

# Data communication systems

Bus system PROFIBUS-DP/FMS/FIP • Fixed installation



## UNITRONIC® BUS PB TRAY

Fixed installation



### Info

- PLTC-ER (power limited tray cable exposed run) for unprotected use on cable trays

### Benefits

- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- PLTC-ER approval for open wiring between cable tray and industrial machines/plants acc. to NEC 725.154 (D)
- No additional protection of the cable needed

### Application range

- For fixed installation or applications with occasional movements
- PROFIBUS DP (in accordance with DIN 19245 and EN 50170, e.g. for SIEMENS SIMATIC® NET, also suitable for FIP - Factory Instrumentation Protocol).

### Product features

- UV-resistant UL SUN RES
- Oil-resistant according to UL OIL RES I
- Flame retardant acc. UL 1685 - FT4 (vertical tray)
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-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

### Norm references / Approvals

- C(UL)us Typ CMG (75°C) acc.to UL 444 / CSA 22.2
- UL Type PLTC-ER acc. to UL 13

### Product Make-up

- Bare copper wire, 0,64 mm diameter
- Core colours: red, green
- Overall screening with copper braid and plastic-laminated aluminium foil
- PVC inner sheath and outer sheath
- Colour: violet (RAL 4001)

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (1 kHz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Impedance</b> 150 +/- 15 Ohm
	<b>Conductor resistance</b> (loop): max. 110 ohm/km
	<b>Minimum bending radius</b> Fixed installation: 8 x outer diameter
	<b>Test voltage</b> Core/core: 2000 V
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> Flexing: -10°C to +70°C Fixed installation: -40°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>UNITRONIC® BUS PB TRAY</b>					
2170856	UNITRONIC® BUS PB TRAY	1x2x0,64	8.4	26	82

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum  
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).  
SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP  
Lapp Kabel is a member of the PROFIBUS user organisation (PNO)  
Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors



## UNITRONIC® BUS PB

Fixed installation



### Info

- Lapp Kabel is a member of the PROFIBUS User Organisation (PNO)
- A for Advanced here: UL and CSA certifications



### Application range

- For fixed installation
- Maximum electromagnetic screening
- Dry or damp rooms
- Item nos. 2170233, 2170333, 2170820, 2170824, 2170826 are all UV-resistant

### Product features

- These bus cables can be used for PROFIBUS-DP as well as for PROFIBUS-FMS and FIP
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-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

### Norm references / Approvals

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

### Product Make-up

- FC: "Fast Connect" cable design
- P: Polyurethane
- H: Halogen-free
- PE: polyethylene, black Outer sheath, e.g. for the food and beverage industry
- 7-W: 7-wire, e.g. for applications where vibrations occur
- COMBI: Data transmission and power supply in one cable

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Conductor resistance</b> (loop): max. 186 Ohm/km. see also datasheet
	<b>Minimum bending radius</b> Fixed installation: see data sheet
	<b>Test voltage</b> Core/core: 1500 V rms
	<b>Characteristic impedance</b> 150 ± 15 Ohm

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>For fixed installation - conventional cable assembly</b>					
2170220	UNITRONIC® BUS PB	1 x 2 x 0.64	8	30.1	74
2170233	UNITRONIC® PB PE	1 x 2 x 0.64	8	30.1	57
2170226	UNITRONIC® BUS PB H 7-W	1 x 2 x 0.64	8	30.1	55
2170225	UNITRONIC® BUS PB COMBI 7-W	1 x 2 x 0,64 Ø + 3 x 1,0 mm²	9.8	59	92
<b>For fixed installation - UL/CSA CMX certification</b>					
2170219	UNITRONIC® BUS PB A	1 x 2 x 0.64	8	30.1	57
<b>For fixed installation - UL/CSA CMG certification</b>					
2170824	UNITRONIC® BUS PB 7-W A	1 x 2 x 0.64	8	30.1	55
<b>For fixed installation - "Fast Connect" cable assembly</b>					
2170333	UNITRONIC® BUS PB PE FC	1 x 2 x 0.64	8	26	67
<b>For fixed installation - UL/CSA CMX certification</b>					
2170330	UNITRONIC® BUS PB P FC	1 x 2 x 0.64	8	26	71
<b>For fixed installation - "Fast Connect" cable assembly - UL/CSA CMG certification</b>					
2170820	UNITRONIC® BUS PB FC	1 x 2 x 0.64	8	26	84
2170826	UNITRONIC® BUS PB 7-W FC	1 x 2 x 0.64	8	26	67
2170326	UNITRONIC® BUS PB-H FC	1 x 2 x 0.64	8	26	72

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
 Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
 Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
 Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum  
 Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).  
 SIMATIC NET® is a registered trademark of Siemens AG  
 Lapp Kabel is a member of the PROFIBUS user organisation (PNO)  
 Photographs are not to scale and do not represent detailed images of the respective products.

### Similar products

- UNITRONIC® BUS PB ROBUST refer to page 330
- UNITRONIC® BUS PB 105 refer to page 331

### Accessories

- Sub-D Bus-Connectors
- FC STRIP stripping tool refer to page 1002
- SENSOR STRIP stripping tool refer to page 1003



## UNITRONIC® BUS PB ROBUST

Fixed installation

LAPP KABEL STUTTGART UNITRONIC® BUS PB ROBUST

### Benefits

- Robust PROFIBUS cable for use under harsh environmental conditions

### Application range

- For use for PROFIBUS-DP or FIP in harsh industrial environments
- Fixed installation

### Product features

- Significantly extended use and application areas, water and chemical resistance for use in industrial conditions.
- High resistance to tensides, soaps etc.
- UV-resistant
- Flame-retardant according IEC 60332-1-2
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-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

### Product Make-up

- Solid and bare copper conductor
- Foam Skin - core isolation (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- With conventional cable design, but with an outer sheath made of special TPE

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (1 kHz): approx. 28.5 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Fixed installation: 75 mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> (3 - 20 MHz): 150 ± 15 Ohm
	<b>Temperature range</b> -40°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>for fixed installation</b>					
2170620	UNITRONIC® BUS PB ROBUST	1 x 2 x 0.64	8	26	55

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T 17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors



## UNITRONIC® BUS PB 105

Fixed installation

LAPP KABEL STUTTGART UNITRONIC® BUS PB 105

### Benefits

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

### Application range

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

### Product features

- Flame-retardant according IEC 60332-1-2
- Oil-resistant

### Product Make-up

- Stranded conductor, 7-wire, bare
- Core insulation: PP
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- PVC outer sheath for use up to 105°C

### Suitable connectors

- Sub-D Bus-Connectors

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> Approx. 28.5 nF/km
	<b>Peak operating voltage</b> max. 100 V (not for power applications)
	<b>Minimum bending radius</b> Fixed installation: 45 mm once Flexing: 65 mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> (3 - 20 MHz): 150 ± 15 Ohm
	<b>Temperature range</b> -30°C to +105°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>UNITRONIC® BUS PB 105</b>					
2170630	UNITRONIC® BUS PB 105	1 x 2 x 0.64	8	30.1	72

### Accessories

- Multipurpose shears A and B refer to page 998

### Info

- Bus system PROFIBUS-DP/FMS/FIP
- Lapp Kabel is a member of the PROFIBUS User Organisation (PNO)

### Benefits

- No need for additional cable protection against high temperatures
- High temperature resistance

### Application range

- For installation in hollow shaft between gear units and pitch system
- Suitable for fixed installation and occasionally flexible use in high temperature areas

### Product features

- Permanent load up to +105°C, temporary load +120°C

### Norm references / Approvals

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

### Product Make-up

- Stranded conductor, 7-wire, bare
- Core insulation: polypropylene (PP)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Outer sheath: TPE-based

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Fixed installation: 45 mm once Flexing: 65 mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V eff.
	<b>Characteristic impedance</b> (3 - 20 MHz): 150 ± 15 Ohm
	<b>Temperature range</b> Fixed installation: -40°C to +105°C Short-term: up to +120 °C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)
<b>UNITRONIC® BUS PB 105 plus</b>				
2170635	UNITRONIC® BUS PB 105 plus	1x2x0,64	8	30.1

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
Lapp Kabel is a member of the PROFIBUS user organisation (PNO)  
Photographs are not to scale and do not represent detailed images of the respective products.

**UNITRONIC® BUS PB HEAT 180**

LAPP KABEL STUTTGART UNITRONIC® BUS PB HEAT 180

**Benefits**

- No need for additional cable protection against high temperatures
- High temperature resistance

**Application range**

- Fixed installation
- For use in high temperature areas with up to 180 °C

**Product features**

- High oil-resistance

**Product Make-up**

- Solid and bare copper conductor
- Wire insulation Fluorethylen
- Overall screening with copper braid and plastic-laminated aluminium foil
- Screening: wrapped with braided tinned-copper wires
- Outer Sheath: Perfluorethylenpropylen, FEP, violet

**Suitable connectors**

- Sub-D Bus-Connectors

**Technical data**

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> approx. 28 nF / km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Repeated: 7 x Outer Diameter Single: 5 x Outer Diameter
	<b>Test voltage</b> 3600 V DC (3 sec.)
	<b>Characteristic impedance</b> (3 - 20 MHz): 150 ± 15 Ohm
	<b>Temperature range</b> -50 to +180 °C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>UNITRONIC® BUS PB HEAT 180</b>				
3031981	UNITRONIC® BUS PB HEAT 180 1X(2X0,64)	1 x 2 x 0,64	21.7	0.064

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.

**UNITRONIC® BUS PB ARM**

Fixed installation

LAPP KABEL STUTTGART UNITRONIC® BUS PB ARM

**Benefits**

- EMC-optimised design

**Application range**

- For use for PROFIBUS-DP or FIP in harsh industrial environments
- PROFIBUS DP (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 IEC 60332-1-2
- UV-resistant

**Product Make-up**

- Solid and bare copper conductor
- Foam Skin - core isolation (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Overlapping plastic tape
- Copper tape, welded longitudinally
- Outer sheath: PVC

**Technical data**

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 100 V
	<b>Minimum bending radius</b> Fixed installation: 7.5 x outer diameter Fixed installation: 3.5 x cable diameter once
	<b>Test voltage</b> 3600 V DC (3 sec.)
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> -40 °C to +70 °C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>UNITRONIC® BUS PB ARM</b>					
2170247	UNITRONIC® BUS PB ARM	1 x 2 x 0.65	11.1	86.9	131

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.





## UNITRONIC® BUS PB FRNC FC

Fixed installation



### Info

- FRNC = Flame Retardant Non Corrosive
  - Reduction of flame-propagation and density and toxicity of smoke gases in the event of fire
  - Minimisation of damage to buildings and production facilities
  - Safety for staff and in areas with high density of people

### Benefits

- Halogen-free and highly flame-retardant
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP
- For use where the combination of a halogen-free outer sheath with properties similar to PUR and enhanced flame-retardance is required
- Fast Connect (FC) cable design

### Application range

- This cable provides special advantages for use in sensitive areas where fire propagation must be avoided and the presence of toxic fumes would cause personal injury and damage to equipment.

### Product features

- The cable is UL/CSA-certified (CMG)
- Halogen-free
- High flame retardancy in accordance with IEC 60332-3 and FT4
- Oil-resistant
- Based on the bit rates listed, in accordance with PNO specifications the following maximum cable lengths for a bus segment apply (cable type A, PROFIBUS-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

### Product Make-up

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

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Certifications</b> UL/CSA (CMG)
	<b>Mutual capacitance</b> Approx. 28.5 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> 80mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> (3 - 20 MHz): 150 ± 15 Ohm
	<b>Temperature range</b> -30°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
2170853	UNITRONIC® BUS PB FRNC FC	1 x 2 x 0.64	8	30.1	75

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum  
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).  
Lapp Kabel is a member of the PROFIBUS user organisation (PNO)  
Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors
- FC STRIP stripping tool refer to page 1002



## UNITRONIC® BUS PB Yv

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

### Product features

- Reinforced outer sheath made of PVC

### Product Make-up

- Solid and bare copper conductor
- Foam Skin - core isolation (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- Outer sheath: reinforced PVC, black

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Fixed installation: 75 mm once Fixed installation: 150 mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> Flexing: -5°C to +50°C Fixed installation: -40°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>Suitable for outdoor use and direct burial</b>					
2170223	UNITRONIC® BUS PB Yv	1 x 2 x 0.64	9.4	30.1	106

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.



## UNITRONIC® BUS PB YY

Suitable for outdoor use and direct burial, UV-resistant

LAPP KABEL STUTTGART UNITRONIC® BUS PB YY

### Benefits

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

### Application range

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

### Product features

- Dual PVC outer sheath

### Product Make-up

- Solid and bare copper conductor
- PE core insulation
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- PVC outer sheath, violet, OD 7.5 mm
- PVC outer sheath, black, OD 9.5 mm

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Fixed installation: 75 mm once Fixed installation: 150 mm
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> Flexing: -5°C to +50°C Fixed installation: -40°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>Suitable for outdoor use and direct burial</b>					
2170236	UNITRONIC® BUS PB YY	1 x 2 x 0.64	9.5	30.1	87

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors
- Multipurpose shears A and B refer to page 998





## UNITRONIC® BUS PB BURIAL FC

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

### Product features

- Second PE outer sheath

### Product Make-up

- Solid and bare copper conductor
- Foam Skin - core isolation (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- PVC outer sheath, violet, OD 8 mm
- PE outer sheath, black, OD 10.8 mm

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 100 V
	<b>Minimum bending radius</b> Fixed installation: 3.5 x cable diameter once Fixed installation: 7.5 x outer diameter
	<b>Test voltage</b> 3600 V DC (3 sec.)
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> -40 °C to +60 °C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>Suitable for outdoor use and direct burial</b>					
2170323	UNITRONIC® BUS PB BURIAL FC	1 x 2 x 0.64	10.8	26	115

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.

Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.

Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)

Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum

Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).

SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP

Lapp Kabel is a member of the PROFIBUS user organisation (PNO)

Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors
- FC STRIP stripping tool refer to page 1002



## UNITRONIC® BUS PB Y 7-W FC BK

Suitable for outdoor use, UV-resistant



### Benefits

- UV and weather-resistant in black
- 7-W: 7-wire, e.g. for applications where vibrations occur
- Fast Connect (FC) cable design
- Cables can be used for PROFIBUS-DP as well as PROFIBUS-FMS and FIP

### Application range

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

### Product features

- PVC compound TM2 acc. to EN 50363-4-1
- Resistant to acids, alkalis and certain oils at room temperature

### Product Make-up

- Stranded conductor, 7-wire, bare
- Foam Skin - core isolation (O2YS)
- Overall screening with copper braid and plastic-laminated aluminium foil
- Tin-plated copper wire braiding
- PVC outer sheath, black

### Suitable tools

- FC STRIP stripping tool refer to page 1002

### Technical data

	ETIM 5.0 Class-ID: EC000830 ETIM 5.0 Class-Description: Data cable
	<b>Mutual capacitance</b> (800 Hz): max. 30 nF/km
	<b>Peak operating voltage</b> (not for power applications) 250 V
	<b>Minimum bending radius</b> Fixed installation: 8 x outer diameter Flexing: 15 x outer diameter
	<b>Test voltage</b> Core/core: 1500 V rms Core/screen: 1500 V
	<b>Characteristic impedance</b> 150 ± 15 Ohm
	<b>Temperature range</b> Flexing: -10°C to +70°C Fixed installation: -40°C to +80°C

Article number	Article designation	Number of pairs and conductor diameter (mm)	Outer diameter (mm)	Copper index (kg/km)	Weight (kg/km)
<b>UNITRONIC® BUS PB Y 7-W FC BK</b>					
2170310	UNITRONIC® BUS PB Y 7-W FC BK	1 x 2 x 0.64	7.8	30.1	80

Unless specified otherwise, the shown product values are nominal values. Detailed values (e.g. tolerances) are available upon request.  
Copper price basis: EUR 150/100 kg. Refer to catalogue appendix T17 for the definition and calculation of copper-related surcharges.  
Please find our standard lengths at: [www.lappkabel.de/en/cable-standardlengths](http://www.lappkabel.de/en/cable-standardlengths)  
Packaging size: coil ≤ 30 kg or ≤ 250 m, otherwise drum  
Please specify the preferred type of packaging (e.g. 1 x 500 m drum or 5 x 100 m coils).  
SIMATIC® is a registered trademark of SIEMENS AG. FIP is a registered trademark of World FIP  
Lapp Kabel is a member of the PROFIBUS user organisation (PNO)  
Photographs are not to scale and do not represent detailed images of the respective products.

### Accessories

- Sub-D Bus-Connectors
- FC STRIP stripping tool refer to page 1002