky blue

Technical data

Core identification code
In accordance with VDE 0815, see T 10

Mutual capacitance
Approx. 100 nF/km

Peak working voltage
(not for power applications) 225 V

Based on
VDE 0815

Coupling
Approx. 200 pF/100 m

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, multi wire, VDE 0295, Class 2 / IEC 60228 Class 2.

Minimum bending radius
Flexing:
15 x cable diameter
Fixed installed: 6 x outer diameter

Test voltage
C/C: 500 V
Core/screen: 2000 V

Loop resistance
Max. 78.4 Ohm/km

Range of temperature
Fixed installation: -40°C up to +70°C
Flexing: -5°C up to +70°C

Part number	Number of pairs and conductor cross-section, mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® EB JE-LiYCY...BD				
0034220	2 x 2 x 0.5	7.5	51.0	95.0
0034221	4 x 2 x 0.5	10.0	87.0	155.0
0034222	8 x 2 x 0.5	13.0	144.0	260.0
0034223	12 x 2 x 0.5	15.5	195.0	340.0
0034224	16 x 2 x 0.5	17.0	249.0	430.0
0034225	20 x 2 x 0.5	18.5	298.0	495.0
0034226	24 x 2 x 0.5	20.5	348.0	605.0
0034227	32 x 2 x 0.5	22.5	441.0	738.0
0034228	40 x 2 x 0.5	24.0	531.0	845.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- Multipurpose shears A and B see page 902
- SKINTOP® K-M ATEX plus blue see page 649
- STAR STRIP stripping tool see page 908

UNITRONIC® EB JE-Y(ST)Y 0,8 BD

Info

- **Hazard protection type -i- is required where risk of explosions occur**

Application range

- Connecting cable for MSR technology, corresponds to VDE 0165 section 12.2.2.6. Marking for cables and wires in hazard protection type -i- is prescribed.
- In static systems on and under plaster in dry and wet interiors. Outdoor use only under plaster.

Product features

- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Copper conductor, solid, bare
- PVC core insulation
- Foil with copper drain wire, braiding
- PVC outer sheath
- Colour: sky blue

Technical data

Core identification code
In accordance with VDE 0815, Ring Printing appendix

Mutual capacitance
Approx. 100 nF/km

Peak working voltage
(not for power applications) 225 V

Based on
VDE 0815

Insulation resistance
> 100 MOhm

Coupling
Approx. 200 pF/100 m

Inductivity
approx. 0.65 mH/km

Conductor stranding
Single wire solid conductor, 0.8 mm Ø

Minimum bending radius
Fixed installed: 6 x outer diameter

Test voltage
C/C: 500 V
C/S: 2000 V

Loop resistance
Max. 73.2 Ohm/km

Range of temperature
Fixed installation: -40°C up to +70°C

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® EB JE-Y(ST)Y 0.8 BD				
0034120	2 x 2 x 0.8	6.0	25.0	60.0
0034121	4 x 2 x 0.8	8.5	45.0	100.0
0034122	8 x 2 x 0.8	11.0	85.0	165.0
0034123	12 x 2 x 0.8	13.0	126.0	240.0
0034125	20 x 2 x 0.8	16.0	206.0	360.0
0034126	32 x 2 x 0.8	20.0	327.0	555.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® K-M ATEX plus blue see page 649

UNITRONIC® LiYCY-CY

Benefits

- When a trouble-free transmission of data has to be guaranteed in strong interference fields, cables with single screened cores and additional overall screening are used.

Application range

- Dry and damp indoors

Product features

- Data transmission cables with double copper screening
- Core/screen: Can be used as outer conductor
- Despite multiple screening, the cable is flexible
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor
- PVC core insulation
- PVC inner sheath surrounded by tinned copper wire braid
- PVC outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
Approx. 230 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
Approx. 0.2 mH/km

Conductor stranding
Fine copper wire strands

Conductor resistance
see Appendix T11

Minimum bending radius
Flexing:
15 x cable diameter

Test voltage
1200 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYCY-CY				
0032302	2 x 0.25	6.5	41.5	69.0
0032303	3 x 0.25	7.1	53.0	106.0
0032304	4 x 0.25	7.7	65.0	130.0
0032305	5 x 0.25	8.4	78.0	161.0
0032307	7 x 0.25	10.0	94.0	196.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® CY PiDY (TP) see page 273

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® LiFYCY (TP)

Info

- TP = twisted pair

Benefits

- TP structure minimises crosstalk

Application range

- For protection against high frequency interference, screened, fine wire cables are used in many devices. Additional decoupling by TP-structure. Examples: microelectronics, hearing aids etc.

Product features

- Pair twisted data transmission cables with copper braid screening
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor, superfine
- TP structure
- Tinned copper braiding
- PVC core insulation and outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 80 nF/km
C/S approx. 120 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Coupling
(1 kHz) approx. 300 pF at 100 m

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire
Cross-section 0.08 m²

Conductor resistance
(loop) see table T11

Minimum bending radius
7,5 x outer diameter

Test voltage
800 V

Range of temperature
Fixed installation: -30°C up to +70°C
Flexible application:
-5°C up to +50°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiFYCY (TP)				
0034231	4 x 2 x 0.08	5.1	15.3	37.0
0034233	8 x 2 x 0.08	6.7	23.7	76.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® CY PiDY (TP)

Info

- **PiDY = Pairs with copper wire wrapping and PVC sheath**
- **TP = twisted pair**

Benefits

- TP structure minimises crosstalk
- Total screening prevents/reduces interference from neighbouring cables

Application range

- Cable should preferably be used where a high level of faults and mutual interference is expected.
- Stationary application and flexible use
- Dry and damp indoors

Product features

- Data transmission cable with individually screened core pairs and overall copper braiding
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor, fine
- Cooper wrapping
- PVC core insulation, inner and outer sheath
- Tinned copper braiding
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
C/C approx. 120 nF/km
C/S: approx. 160 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, fine wire, see Appendix T11

Minimum bending radius
Fixed installed: 6 x outer diameter

Test voltage
1200 V

Loop resistance
< 160 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C
Flexible application:
-5°C up to +50°C

Characteristic impedance
approx. 65 Ohm

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® CY PiDY (TP)				
0034250	2 x 2 x 0.25	9.3	59.6	112.0
0034251	3 x 2 x 0.25	9.8	72.7	136.0
0034252	4 x 2 x 0.25	11.1	88.2	168.0
0034253	5 x 2 x 0.25	11.8	103.8	201.0
0034254	6 x 2 x 0.25	12.8	125.7	244.0
0034255	7 x 2 x 0.25	14.1	143.6	274.0
0034256	8 x 2 x 0.25	15.4	161.0	325.0
0034257	10 x 2 x 0.25	17.1	186.8	342.0
0034258	12 x 2 x 0.25	18.3	239.5	416.0
0034259	16 x 2 x 0.25	20.3	316.7	542.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- SKINTOP® MS-SC-M see page 657
- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® LiYD11Y

Benefits

- PUR sheath ist very resistant to mineral oils and abrasion

Application range

- Cables are intended for use in industrial environments, where screened cables are required that have very small cross-sections and must have excellent mechanical and chemical resistance.

Product features

- Spiralized Versions available except the 7 core version.
- Data transmission cable with wrapped copper wire screening and DIN colour code 47100
- UNITRONIC® LiYD11Y has an overall screening which prevents external electrical interference and guarantees precise pulse transmission.
- The polyurethane outer sheath is resistant against wear and tear.
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare copper conductor, superfine
- PVC core insulation
- Screening: Copper wire wrapping
- PUR outer sheath
- Colour: black

Technical data

Core identification code
DIN 47100 without colour repetition, see Appendix T9

Mutual capacitance
C/C approx. 140 nF/km
C/S approx. 150 nF/km

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
VDE 0812

Specific insulation resistance
> 20 GOhm x cm

Inductivity
approx. 0.65 mH/km

Conductor stranding
Strand, superfine wire

Conductor resistance
see Appendix T11

Minimum bending radius
For flexible applications:
10 x cable diameter
Fixed installation:
6 x cable diameter

Test voltage
1200 V

Range of temperature
Flexible use: -5°C up to +70°C
Static:
-30°C up to +80°C

Part number	Number of cores and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® LiYD11Y				
0033202	2 x 0.14	4.1	8.0	20.0
0033203	3 x 0.14	4.3	10.5	25.0
0033204	4 x 0.14	4.5	12.0	27.0
0033205	5 x 0.14	4.8	14.5	33.0
0033206	6 x 0.14	5.5	17.0	38.0
0033207	7 x 0.14	5.9	18.5	41.0
0033212	12 x 0.14	7.2	29.0	62.0
0033218	18 x 0.14	8.0	39.0	83.0
0033302	2 x 0.25	4.7	11.4	25.0
0033303	3 x 0.25	5.3	15.0	31.0
0033304	4 x 0.25	5.6	18.2	36.0
0033305	5 x 0.25	6.0	21.4	42.0
0033306	6 x 0.25	6.8	24.4	49.0
0033312	12 x 0.25	8.4	44.2	81.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® SPIRAL see page 234

Accessories

- Multipurpose shears A and B see page 902
- Universal strip stripping and cutting tool see page 907
- SMARTSTRIP stripping tool see page 909

UNITRONIC® ST

Application range

- UNITRONIC® ST data transmission cables are especially designed for the transmission of smallest measurement and control signals and at a minimum of space requirement.
- For static laying and limited flexible use
- For use in dry, damp and wet interiors

Product features

- Data transmission cables similar to UL 2092
- Protection against interferences at medium and high frequencies by aluminium foil, combination of flexibility and good shielding (normal requirements).
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded, tin plated copper conductor
- PE core insulation
- Aluminium foil with tin plated drain wire
- PVC outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Mutual capacitance
C/C approx. 90 nF/km
C/S approx. 150 nF/km

Peak working voltage
(not for power applications)
500 V

Based on
UL 2092

Specific insulation resistance
> 2 GOhm x km

Inductivity
approx. 0.65 mH/km

Minimum bending radius
10 x cable diameter

Test voltage
1500 V

Range of temperature
Static:
-30°C up to +80°C

Characteristic impedance
approx. 95 Ohm

Part number	Number of conductor and AWG size	Conductor cross section in mm² approx.	Core insulation material	Sheath material	Outer diameter in mm approx.	Copper index kg/km	Type no.
UNITRONIC® ST							
0033000	2 x AWG 20/7	0.52	PE	PVC	5.2	17.2	8762
0033001	3 x AWG 20/7	0.52	PE	PVC	5.3	22.8	8772

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

UNITRONIC® Li2YCY (TP)

RoHS

UNITRONIC® Li2YCY (TP) extra fine-wired

UNITRONIC® Li2YCYv (TP)

Benefits

UNITRONIC® Li2YCY (TP)

- Litz wire 7 cores can be used for MAXI-TERMI-POINT® wiring

Application range

- UNITRONIC® Li2YCYv (TP) model with reinforced black outer sheath (Yv) is suitable for inside and outside use as well as burial in the ground.
- UNITRONIC® Li2YCY (TP) is particularly suitable for wiring from data systems at transmission rates up tp 10 Megabit per second and is qualified for the serial interfaces RS422 and RS485.
- Cables of this kind are designed for fixed installation in dry and damp interiors and for conditional flexible use.

Product features

- Flame retardant according to IEC 60332-1-2

Design

UNITRONIC® Li2YCY (TP)

- Stranded conductor, 7-wire, bare
- PE core insulation
- Screen braiding made from copper wire
- PVC outer sheath
- Colour: pebble grey (RAL 7032)

UNITRONIC® Li2YCY (TP) extra fine-wired

- As UNITRONIC® Li2YCY (TP) however with fine-wired conductor design.

UNITRONIC® Li2YCYv (TP)

- As UNITRONIC® Li2YCY (TP), however with reinforced Yv PVC outer sheath
- Colour: black (RAL 9005)

Technical data

Core identification code
DIN 47100, see Appendix T9

Mutual capacitance
UNITRONIC® Li2YCY (TP)
At 800 Hz: max. 60 nF/km (valid starting at 4 pair)

Peak working voltage
(not for power applications)
at 0.14 mm2: 350 V
at >= 0.25 mm2: 500 V

Based on
UNITRONIC® Li2YCY (TP)
VDE 0812

Insulation resistance
> 5 GOhm x km

Inductivity
UNITRONIC® Li2YCY (TP)
approx. 0.65 mH/km

Conductor stranding
UNITRONIC® Li2YCY (TP)
UNITRONIC® Li2YCYv (TP)
Stranded copper conductor, based on VDE 0881,
7-wire
UNITRONIC® Li2YCY (TP) fine wire
Stranded copper conductor, fine

Minimum bending radius
Fixed installation: 7.5 x cable diameter

Short-range crosstalk attenuation
Up to 1 MHz min. 50 dB
Up to 10 MHz min. 40 dB

Test voltage
UNITRONIC® Li2YCY (TP)
C/C: 2000 V
C/S: 1000 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Characteristic impedance
100 Ohm +- 15

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® Li2YCY (TP)				
0031320	2 x 2 x 0,22	7.0	24.2	59.0
0031321	3 x 2 x 0,22	6.6	28.6	66.0
0031322	4 x 2 x 0,22	7.2	34.2	78.0
0031323	8 x 2 x 0,22	8.9	54.0	125.0
0031324	10 x 2 x 0,22	10.4	76.0	143.0
0031335	1 x 2 x 0,34	5.8	20.0	44.0
0031325	2 x 2 x 0,34	7.5	34.1	79.0
0031326	3 x 2 x 0,34	7.9	43.0	89.0
0031327	4 x 2 x 0,34	8.5	52.8	101.0
0031328	8 x 2 x 0,34	11.0	85.8	176.0
0031336	1 x 2 x 0,5	6.3	29.0	53.0
0031330	2 x 2 x 0,5	8.3	37.0	85.0
0031331	3 x 2 x 0,5	8.7	56.0	105.0
0031332	4 x 2 x 0,5	9.5	60.0	122.0
0031333	8 x 2 x 0,5	12.3	113.3	213.0
0031334	10 x 2 x 0,5	14.6	154.0	261.0
UNITRONIC® Li2YCY (TP) fine wire				
0031370	1 x 2 x 0,25	5.1	14.0	38.0

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0031371	2 x 2 x 0,25	6.3	28.0	56.0
0031372	3 x 2 x 0,25	6.7	39.6	64.0
0031373	5 x 2 x 0,25	8.1	50.0	93.0
UNITRONIC® Li2YCYv (TP) black for outdoor installation and direct burial				
0031350	2 x 2 x 0,22	7.9	24.2	79.0
0031351	3 x 2 x 0,22	8.2	28.6	93.0
0031352	4 x 2 x 0,22	8.8	34.2	100.0
0031353	8 x 2 x 0,22	10.5	54.0	156.0
0031354	10 x 2 x 0,22	12.0	76.0	185.0
0031365	1 x 2 x 0,34	7.4	20.0	69.0
0031355	2 x 2 x 0,34	9.1	34.1	102.0
0031356	3 x 2 x 0,34	9.5	43.0	117.0
0031357	4 x 2 x 0,34	10.1	52.8	130.0
0031358	8 x 2 x 0,34	12.6	85.5	206.0
0031366	1 x 2 x 0,5	7.9	29.0	79.0
0031360	2 x 2 x 0,5	9.9	37.0	120.0
0031361	3 x 2 x 0,5	10.3	55.0	142.0
0031362	4 x 2 x 0,5	11.1	60.0	160.0
0031363	8 x 2 x 0,5	13.9	113.0	251.0
0031364	10 x 2 x 0,5	15.8	148.0	303.0

■ Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- STAR STRIP stripping tool see page 908
- STEEL GUN HT-338 cable tie pliers see page 971
- LS steel cable ties see page 969

UNITRONIC® Li2YCY PiMF

Benefits

- Litz wire 7 cores can be used for MAXI-TERMI-POINT® wiring
- Data cable with low capacitance, pair screening and overall copper braiding

Application range

- UNITRONIC® Li2YCY PiMF with individual screening of the pairs is particularly suitable for wiring data systems and controls in large industrial plants, for the transmission of sensitive signals and high bit rates for enhanced requirements in near-end cross-talk attenuation and high electrical interference in the circuits
- For measurement value transmission and serial 2-wire interfaces
- Cables of this type are intended for limited flexible use, and for fixed installation in dry and damp interiors

Product features

- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded 7-wire bare copper conductor
- PE core insulation
- Foil wrapping, static screening of aluminium-laminated plastic film with drain wire
- PVC outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
0.22 mm²-0.5 mm²:
according to DIN 47100, see Appendix T9
1.0 mm²
see structure data

Mutual capacitance
At 800 Hz:
0.22 mm² max. 70 nF/km
0.34 mm² max. 70 nF/km
0.5 mm² max. 75 nF/km
1.0 mm² max. 85 nF/km

Peak working voltage
(not for power applications) 250 V

Insulation resistance
> 5 GOhm x km

Inductivity
Approx. 0.4 mH/km

Conductor stranding
7 or fine wired strand
according to VDE 0881

Minimum bending radius
Fixed installation:
10 x cable diameter

Short-range crosstalk attenuation
Up to 1 MHz min. 80 dB

Test voltage
C/C: 2000 V
C/S: 1000 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Characteristic impedance
at f > 1 MHz:
approx. 85 Ohm

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
UNITRONIC® Li2YCY PiMF 7-wire				
0034040	2 x 2 x 0.22	6.9	33.0	75.4
0034041	3 x 2 x 0.22	7.5	42.0	86.0
0034042	4 x 2 x 0.22	8.0	50.0	99.0
0034043	8 x 2 x 0.22	10.1	85.0	161.4
0034044	10 x 2 x 0.22	11.7	100.0	186.4
0034045	2 x 2 x 0.34	8.0	43.0	70.0
0034046	3 x 2 x 0.34	8.7	55.0	85.0
0034047	4 x 2 x 0.34	9.5	64.0	103.0
0034048	8 x 2 x 0.34	12.0	127.0	191.0
0034049	10 x 2 x 0.34	14.6	150.0	230.0
7-wire				

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
0034060	2 x 2 x 0.5	8.5	51.0	96.0
0034061	3 x 2 x 0.5	9.3	66.0	116.0
0034062	4 x 2 x 0.5	10.1	71.0	141.0
0034063	5 x 2 x 0.5	11.0	92.0	180.0
0034064	8 x 2 x 0.5	13.5	153.0	271.0
0034065	10 x 2 x 0.5	15.7	182.0	327.0
Fine wire				
0034070	2 x 2 x 1	9.7	82.0	126.0
0034071	3 x 2 x 1	10.8	109.0	156.0
0034072	4 x 2 x 1	11.7	133.0	193.0
0034073	10 x 2 x 1	19.7	326.0	492.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

RE-2Y(ST)Yv

Application range

- RE-2Y(ST)Yv is intended for use wherever modern process computers have to process large volumes of data, e.g. high capacity computer systems in waste incineration plants or sewage treatment plants.
- Cables are suitable for use in dry and damp rooms, and the black version can also be used outdoors or for direct burial.

Product features

- Computer cable with reinforced outer sheath
- Colour: black (based on RAL 9005) or blue for intrinsically safe systems (based on RAL 5015)
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare stranded copper conductor, PE core insulation, cores twisted into pairs, pairs in layers plus 1 core for communication, core colour orange
- Foil wrapping, aluminium laminated plastic foil static screen with tin plated drain wire
- Reinforced PVC outer sheath
- In case of single-pair or 3-core versions the communication core is not applicable

Technical data

Core identification code
a-core: black
b-core: white
with consecutive numbers:
1-1, 2-2, 3-3, 4-4 etc.
Three-way version:
black, white, red

Mutual capacitance
(guideline values at 800 Hz):
C/C: 0.5 mm²: max 75 nF/km
(guideline values at 800 Hz):
C/C: 1.3 mm²: max. 100 nF/km

Peak working voltage
(not for power applications)
Max. 300 V

Insulation resistance
> 5 GOhm x km

Conductor resistance
0.5 mm²: max. 39.2 Ohm/km
1.3 mm²: max. 14.3 ohms/km

Minimum bending radius
Fixed installation: 7.5 x cable diameter

Short-range crosstalk attenuation
At 60 kHz min. 0.88 dB/km

Test voltage
C/C: 2000 V
C/S: 1000 V

Range of temperature
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +70°C

Characteristic impedance
Approx. 100 Ohm

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
RE-2Y(ST)Yv 0,5 mm² blue				
0032400	1 x 2 x 0.5	8.2	15.0	74.0
0032401	2 x 2 x 0.5	10.2	30.0	117.0
0032402	4 x 2 x 0.5	11.0	50.0	140.0
0032403	8 x 2 x 0.5	13.8	90.0	215.0
0032405	12 x 2 x 0.5	15.7	130.0	280.0
0032407	20 x 2 x 0.5	18.5	210.0	385.0
0.5 mm² black				
0032411	1 x 2 x 0.5	8.2	15.0	74.0
0032412	2 x 2 x 0.5	10.2	30.0	117.0
0032413	4 x 2 x 0.5	11.0	50.0	140.0
0032414	8 x 2 x 0.5	13.8	90.0	215.0
0032415	10 x 2 x 0.5	14.6	110.0	220.0
0032417	16 x 2 x 0.5	17.5	170.0	352.0
0032418	20 x 2 x 0.5	18.5	210.0	385.0
0032420	36 x 2 x 0.5	24.0	370.0	656.0
0032421	48 x 2 x 0.5	27.4	490.0	854.0
1.3 mm² blue				
0032422	1 x 2 x 1.3	9.4	31.0	102.0
0032423	2 x 2 x 1.3	11.7	62.0	161.0
0032424	4 x 2 x 1.3	13.5	114.0	230.0
0032425	8 x 2 x 1.3	17.1	218.0	377.0
0032426	12 x 2 x 1.3	19.3	322.0	520.0
0032427	16 x 2 x 1.3	22.0	426.0	656.0
0032428	24 x 2 x 1.3	26.5	684.0	952.0
0032429	1 x 3 x 1.3	9.7	44.0	116.0
1.3 mm² black				
0032430	1 x 2 x 1.3	9.4	31.0	102.0
0032431	2 x 2 x 1.3	11.7	62.0	161.0
0032432	4 x 2 x 1.3	13.5	114.0	230.0
0032433	8 x 2 x 1.3	17.1	218.0	377.0
0032434	12 x 2 x 1.3	19.3	322.0	515.0
0032435	16 x 2 x 1.3	22.0	426.0	656.0
0032436	24 x 2 x 1.3	26.5	684.0	995.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

RE-2Y(ST)Yv PiMF

Application range

- RE-2Y(ST)Yv PiMF is intended for use wherever modern process computers have to process large volumes of data, e.g. high capacity computer systems in waste incineration plants or sewage treatment plants.
- Cables are suitable for use in dry and damp rooms, and the black version can also be used outdoors or for direct burial.

Product features

- Computer cable with screened pairs and reinforced outer sheath.
- Colour: black (based on RAL 9005) or blue for intrinsically safe systems (based on RAL 5015)
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Bare stranded copper conductor, PE core insulation, cores twisted into pairs, pairs screened by aluminium laminated plastic foil with plain copper drain wire, PiMF labelling using numbered foil, pairs in layers and 1 core for communication, core colour orange
- Aluminium laminated plastic foil static screen with tin plated drain wire
- Reinforced PVC outer sheath
- On single-pair versions the communication core is not applicable.

Technical data

Core identification code
a-core: black
b-core: white
with consecutive numbers:
1-1, 2-2, 3-3, 4-4 etc.

Mutual capacitance
(at 800 Hz max):
C/C: 0.5 mm²: 75 nF/km
(at 800 Hz max):
C/C: 1.3 mm²: 100 nF/km

Peak working voltage
(not for power applications)
Max. 300 V

Insulation resistance
> 5 GOhm x km

Inductivity
Max. 0.75 mH/km

Conductor resistance
0.5 mm²: max. 39.2 Ohm/km
1.3 mm²: max. 14.2 ohms/km

Minimum bending radius
Fixed installation: 7.5 x cable diameter
Occasional flexing at max. 260°C:
15 x cable diameter

Short-range crosstalk attenuation
At 60 kHz min. 1.02 dB/km

Test voltage
Core/core: 2000 V
Core/screen: 600 V

Range of temperature
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +70°C

Characteristic impedance
Approx. 100 Ohm

Part number	Number of pairs and mm² per conductor	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
RE-2Y(ST)Yv PiMF 0,5 mm² blue				
0032438	2 x 2 x 0.5	12.0	35.0	128.0
0032439	4 x 2 x 0.5	12.7	60.0	170.0
0032441	10 x 2 x 0.5	15.4	136.0	246.0
0032442	12 x 2 x 0.5	17.6	161.0	351.0
0032443	16 x 2 x 0.5	19.8	212.0	430.0
0032444	20 x 2 x 0.5	21.2	262.0	496.0
0032446	36 x 2 x 0.5	26.9	465.0	850.0
0.5 mm² black				
0032448	2 x 2 x 0.5	12.0	35.0	128.0
0032449	4 x 2 x 0.5	12.7	60.0	170.0
0032450	8 x 2 x 0.5	14.9	121.0	261.0
0032451	10 x 2 x 0.5	15.4	136.0	246.0
0032452	12 x 2 x 0.5	17.6	161.0	351.0
0032453	16 x 2 x 0.5	19.8	212.0	430.0
0032456	36 x 2 x 0.5	26.9	465.0	850.0
1.3 mm² blue				
0032458	2 x 2 x 1.3	12.7	68.0	184.0
1.3 mm² black				
0032464	2 x 2 x 1.3	12.7	68.0	184.0
0032465	4 x 2 x 1.3	14.0	124.0	269.0
0032466	8 x 2 x 1.3	18.8	239.0	442.0
0032467	12 x 2 x 1.3	21.4	353.0	593.0
0032469	24 x 2 x 1.3	29.4	697.0	1,104.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

RD-Y(ST)Y

RD-Y(ST)Yv

Benefits

- For reasons of cost reduction the multi-wired stranded copper cable has been provided for MAXI-TERMI-POINT® connecting technology. This wiring method (semi-automatic) considerably reduces the time and the costs required for installation.

Application range

RD-Y(ST)Y

- RD-Y(St)Y is used as a data transmission cable for applications such as control centres, monitoring systems, control units units
- It is designed for fixed installation / installation in enclosed rooms.

RD-Y(ST)Yv

- UNITRONIC® RD-Y(ST)Yv is used for data transmission in the fields of control centres, controlling systems and units. UNITRONIC® RD-Y(ST)Yvt is intended for fixed wiring or installation in closed interiors as well as outdoor use and direct burial.

Design

RD-Y(ST)Y

- Bare stranded copper conductor, MAXI-TERMI-POINT® compatible, PVC core insulation, cores twisted into pairs, approx. 20 loops/m, 4 pairs twisted into a bundle, bundles in layers, bundles labelled using numbered foil, aluminium laminated plastic foil static screen with multi wire tin plated drain wire
- PVC outer sheath
- Colour: grey (based on RAL 7000) or blue for intrinsically safe systems (based on RAL 5015)

RD-Y(ST)Yv

- Design like RD-Y(St)Y, but with reinforced Yv braiding, PVC outer sheath

Technical data

Core identification code
RD-Y(ST)Y

Pair-no. 1: a-conductor: blue
b-conductor red
Pair-no. 2: a-conductor: grey
b-conductor: yellow
Pair no. 3: a-core: green
b-core brown
Pair no. 4: a-core: white
b-core black

Mutual capacitance
RD-Y(ST)Y
At 800 Hz :
<= 100 nF/km
For cables up to 4 double cores the values may be exceeded by 20 %.

Peak working voltage
RD-Y(ST)Y
(not for power applications)
Max. 225 V

Insulation resistance
RD-Y(ST)Y
Core/core >= 100 MOhm x km
Core/screen >= 100 MOhm x km
RD-Y(ST)Yv
Core/core >= 100MOhm x km
Core/screen >= 100 MOhm x km

Coupling
RD-Y(ST)Yv
At 800 Hz: <= 200 pF/100m
20 % of the values, however a value may be up to 400 pF

Conductor resistance
RD-Y(ST)Y
(loop): <= 73.6 Ohm/km

Cable attenuation / attenuation
At 1 kHz approx. 1.2 dB/km
At 10 kHz approx. 3.0 dB/km

Minimum bending radius
RD-Y(ST)Y
Fixed installation: 7.5 x cable diameter

Short-range crosstalk attenuation
RD-Y(ST)Y
At 10 kHz and 500 m cable length at least 60 dB
RD-Y(ST)Yv
At 10 kHz and 500 m cable length >= 60 dB

Test voltage
RD-Y(ST)Y
50 Hz, 2 min. C/C: 2000 V
50 Hz, 2 min. C/S: 2000 V

Range of temperature
RD-Y(ST)Y
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +70°C

Characteristic impedance
At 1 kHz approx. 370 Ohm
At 10 kHz approx. 130 Ohm

Part number	Number of pairs and mm² per conductor	Number of units	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
RD-Y(ST)Y grey					
0032470	2 x 2 x 0.5		6.5	25.0	65.0
0032471	4 x 2 x 0.5	1	9.0	45.0	110.0
0032472	8 x 2 x 0.5	2	11.5	85.0	180.0
0032474	16 x 2 x 0.5	4	15.5	165.0	310.0
0032475	24 x 2 x 0.5	6	19.0	245.0	450.0
0032476	32 x 2 x 0.5	8	21.0	325.0	560.0
0032477	48 x 2 x 0.5	12	25.5	485.0	810.0
RD-Y(ST)Y blue					
0032479	2 x 2 x 0.5		6.5	25.0	65.0
RD-Y(ST)Yv grey					
0032488	2 x 2 x 0.5		95.0	25.0	
0032489	4 x 2 x 0.5	1	10.5	45.0	145.0
0032490	8 x 2 x 0.5	2	12.5	85.0	240.0
0032493	24 x 2 x 0.5	6	20.0	245.0	520.0

JE-Y(ST)Y ...BD

Benefits

- Installation cable for industrial electronics
- Perfect for cost-effective installation, e.g. connections with insulation displacement technology (IDC).

Application range

- JE-Y(St)Y...BD is a connection cable for fixed installation in industrial control systems, as required in measurement, control, signalling and data technology
- In static systems on and under plaster in dry and wet interiors. Outdoor use only under plaster.

Product features

- Colour: pebble grey (RAL 7032)
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Solid bare copper conductor
- Core insulation: Based on PVC
- 2 cores twisted into a pair and 4 pairs into units (for 2 x 2 x 0.8 as star quad cable)
- Foil wrapping, static screening of aluminium-laminated plastic film with copper drain wire
- PVC blended outer sheath

Technical data

Core identification code
In accordance with VDE 0815, see T 10

Approvals
VDE 0815

Mutual capacitance
max. 100 nF/km

Peak working voltage
(not for power applications) 225 V

Insulation resistance
> 100MOhm x km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Single wire (solid conductor)

Minimum bending radius
In fixed installations:
6 x cable diameter

Test voltage
C/C: 500 V
Core/screen: 2000 V

Loop resistance
73.2 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C
Flexible application:
-5°C up to +50°C

Part number	Number of cores and cable diameter mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
JE-Y(ST)Y...BD				
0034190	2 x 2 x 0.8	6.0	25.0	60.0
0034191	4 x 2 x 0.8	8.5	45.0	96.0
0034192	8 x 2 x 0.8	11.0	85.0	158.0
0034193	12 x 2 x 0.8	13.0	126.0	225.0
0034194	16 x 2 x 0.8	14.5	166.0	290.0
0034195	20 x 2 x 0.8	16.0	206.0	350.0
0034197	40 x 2 x 0.8	22.0	407.0	660.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Comparable products

- UNITRONIC® EB JE-LiYCY...BD see page 269

Accessories

- STAR STRIP stripping tool see page 908

JE-LiYCY ...BD

Benefits

- Data transmission cables for industrial electronics
- Can be used for MAXI-TERMI-POINT® wiring

Application range

- JE-LiYCY...BD is a connection cable for use in electronics and in measurement, control and signal technology
- This cable is also used as a pulse and data transmission cable
- JE-LiYCY...BD has also proved to be an efficient connection cable for telephone systems, for example paging and intercom systems.
- In static systems on and under plaster in dry and wet interiors. Outdoor use only under plaster.

Product features

- Flame retardant according to IEC 60332-1-2
- Colour: pebble grey (RAL 7032)

Approvals (Norm references)

RoHS

Design

- Bare stranded copper conductor
- Core insulation: Based on PVC
- 2 cores twisted into a pair and 4 pairs into units (for 2 x 2 x 0.5 as star quad cable)
- Units twisted in layers, foil, screen braiding of tinned copper wire
- PVC blended outer sheath

Technical data

Core identification code
In accordance with VDE 0815, see T 10

Approvals
VDE 0815

Mutual capacitance
max. 100 nF/km

Peak working voltage
(not for power applications) 225 V

Insulation resistance
> 100MOhm x km

Inductivity
approx. 0.65 mH/km

Conductor stranding
Multi wire, 7 x 0.3 see table T11

Minimum bending radius
In fixed installations:
5 x cable diameter

Test voltage
C/C: 500 V
Core/screen: 2000 V

Loop resistance
78.4 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C
Flexible application:
-5°C up to +50°C

Part number	Number of pairs and conductor cross-section, mm²	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
JE-LiYCY...BD				
0034200	2 x 2 x 0.5	7.5	51.0	70.0
0034201	4 x 2 x 0.5	10.0	87.0	155.0
0034202	8 x 2 x 0.5	13.0	144.0	260.0
0034208	12 x 2 x 0.5	15.5	195.0	340.0
0034203	16 x 2 x 0.5	17.0	249.0	430.0
0034210	20 x 2 x 0.5	18.5	298.0	495.0
0034204	24 x 2 x 0.5	20.5	348.0	605.0
0034212	32 x 2 x 0.5	22.5	441.0	738.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
MAXI-TERMI-POINT® is a registered trademark of AMP

Accessories

- SKINTOP® MS-SC-M see page 657
- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

J-Y(ST)Y ..LG Indoor Cable

Benefits

- Indoor telephone cables transmit analogue or digital signals

Application range

- In news and communication technology, the following connections can be installed: telephone, telefax, telex as well as standard modems of postal services, burglar and fire alarm systems (cf. fire alarm cables), communication and paging systems, access control, time and data control systems
- Can be used in dry and wet interiors for fixed installation on and under plaster

Product features

- Flame retardant according to IEC 60332-1-2

Design

- In accordance with VDE 0815
- Solid bare copper conductor
  Core insulation: Based on PVC
- Cores are twisted in pairs, foil wrapping, static aluminium laminated plastic foil with copper drain wire over cable core, PVC-based outer sheath
- Variant with 4 cores twisted as star quad
- Colour: pebble grey (RAL 7032)

Technical data

Peak working voltage
(not for power applications)
300 V

Insulation resistance
> 100MOhm x km

Coupling
(800 Hz): K1: 80%<=300 pF/100m

Conductor cross section in
0.6 mm: 0.28 mm²
0.8 mm: 0.50 mm²

Cable attenuation / attenuation
0.6 mm: 1.7 dB/km
0.8 mm: 1.1 dB/km

Minimum bending radius
10 x cable diameter

Test voltage
C/C: 800 V
C/S 800 V

Loop resistance
0.6 mm: max. 130 Ohm/km
0.8 mm: max. 73.2 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C

Use/application
For stationary installation on or under plaster in dry and damp interiors

Part number	Number of double cores	Number of star quads	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
J-Y(ST)Y...LG Copper conductor 0.6 mm					
1591300	1		5.0	6.9	30.0
1591301	2	1	5.5	13.0	40.0
1591302	3		6.3	18.0	50.0
1591303	4		6.7	24.0	60.0
1591304	5		7.2	30.0	70.0
1591305	6		7.5	35.0	80.0
1591306	8		8.0	46.0	90.0
1591307	10		9.0	58.0	110.0
1591308	12		9.5	71.0	130.0
1591310	16		10.5	93.0	160.0
1591311	20		11.0	116.0	190.0
1591312	24		11.5	139.0	220.0
1591313	30		13.0	172.0	280.0
1591314	40		15.0	229.0	350.0
1591315	50		17.0	286.0	430.0
1591316	60		18.0	342.0	500.0
1591318	100		23.0	568.0	850.0
J-Y(ST)Y...LG Copper conductor 0.8 mm					
1591500	1		6.0	11.0	40.0
1591501	2	1	7.0	21.0	60.0
1591502	3		8.5	31.0	80.0
1591503	4		9.0	41.0	100.0
1591504	5		9.5	52.0	120.0
1591505	6		10.5	62.0	140.0
1591506	8		11.5	82.0	170.0
1591507	10		13.0	102.0	220.0
1591508	12		14.0	123.0	250.0
1591510	16		15.5	164.0	320.0
1591511	20		16.5	204.0	380.0
1591512	24		19.0	244.0	460.0
1591513	30		20.0	304.0	560.0
1591514	40		22.5	405.0	710.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

Comparable products

- J-2Y(ST)Y ...ST III BD see page 286

Accessories

- Universal strip stripping and cutting tool see page 907
- STAR STRIP stripping tool see page 908

J-Y(ST)Y ...LG Fire Alarm Cable

Info

- **Installation cable with the red outer sheat in accordance with VDE 0815**

Benefits

- The cable is marked “”Fire alarm cable”” at regular intervals on the sheath. It is therefore particularly suitable for installation in modern-type fire alarm systems.

Application range

- This installation cable is used for signal transmission in static systems on and under plaster in dry and wet interiors. For outdoor use this cable should be installed only under plaster.

Product features

- The 2-paired versions = star-quad cable design
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Single wire conductor of plain copper wire
- Core insulation: Based on PVC
- Cores twisted in pairs, pairs twisted together, foil wrapping over cable core, static screen of aluminium-laminated plastic film with copper drain wire
- PVC based outer sheath
- Colour: flame red (RAL 3000)

Technical data

Core identification code
In accordance with VDE 0815, see T 10

Peak working voltage
(not for power applications)
300 V

Based on
VDE 0815

Minimum bending radius
Fixed installation
10 x cable diameter

Test voltage
C/C: 800 V
C/S 800 V

Range of temperature
Fixed installation: -30°C up to +70°C

Use/application
For stationary installation on or under plaster in dry and damp interiors and outdoor only under plaster.

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
J-Y(ST)Y...LG red				
1708001	1 x 2 x 0.8	6.0	11.0	40.0
1708002	2 x 2 x 0.8	7.0	21.0	60.0
1708004	4 x 2 x 0.8	9.0	41.0	100.0
1708006	6 x 2 x 0.8	10.5	62.0	140.0
1708010	10 x 2 x 0.8	13.5	102.0	220.0
1708020	20 x 2 x 0.8	16.5	204.0	380.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

J-2Y(ST)Y ...ST III BD

Benefits

- Suitable for data transmission rates of up to 16 Mbits/s

Application range

- It is for example used for connecting EDP system units or for circuits for airfield lighting, ISDN private branch exchanges, operating data acquisition, operating data entry, access control and time recording systems, industrial electronics, all designed for maximum security and speed.
- Can be used in dry and wet interiors for fixed installation on and under plaster

Product features

- Make-up: acc. DIN VDE 0815 table 4, Type JE-Y(ST)Y...BD but with PE core insulation
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Solid bare copper conductor
- Core insulation: Polyethylene (PE)
- Foil wrapping, static screening of aluminium-laminated plastic film with copper drain wire
- PVC blended outer sheath
- Colour: pebble grey (RAL 7032)

Technical data

Core identification code
In accordance with VDE 0815, see T 10

Mutual capacitance
(800 Hz) max. 52 nF/km

Peak working voltage
(not for power applications)
300 V

Insulation resistance
> 5 GOhm x km

Coupling
K1: 98 % <400 pF/300 m
K9-12: 98 % < 100 pF/300 m

Cable attenuation / attenuation
At 16 MHz < 8 dB/100m

Minimum bending radius
In fixed installations:
10 x cable diameter

Short-range crosstalk attenuation
4-16 MHz: 2-pair >= 45 dB
4-16 MHz: >2-pair >= 20 dB

Test voltage
Core/core: 500 V
Core/screen: 2000 V

Loop resistance
max. 130 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C

Characteristic impedance
100 Ohm +- 15 %

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
J-2Y(ST)Y...ST III BD				
0034171	2 x 2 x 0.6	5.5	13.0	40.0
0034173	4 x 2 x 0.6	7.5	24.0	60.0
0034175	8 x 2 x 0.6	8.5	46.0	90.0
0034176	10 x 2 x 0.6	9.5	58.0	148.0
0034178	20 x 2 x 0.6	13.5	116.0	190.0
30017810	50 x 2 x 0.6	18.0	286.0	412.0
30017811	100 x 2 x 0.6	25.8	570.0	650.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

Comparable products

- UNITRONIC® Li2YCY (TP) see page 276

Accessories

- STAR STRIP stripping tool see page 908

J-H(ST)H ...BD

Benefits

- Is used to meet enhanced fire protection requirements concerning protection of people as well as high value property
- J-H(ST)H...BD does not emit any toxic or corrosive gases in the event of fire and resists the spread of fire.

Application range

- This halogen-free, flame retardant installation cable with static screen is used for telephone, data and signal transmission in subscriber stations and private branch exchange construction for telephone systems on dry and wet premises as well as on and under plaster.

Product features

- The resistance to combustion has been tested in accordance with IEC specification 60332-3
- Halogen-free and flame retardant installation cable in accordance with VDE 0815

Approvals (Norm references)

RoHS

Design

- Solid bare copper conductor
- Core insulation: Halogen-free
- Variant with 4 cores twisted as star quad
- Foil wrapping, static screening of aluminium-laminated plastic film with copper drain wire
- Colour: grey

Technical data

Core identification code
see table T9

Mutual capacitance
max. 120 nF/km

Peak working voltage
(not for power applications)
300 V

Insulation resistance
>100 MOhm x km

Coupling
K1: Approx. 300 pF/100 m
K9-12: Approx. 100 pF/100 m

Minimum bending radius
In fixed installations:
6 x cable diameter

Test voltage
C/C: 800 V
C/S 800 V

Loop resistance
max. 130 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
J-H(ST)H-BD				
3022220	2 x 2 x 0,6	8.0	14.1	65.0
3022221	4 x 2 x 0,6	10.0	25.4	100.0
3022222	6 x 2 x 0,6	11.0	37.0	117.0
3022223	10 x 2 x 0,6	12.0	59.0	155.0
30017787	2 x 2 x 0,8	9.0	25.0	77.0
30017788	4 x 2 x 0,8	11.0	45.0	135.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

J-H(ST)H ...BD Fire Alarm Cable

Info

- **The halogen-free and flame retardant fire alarm cable in accordance with VDE 0815**

Benefits

- Is used to meet enhanced fire protection requirements concerning protection of people as well as high value property
- Does not emit any toxic or corrosive gases in the event of fire and resists the spread of fire

Application range

- This halogen-free, flame retardant installation cable with static screen is used for telephone, data and signal transmission in subscriber stations and private branch exchange construction for telephone systems on dry and wet premises as well as on and under plaster.

Product features

- The resistance to combustion has been tested in accordance with IEC specification 60332-3

Approvals (Norm references)

RoHS

Design

- Solid bare copper conductor
- Core insulation: Halogen-free
- Variant with 4 cores twisted as star quad
- Foil wrapping, static screening of aluminium-laminated plastic film with copper drain wire
- Outer sheath of special, halogen-free polymer compound, colour outer sheath red.

Technical data

Core identification code
see table T9

Mutual capacitance
max. 120 nF/km

Peak working voltage
(not for power applications)
300 V

Based on
VDE regulation: VDE 0815

Insulation resistance
>100 MOhm x km

Coupling
K1: Approx. 300 pF/100 m
K9-12: Approx. 100 pF/100 m

Minimum bending radius
In fixed installations:
6 x cable diameter

Test voltage
C/C: 800 V
C/S 800 V

Loop resistance
max. 130 Ohm/km

Range of temperature
Fixed installation: -30°C up to +70°C

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
J-H(ST)H...BD				
30017798	2 x 2 x 0,8	9.0	25.0	77.0
30017801	10 x 2 x 0,8	15.0	106.0	250.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum

A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable

A-2YF(L)2Y ...ST III BD Outdoor Cable

RoHS

RoHS

Application range

- Do not place duct or directly buried underground cable in areas subject to fire hazard

Design

A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable

- Solid bare copper conductor
- Core insulation: Polyethylene (2Y)
- Every 5 star quads twisted into basic units, basic units and main unit twisted to form cable core
- Paper tape wrapping
- Laminated sheath of aluminium-coated plastic tape, black polyethylene (PE) outer sheath

A-2YF(L)2Y ...ST III BD Outdoor Cable

- Like A-2Y(L)2Y, however with petrolat jelly filling, laminated sheath of aluminium coated plastic tape and black polyethylene outer sheath

Technical data

Core identification code
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
see Appendix T10

Mutual capacitance
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
At 800 Hz: max. 52 nF/km

Peak working voltage
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
(not for power applications) 225 V

Impedance
At 800 Hz 0.8 mm: approx. 520 Ohm
At 800 Hz 0.6 mm: approx. 720 Ohm

Based on
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
VDE 0816

Insulation resistance
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
>5.0 GOhm x km
A-2YF(L)2Y ...ST III BD Outdoor Cable
>1.5 GOhm x km

Coupling
K1: 98 % <400 pF/300 m
K9-12: 98 % < 100 pF/300 m

Conductor cross section in
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
0.6 mm: 0.28 mm²
0.8 mm: 0.50 mm²
A-2YF(L)2Y ...ST III BD Outdoor Cable
0.8mm: 0.50mm²
0.6 mm: 0.28 mm²

Cable attenuation / attenuation
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
At 800 Hz 0.6 mm:
Approx. 1.04 dB/km
At 800 Hz 0.8 mm:
At 0.78 dB/km
A-2YF(L)2Y ...ST III BD Outdoor Cable
At 800 Hz 0.8 mm: approx. 0.8 dB/km
At 800 Hz 0.6 mm: approx. 1.0 dB/km

Minimum bending radius
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
10 x cable diameter

Test voltage
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
C/C: 500 V
Core/screen: 2000 V

Loop resistance
0.8 mm: 73.2 Ohm/km
0.6 mm: 130 Ohm/km

Range of temperature
A-2Y(L)2Y ...ST III BD Telephone Outdoor Cable
For installation: -20 °C up to +50 °C
Installed: <= +70°C

Use/application
Do not place duct or directly buried underground cable in areas subject to fire hazard

Part number	Number of double cores	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
A-2Y(L)2Y...STIII BD copper conductor 0.6 mm				
1591050	2	10.5	11.0	80.0
1591051	4	11.0	23.0	125.0
1591052	6	11.5	34.0	130.0
1591053	10	13.0	57.0	165.0
1591054	20	16.0	113.0	265.0
1591055	30	18.0	170.0	355.0
1591056	40	19.5	226.0	440.0
1591057	50	21.0	283.0	525.0
1591058	70	23.5	396.0	705.0
1591061	200	36.5	1,755.0	1,755.0
1591063	300	42.5	1,696.0	2,525.0
A-2Y(L)2Y...ST III BD copper conductor 0.8 mm				
1591150	2	8.6	20.0	100.0
1591151	4	10.9	40.0	160.0
1591152	6	13.5	60.0	175.0
1591153	10	15.0	101.0	235.0
1591163	14	16.5	141.0	296.0
1591154	20	18.0	201.0	390.0
1591155	30	21.0	302.0	540.0
1591156	40	23.5	402.0	680.0
1591157	50	25.0	503.0	835.0
A-2YF(L)2Y...ST III BD copper conductor 0.6 mm				
1591028	2	8.3	11.0	67.0
1591029	4	10.4	23.0	104.0
1591030	6	12.0	34.0	140.0
1591031	10	14.0	57.0	190.0
1591032	20	17.5	113.0	310.0
1591033	30	20.0	170.0	430.0
1591035	50	24.5	283.0	660.0
1591037	100	31.5	565.0	1,225.0
A-2YF(L)2Y...ST III BD copper conductor 0.8 mm				
1591217	2	8.8	20.0	83.0
1591218	4	11.2	40.0	134.0
1591221	6	13.5	60.0	195.0
1591222	10	15.5	101.0	275.0
1591223	20	19.5	201.0	475.0
1591224	30	22.5	302.0	665.0
1591225	40	25.5	402.0	860.0
1591226	50	27.5	503.0	1,050.0
1591228	100	36.5	1,005.0	1,985.0

Accessories

- SKINTOP® MS-SC-M see page 657
- Multipurpose shears A and B see page 902
- STAR STRIP stripping tool see page 908

UNITRONIC® BUS ASI

Application range

- Communication at Sensor / Actuator level
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements
- Fixed installation as well as occasional flexing at free, non-continuously recurring movement without tensile load
- PUR version has an oil resistant outer sheath for use in industrial environments (e. g. wet areas in automotive industry, processing centres, also in connection with coolants/lubricants) which are mixed with water.

Product features

- Data and energy are transmitted both via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).
- The conductor is contacted by “piercing technology” within the ASI-modules.
- Connection of sensors to the ASI module (coupling module) is carried out using round cables (connection cables).

Approvals (Norm references)

RoHS

- ASI is standardised Europe-wide in EN 50295 and internationally in IEC 62026-2.
- PVC version has UL/CSA (CMG) approval.

Design

- Stranded copper conductor, fine, 1.5 mm²
- Core insulation: Blue and brown)
- Profiled outer sheath of rubber (G), or polyurethane (PUR), or Polyvinylchloride (PVC)
- Colour: yellow (RAL 1023) or black (RAL 9005)

Technical data

Approvals
UL/CSA version: CMGc(UL)us or (UL)CL2 or AWM 300V FT4 approved

Peak working voltage
(not for power applications) 300 V

Conductor resistance
(loop): max. 27.4 Ohm/km

Minimum bending radius
Fixed installation: 12 mm
Flexible 24 mm

Test voltage
Core/core: 2000 V

Range of temperature
Dependent on the outer sheath material:
PVC -30°C up to +90°C
other materials:
-40°C up to +85°C
During installation:
PVC -20°C up to +90°C
other materials:
-30°C up to +85°C

Part number	Article designation	Sheath material	Sheath colour	Application	Number of cores and mm² per conductor	Copper index kg/km	Weight kg/m
For fixed and flexible application (19 wires strand)							
2170228	UNITRONIC® BUS ASI (G)	EPDM (rubber)	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170229	UNITRONIC® BUS ASI (G)	EPDM (rubber)	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0
2170230	UNITRONIC® BUS ASI (TPE)	TPE	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170231	UNITRONIC® BUS ASI (TPE)	TPE	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0
2170201	UNITRONIC® BUS ASI (PUR)	PUR	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170202	UNITRONIC® BUS ASI (PUR)	PUR	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0
2170842	UNITRONIC® BUS ASI (PVC) A	PVC UL/CSA (CMG)	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170843	UNITRONIC® BUS ASI (PVC) A	PVC UL/CSA (CMG)	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
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Accessories

- SKINTOP® DIX-M AUTOMATION see page 663
- Universal strip stripping and cutting tool see page 907
- AS-I clip clamp see page 975
- AS-I STRIP special stripping tool see page 910
- AS-I STRIP special
- SKINTOP® DIX ASI

New

UNITRONIC® BUS ASI FD

Highly flexible application

Info

- "FD" = Drag chain suitable

Benefits

- For highly flexible application (power chains, frequently moved machine parts)
- Increased oil resistance

Application range

- Communication at Sensor / Actuator level
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Product features

- PUR variant is halogen free in accordance with IEC 60754-1
- Flame retardant according to IEC 60332-1-2
- Data and energy are transmitted both via an unscreened, geometrically coded two-core flat cable (protection against polarity reversal).
- The conductor is contacted by "piercing technology" within the ASI-modules.
- Connection of sensors to the ASI module (coupling module) is carried out using round cables (connection cables).

Approvals (Norm references)

RoHS

- ASI is standardised Europe-wide in EN 50295 and internationally in IEC 62026-2.
- TPE variant: UL AWM Style 2103 CSA AWM II A/B

Design

- Extra fine strands of plain copper wires (Class 6)
- Core insulation: Blue and brown)
- Profiled outer sheath of thermoplastic elastomer (TPE) or polyurethane (PUR)
- Colour: yellow (RAL 1023) or black (RAL 9005)

Technical data

Peak working voltage
(not for power applications) 300 V

Conductor resistance
(loop): max. 27.4 Ohm/km

Minimum bending radius
Fixed installation: 12 mm
Flexing without fixing: 24 mm
Flexing with fixing: 60mm (15xD)

Test voltage
Core/core: 2000 V

Range of temperature
Fixed installation:
-40°C up to +85°C (TPE +105°C)
Flexing - without fixing:
-30°C up to +85°C (TPE +105°C)

Part number	Article designation	Sheath material	Sheath colour	Application	Number of cores and mm² per conductor	Copper index kg/km	Weight kg/m
For highly flexible application (power chains, frequently moved machine parts)							
2170306	UNITRONIC® BUS ASI FD	PUR	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170307	UNITRONIC® BUS ASI FD	PUR	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0
2170830	UNITRONIC® BUS ASI FD (TPE) A	TPE UL/CSA (AWM)	yellow	Data and energy transmission	2 x 1,5	29.0	57.0
2170831	UNITRONIC® BUS ASI FD (TPE) A	TPE UL/CSA (AWM)	black	Transmission auxiliary 30V DC	2 x 1,5	29.0	57.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
LAPPKABEL is a member of the PROFIBUS user organisation (PNO)

Accessories

- SKINTOP® DIX-M AUTOMATION see page 663
- Universal strip stripping and cutting tool see page 907
- AS-I clip clamp see page 975
- AS-I STRIP special stripping tool see page 910
- AS-I STRIP special
- SKINTOP® DIX ASI

UNITRONIC® BUS PB

Stationary application

Info

- **LAPPKABEL is a member of the PROFIBUS User Organisation (PNO)**
- **A for Advanced here: UL and CSA approbations**

Application range

- For stationary installation of Bus Systems Maximal electromagnetic screening
- Dry and damp indoors

Product features

- These bus cables can be used for PROFIBUS-DP as well as for PROFIBUS-FMS and FIP
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

- In accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC NET, also suitable for FIP (Factory Instrumentation Protocol)

Design

- FC: “Fast Connect” cable design.
- P: Polyurethan
  H: Halogen free
- PE: Polyethylen, eg. for food and beverage industry
- 7-W: 7-wire, eg. for applications where vibrations occur
- COMBI: Data transmission and power supply in one cable

Technical data

- **Approvals**
  For type of UL approval, see below
- **Mutual capacitance**
  (800 Hz): max. 30 nF/km
- **Peak working voltage**
  (not for power purposes) 250 V
- **Conductor resistance**
  (loop): max. 133 Ohm/km
- **Minimum bending radius**
  Fixed installation,: see data sheet
- **Test voltage**
  Core/core: 1500 V
- **Characteristic impedance**
  150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
For fixed installation - conventional cable assembly					
2170220	UNITRONIC® BUS PB	1 x 2 x 0.64	8.0	30.1	74.0
2170233	UNITRONIC® PB PE	1 x 2 x 0.64	8.0	30.1	57.0
2170226	UNITRONIC® BUS PB H 7-W	1 x 2 x 0.64	8.0	30.1	55.0
2170225	UNITRONIC® BUS PB COMBI 7-W	1 x 2 x 0,64 Ø + 3 x 1,0 mm²	9.8	59.0	92.0
For fixed installation - UL/CSA CMX approval					
2170219	UNITRONIC® BUS PB A	1 x 2 x 0.64	8.0	30.1	57.0
For fixed installation - UL/CSA CMG approbation					
2170824	UNITRONIC® BUS PB 7-W A	1 x 2 x 0.64	8.0	30.1	55.0
For fixed installation - “Fast Connect” cable assembly					
2170333	UNITRONIC® BUS PB PE FC	1 x 2 x 0.64	8.0	26.0	67.0
For fixed installation - UL/CSA CMX approval					
2170330	UNITRONIC® BUS PB P FC	1 x 2 x 0.64	8.0	26.0	71.0
For fixed installation - “Fast Connect” cable assembly - UL/CSA CMG approbation					
2170820	UNITRONIC® BUS PB FC	1 x 2 x 0.64	8.0	26.0	84.0
2170826	UNITRONIC® BUS PB 7-W FC	1 x 2 x 0.64	8.0	26.0	67.0
2170326	UNITRONIC® BUS PB-H FC	1 x 2 x 0.64	8.0	26.0	72.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T 17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
SIMATIC NET® is a registered trademark of Siemens AG
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Comparable products

- UNITRONIC® BUS PB ROBUST see page 293
- UNITRONIC® BUS PB 105 see page 294

Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB ROBUST

Stationary application

Benefits

- Robust PROFIBUS cable for use under problematic environmental conditions

Application range

- Use for PROFIBUS-DP or FIP in harsh industrial environment
- Stationary application

Product features

- Significantly extended use and application areas, water and chemical resistance for use in industrial conditions.
- High resistance against tensides, soaps, ...
- UV resistant
- Flame retardant according to IEC 60332-1-2

- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

RoHS

Design

- Copper conductor, solid, bare
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- With conventional cable structure, but with outer sheath of special TPE

Technical data

Mutual capacitance
(1 kHz): approx. 28.5 nF/km

Peak working voltage
(not for power purposes) 250 V

Minimum bending radius
Fixed installation: 75 mm

Test voltage
Core/core: 1500 V
Core/screen: 1500 V

Range of temperature
-40 °C bis +80 °C

Characteristic impedance
(3 - 20 MHz): 150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
For fixed installation of INTERBUS system					
2170620	UNITRONIC® BUS PB ROBUST	1 x 2 x 0.64	8.0	26.0	55.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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UNITRONIC® BUS PB 105

Stationary application

Benefits
- A standard PROFIBUS cable can only be used up to a max. 80°C
- This enables an extended area of application

Application range
- Cable has been designed for use in factory halls where temperatures up to a max. 105°C may occur.

Product features
- Flame retardant according to IEC 60332-1-2
- Oil resistant

Approvals (Norm references)
RoHS, PROFIBUS

Design
- Stranded conductor, 7-wire, bare
- Core insulation: Polypropylene
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- PVC outer sheath for use up to 105°C

Suitable Connectors
- EPIC® Data connectors 304

Technical data
Mutual capacitance
Approx. 28.5 nF/km
Peak working voltage
Max. 100 V (not for power applications)
Minimum bending radius
fixed installation: single 45 mm
Flexing: 65 mm
Test voltage
1500 V core/core
Core/screen: 1500 V
Range of temperature
-30°C to +105°C
Characteristic impedance
(3 - 20 MHz): 150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170630	UNITRONIC® BUS PB 105	1 x 2 x 0.64	8.0	30.1	71.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
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Accessories
- Multipurpose shears A and B see page 902
- DATA STRIP stripping tool see page 909

UNITRONIC® BUS PB FRNC FC

Stationary application

Benefits
- Halogen free and highly flame retardant
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Fast Connect (FC) cable design

Application range
- This cable provides special advantages for the use in sensitive areas, where flame propagation must be avoided and the presence of toxic fumes would cause personal injuries and damag of property.

Product features
- Cable is UL/CSA approved (CMG)
- Halogen-free
- Flame retardant in accordance with IEC 60332-3
- Oil resistant

- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
93.75 kbit/s = 1200 m
187.5 kbit/s = 1000 m
500 kbit/s = 400 m
1.5 Mbit/s = 200 m
12.0 Mbit/s = 100 m

Approvals (Norm references)
cULus, RoHS, PROFIBUS

Design
- Solid bare copper conductor
- PE core insulation
- Inner sheath, screening foil and copper braiding
- Thermoplastic outer sheath
- Colour: violet (RAL 4001)

Suitable Connectors
- EPIC® Data connectors 304

Info
- **FRNC = Flame Retardant Non Corrosive**
  - **Reduction of flame propagation and density and toxicity of smoke gases in event of fire**
  - **Minimisation of damage to buildings and production facilities**
  - **Safety for maintenance staff resp. in areas with high personnel concentration**

Technical data
Approvals
UL/CSA (CMG)
Mutual capacitance
Approx. 28.5 nF/km
Peak working voltage
(not for power applications) 250 V
Minimum bending radius
80mm
Test voltage
1500 V core/core
Core/screen: 1500 V
Range of temperature
-30°C up to +80°C
Characteristic impedance
(3 - 20 MHz): 150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
Stationary application					
2170853	UNITRONIC® BUS BP FRNC FC	1 x 2 x 0.64	8.0	30.1	75.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories
- FC Strip stripping tool see page 910

UNITRONIC® BUS PB ARM

Stationary application

Benefits
- EMC optimised

Application range
- Use for PROFIBUS-DP or FIP in harsh industrial environment
- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features
- Flame retardant according to IEC 60332-1-2
- UV resistant

Approvals (Norm references)
RoHS, PROFIBUS

Design
- Copper conductor, solid, bare
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Plastic tape, overlapped
- Copper tape longitudinal welded
- outer sheath: PVC

Technical data
Mutual capacitance
(800 Hz): max. 30 nF/km
Peak working voltage
(not for power purposes) 100 V
Minimum bending radius
Fixed installation: 7.5 x outer diameter
Fixed installation: single 3,5 x core diameter
Test voltage
3600 V DC (3 sec.)
Range of temperature
-40 °C to +70 °C
Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170247	UNITRONIC® BUS PB ARM	1 x 2 x 0.65	11.1	80.9	131.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories
- FC Strip stripping tool see page 910

UNITRONIC® BUS PB Yv

Outdoor installation / direct burial + UV-resistant

Benefits
- Rugged, UV- resistant and weatherproof
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range
- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features
- Reinforced PVC outer sheath

Approvals (Norm references)
RoHS, PROFIBUS

Design
- Copper conductor, solid, bare
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- Outer sheath: reinforced PVC (black)

Technical data
Mutual capacitance
(800 Hz): max. 30 nF/km
Peak working voltage
(not for power purposes) 250 V
Minimum bending radius
fixed installation: single 75 mm
Fixed installation: 150 mm
Test voltage
Core/core: 1500 V
Core/screen: 1500 V
Range of temperature
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +80°C
Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170223	UNITRONIC® BUS PB Yv	1 x 2 x 0.64	10.0	30.1	106.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories
- FC Strip stripping tool see page 910

UNITRONIC® BUS PB YY

Outdoor use / direct burial + UV-resistant

Benefits

- Rugged, UV- resistant and weatherproof
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- Doubled PVC outher sheath

Approvals (Norm references)

RoHS, PROFIBUS

Design

- Copper conductor, solid, bare
- PE core insulation
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- Sheath, PVC violet, OD 7,5mm
  sheath, PVC black, OD 9,5mm

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km
Peak working voltage
(not for power purposes) 250 V
Minimum bending radius
fixed installation: single 75 mm
Fixed installation: 150 mm
Test voltage
Core/core: 1500 V
Core/screen: 1500 V
Range of temperature
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +80°C
Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170236	UNITRONIC® BUS PB YY	1 x 2 x 0.64	9.5	30.1	87.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB BURIAL FC

Outdoor use / direct burial + UV-resistant

Benefits

- Fast Connect (FC) cable design
- Rugged, UV- resistant and weatherproof
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- Doubled PVC outher sheath

Approvals (Norm references)

RoHS, PROFIBUS

Design

- Copper conductor, solid, bare
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- Sheath, PVC violet, OD 8mm
  sheath, PVC black, OD 10,8mm

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km
Peak working voltage
(not for power purposes) 100 V
Minimum bending radius
Fixed installation: single 3,5 x core diameter
Fixed installation: 7.5 x cable diameter
Test voltage
3600 V DC (3 sec.)
Range of temperature
-40 °C to +60 °C
Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170323	UNITRONIC® BUS PB BURIAL FC	1 x 2 x 0.64	10.8	26.0	115.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD P

Highly flexible application

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- Halogen free
- Flame retardant according to IEC 60332-1-2
- Oil resistant

- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

RoHS

Design

- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Braided shielding made of tin-plated copper wires
- Outer sheath: Polyurethane (PUR) compound

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
(not for power purposes) 250 V

Minimum bending radius
65mm

Test voltage
Core/core: 1500 V

Range of temperature
Flexing: -30°C up to +70°C
Fixed installation: -40°C up to +80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
For highly flexible application (power chains,...) - conventional cable assembly					
2170222	UNITRONIC® PB FD P 1x2x0,64	1 x 2 x 0.64	8.0	30.1	64.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD P A

Highly flexible application

Info

- **A for Advanced here: UL and CSA approbations**

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- Halogen free
- Flame retardant according to IEC 60332-1-2
- Oil resistant
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

- Approval: UL/CSA Typ CMX acc. UL 444 and CSA C22.2 No.214-02

Design

- Stranded bare copper wires
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Screen braiding made from tinned copper wire
- Outer sheath: Polyurethane (PUR) compound

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
(not for power purposes) 250 V

Minimum bending radius
65mm

Test voltage
Core/core: 1500 V

Range of temperature
Flexing: -30°C up to +70°C
Fixed installation: -40°C up to +80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170822	UNITRONIC® BUS PB FD P A	1 x 2 x 0.64	8.0	30.1	58.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD P FC

Highly flexible application

Benefits

- Fast Connect (FC) cable design
- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- Halogen free
- Flame retardant according to IEC 60332-1-2
- Oil resistant
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

- Approval: UL/CSA Typ CMX acc. UL 444 and CSA C22.2 No.214-02

Design

- Stranded bare copper wires
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Screen braiding made from tinned copper wire
- Outer sheath: Polyurethane (PUR) compound

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
(not for power purposes) 250 V

Minimum bending radius
Flexing: 15 x outer diameter

Test voltage
Core/core: 1500 V

Range of temperature
Flexing: -30°C up to +70°C
Fixed installation: -40°C up to +80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170322	UNITRONIC® BUS PB FD P FC	1 x 2 x 0.64	8.0	26.0	79.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD FRNC FC

Highly flexible application

Benefits

- Fast Connect (FC) system
- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- Intendetd for highly flexible use in power chains or permanently moving machines and linear robots
- This cable provides special advantages for the use in sensitive areas, where flame propagation must be avoided and the presence of toxic fumes would cause personal injuries and damag of property.

Product features

- Cable is UL/CSA approved (CMG)
- Halogen-free
- Flame retardant in accordance with IEC 60332-3
- Oil resistant
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

cULus RoHS PROFIBUS

Design

- Stranded bare copper wires
- Foam Skin - core isolation (O2YS)
- Alulaminated foil
- Screen braiding made from tinned copper wire
- Outer sheath: Polyurethane (PUR) compound

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
nom. 28 nF/km
Peak working voltage
(not for power applications) 250 V
Minimum bending radius
Fixed installation: 10 x cable diameter
Flexing: 15 x outer diameter
Test voltage
1500 V core/core
Range of temperature
Flexing: -30°C up to +70°C
Fixed installation: -40°C up to +80°C
Characteristic impedance
(3 - 20 MHz): 150 +/- 15 Ohm

Part number	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170854	1x2x0,64	8.0	26.0	75.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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UNITRONIC® BUS PB FD P COMBI

Highly flexible application

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- HYBRID: Cable for data transmission + power supply
- Flame retardant (IEC 60332-1-2)

Approvals (Norm references)

RoHS PROFIBUS

Design

- Cores for Power Supply:
  3 x 1,0mm2 (AWG18)

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km
Peak working voltage
(not for power purposes) 100 V
Minimum bending radius
Flexing: 145 mm
Test voltage
Core/core: 600 V
Range of temperature
Flexible application:
-5°C up to +50°C
Fixed installation: -40°C up to +80°C
Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170227	UNITRONIC® BUS PB FD P COMBI 1x2x0,64+3x1	1 x 2 x 0.64 Ø + 3 x 1.0 mm²	10.1	59.0	125.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD P HYBRID

Highly flexible application

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- HYBRID: Cable for data transmission + power supply
- Flame retardant according to IEC 60332-1-2
- Oil resistant

Approvals (Norm references)

RoHS

Design

- Cores for Power Supply: 4 x 1,5 mm2 (AWG16)

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
(not for power purposes) 100 V

Minimum bending radius
Flexing: 15 x outer diameter

Test voltage
Core/core: 600 V
Core/screen: 600 V

Range of temperature
Flexing: -30°C up to +60°C
Fixed installation: -40°C up to + 70°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170495	UNITRONIC® BUS PB FD P PROFIBUS HYBRID	1 x 2 x 0.64 Ø + 4 x 1.5 mm²	11.3	88.0	148.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FD Y HYBRID

Highly flexible application

Benefits

- PLTC for open installation (“Exposed Run”/ Open Wiring). Allows cabling without a cable duct.
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- HYBRID: Cable for data transmission + power supply

Approvals (Norm references)

- With UL/CSA approval (CMG / PLTC)
- Flame retardant according to CSA FT4 UL Vertical-Tray Flame Test
- Oil resistant according to UL OIL RES I

Design

- Outer sheath: special PVC compound
- Cores for Power Supply: 4 x 1,5 mm2 (AWG16)

Technical data

Peak working voltage
600 V (not for power purpose)

Minimum bending radius
Fixed installation:
10 x cable diameter
Flexing: 15 x cable diameter

Test voltage
Core/core: 2000 V
Core/screen: 2000 V

Range of temperature
-5°C up to +80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170875	UNITRONIC® BUS PB FD Y HYBRID	1 x 2 x 0.64 Ø + 4 x 1.5 mm²	11.3	89.0	155.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB TORSION

Highly flexible application

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- TORSION: for torsional stress, e. g. robot application; ± 180° per 1m
- Halogen free
- Flame retardant according to IEC 60332-1-2

- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

- Approval: UL Typ CMX acc. UL 444

Design

- PE core insulation

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
(not for power applications)
300 V

Minimum bending radius
Static:
4 x cable diameter
Flexing: 7.5 x outer diameter

Test voltage
3600 V DC (3 sec.)

Range of temperature
Operating temp.: -25°C up to 75°C
Storage temp.: -40°C up to 80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170332	UNITRONIC® BUS PB TORSION	1 x 2 x 0.8	8.0	31.0	66.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS PB FESTOON

Highly flexible application

Benefits

- Application where the combination of halogen-free outer sheath with properties similar to polyurethane and enhanced flame retardancy is requested
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

Application range

- PROFIBUS® (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

Product features

- FESTOON: for cable trolley (festoon)
- The stated bit rates allow the following cable lengths (maximum) according of PROFIBUS User Organisation of one bus segment (Type A cable, PROFIBIS-DP):
  93.75 kbit/s = 1200 m
  187.5 kbit/s = 1000 m
  500 kbit/s = 400 m
  1.5 Mbit/s = 200 m
  12.0 Mbit/s = 100 m

Approvals (Norm references)

- With UL/CSA approval (CMG / PLTC)
- Flame retardant according to CSA FT4 UL Vertical-Tray Flame Test
- Oil resistant according to UL OIL RES I

Design

- Outer sheath: special PVC compound

Suitable Connectors

- EPIC® Data connectors 304

Technical data

Mutual capacitance
(800 Hz): max. 30 nF/km

Peak working voltage
600 V (not for power purpose)

Minimum bending radius
Flexing: 70 mm
fixed installation: single 30 mm

Test voltage
C/C: 2000 V

Range of temperature
Flexing: -5°C up to +70°C
Fixed installation: -40°C up to +80°C

Characteristic impedance
150 +/- 15 Ohm

Part number	Article designation	Number of pairs and conductor diameter in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170331	UNITRONIC® BUS PB Festoon	1 x 2 x 0.64	8.0	26.0	64.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
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Accessories

- FC Strip stripping tool see page 910

EPIC® Data PROFIBUS Connectors 35° Screw Terminals

EPIC® Data PROFIBUS Connectors 35° Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 35°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
54 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
35° angulate
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

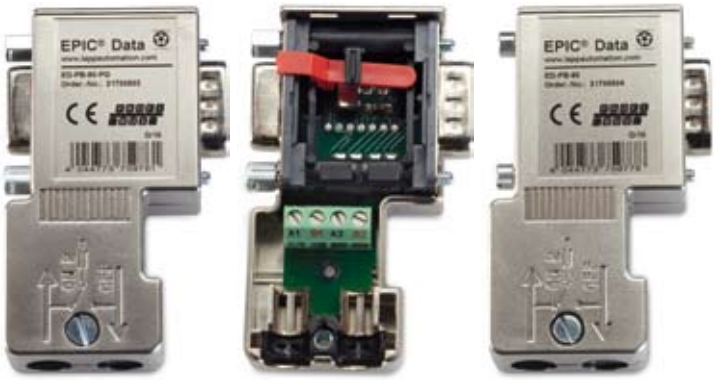
Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700507	ED-PB-35	35°	No	1
21700506	ED-PB-35-PG	35°	yes	1

For detailed information please see www.lappautomation.com

EPIC® Data PROFIBUS Connectors 90° Screw Terminals

Info

- **Interoperable to market standard**



EPIC® Data PROFIBUS Connectors 90° Screw Terminals

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

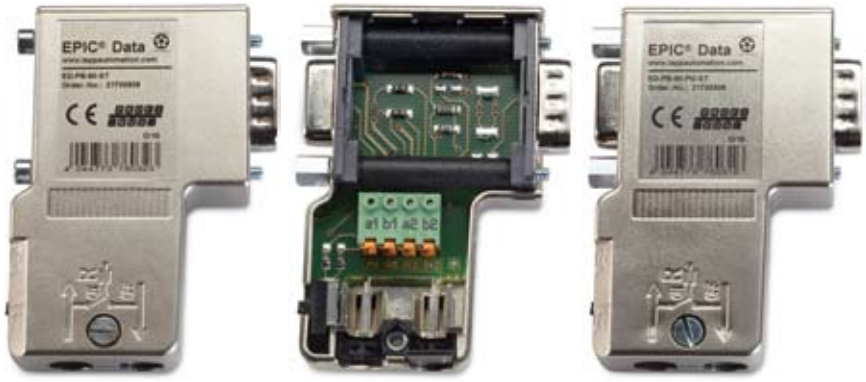
Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700504	ED-PB-90	90°	No	1
21700503	ED-PB-90-PG	90°	yes	1

For detailed information please see www.lappautomation.com

EPIC® Data PROFIBUS Connectors 90° spring type



EPIC® Data PROFIBUS Connectors 90° spring type

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Spring type terminal
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
65 mm x 48 mm x 16 mm (LxWxH)
Connection type
Spring type terminal (ST)
The stripped conductors contacts automatically when inserted, for breaking the connection the orange lever must be pressed
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 spring type terminals for wires up to 0,5 mm²
(Solid conductor)
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700509	ED-PB-90-ST	90°	Solid	No	1
21700508	ED-PB-90-PG-ST	90°	Solid	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors 90° fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors 90° fast to connect

Benefits

- Qualified for FC cabels
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Visual connection control
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Suitable tools

- FC Strip stripping tool see page 910

Technical data

Dimensions
72 mm x 40 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, Ø 0.64 mm (solid or flexible) flexible: 7-19 litz wires
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700502	ED-PB-90-FC	90°	Solid	No	1
21700528	ED-PB-90-FC-FLEX	90°	Flexible	No	1
21700501	ED-PB-90-PG-FC	90°	Solid	yes	1
21700527	ED-PB-90-PG-FC-FLEX	90°	Flexible	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors 90° LED Screw Terminals

EPIC® Data PROFIBUS Connectors 90° LED Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- 3 status LEDs indicate: bus operation, station transmitting, terminating resistor
- Simplify status investigation
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 35 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700530	ED-PB-90-LED	90°	No	1
21700529	ED-PB-90-PG-LED	90°	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors 90° LED fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors 90° LED fast to connect

Benefits

- 3 status LEDs indicate: bus operation, station transmitting, terminating resistor
- Simplify status investigation
- Visual connection control
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Fast to connect
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Suitable tools

- FC Strip stripping tool see page 910

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, 0.64 mm², solid
Current consumption
max. 35 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700547	ED-PB-90-LED-FC	90°	Solid	No	1
21700546	ED-PB-90-PG-LED-FC	90°	Solid	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors ATEX Screw Terminals

EPIC® Data PROFIBUS Connectors ATEX Screw

Info

- **Interoperable to market standard**

Benefits

- For usage in explosion hazardous areas of zone 2 (explosiv gasatmosphere appears seldom and for very short time)
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS
- EN 60079-0:2006, EN 60079-15:2005 category 3G zone 2

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 90°
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700543	ED-PB-90-ATEX	90°	No	1
21700542	ED-PB-90-PG-ATEX	90°	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors REPEATER

Info

- **Interoperable to market standard**
- **A real alternative to conventional PROFIBUS repeaters**

EPIC® Data PROFIBUS Connectors REPEATER

Benefits

- Very flexible in use
- Increases the number of nodes
- Cost saving because of quick installation
- Easy to connect
- No additional space needed in the cabinet

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Can be used as a bus extension or spur line
- 5 V supply direct from PROFIBUS, with that it is usable on every PROFIBUS device
- Repeater covers transmission rates from 9.6 KBit/s to 12 MBit/s
- Transmission Rate–> max. segment length:

9.6 KBit/s	1000 m
187.5 KBit/s	1000 m
500 KBit/s	400 m
1.5 MBit/s	200 m
3 MBit/s	100 m
12 MBit/s	100 m

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- 24 V supply is not necessary
- Status LEDs
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
64 mm x 40 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Transmission rate
9.6 Kbit/s to 12 MBit/s
autodetection
Interfaces
Connection:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Protocol:
PROFIBUS DP per EN 50170
Current consumption
typ. 100 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Voltage consumption
+5 V DC

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700541	ED-PB-90-RP-PG	90°	yes	1

Detailed manual see www.lappautomation.com

EPIC® Data PROFIBUS Connectors 180° Screw Terminals

EPIC® Data PROFIBUS Connectors 180° Screw Terminals

Info

- **Interoperable to market standard**

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 180° (AX)
- No losable parts
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Technical data

Dimensions
68 mm x 39.5 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
180°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
4 terminals for wires up to 1,0 mm²
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors				
21700505	ED-PB-AX	180°	No	1

For detailed information please see www.lappautomation.com

New

EPIC® Data PROFIBUS Connectors 180° fast to connect

Info

- **Interoperable to market standard**

EPIC® Data PROFIBUS Connectors 180° fast to connect

Benefits

- Qualified for FC cabels
- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Visual connection control
- Switchable terminating resistor integrated
- Switch can also be operated when the connector is plugged and setting is clearly visible
- When being used as a through connector (two cable connections, node) the switch must be in the “OFF” position, if being as a terminal resistor (one cable connection) the switch must be in the “ON” position
- If the switch in in the “ON” position the outgoing bus cable is disconnected

Approvals (Norm references)

- Sub-D connection / pin assignment in accordance with PROFIBUS

Design

- Sub-D plug, 9-pole
- Metalized housing
- Cable outlet 180° (AX)
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for BUS-Systems PROFIBUS-DP/ FMS/FIP page 292
- Cables for Bussystem PROFIBUS-PA page 316

Suitable tools

- FC Strip stripping tool see page 910

Technical data

Dimensions
70 mm x 35 mm x 17 mm (LxWxH)
Connection type
Fast to connect
Weight
approx. 50 g
Degree of protection
IP20
Outgoing cable
180°
Termination resistor
Resistor combination integrated, connectable with slide switch
Transmission rate
max. 12 MBit/s
Interfaces
PROFIBUS-station:
SUB-D socket, 9-pole
PROFIBUS-cable:
FC standard cable, Ø 0.64 mm (solid or flexible) flexible: 7-19 litz wires
Current consumption
max. 12.5 mA
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+80°C
Relative humidity:
max. 75% at +25°C
Voltage consumption
4.75 .. 5.25 V DC
(device is energized))

Part number	Article designation	Outgoing cable	Cable types	PG	Pieces / PU
EPIC® Data PROFIBUS Connectors					
21700544	ED-PB-AX-FC	180° axial	Solid	No	1
21700545	ED-PB-AX-FC-FLEX	180° axial	Flexible	No	1

For detailed information please see www.lappautomation.com

UNITRONIC® BUS LD

Info

- **LD is a LAPP abbreviation for Long Distance**

Benefits

- UL variant has approval: UL/CSA type CMX acc. UL 444 and CSA C22.2 No.214-02

Application range

- For stationary installation of Bus Systems Maximal electromagnetic screening
- Bus cables for bus systems like e.g. Modbus, SUCOnet P, Modulink P, VariNet-P)
- Dry and damp indoors

Product features

- The stated bit rates allow the following cable lengths (maximum) of one bus segment:
- 9.6-93.75 kbit/s = 1200m
- 187.5kbit/s = max. 1.000m
- 500 kBit/s = max. 400 m
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded bare 7-wire conductor, colour coded according to DIN 47100
- Copper braid
- PVC outer sheath
- Colour: violet (RAL 4001)
- UNITRONIC® BUS LD A as UNITRONIC® BUS LD, but with UL/CSA-approval

Technical data

Mutual capacitance
(800 Hz): max. 60 nF/km

Peak working voltage
(not for power purposes) 250 V

Conductor resistance
(loop): max. 186 Ohm/km

Minimum bending radius
Fixed installation: 8 x cable diameter

Test voltage
Core/core: 1500 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -5°C up to +70°C

Characteristic impedance
100 - 120 Ohm

Part number	Article designation	Number of pairs and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For fixed installation					
2170203	UNITRONIC® BUS LD	1 x 2 x 0,22	5.7	18.0	37
2170204	UNITRONIC® BUS LD	2 x 2 x 0,22	7.1	20.0	45
2170205	UNITRONIC® BUS LD	3 x 2 x 0,22	7.2	37.0	72
For fixed installation - UL/CSA CMX approval					
2170803	UNITRONIC® BUS LD A	1 x 2 x 0,22	5.7	18.0	39
2170804	UNITRONIC® BUS LD A	2 x 2 x 0,22	7.1	20.0	48
2170805	UNITRONIC® BUS LD A	3 x 2 x 0,22	7.2	37.0	76

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
Modubus is assigned to Modbus-IDA organization. SUCOnet P is a registered trademark of Moeller-Group. Modulink P is a registered trademark of Weidmüller GmbH & Co. VariNet is a registered trademark of Pepperl+Fuchs GmbH

UNITRONIC® BUS LD FD P

Info

- **LD is a LAPP abbreviation for Long Distance**

Benefits

- UL variant has approval: UL/CSA type CMX acc. UL 444 and CSA C22.2 No.214-02
- PUR outer sheath, tear resistant and notch ductile, resistant to mineral oils and abrasion when used in power chains

Application range

- For highly flexible applications (power chains/cable tracks, moving machine parts etc.)
- Bus cables for bus systems like e.g. Modbus, SUCOnet P, Modulink P, VariNet-P)

Product features

- The stated bit rates allow the following cable lengths (maximum) of one bus segment:
  - 9.6-93.75 kbit/s = 1200m
  - 187.5kbit/s = max. 1.000m
  - 500 kBit/s = max. 400 m
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Stranded conductor, bare, core identification code in accordance with DIN 47100
- Copper braid
- PUR outer sheath
- Colour: violet (RAL 4001)
- UV-resistant (but colour change after some time possible)

Technical data

Mutual capacitance
(800 Hz): max. 60 nF/km

Peak working voltage
(not for power purposes) 250 V

Conductor resistance
(loop): max. 159.8 Ohm/km

Minimum bending radius
Fixed installation: 6 x core diameter
One bend at end of core:
3 x cable diameter
Flexing: 15 x cable diameter

Test voltage
Core/core: 1500 V

Range of temperature
Fixed installation: -40°C up to +80°C
Flexing: -30°C up to +70°C

Characteristic impedance
100 - 120 Ohm

Part number	Article designation	Number of pairs and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For highly flexible application (power chains, frequently moved machine parts)					
2170213	UNITRONIC® BUS LD FD P	1 x 2 x 0,25	6.0	18.0	39
2170214	UNITRONIC® BUS LD FD P	2 x 2 x 0,25	7.9	30.0	65
2170215	UNITRONIC® BUS LD FD P	3 x 2 x 0,25	8.0	39.0	77
For highly flexible application (power chains, ...) - with UL/CSA (CMX) approval					
2170813	UNITRONIC® BUS LD FD P A	1 x 2 x 0,25	6.2	18.0	39
2170814	UNITRONIC® BUS LD FD P A	2 x 2 x 0,25	8.3	30.0	65
2170815	UNITRONIC® BUS LD FD P A	3 x 2 x 0,25	8.4	39.0	77

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
Modubus is assigned to Modbus-IDA organization. SUCOnet P is a registered trademark of Moeller-Group. Modulink P is a registered trademark of Weidmüller GmbH & Co. VariNet is a registered trademark of Pepperl+Fuchs GmbH

Accessories

- SILVYN® CHAIN
- SMARTSTRIP stripping tool see page 909

UNITRONIC® BUS PA

Info

- **PA= Process Automation**
- **variant with UL/CSA CMG**

Benefits

- FC (Fast Connect) variant is oil- and UV resistant

Application range

- Process automation application for connecting sensors and actuators - including in areas with a risk of explosion.
- Stationary application

Product features

- Bit rate = 31.25 kbit/s. Transmission technology RS485 also possible but bit rate is limited to 1.5 Mbit/s
- Maximum segment length depends on several factors (e.g. supply voltage, current demand).
- Technical Data: see overview “UNITRONIC® Bus Cables”.
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

- PROFIBUS® PA is standardised in EN 50170 like PROFIBUS® DP and PROFIBUS® FMS
- Transmission technology for PROFIBUS-PA in accordance with international standard IEC 61158-2
- FC variant with UL/CSA approval (CMG / PLTC)

Design

- UNITRONIC® BUS PA (BU/BK)
  Stranded copper conductor, core colurs red and green, copper braiding, PVC sheath, colour: blue (intrinsically safe area), colour: black (non-instrinsically safe area)
- UNITRONIC® BUS PA FC (BU/BK)
  As above however with UL/CSA CMG approbiation and with “Fast Connect” cable design which allows a quick connection of the IDC connector (Insulation Displacement Connection).

Technical data

Peak working voltage
(not for power purposes) 250 V
Conductor resistance
(loop): max. 44 Ohm/km
Minimum bending radius
Fixed installation: 10 x cable diameter
Test voltage
Core/core: 1500 V
Range of temperature
Static:
-30°C up to +80°C
For installation: -5°C up to +50°C
Characteristic impedance
100 +/- 20 Ohm

Part number	Article designation	Number of pairs and cable diameter per conductor in mm	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
For fixed installation - conventional cable assembly					
2170234	UNITRONIC® BUS PA (BU)	1 x 2 x 1.00	7.4	45.0	73.0
2170235	UNITRONIC® BUS PA (BK)	1 x 2 x 1.00	8.0	45.0	91.0
For fixed installation - “Fast Connect” cable assembly - UL/CSA CMG approbation					
2170334	UNITRONIC® BUS PA FC (BU)	1 x 2 x 1.00	8.0	45.5	103.0
2170335	UNITRONIC® BUS PA FC (BK)	1 x 2 x 1.00	8.0	45.5	103.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
SIMATIC® is a registered trademark of Siemens AG
Armoured

Accessories

- Multipurpose shears A and B see page 902
- STAR STRIP stripping tool see page 908
- FC Strip stripping tool see page 910

UNITRONIC® DeviceNet THICK + THIN

Application range

- Stationary application
- DeviceNet™ connects industrial devices e. g. limit switches, photoelectric switches, variable frequency drives, valve islands, motor starters, PLCs, etc.

Product features

- Oil resistant (except the ECO variant)
- Based on proven CAN (Controller Area Network) technology.
- Permissible cable lengths vary with the data rate and the cable thickness
- Further details: see Data Sheet

Approvals (Norm references)

- CMG UL/CSA approval 75°C or PLTC, Sun Res
- FRNC variant with Germanischer Lloyd approval

Design

- A) Halogen-free (2170340 + 2170341)
- B) Polyvinylchloride (PVC) (2170342 + 2170343, 2170362 + 2170363)

Technical data

Core identification code
Data pair: light blue + white
Power supply: red + black

Mutual capacitance
(800 Hz): max. 39.8 nF/km

Peak working voltage
(not for power applications) 300 V

Conductor resistance
Thick (loop): max. 45 Ohm/km
Thin (loop): max. 180 Ohm/km

Minimum bending radius
Fixed installation: 15 x cable diameter

Test voltage
Core/core: 2000 V

Range of temperature
Fixed installation: -25°C up to +80°C

Characteristic impedance
120 ohms

Part number	Article designation	Number of pairs and AWG size	Outer diameter mm	Copper index kg/km approx.	Weight kg/m
Halogen free					
2170340	UNITRONIC® BUS DN THICK FRNC	1x2xAWG18 + 1x2xAWG15	12.2	82.0	195.0
2170341	UNITRONIC® BUS DN THIN FRNC	1x2xAWG24 + 1x2xAWG22	6.9	28.7	69.5
With PVC outer sheath					
2170342	UNITRONIC® BUS DN THICK Y	1x2xAWG18 + 1x2xAWG15	12.2	82.0	192.0
2170343	UNITRONIC® BUS DN THIN Y	1x2xAWG24 + 1x2xAWG22	6.9	28.7	66.9
Lower cost variant of PVC versions / not oil resistant					
2170362	UNITRONIC® BUS DN THICK Y ECO	1x2xAWG18 + 1x2xAWG15	11.0	82.3	164.0
2170363	UNITRONIC® DN THIN Y ECO	1x2xAWG24 + 1x2xAWG22	6.4	28.7	61.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
FRNC means Flame Retardant Non Corrosive DeviceNet and is a registered trademark of ODVA (USA)
LAPPKABEL is a member of the PROFIBUS user organisation (PNO)
ECO is the cost-efficient version of part no. 2170342 and 2170343 with slight modification of the outer jacket including the UL/CSA CMG-approval

UNITRONIC® DeviceNet FD THICK+THIN

Highly flexible and UL/CSA approved

Application range

- For highly flexible applications.
- DeviceNet™ connects industrial devices e. g. limit switches, photoelectric switches, variable frequency drives, valve islands, motor starters, PLCs, etc.

Product features

- Based on proven CAN (Controller Area Network) technology.
- Permissible cable lengths vary with the data rate and the cable thickness
- Further details: see Data Sheet

Approvals (Norm references)

c UL us RoHS DeviceNet™

- PUR: UL/CSA approved (CMX)
- PVC: UL/CSA CMG 75 °C or PLTC FT4 Sun Res Oil Res

Design

- Polyurethane (PUR) (2170344 + 2170345)
- Polyvinylchloride (PVC) (2170346 + 2170347)

Technical data

Core identification code
Data pair: light blue + white
Power supply: red + black

Mutual capacitance
(800 Hz): max. 39.8 nF/km

Peak working voltage
(not for power applications) 300 V

Conductor resistance
Thick (loop): max. 45 Ohm/km
Thin (loop): max. 180 Ohm/km

Minimum bending radius
Fixed installation: 7.5 x cable diameter
Flexing: 15 x cable diameter

Test voltage
Core/core: 2000 V

Range of temperature
PUR: -40 °C to +80 °C
PVC: -10 °C to +80 °C

Characteristic impedance
120 ohms

Part number	Article designation	Number of pairs and AWG size	Outer diameter mm	Copper index kg/km approx.	Weight kg/m
Version P (PUR)					
2170344	UNITRONIC® BUS DN THICK FD P	1x2xAWG18 + 1x2xAWG15	12.2	94.0	184.0
2170345	UNITRONIC® BUS DN THIN FD P	1x2xAWG24 + 1x2xAWG22	6.9	33.4	67.7
Version Y (PVC)					
2170346	UNITRONIC® BUS DN THICK FD Y	1x2xAWG18 + 1x2xAWG15	12.2	94.0	195.0
2170347	UNITRONIC® BUS DN THIN FD Y	1x2xAWG24 + 1x 2xAWG22	6.9	33.4	69.8

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
DeviceNet is a registered trademark of ODVA

Accessories

- SILVYN® CHAIN
- SMARTSTRIP stripping tool see page 909

UNITRONIC® BUS CAN

Info

- CAN = Controller Area Network

UNITRONIC® BUS CAN FD P

Application range

UNITRONIC® BUS CAN

- Stationary application

UNITRONIC® BUS CAN FD P

- For highly flexible applications.

Product features

UNITRONIC® BUS CAN

- Maximum bit rate: 1 Mbit/s for 40 m segment length
- Larger conductor crosssection necessary with increasing length
  See Table below (reference values from ISO 11898).
- For the segment length, cable cross-section and bit rate, ISO 11898 makes recommendations
- Flame retardant according to IEC 60332-1-2

UNITRONIC® BUS CAN FD P

- Halogen free
- Maximum bit rate: 1 Mbit/s for 40 m segment length
- Larger conductor crosssection necessary with increasing length
  See Table below (reference values from ISO 11898).
- For the segment length, cable cross-section and bit rate, ISO 11898 makes recommendations
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

c UL us RoHS

- Standardised internationally in ISO 11898
- UL/CSA type CMX (UL 444)

Design

UNITRONIC® BUS CAN

- Stranded 7-wire bare copper conductor
- Colour coded in accordance with DIN 47100
- Copper braid
- PVC outer sheath
- Colour: violet (RAL 4001)

UNITRONIC® BUS CAN FD P

- Stranded bare copper conductor
- Screen braiding made from copper wire
- PUR outer sheath
- Colour: violet (RAL 4001)
- UV-resistant (but colour change after some time possible)

Technical data

Mutual capacitance
UNITRONIC® BUS CAN
(800 Hz): max. 40 nF/km
UNITRONIC® BUS CAN FD P
(800 Hz): max. 60 nF/km

Peak working voltage
UNITRONIC® BUS CAN
(not for power purposes) 250 V
UNITRONIC® BUS CAN FD P
250 V (not for power applications)

Conductor resistance
UNITRONIC® BUS CAN
(loop):
max. 186 Ohm/km
UNITRONIC® BUS CAN FD P
(loop): max. 159.8 Ohm/km

Minimum bending radius
UNITRONIC® BUS CAN
Fixed installation: 8 x cable diameter
UNITRONIC® BUS CAN FD P
Flexing: 15 x cable diameter

Test voltage
Core/core: 1500 V

Range of temperature
UNITRONIC® BUS CAN
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C
UNITRONIC® BUS CAN FD P
Fixed installation: -40°C up to +80°C
Flexing: -30°C up to +70°C

Characteristic impedance
120 ohms

Part number	Article designation	Number of pairs / conductor cross-section in mm²	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For fixed installation					
2170260	UNITRONIC® BUS CAN	1 x 2 x 0,22	5.7	16.7	42.0
2170261	UNITRONIC® BUS CAN	2 x 2 x 0,22	7.6	34.8	68.0
2170263	UNITRONIC® BUS CAN	1 x 2 x 0,34	6.8	22.1	55.0
2170264	UNITRONIC® BUS CAN	2 x 2 x 0,34	8.5	46.4	88.0
2170266	UNITRONIC® BUS CAN	1 x 2 x 0,5	7.5	41.6	90.0
2170267	UNITRONIC® BUS CAN	2 x 2 x 0,5	9.7	59.4	106.0
2170269	UNITRONIC® BUS CAN	1 x 2 x 0,75	8.7	52.7	108.0
2170270	UNITRONIC® BUS CAN	2 x 2 x 0,75	11.5	80.6	142.0
For highly flexible application (power chains, frequently moved machine parts)					
2170272	UNITRONIC® BUS CAN FD P	1 x 2 x 0,25	6.4	17.5	40.0
2170273	UNITRONIC® BUS CAN FD P	2 x 2 x 0,25	8.4	28.0	65.0
2170275	UNITRONIC® BUS CAN FD P	1 x 2 x 0,34	6.8	32.8	60.0
2170276	UNITRONIC® BUS CAN FD P	2 x 2 x 0,34	9.6	52.4	88.0
2170278	UNITRONIC® BUS CAN FD P	1 x 2 x 0,5	8.0	41.9	74.0
2170279	UNITRONIC® BUS CAN FD P	2 x 2 x 0,5	10.8	59.4	100.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

Accessories

UNITRONIC® BUS CAN

- Multipurpose shears A and B see page 902
- SMARTSTRIP stripping tool see page 909

UNITRONIC® BUS CAN FD P

- SILVYN® CHAIN
- Multipurpose shears A and B see page 902
- SMARTSTRIP stripping tool see page 909

New

EPIC® Data CAN-Bus Connectors 90°

EPIC® Data CAN-Bus Connectors 90°

Info

- **Interoperable to market standard**
- **CAN, CANopen, DeviceNet™**

Benefits

- With additional insertion of 24 v DC to supply external USV (GND=Pin 6, CAN V+=Pin 9)
- Cost saving because of quick installation
- Easy to connect
- Standardized interfaces
- Small housing

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Because of integrated connectable terminal resistors the CAN-Bus can be terminated cor connect through
- When being used as a through connector the switch must be in the “OFF” position, if being as a terminal resistor, the switch must be in the “ON” position
- No losable parts

Approvals (Norm references)

CE cULus RoHS

Design

- Sub-D plug, 9-pole
- Metalized housing
- For cable diameter: 5.0 ... 8.0 mm
- Additional with programming/diagnostic interface (-PG): Sub-D socket, 9-pole

Suitable cables

- Cables for Bus-System CAN page 319
- Cables for Bus-System DeviceNet page 317

Technical data

Dimensions
65 mm x 48 mm x 16 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
90°
Termination resistor
120 Ohm integrated
and connectable with slide switch
Transmission rate
max. 1 MBit/s
Interfaces
CAN-Bus station:
SUB-D socket, 9-pole
CAN-Bus cable:
6 terminals for wires up to 1,0 mm²
Pin Assignment Sub-D:
CAN Low = Pin 2
CAN High = Pin 7
CAN Gnd = Pin 3
GND = Pin 6
CAN V+ = Pin 9
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Relative humidity:
max. 75% at +25°C

Part number	Article designation	Outgoing cable	PG	Pieces / PU
EPIC® Data CAN-Bus Connectors				
21700537	ED-CAN-90	90°	No	1
21700536	ED-CAN-90-PG	90°	yes	1

For detailed information please see www.lappautomation.com

New

EPIC® Data CAN-Bus Connectors 180°

Info

- **Interoperable to market standard**
- **CAN, CANopen, DeviceNet™**

EPIC® Data CAN-Bus Connectors 180°

Benefits

- Standardized interfaces
- Cost saving because of quick installation
- Easy to connect

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Control engineering

Product features

- Screwing connection
- Switchable terminating resistor integrated
- Because of integrated connectable terminal resistors the CAN-Bus can be terminated cor connect through
- When being used as a through connector the switch must be in the “OFF” position, if being as a terminal resistor, the switch must be in the “ON” position
- No losable parts

Approvals (Norm references)

CE cULus RoHS

Design

- Sub-D plug, 9-pole
- Metalized housing
- No losable parts
- For cable diameter: 5.0 ... 8.0 mm

Suitable cables

- Cables for Bus-System CAN page 319
- Cables for Bus-System DeviceNet page 317

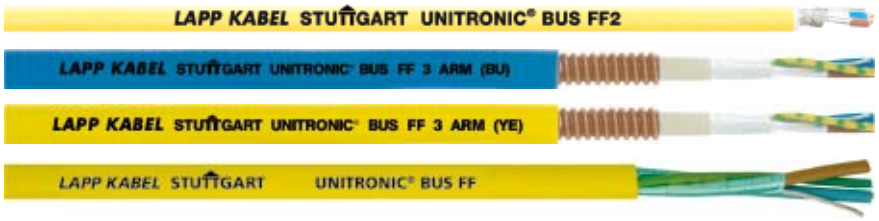
Technical data

Dimensions
67,5 mm x 35 mm x 17 mm (LxWxH)
Connection type
Screwing
Pollution degree
2
Weight
approx. 40 g
Degree of protection
IP20
Outgoing cable
180°
Termination resistor
120 Ohm integrated
and connectable with slide switch
Transmission rate
max. 1 MBit/s
Interfaces
CAN-Bus station:
SUB-D socket, 9-pole
CAN-Bus cable:
6 terminals for wires up to 1,0 mm²
Pin Assignment Sub-D:
CAN Low = Pin 2
CAN High = Pin 7
CAN Gnd = Pin 3
Permissble ambient conditions
Surrounding air temperature:
0°C...+60°C
Transport and storage temperature:
-25°C...+75°C
Relative humidity:
max. 75% at +25°C

Part number	Article designation	Outgoing cable	PG
EPIC® Data CAN-BUS Connectors			
21700538	ED-CAN-AX	180° axial	No

For detailed information please see www.lappautomation.com

UNITRONIC® BUS FF



Benefits

- Cables meet requirements of the ISA/SP50 and the FOUNDATION™ field bus for the cable Type A.

Application range

- FOUNDATION™ Fieldbus is used in intrinsically safe areas, especially in the field of Process Automation
- Stationary application

Product features

- All cables are designed for 105° and resistant to sunlight

Approvals (Norm references)

- With UL/CSA approval (CMG / PLTC)

Design

- Lapp bus cables for FOUNDATION™ field bus are available in 4 versions:
- 3-core, unarmoured, with device ground
- 3-core, armoured (copper tape, longitudinal welded and spiral corrugated) with device ground
  Yellow and Blue version
- 2 wire, not armoured, with device ground

Technical data

Approvals
UL/CSA-approval CMG

Peak working voltage
300 V

Conductor resistance
≤ 24 Ohm/km

Minimum bending radius
15 x cable diameter

Test voltage
1500 V

Range of temperature
-40 or -25°C to +105°C see data sheet

Characteristic impedance
100 +/- 20 Ohm at 31.25 kHz

Part number	Article designation	Number of pairs and cable diameter	Outer diameter in mm approx.	Copper index kg/km	Weight kg/km approx.
2170350	UNITRONIC® BUS FF 3	1x2x1.1 + 1x1.1 Ø	7.9	61.6	93.0
2170351	UNITRONIC® BUS FF 3 ARM (YE)	1x2x1.1 + 1x1.1 Ø	12.3	106.5	182.0
2170353	UNITRONIC® BUS FF 3 ARM (BU)	1x2x1.1 + 1x1.1 Ø	12.3	106.5	182.0
2170352	UNITRONIC® BUS FF 2	1 x 2 x 1.1	7.9	53.3	82.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Foundation™ is a trademark of the Fieldbus Foundation

UNITRONIC® BUS CC

Info

- **Lapp Kabel is a regular member of the user organisation CC-Link Partner Association (CLPA), Japan.**

Benefits

- The CC-Link® system was developed by Mitsubishi Electric Automation, Japan.
- This CC-Link® bus cable has successfully passed the CC-Link® Conformance Test in Japan.

Application range

- CC-Link® (Control & Communication Link) = Field bus network, for both control as well as information data to provide efficient, integrated factory and process automation.
- Stationary installation of the CC-Link® network

Product features

- Transmission rate in relation to the distance
- 156 kbit/s 1.200 m
  625 kbit/s 600 m
  2,5 Mbit/s 200 m
  5,0 Mbit/s 110-150 m
  10 Mbit/s 50-100 m

Approvals (Norm references)

- LAPP CC-Link® cable is UL/CSA approved (CM or PLTC)

Technical data

Approvals
CM UL/CSA approval 75°C or PLTC Sun Res
Peak working voltage
300 V rms
Conductor resistance
11 ohms/1,000 ft. (305 m) at 20°C
Minimum bending radius
15 x cable diameter
Test voltage
2000 V
Range of temperature
-40°C to +70°C
Characteristic impedance
110 ohms at 1 MHz

Part number	Article designation	Number of cores and AWG size	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
2170360	UNITRONIC® BUS CC	3 x 1 x AWG20	7.7	38.8	76.6

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
CC-Link® is a registered trademark of CC-Link Partner Association, Japan (CLPA)

New

UNITRONIC® BUS CC FD P FRNC

Info

- **Lapp Kabel is a regular member of the user organisation CC-Link Partner Association (CLPA), Japan.**

Benefits

- The CC-Link® system was developed by Mitsubishi Electric Automation, Japan.

Application range

- CC-Link® (Control & Communication Link) = Field bus network, for both control as well as information data to provide efficient, integrated factory and process automation.
- For highly flexible applications (power chains/cable tracks, moving machine parts etc.)

Product features

- Transmission rate in relation to the distance
- 156 kbit/s 1.200 m
  625 kbit/s 600 m
  2,5 Mbit/s 200 m
  5,0 Mbit/s 110-150 m
  10 Mbit/s 50-100 m

Approvals (Norm references)

- AWM 20233 80°C 300V

Technical data

Approvals
UL AWM Style 20233
Peak working voltage
300 V rms
Conductor resistance
11 ohms/1,000 ft. (305 m) at 20°C
Minimum bending radius
Static:
4 x cable diameter
Flexing: 8 x outer diameter
Test voltage
2000 V
Range of temperature
-40°C up to +80°C
Characteristic impedance
110 ohms at 1 MHz

Part number	Article designation	Number of cores and AWG size	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
2170370	UNITRONIC® BUS CC FD P FRNC	3 x 1 x AWG20	8.5	39.9	84.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
CC-Link® is a registered trademark of CC-Link Partner Association, Japan (CLPA)

UNITRONIC® BUS SAFETY

Benefits

- For serial transmission of safety-oriented data

Application range

- For stationary installation and highly flexible applications
- For systems like e.g. SafetyBUS p® on basis of the well-known CAN bus system

Product features

- The stated bit rates result in the following cable lengths (maximum) for a bus segment:
- 500 kbit/s = max.100 m
- 250 kbit/s = max. 250 m
- 125 kbit/s = max. 500 m
- 50 kbit/s = max.1,000 m

Approvals (Norm references)

RoHS

Design

- Stranded copper conductor, 3 cores twisted, colour coded in accordance with DIN 47100 (white, brown, green), copper braiding, halogen-free outer sheath
- UNITRONIC® BUS SAFETY FC = with UL- Approval AWM Style 2464 (80°C 300V) and “Fast Connect” cable structure.
- UNITRONIC® BUS SAFETY FD P as UNITRONIC® BUS SAFETY however suitable for highly flexible applications
- Flame retardant according to IEC 60332-1-2

Technical data

Approvals
Version UNITRONIC® BUS SAFETY FC:
AWM Style 2464 (80°C 300V)

Mutual capacitance
(800 Hz): max. 45 nF/km

Peak working voltage
(not for power applications) 250 V
(not for power applications) 300 V
(UL AWM version)

Conductor resistance
(loop): max. 52 Ohm/km

Minimum bending radius
Fixed installation:
10 x cable diameter

Test voltage
Core/core: 3000 V
Core/core: 2000 V (UL AWM version)

Range of temperature
Fixed installation: -30°C up to +80°C
Fixed installation UL (AWM)-Version:
40°C up to +80°C

Characteristic impedance
120 ohms

Part number	Article designation	Number of cores and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For fixed installation					
2170295	UNITRONIC® BUS SAFETY	3 x 0.75	7.6	49.0	68.0
2170895	UNITRONIC® BUS SAFETY FC	3 x AWG19/19 (3x0.75)	8.0	49.0	91.0
For highly flexible application (e.g.power chains,...)					
2170885	UNITRONIC® BUS SAFETY FD P	3 x 0.75	7.8	49.0	68.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis‘ and ‚Metal index‘ see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
SafetyBUS p® is a registered trademark of Pilz GmbH & Co.

Accessories

- FC Strip stripping tool see page 910

UNITRONIC® BUS IBS

Info

- **IBS - INTERBUS**

Benefits

- Certified by INTERBUS CLUB.

Application range

- Stationary application

Product features

- IBS cable for fixed installation
- Remote bus cable + installation remote bus cable
- The stated bit rates allow the following cable lengths (maximum) of one bus segment: 500 kbit/s = max. 400 m
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS ✓ INTERBUS PHOENIX CONTACT

- In accordance with DIN 19258 EN 50254 and IEC 61158

Design

- UNITRONIC® BUS IBS
- Stranded conductor, bare, core identification code in accordance with DIN 47100, copper braid, PVC outer sheath, violet (RAL 4001)
- UNITRONIC® BUS IBS P COMBI
- Stranded conductor, bare, core identification code in accordance with DIN 47100 (data), stranded, bare (power supply), copper braid, PUR outer sheath, violet (RAL 4001), halogen-free
- UNITRONIC® BUS IBS A as UNITRONIC BUS IBS however with UL/CSA approval

Technical data

Mutual capacitance
(800 Hz): max. 60 nF/km

Peak working voltage
(not for power applications) 250 V

Conductor resistance
(loop): max. 186 Ohm/km

Minimum bending radius
Fixed installation: 8 x cable diameter

Test voltage
Core/core: 1500 V

Range of temperature
Static:
-30°C up to +80°C
Flexing: -5°C up to +70°C

Characteristic impedance
100 Ohm

Part number	Cable type	Article designation	Number of pairs and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For fixed installation						
2170206	Remote bus cable (RBC)	UNITRONIC® BUS IBS	3 x 2 x 0.22	7.2	37.0	72
2170208	Installation remote bus cable (INBC)	UNITRONIC® BUS IBS P COMBI	3 x 2 x 0,22 + 3 x 1,0	7.9	60.0	85
For fixed installation - UL/CSA CMX approval						
2170209	Remote bus cable (RBC)	UNITRONIC® BUS IBS A	3 x 2 x 0.22	7.2	37.0	72

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
INTERBUS is a registered trademark of Phoenix Contact GmbH & Co.

UNITRONIC® BUS IBS FD P

Info
- IBS - INTERBUS

Benefits
- Certified by INTERBUS CLUB.

Application range
- Intendetd for highly flexible use in power chains or permanently moving machines and linear robots
- Dry and damp indoors
- Harsh industrial environment

Product features
- IBS cable for highly flexible application
- Remote bus cable + installation remote bus cable
- 500 kbit/s = max. 400 m (remote bus cable)
- Max. 50 m (installation remote bus cable)
- PUR outer sheath, tear resistant and notch ductile, resistant to mineral oils and abrasion when used in power chains

Approvals (Norm references)
- In accordance with DIN 19258 EN 50254 and IEC 61158

Design
- **UNITRONIC® BUS IBS FD P**
- Stranded conductor, bare, core identification code in accordance with DIN 47100, copper braiding overall screening, PUR outer sheath RAL 4001, violet, halogen-free, flame retardant in accordance with IEC 60332-1-2.
- **UNITRONIC® BUS IBS FD P COMBI**
- Bare stranded copper conductor, cores twisted to pairs, core colours white/brown / green/yellow / grey/pink (data). Stranded bare copper conductor, core colours red, blue, green/yellow (power supply).
- Overall copper braiding, violet PUR outer sheath RAL 4001, halogen-free, flame retardant in accordance with IEC 60332-1-2.

Technical data
- **Mutual capacitance** (800 Hz): max. 60 nF/km
- **Peak working voltage** (not for power purposes) 250 V
- **Conductor resistance** (loop): max. 159.8 Ohm/km
- **Minimum bending radius** Flexing: 15 x cable diameter
- **Test voltage** Core/core: 1500 V
- **Range of temperature** Fixed installation: -40°C up to +80°C Flexing: -30°C up to +70°C
- **Characteristic impedance** 100 Ohm

Part number	Cable type	Article designation	Number of pairs and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
For highly flexible application (power chains, frequently moved machine parts)						
2170216	Remote bus cable (RBC)	UNITRONIC® BUS IBS FD P	3 x 2 x 0.25	7.9	39.0	64
2170218	Installation remote bus cable (INBC)	UNITRONIC® BUS IBS FD P COMBI	3 x 2 x 0,25 + 3 x 1,0	7.9	62.0	92
for highly flexible application (power chains,...) - with UL/CSA (CMX) approval						
2170818	Installation remote bus cable (INBC)	UNITRONIC® BUS IBS FD P COMBI A	3 x 2 x 0,25 + 3 x 1,0	7.9	62.0	92

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
INTERBUS is a registered trademark of Phoenix Contact GmbH & Co.

Accessories
- SILVYN® CHAIN
- Multipurpose shears A and B see page 902
- SMARTSTRIP stripping tool see page 909

UNITRONIC® BUS IBS Yv

Benefits
- Certified by INTERBUS CLUB.

Application range
- Outdoor use and direct burial

Product features
- IBS cable - outdoor use/direct burial + UV resistant (Remote bus cable + Installation remote bus cable)
- The stated bit rates allow the following cable lengths (maximum) of one bus segment:
- 500 kBit/s = max. 400 m
- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)
- In accordance with DIN 19258 EN 50254 and IEC 61158

Design
- Data: Stranded bare copper conductor, core colours white-brown / green-yellow / grey-pink
- Power Supply: Stranded bare copper conductor red, blue, green/yellow
- Overall copper braiding
- Reinforced PVC outer sheath
- Colour: black (RAL 9005)

Technical data
- **Mutual capacitance** (800 Hz): max. 60 nF/km
- **Peak working voltage** (not for power purposes) 250 V
- **Conductor resistance** (loop): max. 186 Ohm/km
- **Minimum bending radius** Fixed installation: 8 x cable diameter
- **Test voltage** Core/core: 1500 V
- **Range of temperature** Fixed installation: -40°C up to + 70°C
- **Characteristic impedance** 100 Ohm

Part number	Cable type	Article designation	Number of pairs and mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
Outdoor installation / direct burial + UV-resistant						
2170207	Remote bus cable (RBC)	UNITRONIC® BUS IBS Yv	3 x 2 x 0.22	9.3	37.0	94
2170217	Installation remote bus cable (INBC)	UNITRONIC® BUS IBS Yv COMBI	3 x 2 x 0,22 + 3 x 1,0	9.4	60.0	128

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)
INTERBUS is a registered trademark of Phoenix Contact GmbH & Co.

UNITRONIC® BUS EIB

Info

- **EIB - European Installation Bus**
- **Communication in Building Management**

Application range

- The product is for use in building management, e.g. for decentralised control of lighting, heating, air-conditioning, ventilation, energy management, blinds, time management, locking systems etc.
- The cable can be laid in, on and under plaster, in pipes and cable ducts, in dry, damp and wet rooms.
- EIB installation mainly consists of Sensors = command transmitters (e,g, light barriers, switches, thermostats, infrared, wind meters, timers) and Actuators (e.g. engines, heaters, ventilators, lights, blinds).

Product features

- Serial data transmission
- EIB bus cable has been tested with 4 kV (1 min) in a water bath

Approvals (Norm references)

RoHS

Design

- Screened installation cable based on type J-Y(ST)Y according to DIN VDE 0815, solid bare copper conductor, ø 0.8 mm, measurements 2 x 2 x 0.8 ø. 4 solid cores twisted to a star quad; colours of cores: 1st pair red + black, 2nd pair white + yellow.
- Screening: With aluminium-laminated plastic foil
- PVC based outer sheath
- Colour: green
- COMBI version with additional power supply cables 3 x 1.5 mm², colour coding blue, black, green/yellow

Technical data

Mutual capacitance
(800 Hz): max. 100 nF/km

Peak working voltage
(not for power purposes) 250 V

Conductor resistance
(loop): max. 73,2 Ohm/km

Minimum bending radius
Fixed installation:
10 x cable diameter

Test voltage
Core/core: 4000 V

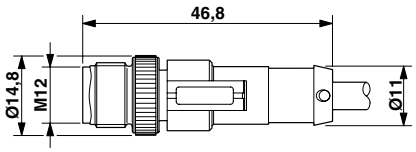
Range of temperature
Fixed installation: -30°C up to +70°C

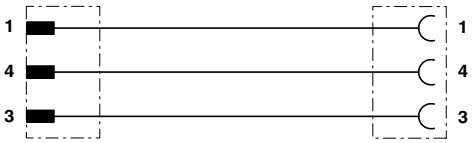
Part number	Article designation	Number of pairs and mm or mm² per conductor	Outer diameter mm	Copper index kg/km	Weight kg/m
PVC versions					
2170240	UNITRONIC® BUS EIB	2 x 2 x 0.8	6.6	21.0	54.0
2170242	UNITRONIC® BUS EIB COMBI	2 x 2 x 0,8 mm + 3 x 1,5 mm²	12.7	64.0	128.0
Halogen-free versions					
2170241	UNITRONIC® BUS EIB H	2 x 2 x 0.8	6.6	21.0	54.0

Copper price basis: EUR 100 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T 17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Packaging size: Coil ≤ 30 kg and ≤ 250 m, otherwise drum
Please specify the desired packaging size (e.g. 1 x 500 m drum or 5 x 100 m coils)

New

S/A cable: M12 connector on free conductor end





Part number: 22260223

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

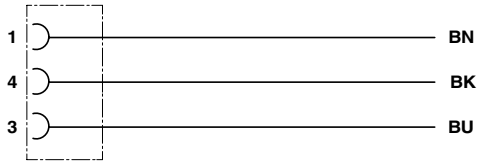
Material of grip body
TPU, hardly inflammable, self-extinguishing

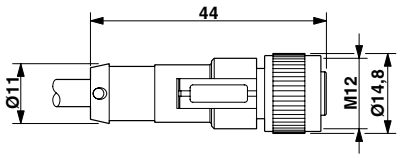
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260221	AB-C3-M12MS-2,0PUR	2	250	4	1
22260222	AB-C3-M12MS-5,0PUR	5	250	4	1
22260249	AB-C3-M12MS-10,0PUR	10	250	4	1
Angled connector					
22260223	AB-C3-M12MA-2,0PUR	2	250	4	1
22260224	AB-C3-M12MA-5,0PUR	5	250	4	1
22260256	AB-C3-M12MA-10,0PUR	10	250	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 socket on free conductor end





Part number: 22260257

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

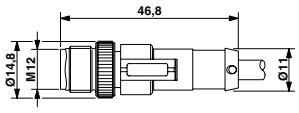
Material of grip body
TPU, hardly inflammable, self-extinguishing

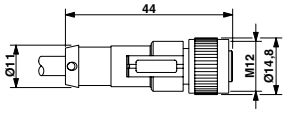
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260257	AB-C3-2,0PUR-M12FS	2	250	4	No	1
22260250	AB-C3-5,0PUR-M12FS	5	250	4	No	1
22260251	AB-C3-10,0PUR-M12FS	10	250	4	No	1
Angled socket						
22260258	AB-C3-2,0PUR-M12FA	2	250	4	No	1
22260259	AB-C3-5,0PUR-M12FA	5	250	4	No	1
22260260	AB-C3-10,0PUR-M12FA	10	250	4	No	1
Straight socket						
22260252	AB-C3-2,0PUR-M12FS-2L	2	24	4	2 LEDs	1
22260265	AB-C3-5,0PUR-M12FS-2L	5	24	4	2 LEDs	1
22260266	AB-C3-10,0PUR-M12FS-2L	10	24	4	2 LEDs	1
Angled socket						
22260253	AB-C3-2,0PUR-M12FA-2L	2	24	4	2 LEDs	1
22260254	AB-C3-5,0PUR-M12FA-2L	5	24	4	2 LEDs	1
22260255	AB-C3-10,0PUR-M12FA-2L	10	24	4	2 LEDs	1

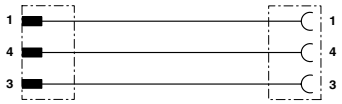
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on M12 socket







Part number: 22260233

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M12 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

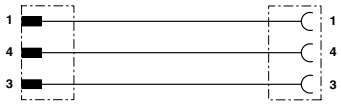
Material of grip body
TPU, hardly inflammable, self-extinguishing

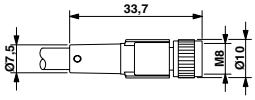
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260233	AB-C3-M12MS-0,3PUR-M12FS	0.3	250	4	No	1
22260234	AB-C3-M12MS-0,6PUR-M12FS	0.6	250	4	No	1
22260235	AB-C3-M12MS-1,0PUR-M12FS	1	250	4	No	1
22260236	AB-C3-M12MS-2,0PUR-M12FS	2	250	4	No	1
Straight connector on angled socket						
22260237	AB-C3-M12MS-0,3PUR-M12FA	0.3	250	4	No	1
22260238	AB-C3-M12MS-0,6PUR-M12FA	0.6	250	4	No	1
22260239	AB-C3-M12MS-1,0PUR-M12FA	1	250	4	No	1
22260240	AB-C3-M12MS-2,0PUR-M12FA	2	250	4	No	1
Straight connector on angled socket with LEDs						
22260261	AB-C3-M12MS-0,3PUR-M12FA-2L	0.3	24	4	2 LEDs	1
22260262	AB-C3-M12MS-0,6PUR-M12FA-2L	0.6	24	4	2 LEDs	1
22260263	AB-C3-M12MS-1,0PUR-M12FA-2L	1	24	4	2 LEDs	1
22260264	AB-C3-M12MS-2,0PUR-M12FA-2L	2	24	4	2 LEDs	1

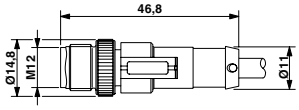
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on M8 socket







Part number: 22260225

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces
- Plug design with M12 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

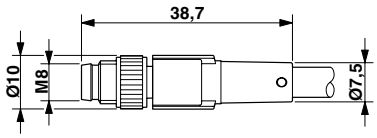
Material of grip body
TPU, hardly inflammable, self-extinguishing

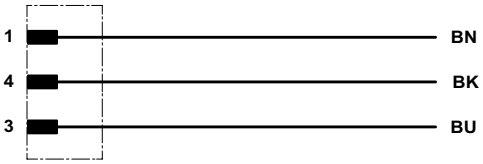
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260225	AB-C3-M12MS-0,3PUR-M8FS	0.3	60	3	No	1
22260226	AB-C3-M12MS-0,6PUR-M8FS	0.6	60	3	No	1
22260227	AB-C3-M12MS-1,0PUR-M8FS	1	60	3	No	1
22260228	AB-C3-M12MS-2,0PUR-M8FS	2	60	3	No	1
Straight connector on angled socket						
22260229	AB-C3-M12MS-0,3PUR-M8FA	0.3	60	3	No	1
22260230	AB-C3-M12MS-0,6PUR-M8FA	0.6	60	3	No	1
22260231	AB-C3-M12MS-1,0PUR-M8FA	1	60	3	No	1
22260232	AB-C3-M12MS-2,0PUR-M8FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260267	AB-C3-M12MS-0,3PUR-M8FA-2L	0.3	24	3	2 LEDs	1
22260268	AB-C3-M12MS-0,6PUR-M8FA-2L	0.6	24	3	2 LEDs	1
22260269	AB-C3-M12MS-1,0PUR-M8FA-2L	1	24	3	2 LEDs	1
22260270	AB-C3-M12MS-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 connector on free conductor end





S/A cable: M8 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

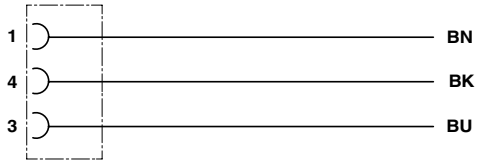
Material of grip body
TPU, hardly inflammable, self-extinguishing

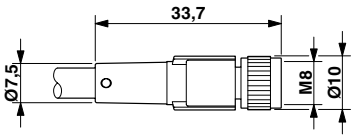
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260204	AB-C3-M8MS-2,0PUR	2	60	3	1
22260205	AB-C3-M8MS-5,0PUR	5	60	3	1
22260218	AB-C3-M8MS-10,0PUR	10	60	3	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 socket on free conductor end





Part number: 22260202

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Socket design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

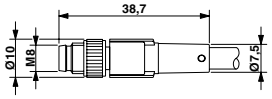
Material of grip body
TPU, hardly inflammable, self-extinguishing

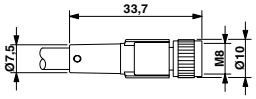
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260202	AB-C3-2,0PUR-M8FS	2	60	3	No	1
22260200	AB-C3-5,0PUR-M8FS	5	60	3	No	1
22260219	AB-C3-10,0PUR-M8FS	10	60	3	No	1
Angled socket						
22260203	AB-C3-2,0PUR-M8FA	2	60	3	No	1
22260201	AB-C3-5,0PUR-M8FA	5	60	3	No	1
22260220	AB-C3-10,0PUR-M8FA	10	60	3	No	1
Angled socket with LEDs						
22260275	AB-C3-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1
22260276	AB-C3-5,0PUR-M8FA-2L	5	24	3	2 LEDs	1
22260277	AB-C3-10,0PUR-M8FA-2L	10	24	3	2 LEDs	1

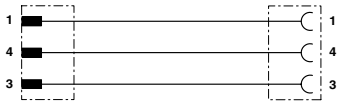
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 connector on M8 socket







Part number: 22260206

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

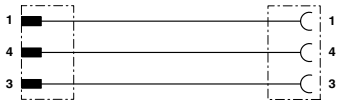
Material of grip body
TPU, hardly inflammable, self-extinguishing

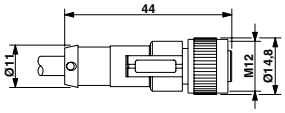
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260206	AB-C3-M8MS-0,3PUR-M8FS	0.3	60	3	No	1
22260207	AB-C3-M8MS-0,6PUR-M8FS	0.6	60	3	No	1
22260208	AB-C3-M8MS-1,0PUR-M8FS	1	60	3	No	1
22260209	AB-C3-M8MS-2,0PUR-M8FS	2	60	3	No	1
Straight connector on angled socket						
22260210	AB-C3-M8MS-0,3PUR-M8FA	0.3	60	3	No	1
22260211	AB-C3-M8MS-0,6PUR-M8FA	0.6	60	3	No	1
22260212	AB-C3-M8MS-1,0PUR-M8FA	1	60	3	No	1
22260213	AB-C3-M8MS-2,0PUR-M8FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260214	AB-C3-M8MS-0,3PUR-M8FA-2L	0.3	24	3	2 LEDs	1
22260215	AB-C3-M8MS-0,6PUR-M8FA-2L	0.6	24	3	2 LEDs	1
22260216	AB-C3-M8MS-1,0PUR-M8FA-2L	1	24	3	2 LEDs	1
22260217	AB-C3-M8MS-2,0PUR-M8FA-2L	2	24	3	2 LEDs	1

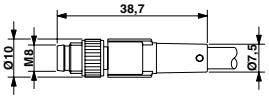
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 connector on M12 socket







Part number: 22260241

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. connector
- Plug design with M8 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

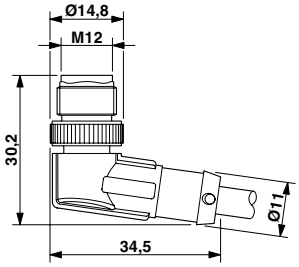
Material of grip body
TPU, hardly inflammable, self-extinguishing

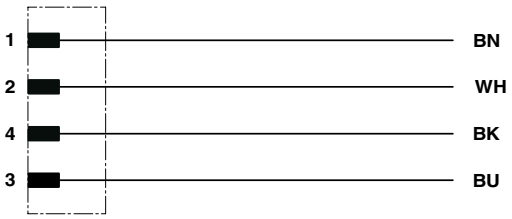
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260241	AB-C3-M8MS-0,3PUR-M12FS	0.3	60	3	No	1
22260242	AB-C3-M8MS-0,6PUR-M12FS	0.6	60	3	No	1
22260243	AB-C3-M8MS-1,0PUR-M12FS	1	60	3	No	1
22260244	AB-C3-M8MS-2,0PUR-M12FS	2	60	3	No	1
Straight connector on angled socket						
22260245	AB-C3-M8MS-0,3PUR-M12FA	0.3	60	3	No	1
22260246	AB-C3-M8MS-0,6PUR-M12FA	0.6	60	3	No	1
22260247	AB-C3-M8MS-1,0PUR-M12FA	1	60	3	No	1
22260248	AB-C3-M8MS-2,0PUR-M12FA	2	60	3	No	1
Straight connector on angled socket with LEDs						
22260271	AB-C3-M8MS-0,3PUR-M12FA-2L	0.3	24	3	2 LEDs	1
22260272	AB-C3-M8MS-0,6PUR-M12FA-2L	0.6	24	3	2 LEDs	1
22260273	AB-C3-M8MS-1,0PUR-M12FA-2L	1	24	3	2 LEDs	1
22260274	AB-C3-M8MS-2,0PUR-M12FA-2L	2	24	3	2 LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on free conductor end





Part number: 22260301

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

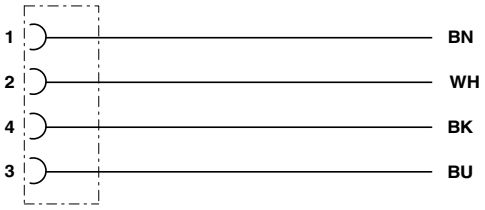
Material of grip body
TPU, hardly inflammable, self-extinguishing

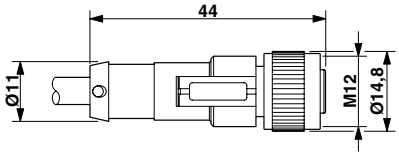
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260320	AB-C4-M12MS- 2,0PUR	2	250	4	1
22260321	AB-C4-M12MS- 5,0PUR	5	250	4	1
22260342	AB-C4-M12MS-10,0PUR	10	250	4	1
Angled connector					
22260301	AB-C4-M12MA-2,0PUR	2	250	4	1
22260302	AB-C4-M12MA-5,0PUR	5	250	4	1
22260303	AB-C4-M12MA-10,0PUR	10	250	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 socket on free conductor end





Part number: 22260322

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

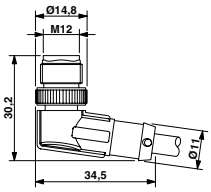
Material of grip body
TPU, hardly inflammable, self-extinguishing

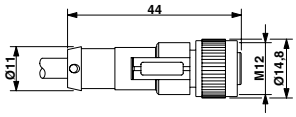
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260322	AB-C4- 2,0PUR-M12FS	2	250	4	No	1
22260323	AB-C4- 5,0PUR-M12FS	5	250	4	No	1
22260343	AB-C4-10,0PUR-M12FS	10	250	4	No	1
Angled socket						
22260324	AB-C4- 2,0PUR-M12FA	2	250	4	No	1
22260325	AB-C4- 5,0PUR-M12FA	5	250	4	No	1
22260341	AB-C4-10,0PUR-M12FA	10	250	4	No	1
Straight socket with LEDs						
22260344	AB-C4- 2,0PUR-M12FS-2L	2	24	4	2 LEDs	1
22260345	AB-C4- 5,0PUR-M12FS-2L	5	24	4	2 LEDs	1
22260346	AB-C4-10,0PUR-M12FS-2L	10	24	4	2 LEDs	1
Angled socket with LEDs						
22260326	AB-C4- 2,0PUR-M12FA-3L	2	24	4	3 LEDs	1
22260327	AB-C4- 5,0PUR-M12FA-3L	5	24	4	3 LEDs	1
22260340	AB-C4-10,0PUR-M12FA-3L	10	24	4	3 LEDs	1

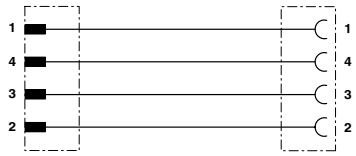
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on M12 socket







Part number: 22260304

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M12 thread on socket with M12 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

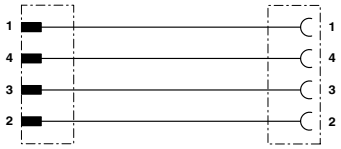
Material of grip body
TPU, hardly inflammable, self-extinguishing

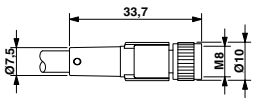
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260328	AB-C4-M12MS- 0,3PUR-M12FS	0.3	250	4	No	1
22260329	AB-C4-M12MS- 0,6PUR-M12FS	0.6	250	4	No	1
22260330	AB-C4-M12MS- 1,0PUR-M12FS	1	250	4	No	1
22260331	AB-C4-M12MS- 2,0PUR-M12FS	2	250	4	No	1
Straight connector on angled socket						
22260332	AB-C4-M12MS- 0,3PUR-M12FA	0.3	250	4	No	1
22260333	AB-C4-M12MS- 0,6PUR-M12FA	0.6	250	4	No	1
22260334	AB-C4-M12MS-1,0PUR-M12FA	1	250	4	No	1
22260335	AB-C4-M12MS-2,0PUR-M12FA	2	250	4	No	1
Angled connector on straight socket						
22260304	AB-C4-M12MA-0,3PUR-M12FS	0.3	250	4	No	1
22260305	AB-C4-M12MA-0,6PUR-M12FS	0.6	250	4	No	1
22260306	AB-C4-M12MA-1,0PUR-M12FS	1	250	4	No	1
22260307	AB-C4-M12MA-2,0PUR-M12FS	2	250	4	No	1
Straight connector on angled socket with LEDs						
22260336	AB-C4-M12MS-0,3PUR-M12FA-3L	0.3	24	4	3 LEDs	1
22260337	AB-C4-M12MS-0,6PUR-M12FA-3L	0.6	24	4	3 LEDs	1
22260338	AB-C4-M12MS-1,0PUR-M12FA-3L	1	24	4	3 LEDs	1
22260339	AB-C4-M12MS-2,0PUR-M12FA-3L	2	24	4	3 LEDs	1

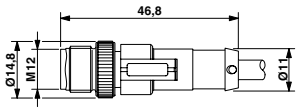
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on M8 socket







S/A cable: M12 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M12 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

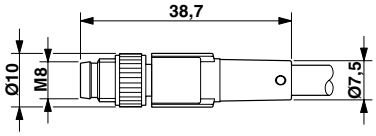
Material of grip body
TPU, hardly inflammable, self-extinguishing

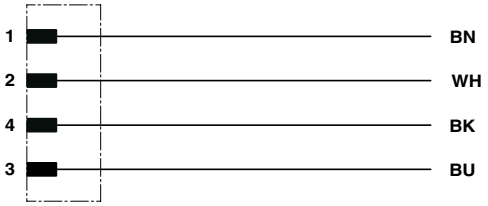
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260347	AB-C4-M12MS-0,3PUR-M8FS	0.3	30	3	No	1
22260349	AB-C4-M12MS-0,6PUR-M8FS	0.6	30	3	No	1
22260350	AB-C4-M12MS-1,0PUR-M8FS	1	30	3	No	1
22260348	AB-C4-M12MS-2,0PUR-M8FS	2	30	3	No	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 connector on free conductor end





S/A cable: M8 connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

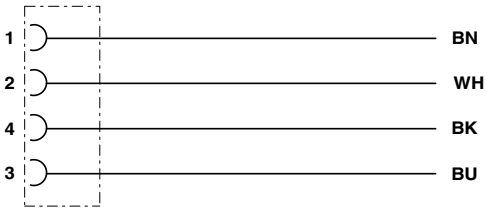
Material of grip body
TPU, hardly inflammable, self-extinguishing

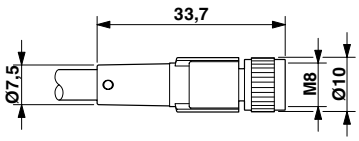
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260300	AB-C4-M8MS-2,0PUR	2	30	3	1
22260308	AB-C4-M8MS-5,0PUR	5	30	3	1
22260318	AB-C4-M8MS-10,0PUR	10	30	3	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 socket on free conductor end





Part number: 22260309

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Socket design with M8 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

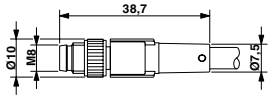
Material of grip body
TPU, hardly inflammable, self-extinguishing

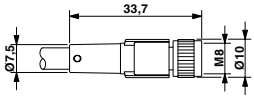
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260309	AB-C4- 2,0PUR-M8FS	2	30	3	No	1
22260310	AB-C4- 5,0PUR-M8FS	5	30	3	No	1
22260317	AB-C4-10,0PUR-M8FS	10	30	3	No	1
Angled socket						
22260311	AB-C4- 2,0PUR-M8FA	2	30	3	No	1
22260312	AB-C4- 5,0PUR-M8FA	5	30	3	No	1
22260319	AB-C4-10,0PUR-M8FA	10	30	3	No	1

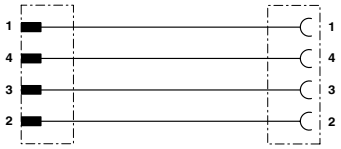
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M8 connector on M8 socket







S/A cable: M8 connector on M8 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. connector
- Plug design with M8 thread on socket with M8 thread
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

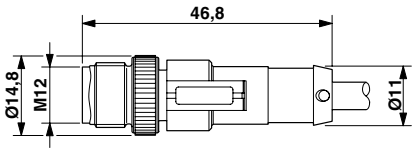
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260313	AB-C4-M8MS-0,3PUR-M8FS	0.3	30	3	No	1
22260314	AB-C4-M8MS-0,6PUR-M8FS	0.6	30	3	No	1
22260315	AB-C4-M8MS-1,0PUR-M8FS	1	30	3	No	1
22260316	AB-C4-M8MS-2,0PUR-M8FS	2	30	3	No	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: M12 connector on free conductor end



Part number: 22260400

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

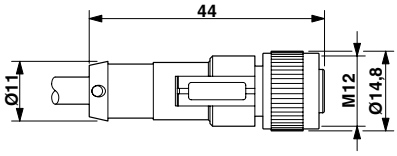
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector					
22260400	AB-C5-M12MS-2,0PUR	2	60	4	1
22260401	AB-C5-M12MS-5,0PUR	5	60	4	1
22260414	AB-C5-M12MS-10,0PUR	10	60	4	1
Angled connector					
22260402	AB-C5-M12MA-2,0PUR	2	60	4	1
22260403	AB-C5-M12MA-5,0PUR	5	60	4	1
22260417	AB-C5-M12MA-10,0PUR	10	60	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable:, M12 socket on free conductor end



Part number: 22260404

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

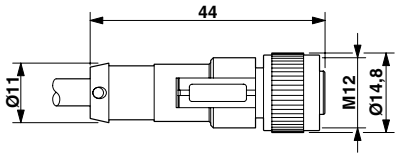
Material of grip body
TPU, hardly inflammable, self-extinguishing

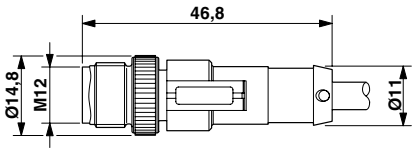
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight socket						
22260404	AB-C5- 2,0PUR-M12FS	2	60	4	No	1
22260405	AB-C5- 5,0PUR-M12FS	5	60	4	No	1
22260415	AB-C5-10,0PUR-M12FS	10	60	4	No	1
Angled socket						
22260406	AB-C5- 2,0PUR-M12FA	2	60	4	No	1
22260407	AB-C5- 5,0PUR-M12FA	5	60	4	No	1
22260418	AB-C5-10,0PUR-M12FA	10	60	4	No	1
Angled socket with LEDs						
22260408	AB-C5- 2,0PUR-M12FA-3L	2	24	4	3 LEDs	1
22260409	AB-C5- 5,0PUR-M12FA-3L	5	24	4	3 LEDs	1
22260416	AB-C5-10,0PUR-M12FA-3L	10	24	4	3 LEDs	1
22260760	AB-C5-25,0PUR-M12FA-3L	25	24	4	3 LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

Sensor/actuator cable: M12 connector on M12 socket





Sensor/actuator cable: M12 connector on M12 socket

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. connector
- Plug design with M12 thread on socket with M12 thread
- Drag chain suitable
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 5 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, white, blue, black, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

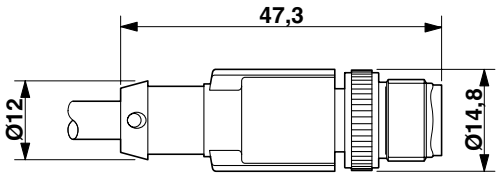
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on straight socket						
22260410	AB-C5-M12MS-0,3PUR-M12FS	0.3	60	4	No	1
22260411	AB-C5-M12MS-0,6PUR-M12FS	0.6	60	4	No	1
22260412	AB-C5-M12MS-1,0PUR-M12FS	1	60	4	No	1
22260413	AB-C5-M12MS-2,0PUR-M12FS	2	60	4	No	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: shielded, M12 connector on free conductor end



Info
- Drag chain suitable

Part number: 22260453

Benefits
- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- 3, 4 and 5-position version
- Plug design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)
cULus RoHS

Design
- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
  4 x 0.34 mm² (42 x 0.1 mm)
  5 x 0.34 mm² (42 x 0.1 mm)
- Outer sheath: PUR, halogen-free, shielded
- Sheath color black

Technical data
Degree of protection
IP65/IP67/IP69K
Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-25°C up to +80°C
Cable, flexible installation
-5°C up to +80°C
Contact material
CuSn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
3 pole straight connector					
22260453	AB-C3-M12MS- 2,0PUR-SH	2	250	4	1
22260454	AB-C3-M12MS- 5,0PUR-SH	5	250	4	1
22260455	AB-C3-M12MS-10,0PUR-SH	10	250	4	1
4 pole straight connector					
22260459	AB-C4-M12MS- 2,0PUR-SH	2	250	4	1
22260460	AB-C4-M12MS- 5,0PUR-SH	5	250	4	1
22260461	AB-C4-M12MS-10,0PUR-SH	10	250	4	1
5 pole straight connector					
22260465	AB-C5-M12MS- 2,0PUR-SH	2	60	4	1
22260466	AB-C5-M12MS- 5,0PUR-SH	5	60	4	1
22260467	AB-C5-M12MS-10,0PUR-SH	10	60	4	1

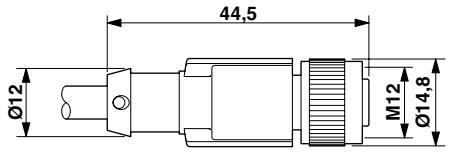
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: shielded, M12 socket on free conductor end

Info

- Drag chain suitable



Part number: 22260450

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3, 4 and 5-position version
- Socket design with M12 thread on free conductor end
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
  4 x 0.34 mm² (42 x 0.1 mm)
  5 x 0.34 mm² (42 x 0.1 mm)
- Outer sheath: PUR, halogen-free, shielded
- Sheath color black

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-25°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

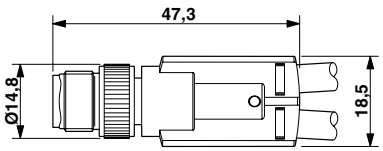
Material of grip body
TPU, hardly inflammable, self-extinguishing

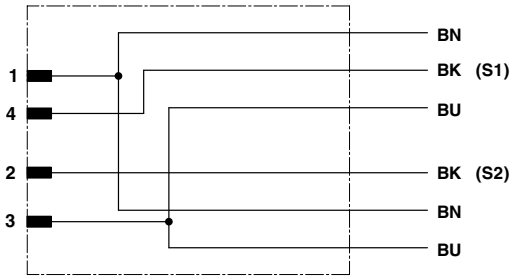
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
3 pole straight socket						
22260450	AB-C3- 2,0PUR-M12FS-SH	2	250	4	No	1
22260451	AB-C3- 5,0PUR-M12FS-SH	5	250	4	No	1
22260452	AB-C3-10,0PUR-M12FS-SH	10	250	4	No	1
4 pole straight socket						
22260456	AB-C4- 2,0PUR-M12FS-SH	2	250	4	No	1
22260457	AB-C4- 5,0PUR-M12FS-SH	5	250	4	No	1
22260458	AB-C4-10,0PUR-M12FS-SH	10	250	4	No	1
22260823	AB-C4-20,0PUR-M12FS-SH	20	250	4	No	1
5 pole straight socket						
22260462	AB-C5- 2,0PUR-M12FS-SH	2	60	4	No	1
22260463	AB-C5- 5,0PUR-M12FS-SH	5	60	4	No	1
22260464	AB-C5-10,0PUR-M12FS-SH	10	60	4	No	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: straight M12 Y plug on 2x free conductor end





S/A cable: straight M12 Y plug on 2x free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. Y connector M12
- Design as straight M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal current I_N in A	PU
Y plug on 2x free conductor end				
22260500	AB-C3-M12Y-2,0PUR	2	4	1
22260513	AB-C3-M12Y-5,0PUR	5	4	1
22260526	AB-C3-M12Y-10,0PUR	10	4	1

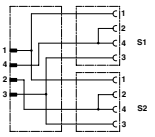
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

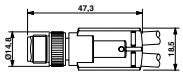
New

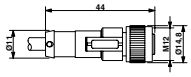
S/A cable: straight M12 Y plug on 2x M12 socket

Info

- PIN 2+4 are bridged on M12 sockets







Part number: 22260501

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. Y connector M12 on 2 x M12 socket (4-pos.)
- Design as straight M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.34 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP **Degree of protection**
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

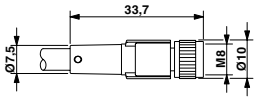
Material of grip body
TPU, hardly inflammable, self-extinguishing

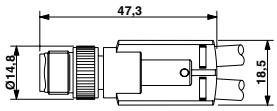
Part number	Article designation	Length in m	Nominal current I_N in A	Status display	PU
Y plug on straight socket					
22260501	AB-C3-M12Y-0,3PUR-M12FS-B	0.3	4	No	1
22260502	AB-C3-M12Y-0,6PUR-M12FS-B	0.6	4	No	1
22260503	AB-C3-M12Y-1,0PUR-M12FS-B	1	4	No	1
22260504	AB-C3-M12Y-2,0PUR-M12FS-B	2	4	No	1
Y plug on angled socket					
22260505	AB-C3-M12Y-0,3PUR-M12FA-B	0.3	4	No	1
22260506	AB-C3-M12Y-0,6PUR-M12FA-B	0.6	4	No	1
22260507	AB-C3-M12Y-1,0PUR-M12FA-B	1	4	No	1
22260508	AB-C3-M12Y-2,0PUR-M12FA-B	2	4	No	1
Y plug on angled socket with LEDs					
22260509	AB-C3-M12Y-0,3PUR-M12FA-2L-B	0.3	4	2 LEDs	1
22260510	AB-C3-M12Y-0,6PUR-M12FA-2L-B	0.6	4	2 LEDs	1
22260511	AB-C3-M12Y-1,0PUR-M12FA-2L-B	1	4	2 LEDs	1
22260512	AB-C3-M12Y-2,0PUR-M12FA-2L-B	2	4	2 LEDs	1

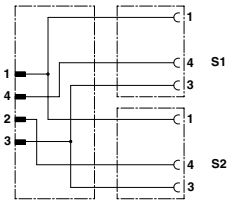
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: straight M12 Y plug on 2x M8 socket







Part number: 22260514

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. Y connector M12 on 2 x M8 socket (3-pos.)
- Design as straight M12 Y plug with 2 conductor exits
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- Permanently flexible control cable
- Design: 3 x 0.25 mm² (42 x 0.1 mm)
- Conductor colors brown, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Technical data

IP

Degree of protection
IP65/IP68/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

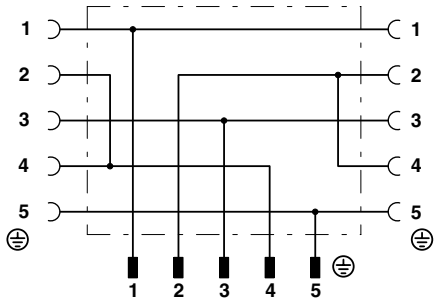
Material of grip body
TPU, hardly inflammable, self-extinguishing

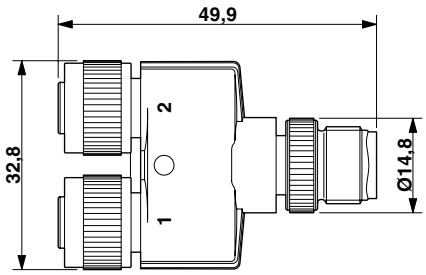
Part number	Article designation	Length in m	Nominal current I_N in A	Status display	PU
Y plug on straight socket					
22260514	AB-C3-M12Y-0,3PUR-M8FS	0.3	3	No	1
22260515	AB-C3-M12Y-0,6PUR-M8FS	0.6	3	No	1
22260516	AB-C3-M12Y-1,0PUR-M8FS	1	3	No	1
22260517	AB-C3-M12Y-2,0PUR-M8FS	2	3	No	1
Y plug on angled socket					
22260518	AB-C3-M12Y-0,3PUR-M8FA	0.3	3	No	1
22260519	AB-C3-M12Y-0,6PUR-M8FA	0.6	3	No	1
22260520	AB-C3-M12Y-1,0PUR-M8FA	1	3	No	1
22260521	AB-C3-M12Y-2,0PUR-M8FA	2	3	No	1
Y plug on angled socket with LEDs					
22260522	AB-C3-M12Y-0,3PUR-M8FA-2L	0.3	3	2 LEDs	1
22260523	AB-C3-M12Y-0,6PUR-M8FA-2L	0.6	3	2 LEDs	1
22260524	AB-C3-M12Y-1,0PUR-M8FA-2L	1	3	2 LEDs	1
22260525	AB-C3-M12Y-2,0PUR-M8FA-2L	2	3	2 LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

Y distributor





Part number: 22260600

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Design as M12 and M8
- M12 design with screw hole
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Technical data

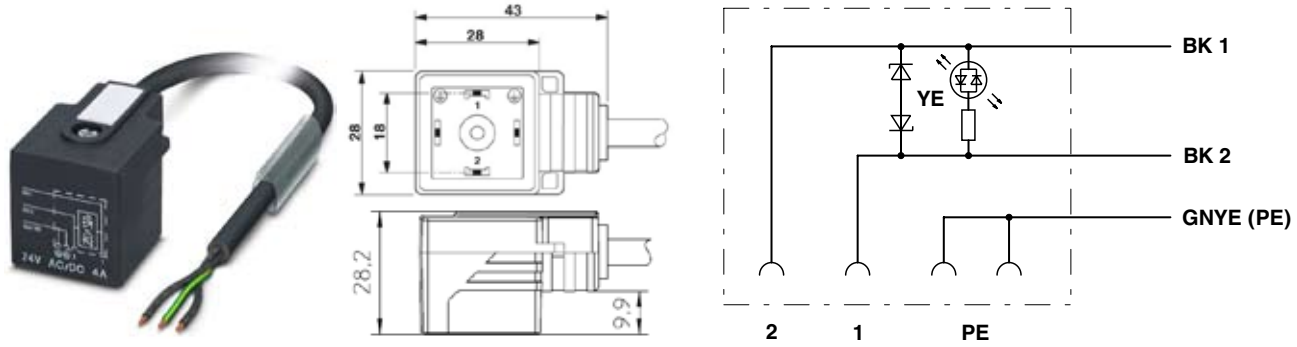
Degree of protection
IP65/IP67
Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Contact material
CuZn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Nominal voltage U_N in V	Nominal current I_N in A	Number of poles	PU
M12 connector Y distributor on 2x bridged M12 socket					
22260600	AB-C3-M12Y-2XM12FS B E	60	4	5	5
M12 connector Y distributor on 2x M12 socket					
22260601	AB-C3-M12Y-2XM12FS E	60	4	4	5
M12 connector Y distributor on 2x parallel M12 socket					
22260602	AB-C5-M12Y-2XM12FS V	60	4	5	5
M8 connector Y distributor on 2x M8 socket					
22260603	AB-C3-M8Y-2XM8FS	30	3	3	5
M8 connector Y distributor 2x parallel M8 socket					
22260604	AB-C3-M8Y-2XM8FS V	60	3	3	5

Note: Tabular value 'Number of poles' is valid for sockets
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: 3-pos., valve connector on free conductor end



S/A cable: 3-pos., valve connector on free conductor end

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. valve plug
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- Cable design: 3 x 0.5 mm² (28 x 0.15 mm)
- Conductor colors: black 1, black 2, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color: black (RAL 7021)
- Outer diameter: 4,5 mm
- Can be used in drag chain

Technical data

Degree of protection
IP 67

Ambient temperature (operation)
Valve plug
-20°C up to +85°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-15°C up to +80°C

Contact material
CuSn

Contact surface material
Ag

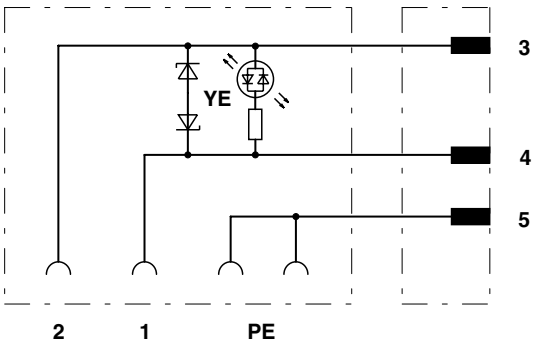
Coding
A - Standard

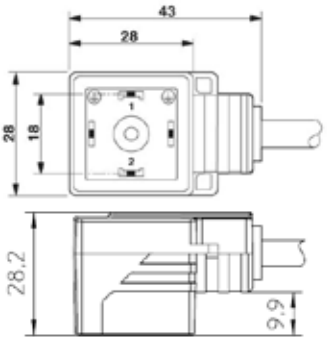
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Valve connector Type A (18 mm)						
22260584	AB-C3- 2,0PUR-A-1L-S	2	24	4	1 LED	1
22260576	AB-C3- 5,0PUR-A-1L-S	5	24	4	1 LED	1
22260577	AB-C3-10,0PUR-A-1L-S	10	24	4	1 LED	1
Valve connector Type B (10 mm)						
22260585	AB-C3- 2,0PUR-B-1L-S	2	24	4	1 LED	1
22260578	AB-C3- 5,0PUR-B-1L-S	5	24	4	1 LED	1
22260579	AB-C3-10,0PUR-B-1L-S	10	24	4	1 LED	1
Valve connector Type BI (11 mm)						
22260586	AB-C3- 2,0PUR-BI-1L-S	2	24	4	1 LED	1
22260580	AB-C3- 5,0PUR-BI-1L-S	5	24	4	1 LED	1
22260581	AB-C3-10,0PUR-BI-1L-S	10	24	4	1 LED	1
Valve connector Type C (8 mm)						
22260587	AB-C3- 2,0PUR-C-1L-S	2	24	4	1 LED	1
22260582	AB-C3- 5,0PUR-C-1L-S	5	24	4	1 LED	1
22260583	AB-C3-10,0PUR-C-1L-S	10	24	4	1 LED	1
Valve connector Type CI (9.4 mm)						
22260588	AB-C3- 2,0PUR-CI-1L-S	2	24	4	1 LED	1
22260574	AB-C3- 5,0PUR-CI-1L-S	5	24	4	1 LED	1
22260575	AB-C3-10,0PUR-CI-1L-S	10	24	4	1 LED	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: 3-pos., valve connector on straight M12 plug





Part number: 22260550

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3-pos. valve plug
- Protection type: IP67
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- Cable design: 3 x 0.5 mm² (28 x 0.15 mm)
- Conductor colors: black 1, black 2, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color: black (RAL 7021)
- Outer diameter: 4,5 mm
- Can be used in drag chain

Technical data

Degree of protection
IP 67

Ambient temperature (operation)
Valve plug
-20°C up to +85°C
Plug / Socket
-25°C to +90°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-15°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

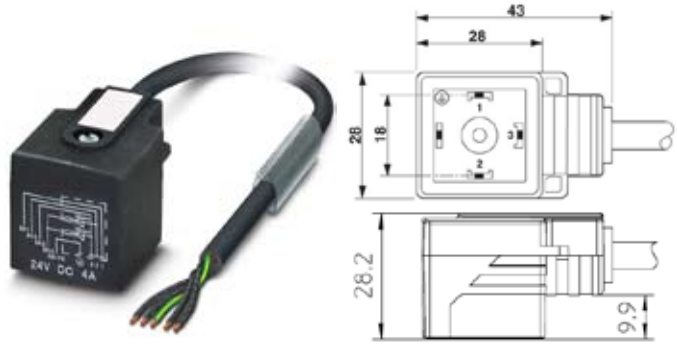
Material of grip body
TPU, hardly inflammable, self-extinguishing

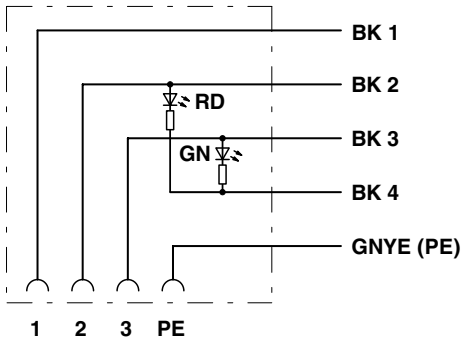
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on valve connector type A (18 mm)						
22260550	AB-C3-M12MS-0,3PUR-A-1L-S	0.3	24	4	1 LED	1
22260551	AB-C3-M12MS-0,6PUR-A-1L-S	0.6	24	4	1 LED	1
22260552	AB-C3-M12MS-1,0PUR-A-1L-S	1	24	4	1 LED	1
22260553	AB-C3-M12MS-2,0PUR-A-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type B (10 mm)						
22260558	AB-C3-M12MS-0,3PUR-B-1L-S	0.3	24	4	1 LED	1
22260559	AB-C3-M12MS-0,6PUR-B-1L-S	0.6	24	4	1 LED	1
22260560	AB-C3-M12MS-1,0PUR-B-1L-S	1	24	4	1 LED	1
22260561	AB-C3-M12MS-2,0PUR-B-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type BI (11 mm)						
22260554	AB-C3-M12MS-0,3PUR-BI-1L-S	0.3	24	4	1 LED	1
22260555	AB-C3-M12MS-0,6PUR-BI-1L-S	0.6	24	4	1 LED	1
22260556	AB-C3-M12MS-1,0PUR-BI-1L-S	1	24	4	1 LED	1
22260557	AB-C3-M12MS-2,0PUR-BI-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type C (8 mm)						
22260566	AB-C3-M12MS-0,3PUR-C-1L-S	0.3	24	4	1 LED	1
22260567	AB-C3-M12MS-0,6PUR-C-1L-S	0.6	24	4	1 LED	1
22260568	AB-C3-M12MS-1,0PUR-C-1L-S	1	24	4	1 LED	1
22260569	AB-C3-M12MS-2,0PUR-C-1L-S	2	24	4	1 LED	1
Straight connector on valve connector type CI (9.4 mm)						
22260562	AB-C3-M12MS-0,3PUR-CI-1L-S	0.3	24	4	1 LED	1
22260563	AB-C3-M12MS-0,6PUR-CI-1L-S	0.6	24	4	1 LED	1
22260564	AB-C3-M12MS-1,0PUR-CI-1L-S	1	24	4	1 LED	1
22260565	AB-C3-M12MS-2,0PUR-CI-1L-S	2	24	4	1 LED	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: 5-pos., valve connector on free conductor end, for pressure switch





S/A cable: 5-pos., valve connector on free conductor end, for pressure switch

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. valve plug
- Valve plug for pressure switch, PE bridged, 18 mm contact spacing
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- Cable design: 5 x 0.5 mm² (28 x 0.15 mm)
- Conductor colors: black 1, black 2, black 3, black 4, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color: black (RAL 7021)
- Outer diameter: 5,3 mm
- Can be used in drag chain

Technical data

IP

Degree of protection
IP 67

Ambient temperature (operation)
Valve plug
-20°C up to +85°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-15°C up to +80°C

Contact material
CuSn

Contact surface material
Ag

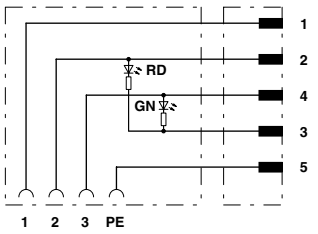
Coding
A - Standard

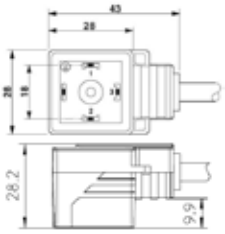
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Valve connector for pressure switch (18 mm)						
22260589	AB-C5-2,0PUR-AD-2L	2	24	4	2 LEDs	1
22260590	AB-C5-5,0PUR-AD-2L	5	24	4	2 LEDs	1
22260591	AB-C5-10,0PUR-AD-2L	10	24	4	2 LEDs	1

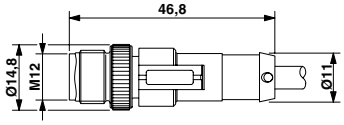
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A cable: 5-pos., valve connector on straight M12 plug, for pressure switch







S/A cable: 5-pos., valve connector on straight M12 plug, for pressure switch

Benefits

- Cost saving because of quick and easy installation
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. valve plug
- Valve plug for pressure switch, PE bridged, 18 mm contact spacing
- The cables have marker carriers
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- Cable design: 5 x 0.5 mm² (28 x 0.15 mm)
- Conductor colors: black 1, black 2, black 3, black 4, green/yellow
- Outer sheath: PUR, halogen-free
- Sheath color: black (RAL 7021)
- Outer diameter: 5,3 mm
- Can be used in drag chain

Technical data

IP

Degree of protection
IP 67

Ambient temperature (operation)
Valve plug
-20 °C up to +85 °C
Plug / Socket
-25 °C to +90 °C
Cable, fixed installation
-40 °C up to +80 °C
Cable, flexible installation
-15 °C up to +80 °C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

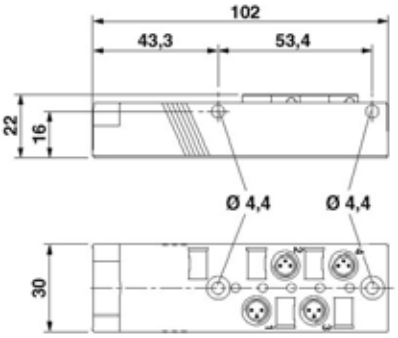
Material of grip body
TPU, hardly inflammable, self-extinguishing

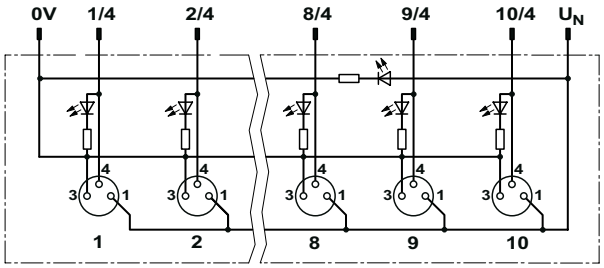
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Status display	PU
Straight connector on valve connector for pressure switch						
22260573	AB-C5-M12MS-0,3PUR-AD-2L	0.3	24	4	2 LEDs	1
22260572	AB-C5-M12MS-0,6PUR-AD-2L	0.6	24	4	2 LEDs	1
22260571	AB-C5-M12MS-1,0PUR-AD-2L	1	24	4	2 LEDs	1
22260570	AB-C5-M12MS-2,0PUR-AD-2L	2	24	4	2 LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A box with M8 slots and master cable





Part number: 22260026

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The master cable is designed as a hybrid cable carrying signals and power
- There are no assembly costs because the master cable is pre-assembled

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With permanently connected master cable
- Single-occupied sensor/actuator box
- LEDs indicate the operating mode of the distributor and the status of the sensors
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Suitable tools

- On request suitable tool (e.g. orque screw-driver M8) available

Technical data

Degree of protection
IP65/IP67

Ambient temperature (operation)
-30°C up to +80°C
Cable, fixed installation
-40°C up to +90°C
Cable, flexible installation
-5°C up to 80°C

Current carrying capacity per slot
2 A

Part number	Article designation	Length in m	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
with M 8 master cable connection							
22260026	AB-B4-M8L-4-5,0PUR	5.0	4	24	6	LEDs	1
22260027	AB-B4-M8L-4-10,0PUR	10.0	4	24	6	LEDs	1
22260028	AB-B6-M8L-6-5,0PUR	5.0	6	24	6	LEDs	1
22260029	AB-B6-M8L-6-10,0PUR	10.0	6	24	6	LEDs	1
22260030	AB-B8-M8L-8-5,0PUR	5.0	8	24	6	LEDs	1
22260031	AB-B8-M8L-8-10,0PUR	10.0	8	24	6	LEDs	1
22260032	AB-B10-M8L-10-5,0PUR	5.0	10	24	6	LEDs	1
22260033	AB-B10-M8L-10-10,0PUR	10.0	10	24	6	LEDs	1

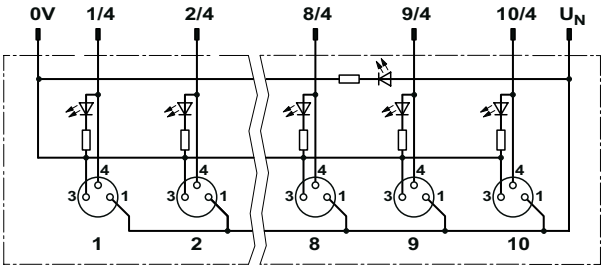
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet (www.lappautomation.com)

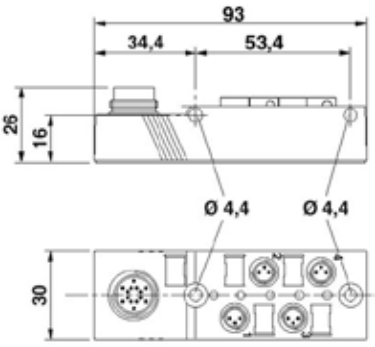
Accessories

- Screw plug for unoccupied sockets see page 363

New

S/A box, M8 slots and master cable connection M16/M12





Part number: 22260034

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With M12/M16 plug-in connection
- Single-occupied sensor/actuator box
- LEDs indicate the operating mode of the distributor and the status of the sensors
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable cables

- M16 socket with connected master cable page 361
- M12 socket with connected master cable page 362

Suitable tools

- On request suitable tool (e.g. orque screw-driver M8) available

Technical data

Degree of protection
IP65/IP67

Ambient temperature (operation)
-30°C up to +80°C

Current carrying capacity per slot
2 A

Part number	Article designation	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
With M16, 8-pos. Master cable connection						
22260034	AB-B4-M8L-4-M16	4	24	6	LEDs	1
With M16, 10-pos. Master cable connection						
22260035	AB-B6-M8L-6-M16	6	24	6	LEDs	1
With M16, 12-pos. Master cable connection						
22260036	AB-B8-M8L-8-M16	8	24	6	LEDs	1
With M16, 14-pos. Master cable connection						
22260037	AB-B10-M8L-10-M16	10	24	6	LEDs	1
With M12, 8-pos. Master cable connection						
22260038	AB-B4-M8L-4-M12	4	24	4	LEDs	1
22260039	AB-B6-M8L-6-M12	6	24	4	LEDs	1

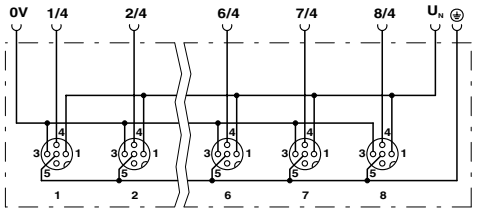
Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet (www.lappautomation.com)

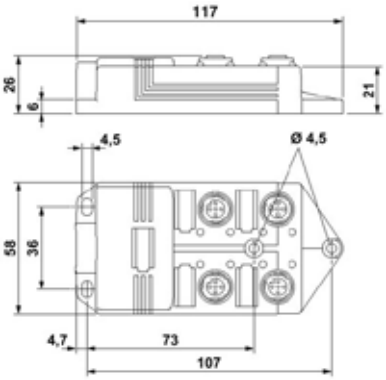
Accessories

- Screw plug for unoccupied sockets see page 363

New

S/A box with M12 slots and master cable





Part number: 22260010

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The master cable is designed as a hybrid cable carrying signals and power
- There are no assembly costs because the master cable is pre-assembled

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With permanently connected master cable
- Single or double-occupied sensor/actuator box
- With LEDs for sensor status display without LEDs for analog signals
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Suitable tools

- On request suitable tool (e.g. orque screw-driver M12) available

Technical data

IP **Degree of protection**
IP65/IP67/IP69K

Amp. **Max. current carrying capacity per path**
2 A

Amp. **Current carrying capacity per slot**
4 A

Part number	Article designation	Length in m	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
Single occupied boxes, without LEDs							
22260010	AB-B4-M12-4-5,0PUR	5.0	4	120	12	No	1
22260011	AB-B4-M12-4-10,0PUR	10.0	4	120	12	No	1
22260014	AB-B8-M12-8-5,0PUR	5.0	8	120	12	No	1
22260015	AB-B8-M12-8-10,0PUR	10.0	8	120	12	No	1
Single occupied boxes, with LEDs							
22260018	AB-B4-M12L-4-5,0PUR	5.0	4	24	12	LEDs	1
22260019	AB-B4-M12L-4-10,0PUR	10.0	4	24	12	LEDs	1
22260022	AB-B8-M12L-8-5,0PUR	5.0	8	24	12	LEDs	1
22260023	AB-B8-M12L-8-10,0PUR	10.0	8	24	12	LEDs	1
Double occupied boxes, without LEDs							
22260012	AB-B4-M12-8-5,0PUR	5.0	4	120	12	No	1
22260013	AB-B4-M12-8-10,0PUR	10.0	4	120	12	No	1
22260016	AB-B8-M12-16-5,0PUR	5.0	8	120	12	No	1
22260017	AB-B8-M12-16-10,0PUR	10.0	8	120	12	No	1
Double occupied boxes, with LEDs							
22260020	AB-B4-M12L-8-5,0PUR	5.0	4	24	12	LEDs	1
22260021	AB-B4-M12L-8-10,0PUR	10.0	4	24	12	LEDs	1
22260024	AB-B8-M12L-16-5,0PUR	5.0	8	24	12	LEDs	1
22260025	AB-B8-M12L-16-10,0PUR	10.0	8	24	12	LEDs	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet (www.lappautomation.com)

Accessories

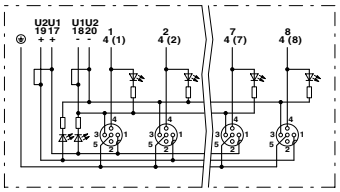
- Screw plug for unoccupied sockets see page 363

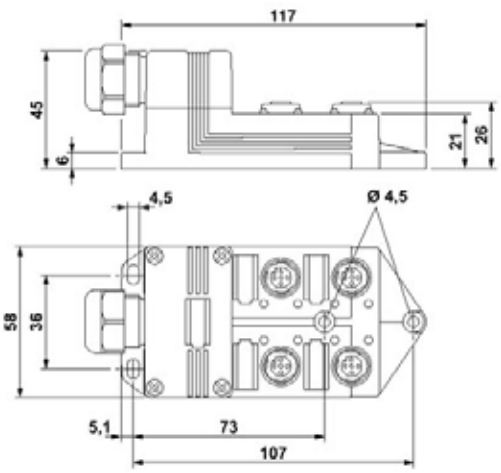
New

S/A box with M12 slots and master cable connection

Info

- For individual mastercable assembly





Part number: 22260005

Benefits

- Inexpensive and efficient wiring of sensors and actuators
- Instead of numerous individual conductors, one master cable is laid to the control unit
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- With pluggable screw connection
- Single or double-occupied sensor/actuator box
- With LEDs for sensor status display without LEDs for analog signals
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable cables

- UNITRONIC® SENSOR master cable bulk stock page 360

Suitable tools

- Kraftform® adjustable torque screwdriver/ Kraftform Kompakt® Set see page 982
- On request suitable tool (e.g. orque screw-driver M12) available

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
-30°C up to +80°C

Max. current carrying capacity per path
2 A

Current carrying capacity per slot
4 A

Part number	Article designation	Number of slots	Nominal voltage U_N in V	SACB total current in A	Status display	PU
Single occupied boxes, without LEDs, 4 slots, 1.)						
22260005	AB-B4-M12-4-C	4	120	10	No	1
Single occupied boxes, without LEDs, 8 slots, 2.)						
22260007	AB-B8-M12-8-C	8	120	10	No	1
Single occupied boxes, with LEDs, 4 slots, 1.)						
22260001	AB-B4-M12L-4-C	4	24	10	LEDs	1
Single occupied boxes, with LEDs, 8 slots, 2.)						
22260003	AB-B8-M12L-8-C	8	24	10	LEDs	1
Double occupied boxes, without LEDs, 4 slots, 2.)						
22260006	AB-B4-M12-8-C	4	120	10	No	1
Double occupied boxes, without LEDs, 8 slots, 3.)						
22260008	AB-B8-M12-16-C	8	120	10	No	1
Double occupied boxes, with LEDs, 4 slots, 2.)						
22260002	AB-B4-M12L-8-C	4	24	10	LEDs	1
Double occupied boxes, with LEDs, 8 slots, 3.)						
22260004	AB-B8-M12L-16-C	8	24	10	LEDs	1

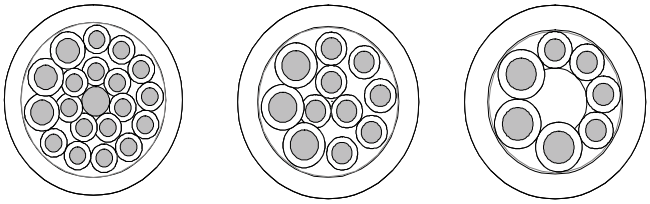
Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet (www.lappautomation.com)
1.) Applicable master cable: 7038880; 2) Applicable master cable: 7038881; 3.) Applicable master cable: 7038882

Accessories

- Screw plug for unoccupied sockets see page 363

New

UNITRONIC® SENSOR master cable bulk stock



Info

- **Customised construction supported**

Benefits

- Inexpensive and efficient wiring for S/A boxes with pluggable master cable connection
- Universally useable for S/A installations

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Cores for Power Supply: 3x0.75 mm² and 3x1.0 mm²
- Cores for Signalling cable: 4x0.34 mm², 8x0.5 mm², 16x0.5 mm²
- Can be used in drag chain
- Halogen-free

Design

- UNITRONIC® SENSOR Li9Y11 COMBI Conductor: bare copper strand, single wire diameter: 0.1 mm for 0.34 mm², 0.18 mm for 0.5 mm², 0,205 mm for 0.75 mm², 0.15 mm for 1.0 mm². Core insulation PP halogenfree, outer sheath PUR acc. DIN VDE 0250 part 818 halogenfree.
- Sheath color: black (similar RAL 9005) Core colors: see datasheet

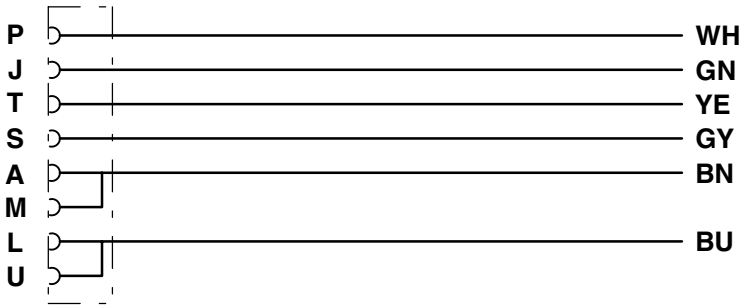
Part number	Article designation	Dimension in mm²	Outer diameter in mm approx.	Core / sheath material	Colour	Copper index kg/km
UNITRONIC® SENSOR COMBI						
7038880	Li9Y11Y	3x0,75+4x0,34	6.6	PP/PUR	black	34.5
7038881	Li9Y11Y	3x1,0+8x0,5	8.4	PP/PUR	black	67.2
7038882	Li9Y11Y	3x1,0+16x0,5	9.8	PP/PUR	black	105.6

Accessories

- S/A box with M12 slots and master cable connection see page 359

New

M16 socket with connected master cable



Part number: 22260607

Benefits
- Connecting cable for M8 boxes with 4 to 10 slots
- M16 connection

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- Design as socket variant with M16 thread
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)
RoHS

Design
- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Technical data
IP
Degree of protection
IP 67

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +90°C
Cable, flexible installation
-5°C up to 80°C

Contact material
CuZn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Nickel-plated brass

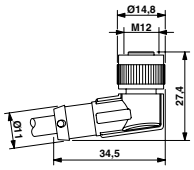
Material of grip body
TPU, hardly inflammable, self-extinguishing

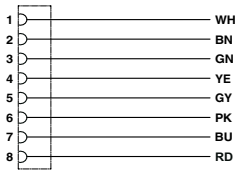
Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
8 pole angled socket					
22260607	AB-C8- 5,0PUR-M16FA	5	125	4	1
22260608	AB-C8-10,0PUR-M16FA	10	125	4	1
10 pole angled socket					
22260609	AB-C10- 5,0PUR-M16FA	5	125	4	1
22260610	AB-C10-10,0PUR-M16FA	10	125	4	1
12 pole angled socket					
22260611	AB-C12- 5,0PUR-M16FA	5	125	4	1
22260612	AB-C12-10,0PUR-M16FA	10	125	4	1
14 pole angled socket					
22260613	AB-C14- 5,0PUR-M16FA	5	125	4	1
22260614	AB-C14-10,0PUR-M16FA	10	125	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

New

M12 socket with connected master cable





M12 socket with connected master cable

Info
- Drag chain suitable

Benefits
- Connecting cable for M8 boxes with 4 to 6 slots
- M12 connection

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- Design as socket variant with M12 thread
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)
RoHS

Design
- PUR/PVC cable
- Permanently flexible control cable
- Sheath color black

Technical data
Degree of protection
IP65/IP68/IP69K
Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-5°C up to +80°C
Contact material
CuZn
Contact surface material
Ni/Au
Coding
A - Standard
Material, knurls
Zinc die-cast, (nickel-plated)
Material of grip body
TPU, hardly inflammable, self-extinguishing

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	PU
8 pole angled socket					
22260615	AB-C8-5,0PUR-M12FA	5	30	2	1
22260616	AB-C8-10,0PUR-M12FA	10	30	2	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

New

Screw plug for unoccupied sockets

Screw plug for unoccupied sockets

Benefits

- Protective cap for unoccupied M8/M12 slots
- Securing of protection class IP 65/67 in cause of unused connectors (e.g. S/A-Boxes)

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable tools

- Kraftform® adjustable torque screwdriver/ Kraftform Kompakt® Set see page 982

Part number	Article designation	PU
M8		
22260606	AB-B-M8-PC	10
M12		
22260605	AB-B-M12-PC	10

For detailed information please see the data sheet (www.lappautomation.com)

New

Complete connection hood with 4, 6 or 8 slots

Complete connection hood with 4, 6 or 8 slots

Benefits

- Pluggable screw connection as accessory for S/A-Box with pluggable master cable connection
- The pluggable connection ensures universal pluggability as well as simple on-site assembly

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Accessory for SA-Box with plugable master cable connection
- With pluggable screw connection

Approvals (Norm references)

RoHS

Suitable tools

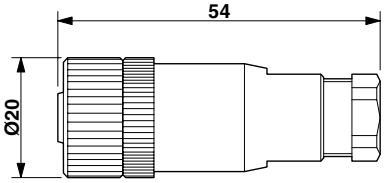
- Kraftform® adjustable torque screwdriver/ Kraftform Kompakt® Set see page 982

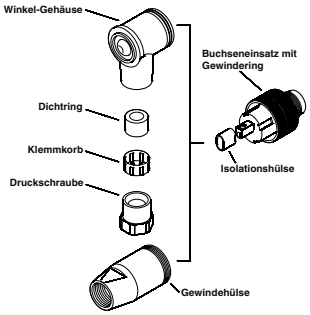
Part number	Article designation	PU
Accessories		
22260009	AB-B-HC	1

For detailed information please see the data sheet (www.lappautomation.com)

New

S/A M12 connectors that can be assembled





Part number: 22260127

Benefits

- Quick and easy on-site assembly
- Creating individual cable lengths
- Standardized interfaces
- No special tools required for connecting the cables (quick connection designs)

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4, 5 and 8-position version
- Shielded and unshielded version
- Fast connection and screw connection design
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable cables

- Cable for sensor / actuator components page 366

Technical data

IP

Degree of protection
IP 67

Ambient temperature (operation)
Plug / socket
-40°C to +85°C

Contact material
CuZn

Contact surface material
CuSnZn

Coding
A - Standard

Part number	Article designation	Number of poles	Conductor cross section stranded min. in mm²	Conductor cross section stranded max. in mm²	Cable Diameter min in mm	Cable Diameter max in mm	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector, fast connection (Insulation-displacement)									
22260132	AB-C4-M12MS-F0,34	4	0.14	0.34	3.5	6	125	4	1
22260134	AB-C4-M12MS-F0,75	4	0.34	0.75	4	8	250	4	1
Straight connector, srew connection									
22260129	AB-C5-M12MS-PG 7	5	0.25	0.75	4	6	60	4	1
Straight socket, fast connection (Insulation-displacement)									
22260131	AB-C4-M12FS-F0,34	4	0.14	0.34	3.5	6	125	4	1
22260133	AB-C4-M12FS-F0,75	4	0.34	0.75	4	8	250	4	1
Straight socket, srew connection									
22260127	AB-C5-M12FS-PG 7	5	0.25	0.75	4	6	60	4	1
Angled connector, srew connection									
22260130	AB-C5-M12MA-PG 7	5	0.25	0.75	4	6	60	4	1
Angled socket, srew connection									
22260128	AB-C5-M12FA-PG 7	5	0.25	0.75	4	6	60	4	1
Straight connector, shielded, srew connection									
22260135	AB-C5-M12MS-PG9-SH	5	0.25	0.75	6	8	60	4	1
22260825	AB-C8-M12MS-PG9-SH	8	0.25	0.75	6	8	30	2	1
Straight socket, shielded, srew connection									
22260136	AB-C5-M12FS-PG9-SH	5	0.25	0.75	6	8	60	4	1
22260826	AB-C8-M12FS-PG9-SH	8	0.25	0.75	6	8	30	2	1

For detailed information please see the data sheet (www.lappautomation.com)

New

S/A M8 connectors that can be assembled

Part number: 22260120

Part number: 22260124

Benefits

- Quick and easy on-site assembly
- Creating individual cable lengths
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 3 and 4-position version
- Fast connection and screw connection design
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable cables

- Cable for sensor / actuator components page 366

Technical data

Degree of protection
IP 68

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C

Contact material
CuZn

Contact surface material
Au

Coding
A - Standard

Part number	Article designation	Number of poles	Conductor cross section stranded min. in mm²	Conductor cross section stranded max. in mm²	Cable Diameter min in mm	Cable Diameter max in mm	Nominal voltage U_N in V	Nominal current I_N in A	PU
Straight connector, srew connection									
22260120	AB-C3-M8MS	3	0.14	0.5	3.5	5	60	4	1
22260121	AB-C4-M8MS	4	0.14	0.5	3.5	5	30	4	1
Straight connector, fast connection (Piercing)									
22260122	AB-C3-M8MS-P	3	0.14	0.38	3	5	60	4	1
22260123	AB-C4-M8MS-P	4	0.14	0.38	3	5	30	4	1
Straight socket, srew connection									
22260125	AB-C3-M8FS	3	0.14	0.5	3.5	5	60	4	1
22260126	AB-C4-M8FS	4	0.14	0.5	3.5	5	30	4	1
Straight socket, fast connection (Piercing)									
22260124	AB-C3-M8FS-P	3	0.14	0.38	3	5	60	4	1
22260119	AB-C4-M8FS-P	4	0.14	0.38	3	5	30	4	1

For detailed information please see the data sheet (www.lappautomation.com)

UNITRONIC® SENSOR

Application range

- Cables for UNITRONIC® Fieldbus sensor-/actuator wiring requirements
- Data transmission cables to connect to M8, M12 connectors
- Automation technology
- Mechanical engineering
- Plant engineering

Product features

- Core colour in accordance with DIN EN 50044
- 3x 0.34 mm²
  1= brown, 2= blue, 3= black
- 4x 0.34 mm²
  1= brown, 2= white, 3= blue, 4= black
- 5x 0.25mm² or 0.34mm²
  1= brown, 2= white, 3= blue, 4= black, 5=grey
- 8x 0.25mm²
  1= white, 2=brown, 3= green, 4= yellow, 5= grey, 6= pink, 7=blue, 8= red

Approvals (Norm references)

Design

- UNITRONIC® SENSOR LifYY
  Conductor: Superfine bare copper strand in accordance with DIN VDE 0295 Class 6; Core insulation PCV, Outer sheath PVC vinyl
- UNITRONIC® SENSOR DESINA® LifY11Y
  Stranded bare copper conductor, superfine. In accordance with VDE 0295 Class 6, special PVC insulation, cores twisted in layers, core ident code in accordance with DESINA® (brwon, white, blue, black). Outer sheath of special polyurethane based compound; colour yellow in acc. to RAL 1021; flame retardant acc. to IEC 60332-1-2. Operating voltage= 48 V, Peak working voltage= 300 V.
- UNITRONIC® SENSOR FD UL/CSA - Lif9Y11Y
  Approved AWM UL-style 20549, 80°C / 300 V. Conductor: Cu wire, bare, super-fine strands in accordance with DIN VDE 0295 class 6. Core insulation: modified polypropylene (PP), outer sheath: halogen-free polyurethane (PUR), matt, adhesion free
- UNITRONIC® SENSOR FD series cables are especially suited for power chain use

Part number	Article designation	Dimension in mm²	Outer diameter in mm approx.	Core / sheath material	Colour	Copper index kg/km
UNITRONIC® SENSOR						
7038859	S-LifYY **	3x0,34	4.8	PVC/PVC	black	9.8
7038860	S-LifYY **	4x0,34	4.8	PVC/PVC	black	13.1
0040434	DESINA **	4x0,34	5.2	PVC/PVC	yellow RAL 1021	13.5
7038861	S-LifY11Y **	4x0,34	4.8	PVC/PUR	black	13.1
7038862	S-LifY11Y **	5x0,25	4.9	PVC/PUR	black	12.0
UNITRONIC® SENSOR FD UL/CSA						
7038864	Li9Y11Y **	3x0,34	4.6	PP/PUR	black	9.8
7038865	Li9Y11Y **	4x0,34	4.7	PP/PUR	black	13.0
7038866	Li9Y11Y **	5x0,34	5.1	PP/PUR	black	16.0
7038867	Li9Y11Y **	5x0,25	4.7	PP/PUR	black	12.0
7038868	Li9Y11Y **	8x0,25	5.9	PP/PUR	black	19.0

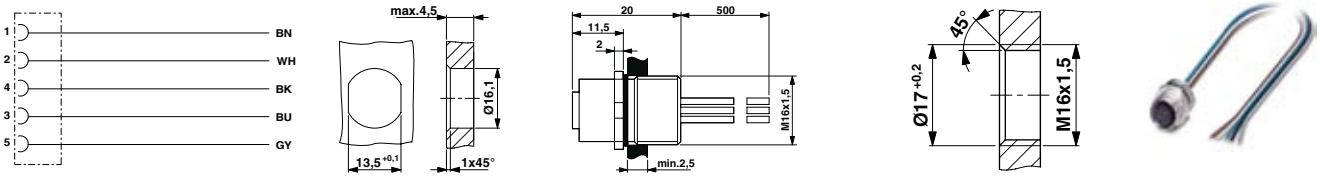
Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths
Cables are printed
Further types on request

Accessories

- S/A M12 connectors that can be assembled see page 364
- S/A M8 connectors that can be assembled see page 365
- STAR STRIP stripping tool see page 908
- SMARTSTRIP stripping tool see page 909

New

S/A M12 flush-type connectors with M16 fastening thread



Part number: 22260107

Benefits

- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- M12 panel feed-through with punched on single litz wires
- Panel feed-through with M16 fastening thread
- Front mounting
- M12 A-coded with quick locking system
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR halogen-free single litz wires, l = 0.5 m
- 0,34 mm²

Technical data

IP

Degree of protection
IP 67

Ambient temperature (operation)
Plug/socket
-25 °C to +85 °C

Contact material
CuZn

Contact surface material
Au

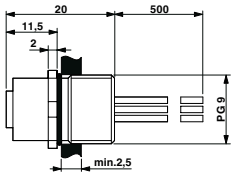
Coding
A - Standard

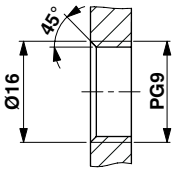
Part number	Article designation	Number of poles	Conductor cross section in mm²	Nominal voltage U_N in V	Nominal current I_N in A	PU
M12 flush-type connector pin for front mounting						
22260108	AB-C4-M12MS-M16-0,5	4	0.34	250	4	1
22260106	AB-C5-M12MS-M16-0,5	5	0.34	60	4	1
M12 flush-type connector socket for front mounting						
22260107	AB-C4-M12FS-M16-0,5	4	0.34	250	4	1
22260105	AB-C5-M12FS-M16-0,5	5	0.34	60	4	1

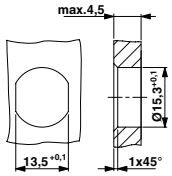
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

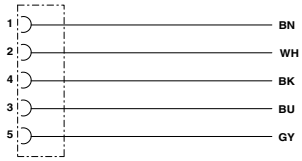
New

S/A M12 flush-type connectors with PG9 fastening thread









Part number: 22260114

Benefits

- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- M12 panel feed-through with punched on single litz wires
- Panel feed-through with PG9 fastening thread
- Models for fron and rear mounting
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Design

- PUR halogen-free single litz wires, l = 0.5 m
- 0,34 mm²

Technical data

Degree of protection
IP 67

Ambient temperature (operation)
Plug/socket
-25°C to +85°C

Contact material
CuZn

Contact surface material
Au

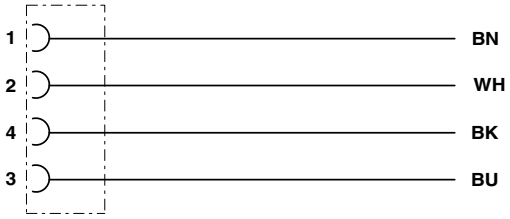
Coding
A - Standard

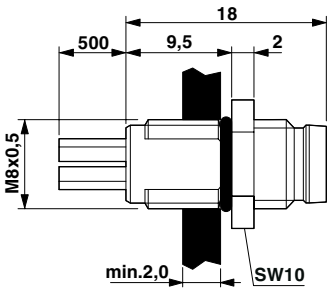
Part number	Article designation	Number of poles	Conductor cross section in mm²	Nominal voltage U_N in V	Nominal current I_N in A	PU
M12 flush-type connector pin for rear mounting						
22260117	AB-C4-DSI-M12MS-PG9-0,5	4	0.34	250	4	1
22260115	AB-C5-DSI-M12MS-PG9-0,5	5	0.34	60	4	1
M12 flush-type connector socket for rear mounting						
22260118	AB-C4-DSI-M12FS-PG9-0,5	4	0.34	250	4	1
22260116	AB-C5-DSI-M12FS-PG9-0,5	5	0.34	60	4	1
M12 flush-type connector pin for front mounting						
22260113	AB-C4-M12MS-PG9-0,5	4	0.34	250	4	1
22260112	AB-C5-M12MS-PG9-0,5	5	0.34	60	4	1
M12 flush-type connector socket for front mounting						
22260114	AB-C4-M12FS-PG9-0,5	4	0.34	250	4	1
22260111	AB-C5-M12FS-PG9-0,5	5	0.34	60	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

S/A M8 flush-type connectors





Part number: 22260101

Benefits
- Flexible connection solutions for individual device concepts
- Simple installation in devices
- Standardized interfaces

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- M8 panel feed-through with punched on single litz wires
- Panel feed-through with M8 fastening thread
- Front mounting
- IP65/IP67 protection
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)
RoHS

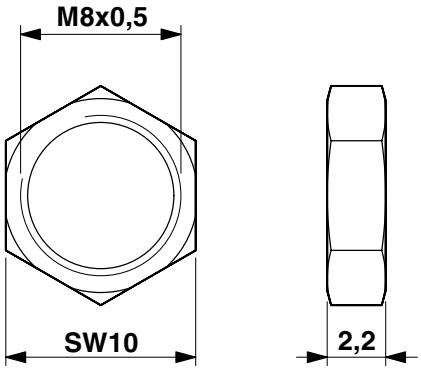
Design
- PUR halogen-free single litz wires, l = 0.5 m
- 0,25 mm²

Technical data
Degree of protection
IP 67
Ambient temperature (operation)
Plug/socket
-25 °C to +85 °C
Contact material
Copper alloy
Contact surface material
Au
Coding
A - Standard

Part number	Article designation	Number of poles	Conductor cross section in mm²	Nominal voltage U_N in V	Nominal current I_N in A	PU
M8 flush-type connector pin for front mounting						
22260100	AB-C3-M8MS-0,5	3	0.25	60	4	1
22260101	AB-C4-M8MS-0,5	4	0.25	30	4	1
M8 flush-type connector socket for front mounting						
22260102	AB-C3-M8FS-0,5	3	0.25	60	4	1
22260103	AB-C4-M8FS-0,5	4	0.25	30	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

Fitting nut for flush-type connectors



Part number: 22260104

Benefits
- Fitting nut as accessory for flush-type connectors

Product features
- Material: Nickel-plated brass

Approvals (Norm references)
RoHS

Part number	Article designation	PU
M8 thread (M8x0,5 - SW10), h = 2.2 mm		
22260104	AB-C-M8-CN	100
PG9 thread (PG9 - SW18), h = 2.8 mm		
22260109	AB-C-PG9-CN	100
M16 thread (M16x1,5 - SW19), h = 2.8 mm		
22260110	AB-C-M16-CN	100

For detailed information please see the data sheet (www.lappautomation.com)

Comparable products
- SKINDICHT® SM see page 735

New

AS-Interface Modules (IP67)

Info
- With M12 quick locking system

Part number: 22260758

Part number: 22260755

Benefits
- Standardized interfaces
- For decentralized automatization
- Space saving because of compact dimensions
- Easy installation
- Fast and easy error tracking

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- AS-Interface module slave
- Integration of field bus activation and input/output-level
- Connection type of digital Input/output as M12 or M8 for sensors/actuators
- Flat-ribbon cable cable penetration technique as connection type for module M12
- M12 connection type for M8 module
- LED diagnostic and status indication
- Short circuit- /overload protection

Approvals (Norm references)

RoHS

Suitable cables
- UNITRONIC® BUS ASI page 290
- UNITRONIC® BUS ASI FD page 291

Suitable tools
- On request suitable tool (e.g. orque screwdriver M12) available

Technical data

Fieldbus system
AS-Interface
Connection type
Flat-ribbon cable penetration technique / M12 connection type
Installation
Panel mounting for M12/M8 Module
DIN rail adapter (35 mm) for M12 Module
Number of poles
2
Degree of protection
IP67
Protection class
III
Ambient temperature (operation)
-25 °C bis +70 °C
Ambient temperature (storage/transport)
-25°C up to +85°C
Voltage consumption
26.5 V DC PELV to 31.6 V DC PELV

Part number	Article designation	Connection method (Sensor/Actuator)	Number of inputs	Number of outputs	Slave type	Master specification	PU
With digital in-/outputs, M8, total current: 4 A							
22260759	AB-ASI-M12-DI4DO4-M8-1A	2, 3-wire	4	4	Single-Slave	>= 2.0	1
With digital in-/outputs, M12, total current: 4A							
22260755	AB-ASI-DI2DO2-M12-2A	2, 3-wire	2	2	A/B-Slave	>= 2.0	1
22260756	AB-ASI-DI4DO3-M12-2A	2, 3-wire	4	3	A/B-Slave	>= 2.0	1
22260757	AB-ASI-DI4DO4-M12-2A	2, 3-wire	4	4	A/B-Slave	>= 3.0	1
With digital inputs, M8							
22260758	AB-ASI-M12-DI4-M8	2, 3-wire	4		Single-Slave	>= 2.0	1
With digital inputs, M12							
22260753	AB-ASI-DI4-M12	2, 3-wire	4		A/B-Slave	>= 2.0	1
With digital outputs, M12, total current: 4A							
22260754	AB-ASI-DO4-M12-2A	2-wire		4	Single-Slave	>= 2.0	1

Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories
- AS-Interface Distributor see page 376
- AS-Interface power supply see page 379
- Screw plug for unoccupied sockets see page 363
- Powerkabel M12 see page 390

New

AS-Interface Modules (IP30)

Info

- **Fully industrialised**

Part number: 22260809

Benefits

- Standardized interfaces
- For decentralized automatization
- Space saving because of compact dimensions
- Easy installation
- Fast and easy error tracking

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- AS-Interface module slave
- Integration of field bus activation and input/output-level
- Metal housing
- Connection by srew-plug terminals or spring-plug terminals
- Digital Inputs/outputs for connection of sensors/actuators
- LED diagnostic and status indication
- Short circuit- /overload protection

Approvals (Norm references)

RoHS

Suitable cables

- UNITRONIC® BUS ASI page 290
- UNITRONIC® BUS ASI FD page 291

Technical data

Fieldbus system
AS-Interface

Dimensions W x H x D in mm
105 mm x 85 mm x 22,5 mm

Connection type
Connector for screw-plug terminals or spring-plug terminals

Installation
DIN rail adapter (35 mm)

Degree of protection
IP30

Protection class
II

Ambient temperature (operation)
-25°C up to +60°C

Ambient temperature (storage/transport)
-40°C up to +85 °C

Permissible humidity (storage/transport)
max. 95 %, not condensing

Voltage consumption
26.5 V DC to 31.6 V DC

Part number	Article designation	Connection method (Sensor/Actuator)	Number of inputs	Number of outputs	Slave type	AS-i specification	Master specification	PU
4 Outputs Relay 3A								
22260807	AB-ASI-DI4DOR4-3A	2, 3-wire	4	4	Single-Slave	3.01	>= 3.0	1
4 Outputs 2A								
22260808	AB-ASI-DI4DO4-2A	2, 3-wire	4	4	Single-Slave	3.01	>= 3.0	1
8 Outputs 2A								
22260809	AB-ASI-DI8DO8-2A	2, 3-wire	8	8	Single-Slave	3.01	>= 3.0	1

Plug terminals are not included, may be otained as accessory
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories

- AS-Interface Distributor see page 376
- AS-Interface counter module see page 377
- AS-Interface long distance repeater see page 378
- AS-Interface power supply see page 379
- AS-Interface network extension see page 380
- AS-Interface plug terminals see page 381
- Powerkabel M12 see page 390

New

PROFIBUS Modules

Info
- With M12 quick locking system

Part number: 22260738

Benefits
- Standardized interfaces
- For decentralized automatization
- Space saving because of compact dimensions
- Easy installation
- Fast and easy error tracking

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- PROFIBUS Interface
- Integration of field bus activation and input/output-level
- Connection to PROFIBUS DP using M12 connectors (B-coded)
- Connection type of digital Input/output as M12 for sensors/actuators
- LED diagnostic and status indication
- Flexible power supply concept
- Short circuit- /overload protection

Approvals (Norm references)

RoHS

Suitable cables
- PROFIBUS cable: M12 connector on free conductor end see page 382
- PROFIBUS Cable: straight M12 connector M12 on straight M12 socket see page 383

Suitable tools
- On request suitable tool (e.g. orque screwdriver M12) available

Technical data

Fieldbus system
PROFIBUS-DP
Transmission speed
12 MBit/s
Automatic baud rate detection
Tranmission physics
PROFIBUS-DP-compliant copper cable
Address space assignment
1 ... 99, can be set from front side
Connection type
2 M12 plug connectors, B-coded
Installation
Panel mounting
Number of poles
5
IP **Degree of protection**
IP65/IP67 acc. IEC 60529
Protection class
Class 3 as per VDE 0106, IEC 61440
Ambient temperature (operation)
-25°C up to +60°C
Ambient temperature (storage/transport)
-25°C up to +85°C
Permissible humidity (storage/transport)
95 %
Transmission rate
9.64 Kbaud to 12 Mbaud automatic detection
Voltage consumption
24V DC

Part number	Article designation	Connection method (Sensor/Actuator)	Number of inputs	Number of outputs	Maximum output current per channel [A]	PU
With digital in-/outputs						
22260740	AB-PB-DI4DO4-M12-2A	2, 3, 4-wire	4	4	2	1
22260762	AB-PB-DI8DO8-M12-0,5A	2, 3, 4-wire	8	8	0.5	1
With digital inputs						
22260738	AB-PB-DI8-M12	2, 3, 4-wire	8			1
22260739	AB-PB-DI16-M12	2, 3, 4-wire	16			1
With digital outputs						
22260742	AB-PB-DO8-M12-2A	2, 3-wire		8	2	1

Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories
- ETHERLINE® PROFIBUS DP Ethernet-Gateways see page 373
- Screw plug for unoccupied sockets see page 363
- BUS M12 connectors that can be assembled see page 386
- Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS see page 387
- M12 T distributor for PROFIBUS see page 388
- Powerkabel M12 see page 390

ETHERLINE® PROFIBUS DP Ethernet-Gateways

Benefits

- Allows the spatial separation of control system and PROFIBUS® network
- Access data simultaneously to existing control systems
- De facto standard for device parameterization with FDT/DTM, regardless of manufacturer or device class
- Rapid integration through simple user interface and OPC server
- Select the number of PROFIBUS channels that fits your needs

Application range

- Industrial use
- Different kind of communicatiion via BUS systems and/or Ethernet based systems
- UNITRONIC® Fieldbus sensor-/actuator wiring requirements

Product features

- Supported protocols: PROFIBUS® DP (can be configured as master or slave), DP-V1 Master, FMS, FDL, MPI
- Transfer rates: 9.6; 19.2; 45.45; 93.75; 187.5; 500; 1500; 3000; 6000; 12000 kBit/s
- Data collection for SCADA systems
- Connector: 9-pin D-sub
- Integrated Web-Server

Approvals (Norm references)

- Mechanical stability
  - IEC 60068-2-27 Shock
  - IEC 60068-2-6 Vibration
- Interference proof
  - EN 61000-4-2 Disarge of static electricity
  - EN 61000-4-3 Electromagnetic fields
  - EN 61000-4-4 Fast transients (bursts)
  - EN 61000-4-5 Surge voltage sysmetrical
  - EN 61000-4-6 Cabel based RF faults

Suitable cables

- UNITRONIC® LAN PATCH COLOR page 405
- Patchcable RJ45 CAT.5e see page 405
- PROFIBUS cable: M12 connector on free conductor end see page 382

Suitable connectors

- EPIC® Data connectors see page 304

Technical data

Dimensions W x H x D in mm
A-GW-P1E: 47x131x111
A-GW-P3E: 110x131x111

Weight in g
A-GW-P1E: 400 g
A-GW-P3E: 1250 g

LED
Power, Connection, Data, Faults

Air humidity
Rel.: max. 90% at +25°C (non-condensing)

Installation
35mm DIN top-hat rail (EN50022)

Rated voltage
18 up to 30V DC / 1A

Degree of protection
IP 20 (EN 60529)

Range of temperature
Operating temperature: 0°C up to +55°C
Storage temperature: -20°C to +70°C

Part number	Article designation	Port type	Connection type	PU
PROFIBUS® 1 channel				
21700002	ETHERLINE® A-GW-P1E	1 x 10/100BaseTX, 1 x PROFIBUS	R45, 9 pole Sub-D socket	1
PROFIBUS 3 channel				
21700012	ETHERLINE® A-GW-P3E	1 x 10/100BaseTX, 3 x PROFIBUS	R45, 9 pole Sub-D socket	1

For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

New

DeviceNet Modules

Info
- With M12 quick locking system

Part number: 22260743

Benefits
- Standardized interfaces
- For decentralized automatization
- Space saving because of compact dimensions
- Easy installation
- Fast and easy error tracking

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- DeviceNet Interface
- Integration of field bus activation and input/output-level
- Connection to DeviceNet™ using M12 connectors (A-coded)
- Connection type of digital Input/output as M12 for sensors/actuators
- LED diagnostic and status indication
- Flexible power supply concept
- Short circuit- /overload protection

Approvals (Norm references)
RoHS ✓ DeviceNet™

Suitable cables
- DeviceNet/CANopen Cable, M12 connector on free conductor end see page 384
- S/A DeviceNet/CANopen cable, M12 connector on M12 socket see page 385

Suitable tools
- On request suitable tool (e.g. orque screwdriver M12) available

Technical data
Fieldbus system
DeviceNet
Transmission speed
125 kBit/s, 250 kBit/s, 500 kBit/s
Automatic baud rate detection
Tranmission physics
Copper cable in acc. with 176524 specification
Address space assignment
1 ... 63, can be set
Connection type
2 M12 plug connectors, A-coded
Installation
Panel mounting
Number of poles
5
IP **Degree of protection**
IP65/IP67
Protection class
Class 3 as per VDE 0106, IEC 61440
Ambient temperature (operation)
-25°C up to +60°C
Ambient temperature (storage/transport)
-25°C up to +85°C
Permissible humidity (storage/transport)
95 %
Transmission rate
125 kBaud, 250 kBaud, 500 kBaud automatic detection
Voltage consumption
24V DC

Part number	Article designation	Connection method (Sensor/Actuator)	Number of inputs	Number of outputs	Maximum output current per channel [A]	PU
With digital in-/outputs						
22260745	AB-DN-DI4DO4-M12-2A	2, 3, 4-wire	4	4	2.0	1
22260763	AB-DN-DI8DO8-M12-0,5A	2, 3, 4-wire	8	8	0.5	1
With digital inputs						
22260743	AB-DN-DI8-M12	2, 3, 4-wire	8			1
22260744	AB-DN-DI16-M12	2, 3, 4-wire	16			1
With digital outputs						
22260747	AB-DN-DO8-M12-2A	2, 3-wire		8	2.0	1

Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories
- Screw plug for unoccupied sockets see page 363
- Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS see page 387
- S/A T-connector M12 as parallel distributor see page 389

New

CANopen Modules

Info

- With M12 quick locking system

Part number: 22260748

Benefits

- Standardized interfaces
- For decentralized automatization
- Space saving because of compact dimensions
- Easy installation
- Fast and easy error tracking

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- CANopen Interface
- Integration of field bus activation and input/output-level
- Connection to CANopen using M12 connectors (A-coded)
- Connection type of digital Input/output as M12 for sensors/actuators
- LED diagnostic and status indication
- Flexible power supply concept
- Short circuit- /overload protection

Approvals (Norm references)

RoHS CANopen

Suitable cables

- DeviceNet/CANopen Cable, M12 connector on free conductor end page 384
- S/A DeviceNet/CANopen cable, M12 connector on M12 socket page 385

Suitable tools

- On request suitable tool (e.g. orque screwdriver M12) available

Suitable connectors

- EPIC® Data Connectors see page 320

Technical data

Fieldbus system
CANopen
Transmission speed
10, 20, 50, 125, 250, 500, 1000 kBit/s
Automatic baud rate detection
Tranmission physics
Copper cable with optional power supply in acc. with CAN standard
Address space assignment
1 ... 126, can be set
Connection type
2 M12 plug connectors, A-coded
Installation
Panel mounting
Number of poles
5
Degree of protection
IP65/IP67
Protection class
Class 3 as per VDE 0106, IEC 61440
Ambient temperature (operation)
-25°C up to +60°C
Ambient temperature (storage/transport)
-25°C up to +85°C
Permissible humidity (storage/transport)
95 %
Transmission rate
Maximum 1 Mbaud automatic detection
Voltage consumption
24V DC

Part number	Article designation	Connection method (Sensor/Actuator)	Number of inputs	Number of outputs	PU
With digital in-/outputs					
22260750	AB-CAN-DI4DO4-M12-2A	2, 3, 4-wire	4	4	1
22260764	AB-CAN-DI8DO8-M12-0,5A	2, 3, 4-wire	8	8	1
With digital inputs					
22260748	AB-CAN-DI8-M12	2, 3, 4-wire	8		1
22260749	AB-CAN-DI16-M12	2, 3, 4-wire	16		1
With digital outputs					
22260752	AB-CAN-DO8-M12-2A	2, 3-wire		8	1

Unused female connectors must be covered with protective caps (see accessories) to ensure IP65/67
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories

- Screw plug for unoccupied sockets see page 363
- Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS see page 387
- S/A T-connector M12 as parallel distributor see page 389

New

AS-Interface Distributor

Part number: 22260802

Part number: 22260800

Part number: 22260805

Info

- For data- and power supply

Benefits

- Inexpensive and efficient wiring for AS-Interface installations
- Space saving because of compact dimensions
- Easy installation
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Passive AS-Interface distributor for 1 or 2 AS-Interface flat-ribbon conductors
- Distributor with integrated M12 socket (A-coded)
- H Distributor for distribution from 1 to 2 flat-ribbon conductors
- Distributor with round conductor connected on M12 socket (A-coded)
- Colour: black
- Rated current ≤ 4 A
  (H-distributor: I ≤ 8 A)

Approvals (Norm references)

RoHS

Design

- Permanently flexible control cable
- Design: 4 x 0.34 mm² (42 x 0.1 mm)
- Conductor colours brown, white, blue, black
- Outer sheath: PUR, halogen-free
- Sheath color black

Suitable cables

- UNITRONIC® BUS ASI page 290
- UNITRONIC® BUS ASI FD page 291

Technical data

Fieldbus system
AS-Interface
Connection type
Flat-ribbon cable penetration technique
Installation
Panel mounting
IP **Degree of protection**
IP 67
(H-distributor: IP69k)
Ambient temperature (operation)
-25°C up to +75°C

Part number	Article designation	PU
Distributor for 1 flat-ribbon conductor on integrated 2-pos. M12 socket		
22260800	AB-ASI-J-Y-N-M12FS	1
Distributor for 2 flat-ribbon conductors on integrated 4-pos. M12 socket		
22260801	AB-ASI-J-Y-B-M12FS	1
H Distributor for distribution from 1 to 2 flat-ribbon conductors		
22260802	AB-ASI-J-Y-Y-N	1
Distributor for 1 flat-ribbon conductor, 1m PUR round conductor on straight 2-pos. M12 socket		
22260803	AB-ASI-J-Y-N-PUR-1,0-M12FS	1
Distributor for 1 flat-ribbon conductor, 2m PUR round conductor on straight 2-pos. M12 socket		
22260804	AB-ASI-J-Y-N-PUR-2,0-M12FS	1
Distributor for 2 flat-ribbon conductors, 1m PUR round conductor on straight 4-pos. M12 socket		
22260805	AB-ASI-J-Y-B-PUR-1,0-M12FS	1
Distributor for 2 flat-ribbon conductors, 2m PUR round conductor on straight 4-pos. M12 socket		
22260806	AB-ASI-J-Y-B-PUR-2,0-M12FS	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
For detailed information please see the data sheet (www.lappautomation.com)

New

AS-Interface counter module

Benefits
- Standardized interfaces
- Easy installation
- Fast and easy assembly
- Compact AS-Interface counter module for counting events, distance and speed measurement

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- Two count, distance or speed values presettable via AS-Interface
- Output switching action selectable if preset value is reached
- Detection of goods to be counted or measured with any industrial 2- wire or 3-wire binary sensor
- AS-Interface Version 3.0
- Connection by srew-plug terminals or spring-plug terminals

Approvals (Norm references)

Info

- **Universal AS-Interface counter module**

Technical data

Fieldbus system
AS-Interface
Connection type
Connector for screw-plug terminals or spring-plug terminals
Installation
DIN rail adapter (35 mm)
Degree of protection
IP 20
Protection class
II
Ambient temperature (operation)
-25°C up to +60°C

Part number	Article designation	PU
22260810	AB-ASI-C	1

Plug terminals are not included, may be otained as accessory
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories
- AS-Interface power supply see page 379
- AS-Interface plug terminals see page 381

New

AS-Interface long distance repeater

Benefits

- Standardized interfaces
- Easy installation
- Fast and easy assembly
- Economic ‘backbone’-solution
- Easy realization of AS-Interface network segments

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- AS-Interface Repeater for extensions of networks from 200 m to 2000 m
- Full data transfer rate as standard AS-Interface
- LEDs show communication activity for easy setup
- AS-Interface Version 3.0
- Data communication between 2 repeaters is realised via a “backbone” data cable[1.)]
- Integrated terminating resistor (switchable)
- Connection by srew-plug terminals or spring-plug terminals

Approvals (Norm references)

RoHS

Suitable cables

- ETHERLINE® 2-pairs CAT.5/5e page 397

Info

- **Extensions up to 2000 m**

Technical data

Fieldbus system
AS-Interface
Connection type
Connector for screw-plug terminals or spring-plug terminals
Installation
DIN rail adapter (35 mm)
Degree of protection
IP 20
Protection class
II
Ambient temperature (operation)
-25°C up to +70°C

Part number	Article designation	PU
22260811	AB-ASI-LDR2000	1

Plug terminals are not included, may be otained as accessory
1.) At least two long distance repeater and a two wire shielded CAT.5 data cable required for network extension
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories

- AS-Interface plug terminals see page 381

New

AS-Interface power supply

Benefits

- Compact AS-Interface power supply for mounting on DIN rail
- Easy installation
- Space saving because of compact dimensions
- For small AS-Interface networks

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Supplies a nominal output current of I_N= 1.0 A
- Primary voltage range: 85 ...265 V AC (50/60 Hz)
- AS-Interface Voltage: 29.5 ...31.6 V DC PELV (acc. IEC61640)
- AS-Interface Specification 3.01
- Short circuit- /overload protection

Approvals (Norm references)

Info

- **Fully industrialised**

Technical data

Fieldbus system
AS-Interface
Connection type
Cage clamp termination: 0.3 - 3.5 mm²
Installation
DIN rail adapter (35 mm)
Degree of protection
IP 20
Protection class
II
Ambient temperature (operation)
-10°C to +60°C
Ambient temperature (storage/transport)
-25°C up to +85°C

Part number	Article designation	PU
22260812	AB-ASI-PS-1A	1

PELV (“protective extra low voltage” according to IEC61640)
For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

New

AS-Interface network extension

Part number: 22260813

Benefits
- Extension of AS-Interface network lengths without additional repeaters
- Every topology possible
- Standardized interfaces
- Easy installation

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- AS-Interface network lengths up to 200m without repeaters
- Undervoltage limit detection (threshold: app. 26.5 V), green LED flashes if supply voltage too low and sends information to the master respectively
- AS-Interface Specification 3.01
- Housing diameter: 20 mm / Height: 45 mm
- Provided with thread to AS-Interface distributor (see accessories)

Approvals (Norm references)

Design
- Compact design (Z plug)

Info
- **Undervoltage limit detection integrated**

Technical data
Fieldbus system
AS-Interface
Connection type
M12 A-coded connectors
Installation
Screw connection
Number of poles
4
Degree of protection
IP 67
Ambient temperature (operation)
-25°C up to +70°C

Part number	Article designation	PU
With optical voltage indication by green LED		
22260813	AB-ASI-NE200LED	1
With voltage control by reply to the master (without LED)		
22260814	AB-ASI-NE200	1

For detailed information please see the data sheet or installation procedure (www.lappautomation.com)

Accessories
- AS-Interface Distributor see page 376

New

AS-Interface plug terminals

Benefits
- Easy assembly
- Fast connect adapter terminals
- Enables the individual usage as tension or screw plug terminals
- Flexible connection solutions

Info
- **Fully industialised**

Application range
- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features
- Optional plug terminals for AS-Interface module IP20/IP30
- Fast-connect connection type
- 1 packing unit for 16 or 32 contacts
- Black

Approvals (Norm references)
RoHS

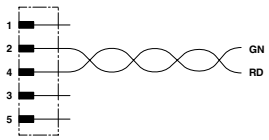
Suitable tools
- Kraftform® adjustable torque screwdriver/ Kraftform Kompakt® Set see page 982

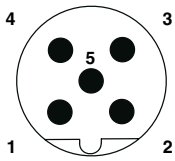
Part number	Article designation	PU
AS-Interface screw plug terminals, 2x16 pos, 0.14-2.5 mm		
22260815	AB-ASI-XS16	1
AS-Interface screw plug terminals, 4x4 pos, 0.14-2.5 mm		
22260817	AB-ASI-XS4	1
AS-Interface tension plug terminals, 8x4 pos, 0.2-2.5 mm		
22260816	AB-ASI-XT16	1
AS-Interface tension plug terminals, 4x4 pos, 0.2-2.5 mm		
22260818	AB-ASI-XT4	1

For detailed information please see www.lappautomation.com

New

PROFIBUS cable: M12 connector on free conductor end





Info

- Pre-assembled PROFIBUS signal cable

Part number: 22260767

Benefits

- Inexpensive and efficient wiring for PROFIBUS installations
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 2-pos. PROFIBUS cable shielded
- 5-pos. connector, M12 B-coded (inverse) with quick locking system
- Design with straight socket or straight plug on free conductor end
- The cables have marker carries
- Drag chain suitable

Approvals (Norm references)

RoHS

Design

- PUR halogen-free shielded cable
- Permanently flexible control cable
- Structure: 19 x 0,13 mm
- Conductors colors red, green
- Sheath violet

Suitable Connectors

- BUS M12 connectors that can be assembled page 386
- EPIC® Data connectors page 304

Technical data

Number of poles
2

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-20°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
B - inverse

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Core colour
red, green

External cable diameter
7,8 mm

Conductor cross section
0,25 mm²

External sheath, color
violett RAL 4001

Outer sheath, material
PUR

Part number	Article designation	Length in m	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
Straight connector						
22260767	AB-PB-M12MS-2,0PUR	2	4	250	2	1
22260768	AB-PB-M12MS-5,0PUR	5	4	250	2	1
22260769	AB-PB-M12MS-10,0PUR	10	4	250	2	1
Straight socket						
22260770	AB-PB-2,0PUR-M12FS	2	4	250	2	1
22260771	AB-PB-5,0PUR-M12FS	5	4	250	2	1
22260772	AB-PB-10,0PUR-M12FS	10	4	250	2	1

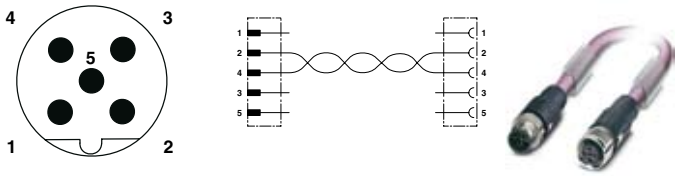
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

New

PROFIBUS Cable: straight M12 connector M12 on straight M12 socket

Info

- **PROFIBUS signal cable ready for connection**



PROFIBUS Cable: straight M12 connector M12 on straight M12 socket

Benefits

- Inexpensive and efficient wiring for PROFIBUS installations
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 2-pos. PROFIBUS cable shielded
- 5-pos. connector, M12 B-coded (inverse) with quick locking system
- Design with straight connector on straight socket
- The cables have marker carries
- Drag chain suitable

Approvals (Norm references)

RoHS

Design

- PUR halogen-free shielded cable
- Permanently flexible control cable
- Structure: 19 x 0,13 mm
- Conductors colors red, green
- Sheath violet

Technical data

Number of poles
2

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-20°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
B - inverse

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Core colour
red, green

External cable diameter
7,8 mm

Conductor cross section
0,25 mm²

External sheath, color
violett RAL 4001

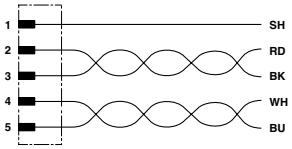
Outer sheath, material
PUR

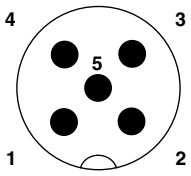
Part number	Article designation	Length in m	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
22260773	AB-PB-M12MS-0,3PUR-M12FS	0.3	4	250	2	1
22260774	AB-PB-M12MS-1,0PUR-M12FS	1	4	250	2	1
22260775	AB-PB-M12MS-2,0PUR-M12FS	2	4	250	2	1
22260776	AB-PB-M12MS-5,0PUR-M12FS	5	4	250	2	1
22260777	AB-PB-M12MS-10,0PUR-M12FS	10	4	250	2	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

New

DeviceNet/CANopen Cable, M12 connector on free conductor end





Info

- **Pre-assembled DeviceNet/CANopen signal cable**

Part number: 22260789

Benefits

- Inexpensive and efficient wiring for BUS installations, sensors and actuators
- Space saving because of compact dimensions
- Robust design
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. DeviceNet/CANopen cable, shielded
- M12 A-coded with quick locking system
- Design with straight socket or straight plug on free conductor end
- The cables have marker carries
- Drag chain suitable

Approvals (Norm references)

RoHS ✓ DeviceNet™
CANopen

Design

- PUR halogen-free shielded cable
- Permanently flexible control cable
- Structure (signal line): 19 x 0,12 mm
- Conductors colors red-black, blue-white

Suitable Connectors

- S/A M12 connectors that can be assembled page 364
- EPIC® Data Connectors page 320

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-20°C up to +80°C

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

External cable diameter
6,7 mm

Conductor cross section
0,2 mm²

External sheath, color
violett RAL 4001

Outer sheath, material
PUR

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Number of poles	PU
5 pole straight connector						
22260789	AB-DN-M12MS-2,0PUR	2	60	4	5	1
22260790	AB-DN-M12MS-5,0PUR	5	60	4	5	1
22260791	AB-DN-M12MS-10,0PUR	10	60	4	5	1
5 pole straight socket						
22260792	AB-DN-2,0PUR-M12FS	2	60	4	5	1
22260793	AB-DN-5,0PUR-M12FS	5	60	4	5	1
22260794	AB-DN-10,0PUR-M12FS	10	60	4	5	1

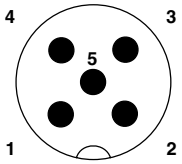
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

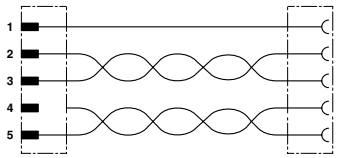
New

S/A DeviceNet/CANopen cable, M12 connector on M12 socket

Info

- **DeviceNet/CANopen signal cable ready for connection**





S/A DeviceNet/CANopen cable, M12 connector on M12 socket

Benefits

- Inexpensive and efficient wiring for BUS installations, sensors and actuators
- Space saving because of compact dimensions
- Fast and easy error tracking
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. DeviceNet/CANopen cable, shielded
- M12 A-coded with quick locking system
- Design with straight connector on straight socket
- The cables have marker carries
- Drag chain suitable

Approvals (Norm references)

RoHS ✓ DeviceNet™

Design

- PUR halogen-free shielded cable
- Permanently flexible control cable
- Structure (signal line): 19 x 0,12 mm
- Structure (voltage line): 19 x 0,15 mm
- Conductors colors red-black, blue-white

Technical data

IP

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-40°C up to +80°C
Cable, flexible installation
-20°C up to +75°C

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

External cable diameter
6,7 mm

Conductor cross section
0,2 mm²

External sheath, color
violett RAL 4001

Outer sheath, material
PUR

Part number	Article designation	Length in m	Nominal voltage U_N in V	Nominal current I_N in A	Number of poles	PU
Straight connector on straight socket						
22260795	AB-DN-M12MS-0,3PUR-M12FS	0.3	60	4	5	1
22260796	AB-DN-M12MS-1,0PUR-M12FS	1	60	4	5	1
22260797	AB-DN-M12MS-2,0PUR-M12FS	2	60	4	5	1
22260798	AB-DN-M12MS-5,0PUR-M12FS	5	60	4	5	1
22260799	AB-DN-M12MS-10,0PUR-M12FS	10	60	4	5	1

Special cable length on request
For detailed information please see the data sheet (www.lappautomation.com)

New

BUS M12 connectors that can be assembled

Info

- For PROFIBUS/PROFINET/ETHERNET applications

Part number: 22260646

Part number: 22260653

Benefits

- Quick and easy on-site assembly
- Creating individual cable lengths
- Inexpensive and efficient wiring for BUS installations
- Space saving because of compact dimensions
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Shielded version
- For PROFIBUS applications (B-inverse coded)
- For PROFINET applications (D-coded)
- For Ethernet applications (D-coded)
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Suitable cables

- PROFIBUS cable: M12 connector on free conductor end page 382
- ETHERLINE® 2-pairs CAT.5/5e page 397
- Cables for BUS-Systems PROFIBUS-DP/FMS/FIP page 292

Technical data

Number of poles
5 (PROFIBUS)
4 (PROFINET/ETHERNET)

Degree of protection
IP67

Ambient temperature (operation)
Plug / socket
-40°C to +85°C

Contact material
CuSn

Contact surface material
Au (PROFIBUS)
Ni/Au (PROFINET/ETHERNET)

Coding
B - inverse (PROFIBUS)
D - data (PROFINET/ETHERNET)

Material, knurls
Nickel-plated brass

Material of grip body
Zinc die-cast, (nickel-plated)

Sealing material
NBR (PROFIBUS)
Neoprene (PROFINET/ETHERNET)

Contact carrier material
PA 66

Nominal voltage U_N
60 V

Nominal current I_N
4 A (PROFIBUS)
1,75 A (PROFINET/ETHERNET)

PG Verschraubung
PG 9 (PROFIBUS)

Part number	Article designation	Conductor cross section stranded min. in mm²	Conductor cross section stranded max. in mm²	Conductor cross section AWG/kcmil min.	Conductor cross section AWG/kcmil max.	Cable Diameter min in mm	Cable Diameter max in mm	PU
PROFIBUS, 5 pole straight connector, srew connection								
22260653	AB-C5-M12MSB-PG9-SH-AU	0.25	0.75	24	18	6	8.5	1
PROFIBUS, 5 pole straight socket, srew connection								
22260646	AB-C5-M12FSB-PG9-SH-AU	0.25	0.75	24	18	6	8.5	1
PROFINET/ETHERNET, 4 pole straight connector, fast connect								
22260820	AB-C4-M12MSD-SH	0.14	0.34	26	22	4	8	1

For detailed information please see the data sheet (www.lappautomation.com)

New

Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS

Info

- **Fully industrialised**

Part number: 22260722

Part number: 22260766

Benefits

- Inexpensive termination of BUS cables
- Space saving because of compact dimensions
- Robust design
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- Free of substances which would hinder coating with paint or varnish
- For DeviceNet und CANopen applications (A-Standard coded)
- For PROFIBUS applications (B-inverse coded)

Approvals (Norm references)

RoHS ✓ EAC DeviceNet™ CANopen

Design

- Straight connector M12 and integrated termination resistor

Technical data

IP

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
B - inverse (PROFIBUS)
A - Standard (DeviceNet/CANopen)

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Contact carrier material
TPU GF

Nominal voltage U_N
60 V

Nominal current I_N
4 A

Part number	Article designation	Nominal current I_N in A	Nominal voltage U_N in V	Coding	Number of poles	PU
For PROFIBUS applications (B-inverse coded)						
22260722	AB-C4-M12MS-PB-TR	4	60	B - inverse	4	5
For DeviceNet und CANopen applications (A-Standard coded)						
22260766	AB-C5-M12MS-DN-TR	4	60	A - Standard	5	5

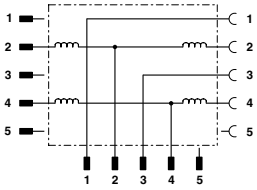
For detailed information please see the data sheet (www.lappautomation.com)

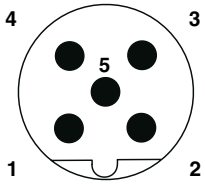
Accessories

- M12 T distributor for PROFIBUS see page 388
- S/A T-connector M12 as parallel distributor see page 389

New

M12 T distributor for PROFIBUS





M12 T distributor for PROFIBUS

Info

- Fully industrialised

Benefits

- Inexpensive and efficient wiring for PROFIBUS installations
- Space saving because of compact dimensions
- Robust design
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. PROFIBUS T-Connector
- M12 B-coded (inverse)
- Design with M12 plug to M12 plug and M12 socket
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS

Technical data

Degree of protection
IP68

Ambient temperature (operation)
Plug/socket
-25°C to +80°C

Contact material
Cu alloy

Contact surface material
Ni/Au

Coding
B - inverse

Material, knurls
Nickel-plated brass

Material of grip body
PUR

Sealing material
Viton

Contact carrier material
PUR

Nominal voltage U_N
60 V

Nominal current I_N
4 A

Part number	Article designation	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
22260761	AB-C2-M12T-2XM12FS PB	4	60	5	1

For detailed information please see the data sheet (www.lappautomation.com)

Accessories

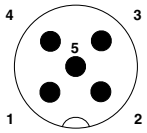
- Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS see page 387

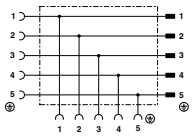
New

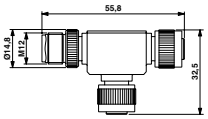
S/A T-connector M12 as parallel distributor

Info

- For DeviceNet and CANopen!







S/A T-connector M12 as parallel distributor

Benefits

- Inexpensive and efficient wiring for BUS installations, sensors and actuators
- Space saving because of compact dimensions
- Robust design
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 5-pos. T-Connector DeviceNet/CANopen
- M12 A-coded
- Design as parallel distributor with M12 socket to M12 plug and M12 socket
- Free of substances which would hinder coating with paint or varnish

Approvals (Norm references)

RoHS DeviceNet CANopen

Technical data

Number of poles
5

IP **Degree of protection**
IP65/IP67

Ambient temperature (operation)
Plug/socket
-25 °C to +90 °C

Contact material
CuZn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Sealing material
NBR

Contact carrier material
TPU GF

Nominal voltage U_N
60 V

Nominal current I_N
4 A

Part number	Article designation	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
22260765	AB-C5-M12T-2XM12FS DN	60	4	5	1

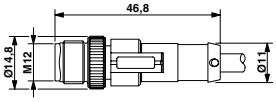
For detailed information please see the data sheet (www.lappautomation.com)

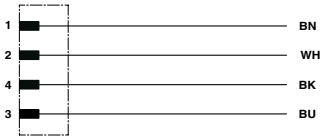
Accessories

- Terminating resistor M12 for DeviceNet/CANopen/PROFIBUS see page 387

New

Power cable: M12 connector on free conductor





Info

- Power cable, universally useable

Part number: 22260778

Benefits

- Power connecting cable for aktive fieldbus modules
- Inexpensive and efficient wiring of sensors and actuators
- Space saving because of compact dimensions
- Customised construction of free conductor end
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. Power cable
- M12 A-coded with quick locking system
- Design with straight connector or straight socket on free conductor end
- The cables have marker carries
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Design: 4 x 0.75 mm² (42 x 0.15 mm)
- Conductor colours brown, white, blue, black

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-25°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

Core colour
brown, white, blue, black

External cable diameter
5,9 mm

Conductor cross section
0,75 mm²

External sheath, color
black RAL 9005

Outer sheath, material
PUR

Part number	Article designation	Length in m	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
4 pole straight connector						
22260778	AB-PC4-M12MS-2,0PUR	2	4	250	4	1
22260779	AB-PC4-M12MS-5,0PUR	5	4	250	4	1
22260780	AB-PC4-M12MS-10,0PUR	10	4	250	4	1
4 pole straight socket						
22260781	AB-PC4-2,0PUR-M12FS	2	4	250	4	1
22260782	AB-PC4-5,0PUR-M12FS	5	4	250	4	1
22260783	AB-PC4-10,0PUR-M12FS	10	4	250	4	1

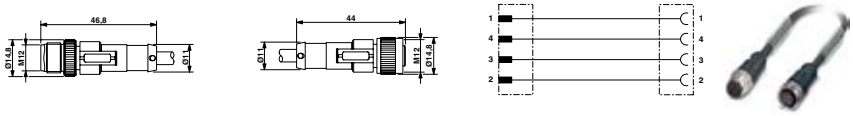
Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see www.lappautomation.com

New

Power cable: straight M12 connector on straight M12 socket

Info

- **Powercable M12 ready for connection**



Power cable: straight M12 connector on straight M12 socket

Benefits

- Power connecting cable for aktive fieldbus modules
- Inexpensive and efficient wiring for BUS installations, sensors and actuators
- Space saving because of compact dimensions
- Fast and easy assembly
- Standardized interfaces

Application range

- Automation technology
- Mechanical engineering
- Plant engineering
- Tool shop
- Automotive industry

Product features

- 4-pos. Power cable
- M12 A-coded with quick locking system
- Design with straight connector on straight socket
- Free of substances which would hinder coating with paint or varnish
- Drag chain suitable

Approvals (Norm references)

cULus RoHS

Design

- PUR/PVC cable
- Permanently flexible control cable
- Design: 4 x 0.75 mm² (42 x 0.15 mm)

Technical data

Degree of protection
IP65/IP67/IP69K

Ambient temperature (operation)
Plug/socket
-25°C to +90°C
Cable, fixed installation
-25°C up to +80°C
Cable, flexible installation
-5°C up to +80°C

Contact material
CuSn

Contact surface material
Ni/Au

Coding
A - Standard

Material, knurls
Zinc die-cast, (nickel-plated)

Material of grip body
TPU, hardly inflammable, self-extinguishing

External cable diameter
5,9 mm

Conductor cross section
0,75 mm²

External sheath, color
black RAL 9005

Outer sheath, material
PUR

Part number	Article designation	Length in m	Nominal current I_N in A	Nominal voltage U_N in V	Number of poles	PU
22260784	AB-PC4-M12MS-0,3PUR-M12FS	0.3	4	250	4	1
22260785	AB-PC4-M12MS-1,0PUR-M12FS	1	4	250	4	1
22260786	AB-PC4-M12MS-2,0PUR-M12FS	2	4	250	4	1
22260787	AB-PC4-M12MS-5,0PUR-M12FS	5	4	250	4	1
22260788	AB-PC4-M12MS-10,0PUR-M12FS	10	4	250	4	1

Copper price basis: including; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Special cable lengths, other outer sheath materials (e.g. PVC) and individual connector types on request
For detailed information please see the data sheet (www.lappautomation.com)

Coaxial - RG

Benefits

- Coaxial cables allow distortion free and low attenuation transmission of signals with a high bandwidth.
- High frequencies

Application range

- For limited flexible use and or for static laying in dry and damp interiors and in open air
- For radio- and computer systems as well as the entire filed of commercial radio-frequency technology ans electronics

Product features

- Flame retardant according to IEC 60332-1-2

Approvals (Norm references)

RoHS

Design

- Coaxial cables are significantly less sensitive to external interference due to their structure.

Technical data

Dielectric constant

- Polyethylene (PE) 2.3
- Polyethylene, hollow (PE-ho) 1.5
- Polytetrafluorethylene (PTFE) 2.1

Minimum bending radius
Fixed installed: 6 x outer diameter

Range of temperature
Fixed installation: PE outer sheath:
-40°C up to +80 °C
Fixed installation: PVC outer sheath:
-40°C up to +80°C
fixed installation: fluorinated polymer
-55°C up to +250°C

Specifications and approvals
Similar to MIL C-17F

Part number	Article designation	Characteristic impedance Ohm	Capacity pF/m	Attenuation approx. dB/100m at 200 MHz / 400 MHz	Propagation rate %	Operating voltage 50 Hz eff. kV	Test voltage kV	Inner conductor material	Internal Ø	Dielectric material	Dielectric Ø	Outer conductor material	Outer cable sheath	Outer diameter mm	Copper index kg/km	Weight kg/km approx.
2170000	RG-58 C/U	50 +/- 2 Ω	101	24 / 33	66	2.0	5.0	CuLivz	0.90	PE	2.95	Cvz	PVC	4.95	19.1	38.0
2170001	RG-174 A/U	50 +/- 2 Ω	101	40 / 59	66	1.5	2.0	StCuLibl	0.48	PE	1.52	Cvz	PVC	2.80	5.4	12.0
2170002	RG-178 B/U	50 +/- 2 Ω	95	63 / 93	70	0.7	2.0	StCuLivs	0.30	PTFE	0.86	Cvs	FEP	1.91	4.4	9.0
2170003	RG-188 A/U	50 +/- 2 Ω	95	47 / 56	70	1.5	2.0	StCuLivs	0.51	PTFE	1.52	Cvs	PTFE	2.76	8.3	17.5
2170005	RG-213 /U	50 +/- 2 Ω	101	10 / 15	66	5.0	10.0	CuLibl	2.25	PE	7.25	Cbl	PVC	10.30	75.8	157.0
2170006	RG-214 /U	50 +/- 2 Ω	101	9 / 14	66	5.0	10.0	CuLivs	2.25	PE	7.25	CvsCvs	PVC	10.80	117.8	207.0
2170007	RG-223 /U	50 +/- 2 Ω	101	23 / 34	66	2.0	3.0	CuMvs	0.89	PE	2.95	CvsCvs	PVC	5.50	38.5	60.0
2170016	RG-6 A/U	75 +/- 3 Ω	67	14 / 20	66	2.0	5.0	StCuMbl	0.72	PE	4.70	Cbl	PVC	8.40	72.0	120.0
2170009	RG-11 A/U	75 +/- 3 Ω	67	11 / 16	66	5.0	10.0	CuLivz	1.20	PE	7.30	Cbl	PVC	10.30	55.5	140.0
2170011	RG-11 A/U outdoor	75 +/- 3 Ω	67	11 / 16	66	5.0	10.0	CuLivz	1.20	PE	7.30	Cbl	PVC	12.10	55.5	170.0
2170012	RG-59 B/U	75 +/- 3 Ω	67	16,5 / 23	66	1.7	7.0	StCuMbl	0.60	PE	3.70	Cbl	PVC	6.15	25.0	57.0
2170010	RG-187 A/U	75 +/- 3 Ω	65	47 / 56	70	1.5	2.0	StCuLivs	0.31	PTFE	1.52	Cvs	PTFE	2.80	7.3	17.0
2170008	RG-62 A/U	93 +/- 5 Ω	43	15 / 19	75	0.8	2.0	StCuMbl	0.65	PE-hollow	3.70	Cbl	PVC	6.15	24.0	52.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Multi coaxial cabels RG 59 B/U

Benefits

- In extended systems, the use of RG 59 B/U multi-coaxial cable as a screen supply cable prevents the accumulation of individual cables running parallel over long distances.
- This saves installation costs and provides greater mechanical protection for the sensitive individual cables.

Product features

- Multi coaxial cables provide easier installation compared to individual installations

Approvals (Norm references)

RoHS

Design

- 2 x single coaxial cables type RG 59 B/U
- Twin cable
- PVC outer sheath
- Colour: black

Technical data

Based on
Similar to MIL specification MIL C 17

Minimum bending radius
Fixed installation: 15 x cable diameter

Range of temperature
Fixed installation: -40°C up to +80°C

Part number	Number of single cable x RG type	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
2170056	2 x RG 59 B/U	6.5 x 13.0	50.0	116.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Coaxial cabels RGB

Info

- Connecting Cable for Colour Monitors

Benefits

- Low attenuation permits long transmission distances.
- Colour monitor cable for PCs and CAD-workstations, process visualisation. Transmission of the red (R), green (G) and blue (B) colour signals. Low attenuation permits long transmission distances.

Application range

- Colour monitor cable for PCs and CAD-workstations, process visualisation
- For fixed installation in rooms (RGB CY..x Kx 0,4/1,8)
- For highly flexible applications in power chains/cable tracks and continuously moving machine components (RGB-FD..x Kx 0,6L/2,4)

Approvals (Norm references)

RoHS

Design

- Conductor: Tinned copper conductor
- Dielectric: cell polyolefin
- Outer conductor: copper braiding or wrapping of tinned copper wires
- Red (R), green (G), blue (B) elements - for RGB 5 x Kx 0.4/1.8 red, green, blue, white, black
- PVC sheath

Technical data

Mutual capacitance
60 nF/km

Minimum bending radius
15 x cable diameter

Range of temperature
-10 °C up to +80 °C
Occasional flexing: -5°C up to +70°C

Characteristic impedance
75 Ohm

Part number	Article designation	Outer diameter in mm max.	Copper index kg/km	Weight kg/km approx.
Fixed installation				
0034245	RGB CY 3 x Kx 0,4/1,8 + 3 x 0,25	8.0	17.0	45.0
0034246	RGB DY 5 x Kx 0,4/1,8	9.7	60.0	70.0
Characteristic impedance 120 Ohm				
0034247	RGB-FD 3 x Kx 0,6L/2,4	10.8	29.0	100.0

Copper price basis: EUR 150 / 100 kg; For utilization and definition of ‚Metal price basis' and ‚Metal index' see Appendix T17
Please find our standard lengths at: www.lappkabel.de/en/cable-standardlengths

Accessories

- STAR STRIP stripping tool see page 908
- DATA STRIP stripping tool see page 909