

Connectivity for PROFIBUS-DP



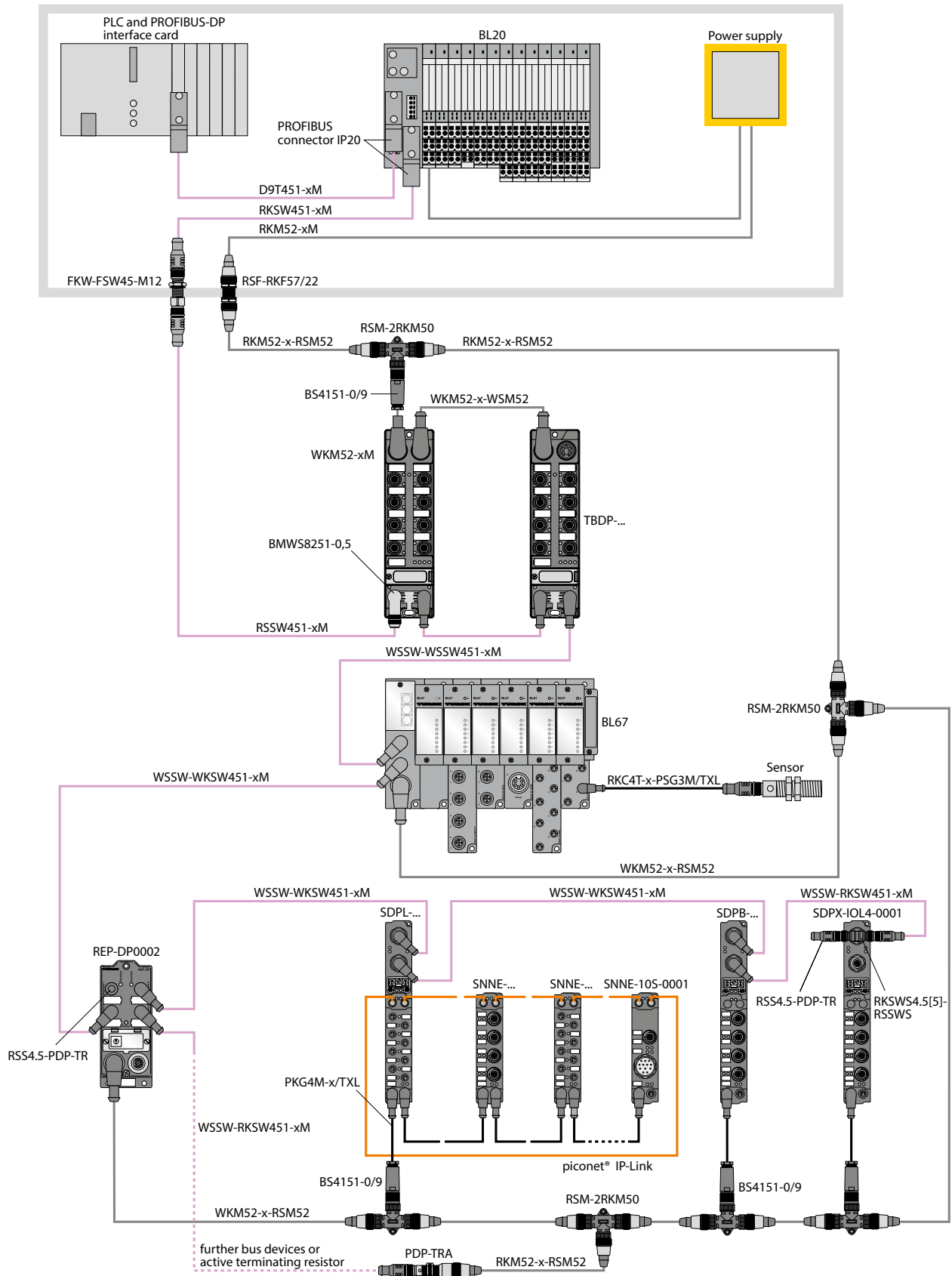
PROFIBUS (Process Fieldbus) is a universal fieldbus with a broad application range in factory, process and building automation. The fieldbus was developed by Siemens and the PROFIBUS user organization and standardized in the international standard series IEC 61158. PROFIBUS allows devices of different manufacturers to communicate with each other without any particular interface adaption. PROFIBUS-DP is designed for efficient data exchange at the field level. In this level the central automation devices such as PLC/PC communicate via a fast serial connection with remote field devices such as I/Os, drives, valves and measuring transmitters. Data exchange with the distributed devices is mainly cyclical. Essential features:

- Transmission medium: cable, 2-wire, twisted, shielded
- Transmission technology: RS485

- Bus topology: Linear structure with bus termination at both ends
- Bus access procedure: Master slave/master-master with token passing
- 32 stations per segment, max. 126 stations
- Use of repeaters for signal refreshing
- Addressing via coding switches
- Configuration/parameter setting of devices with standard device master data files (GSD files)

Turck provides all the necessary components for creating the network – from fieldbus stations with IP67 and IP20 protection to repeaters, power supplies right through to the appropriate connection technology. These include bus cables, power supply cables, passive and active junctions, control cabinet feed-throughs and mounting flange. Field-wireable connectors and terminating resistors round off the product line.

PROFIBUS-DP – Application Example



Type Code – PROFIBUS-DP

R S S W V - * - 451 - 5M

R S S W V Grip Body - ***** Wildcard Connection Cable - **451** Cable type -

Coupling nut

- M/blank** Coupling nut: nickel-plated brass
- V** Coupling nut: stainless steel

Coding

- W** B coded

Shield

- S** Shield on coupling nut

Version

- K** Female
- S** Male

Alignment

- R** M12, straight
- W** M12, angled

Wildcard connection cable

- blank** Connection cable
- RKSW** Extension cable: female

Cable type

- 451** PROFIBUS-DP, PUR, qualified for drag chain use
- 452** PROFIBUS-DP, PVC, only rigid installation
- 458** PROFIBUS-DP, PUR, qualified for drag chain use and torsional load

5M Cable Length

Cable length [m]

- 5M** 5 m
- ...M** ...m

Connectivity for PROFIBUS-DP – Overview

Fieldbus Cables M12 x 1, Sub-D **Page**

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Field-Wireable Connectors - M12 x 1, Sub-D **Page**

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Receptacles M12 x 1 **Page**

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Repeater, Y- and T-Splitters **Page**

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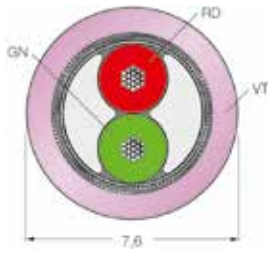


Accessories **Page**

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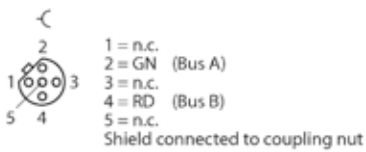
PUR Cable – Purple, Type 451



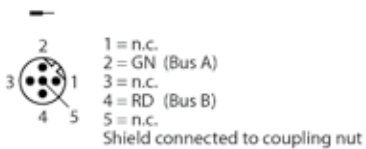
- 5-pin, B-coded, 2 x 0.34 mm²
- Qualified for drag chain use and flame-retardant
- Resistant to chemicals, UV radiation and oils
- Free from halogen, silicone, PVC and LABS
- cULus approved



Female connector



Male connector



Connector

Grip	Plastic, TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3

Cable

Cable	7.6 mm ± 0.30 mm
Cable jacket	PUR, Purple
Core insulation	PE (GN, RD)
Core cross-section	2 x 0.34 mm ²
Arrangement of strands	19 x 0.15 mm
Shield	Aluminum foil, tinned copper braid

Electrical properties at +20 °C

Current load	4 A
Rated voltage	250 V
Test voltage	2000 V
DC resistance (loop)	110 Ω /km
Nom. Impedance	160 (16 MHz)
Nom. Capacitance	28 pF/m
Nom. Inductance	0.78 mH/km
Damping	< 43.60 dB/km @ 16.0 MHz

Mechanical and chemical properties

Max. tensile strength (static)	≤ 50 N/mm ²
Max. tensile strength (dynamic)	≤ 20 N/mm ²
Bending cycles	> 1 mil.
Bending radius (stationary laying)	> 5 x Ø
Bending radius (flexible use)	> 10 x Ø
Admissible acceleration	max. 5 m/s ²
Admissible travel path, horizontal	5 m (at 5 m/s ²)
Admissible travel path, vertical	2 m (at 5 m/s ²)
Admissible traversing speed	3.33 m/s



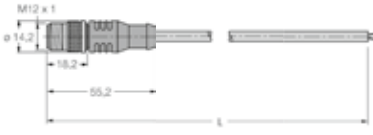
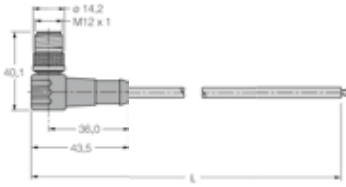
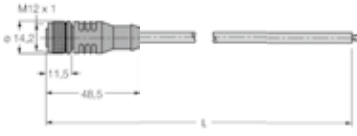
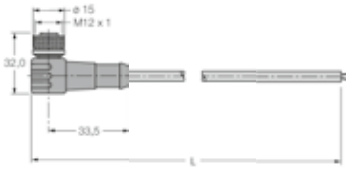

Ambient temperature

Stationary usage	-50...+80 °C
Non-stationary usage	-25...+80 °C

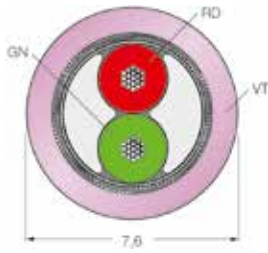
Drag chain operation

	-25...+60 °C
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Types and Features — Selection Table

	Cable length [m]	ID number	Type
	30 75 150 300 500	6915601 6915602 6915603 6915605 6915606	KABEL451-30M KABEL451-75M KABEL451-150M KABEL451-300M KABEL451-500M
	1 2 3 6 10 15	8029320 6914229 6914402 6914111 6914112 6914113	RSSW451-1M RSSW451-2M RSSW451-3M RSSW451-6M RSSW451-10M RSSW451-15M
	5 6 10 15 20 30	6933799 6914128 6914129 6914130 6914237 6914240	WSSW451-5M WSSW451-6M WSSW451-10M WSSW451-15M WSSW451-20M WSSW451-30M
	1 2 3 6 10 15	6915609 6915611 6915613 6914114 6914115 6914116	RKS451-1M RKS451-2M RKS451-3M RKS451-6M RKS451-10M RKS451-15M
	2 5 6 10 15 20	6914209 6933798 6914131 6914132 6914133 6914238	WKS451-2M WKS451-5M WKS451-6M WKS451-10M WKS451-15M WKS451-20M
	1.5 4 7 10	6933325 6914275 6914250 6934878	RSSW-WKS451-1.5M RSSW-WKS451-4M RSSW-WKS451-7M RSSW-WKS451-10M

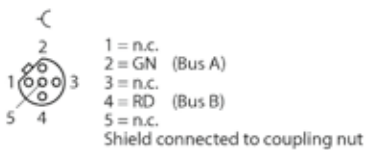
PUR Cable – Purple, Type 451



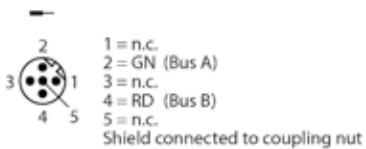
- 5-pin, B-coded, $2 \times 0.34 \text{ mm}^2$
- Qualified for drag chain use and flame-retardant
- Resistant to chemicals, UV radiation and oils
- Free from halogen, silicone, PVC and LABS
- cULus approved



Female connector



Male connector



Connector

Grip	Plastic, TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3

Cable

Cable	7.6 mm \pm 0.30 mm
Cable jacket	PUR, Purple
Core insulation	PE (GN, RD)
Core cross-section	$2 \times 0.34 \text{ mm}^2$
Arrangement of strands	$19 \times 0.15 \text{ mm}$
Shield	Aluminum foil, tinned copper braid

Electrical properties at +20 °C

Current load	4 A
Rated voltage	250 V
Test voltage	2000 V
DC resistance (loop)	$110 \Omega / \text{km}$
Nom. Impedance	160 (16 MHz)
Nom. Capacitance	28 pF/m
Nom. Inductance	0.78 mH/km
Damping	< 43.60 dB/km @ 16.0 MHz

Mechanical and chemical properties

Max. tensile strength (static)	$\leq 50 \text{ N/mm}^2$
Max. tensile strength (dynamic)	$\leq 20 \text{ N/mm}^2$
Bending cycles	> 1 mil.
Bending radius (stationary laying)	> $5 \times \varnothing$
Bending radius (flexible use)	> $10 \times \varnothing$
Admissible acceleration	max. 5 m/s^2
Admissible travel path, horizontal	5 m (at 5 m/s^2)
Admissible travel path, vertical	2 m (at 5 m/s^2)
Admissible traversing speed	3.33 m/s

Ambient temperature

Stationary usage	-50...+80 °C
Non-stationary usage	-25...+80 °C

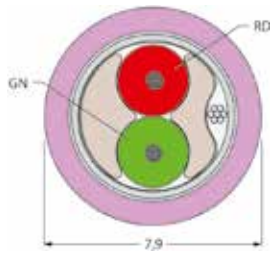
Drag chain operation	-25...+60 °C
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Types and Features — Selection Table



	Cable length [m]	ID number	Type
	0.2	6915901	RSSW-RKSW451-0.2M
	0.3	6915655	RSSW-RKSW451-0.3M
	0.5	6914117	RSSW-RKSW451-0.5M
	1	6914118	RSSW-RKSW451-1M
	1.5	6915656	RSSW-RKSW451-1.5M
	2	6914119	RSSW-RKSW451-2M
	3	6915658	RSSW-RKSW451-3M
	4	6914120	RSSW-RKSW451-4M
	5	6915659	RSSW-RKSW451-5M
	6	6914121	RSSW-RKSW451-6M
	8	6915660	RSSW-RKSW451-8M
	10	6914122	RSSW-RKSW451-10M
	15	6914123	RSSW-RKSW451-15M
	20	6914182	RSSW-RKSW451-20M
30	6914124	RSSW-RKSW451-30M	
	0.5	6914244	WSSW-RKSW451-0.5M
	1	6914245	WSSW-RKSW451-1M
	2	6914246	WSSW-RKSW451-2M
	2.5	6933326	WSSW-RKSW451-2.5M
	4	6914249	WSSW-RKSW451-4M
	5	6914247	WSSW-RKSW451-5M
	7	6914274	WSSW-RKSW451-7M
	0.3	6915680	WSSW-WKSW451-0.3M
	0.5	6914134	WSSW-WKSW451-0.5M
	1	6914135	WSSW-WKSW451-1M
	2	6914136	WSSW-WKSW451-2M
	3	6915946	WSSW-WKSW451-3M
	4	6914137	WSSW-WKSW451-4M
	6	6914138	WSSW-WKSW451-6M
	10	6914139	WSSW-WKSW451-10M
	15	6914140	WSSW-WKSW451-15M
30	6914141	WSSW-WKSW451-30M	

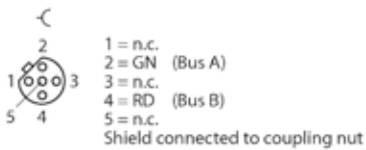
PUR Cable – Purple, Type 456



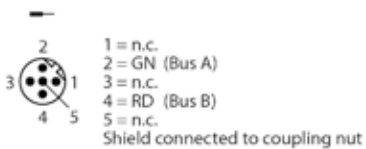
- 5-pin, B-coded, 2 x 0.34 mm²
- Flame-retardant
- UV-resistant
- cULus approved



Female connector



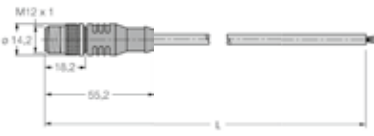
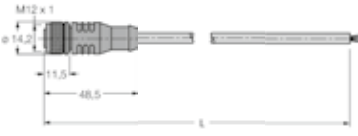
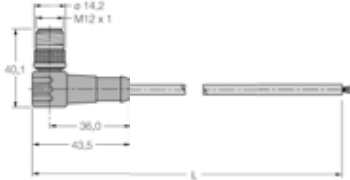
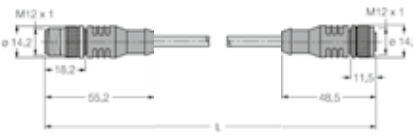


Male connector

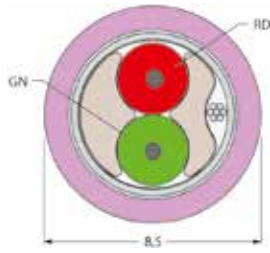


Connector	
Grip	Plastic, TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3
Cable	
Cable	7.9 mm ± 0.30
Cable jacket	PUR, Purple
Core insulation	PE (GN, RD)
Core cross-section	2 x 0.34 mm ²
Arrangement of strands	19 x 0.15 mm
Shield	Aluminum foil, tinned copper braid
Electrical properties at +20 °C	
Current load	4 A
Rated voltage	250 V
DC resistance (loop)	50 Ω /km
Nom. Impedance	150 (1 MHz)
Nom. Capacitance	29.53 pF/m
Mechanical and chemical properties	
Bending radius (stationary laying)	> 5 x Ø
Bending radius (flexible use)	> 15 x Ø
Ambient temperature	
Stationary usage	-40...+80 °C
Non-stationary usage	-40...+80 °C

Types and Features — Selection Table

	Cable length [m]	ID number	Type
	30	6604291	KABEL456-30M
	225	6604294	KABEL456-225M
	500	6604296	KABEL456-500M
	1	6603841	RSSW456-1M
	2	6602500	RSSW456-2M
	3	6603844	RSSW456-3M
	4	6602537	RSSW456-4M
	5	6602501	RSSW456-5M
	10	6602502	RSSW456-10M
	15	6602693	RSSW456-15M
	25	6603846	RSSW456-25M
	1	6603852	RKSW456-1M
	2	6602497	RKSW456-2M
	3	6603855	RKSW456-3M
	4	6602538	RKSW456-4M
	5	6602498	RKSW456-5M
	10	6602499	RKSW456-10M
	15	6602645	RKSW456-15M
	25	6603859	RKSW456-25M
	3	6603480	WSSW456-3M
	5	6932282	WSSW456-5M
	10	6603974	WSSW456-10M
	0.3	6602516	RSSW-RKSW456-0.3M
	0.5	6602517	RSSW-RKSW456-0.5M
	1	6602518	RSSW-RKSW456-1M
	2	6602519	RSSW-RKSW456-2M
	3	6602520	RSSW-RKSW456-3M
	4	6602521	RSSW-RKSW456-4M
	5	6602522	RSSW-RKSW456-5M
	10	6602525	RSSW-RKSW456-10M
	15	6602526	RSSW-RKSW456-15M
	20	6603865	RSSW-RKSW456-20M

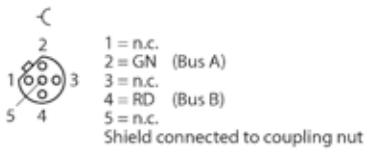
PUR Cable – Purple, Type 458



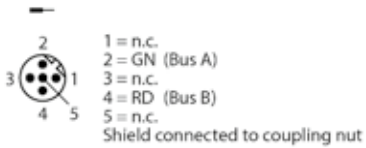
- 5-pin, B-coded, $2 \times 0.34 \text{ mm}^2$
- Qualified for drag chain use
- Flame-retardant
- UV-resistant
- cULus approved



Female connector



Male connector



Connector

Grip	Plastic, TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3

Cable

Cable	8.5 mm \pm 0.30
Cable jacket	PUR, Purple
Core insulation	PE (GN, RD)
Core cross-section	$2 \times 0.34 \text{ mm}^2$
Arrangement of strands	$65 \times 0.079 \text{ mm}$
Shield	Aluminum foil, tinned copper braid

Electrical properties at +20 °C

Current load	4 A
Rated voltage	250 V
DC resistance (loop)	$50 \Omega / \text{km}$
Nom. Impedance	150 (1MHz)
Nom. Capacitance	29.53 pF/m



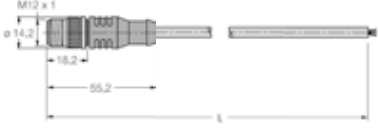
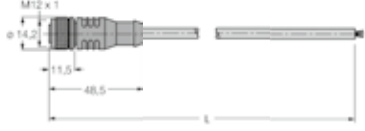

Mechanical and chemical properties

Bending cycles	> 10 mil.
Bending radius (stationary laying)	> $5 \times \varnothing$
Bending radius (flexible use)	> $15 \times \varnothing$

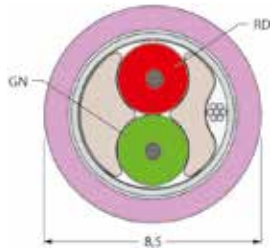
Ambient temperature

Stationary usage	$-40 \dots +80 \text{ }^\circ\text{C}$
Non-stationary usage	$-40 \dots +60 \text{ }^\circ\text{C}$
Drag chain operation	$-25 \dots +60 \text{ }^\circ\text{C}$

Types and Features — Selection Table

	Cable length [m]	ID number	Type
	30	6604298	KABEL458-30M
	150	6604300	KABEL458-150M
	2	6602494	RSSW458-2M
	4	6603876	RSSW458-4M
	5	6602495	RSSW458-5M
	6	6602064	RSSW458-6M
	8	6603877	RSSW458-8M
	10	6602496	RSSW458-10M
	30	6602382	RSSW458-30M
	2	6602491	RKSW458-2M
	3	6603887	RKSW458-3M
	5	6602492	RKSW458-5M
	6	6602318	RKSW458-6M
	8	6603889	RKSW458-8M
	10	6602493	RKSW458-10M
	15	6603890	RKSW458-15M
	0.5	6603896	RSSW-RKSW458-0.5M
	1	6603897	RSSW-RKSW458-1M
	2	6603899	RSSW-RKSW458-2M
	3	6603901	RSSW-RKSW458-3M
	4	6603902	RSSW-RKSW458-4M
	5	6602460	RSSW-RKSW458-5M
	10	6603905	RSSW-RKSW458-10M
	15	6602570	RSSW-RKSW458-15M
	25	6603907	RSSW-RKSW458-25M

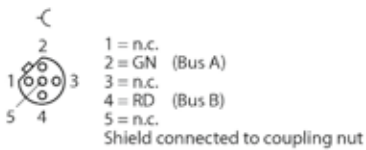
PVC Cable – Purple, Type 455



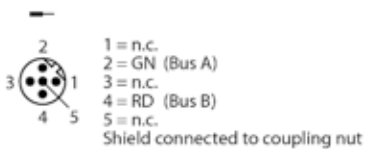
- 5-pin, B-coded, 2 x 0.34 mm²
- Flame-retardant
- UV-resistant
- cULus approved



Female connector



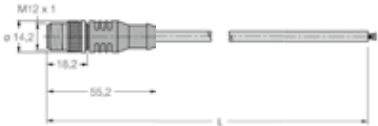
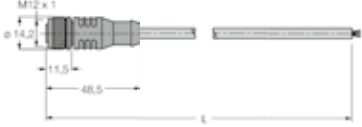


Male connector

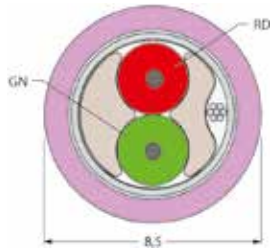


Connector	
Grip	Plastic, TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3
Cable	
Cable	8.5 mm ± 0.15
Cable jacket	PVC, Purple
Core insulation	PE (GN, RD)
Core cross-section	2 x 0.34 mm ²
Arrangement of strands	19 x 0.15 mm
Shield	Aluminum foil, tinned copper braid
Electrical properties at +20 °C	
Current load	4 A
Rated voltage	250 V
DC resistance (loop)	50 Ω /km
Nom. Impedance	150 (1 MHz)
Nom. Capacitance	29.53 pF/m
Mechanical and chemical properties	
Bending radius (stationary laying)	> 5 x Ø
Bending radius (flexible use)	> 15 x Ø
Ambient temperature	
Stationary usage	-40...+80 °C
Non-stationary usage	-40...+80 °C

Types and Features — Selection Table

	Cable length [m]	ID number	Type
	30	6604284	KABEL455-30M
	150	6604286	KABEL455-150M
	300	6604288	KABEL455-300M
	1	6602312	RSSW455-1M
	2	6603803	RSSW455-2M
	3	6602311	RSSW455-3M
	5	6603806	RSSW455-5M
	20	6602556	RSSW455-20M
	5	6602435	RKSW455-5M
	1	6602310	RKSW455-1M
	2	6603818	RKSW455-2M
	3	6602313	RKSW455-3M
	4	6603820	RKSW455-4M
	6	6603821	RKSW455-6M
	50	6603829	RKSW455-50M
	0.3	6603830	RSSW-RKSW455-0.3M
	0.5	6602694	RSSW-RKSW455-0.5M
	1	6603831	RSSW-RKSW455-1M
	2	6602222	RSSW-RKSW455-2M
	3	6603834	RSSW-RKSW455-3M
	4	6602619	RSSW-RKSW455-4M
	5	6602221	RSSW-RKSW455-5M
	6	6603835	RSSW-RKSW455-6M
	8	6602620	RSSW-RKSW455-8M
	10	6602617	RSSW-RKSW455-10M
	15	6602695	RSSW-RKSW455-15M
	20	6602618	RSSW-RKSW455-20M
	25	6602696	RSSW-RKSW455-25M
	30	6603836	RSSW-RKSW455-30M
	50	6603838	RSSW-RKSW455-50M

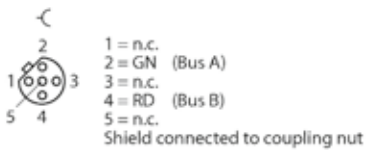
PVC Cable – Purple, Type 455



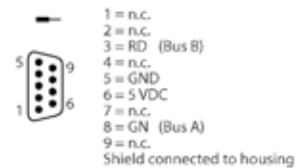
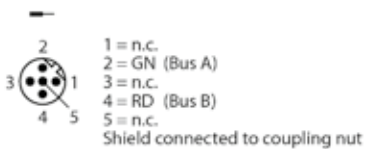
- 5-pin, B-coded, 2 x 0.34 mm²
- Flame-retardant
- UV-resistant
- cULus approved



Female connector


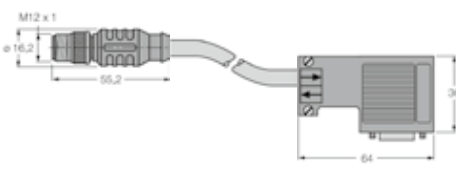
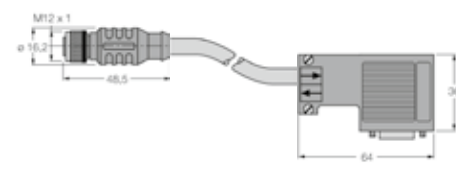
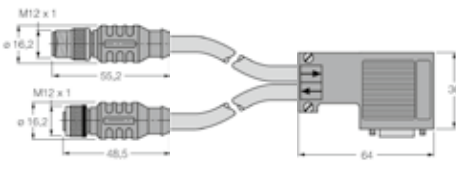


Male connector




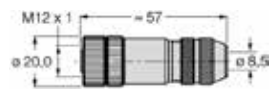
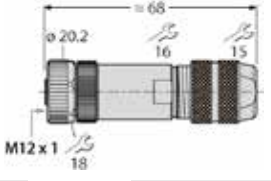
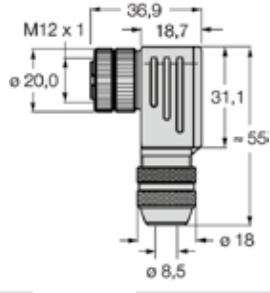
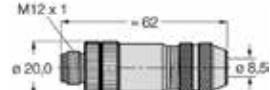
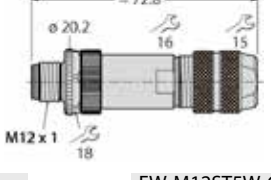
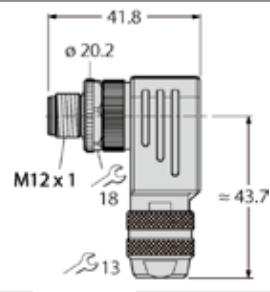
Connector	
Grip	TPU, Black
Contacts	Metal, CuZn, Gold-plated
Contact carriers	TPU, Black
Coupling nut/screw	Brass, CuZn, Nickel-plated
Protection class	IP67 (only when screwed tight)
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3
Cable	
Cable	8.5 mm ± 0.15
Cable jacket	PVC, Purple
Core insulation	PE (GN, RD)
Core cross-section	2 x 0.34 mm ²
Arrangement of strands	19 x 0.15 mm
Shield	Aluminum foil, tinned copper braid
Electrical properties at +20 °C	
Current load	4 A
Rated voltage	250 V
DC resistance (loop)	50 Ω /km
Nom. Impedance	150 (1 MHz)
Nom. Capacitance	29.53 pF/m
Mechanical and chemical properties	
Bending radius (stationary laying)	> 5 x Ø
Bending radius (flexible use)	> 15 x Ø
Ambient temperature	
Stationary usage	-40...+80 °C
Non-stationary usage	-40...+80 °C

Types and Features — Selection Table

	Cable length [m]	ID number	Type
	0.3	6604096	RSSW-D9S/T455-0.3M
	0.5	6602616	RSSW-D9S/T455-0.5M
	2	6603221	RSSW-D9S/T455-2M
	4	6602336	RSSW-D9S/T455-4M
	0.3	6604097	RKSW-D9S/T455-0.3M
	1	6603222	RKSW-D9S/T455-1M
	2	6602671	RKSW-D9S/T455-2M
	4	6602337	RKSW-D9S/T455-4M
	10	6602690	RKSW-D9S/T455-10M
	50	6602691	RKSW-D9S/T455-20M
	0.5	6602625	RSSW-D9S-RKSW455-0.5M-0.5M
	1	6603358	RSSW-D9S-RKSW455-1M-1M
	2	6603977	RSSW-D9S-RKSW455-2M-2M
	4	6602338	RSSW-D9S-RKSW455-4M-4M

Connectivity for PROFIBUS-DP

Field-Wireable Connectors – M12 × 1


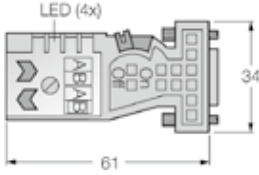
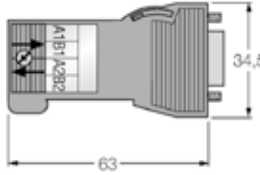
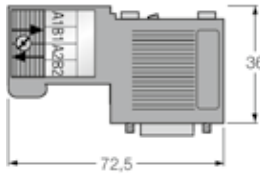
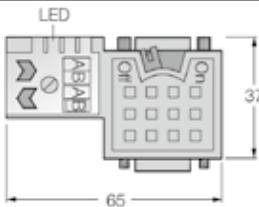
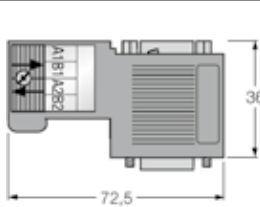
	Straight Female Connector				Angled Female Connector					
	Number of pins	Current load [A]	ID number	Type	Number of pins	Current load	ID number	Type		
Female connector, straight			5	4	6904721	BMWS8151-8.5	5	4	6604210	FW-M12KU5W-G-ZF-ME-SH-9
Female connector, angled			5	4	6904723	BMWS8251-8.5				
Male connector, straight			5	4	6904722	BMSWS8151-8.5	5	4	6604211	FW-M12ST5W-G-ZF-ME-SH-9
Male connector, angled			5	4	6904724	BMSWS8251-8.5				
Connection mode	Screw/clamp connection				Tension spring connection					
Grip	Die-cast zinc, GD-Zn, Nickel-plated				Die-cast zinc, GD-Zn, Nickel-plated					
Coupling nut/screw	Die-cast zinc, GD-Zn, Nickel-plated				Die-cast zinc, GD-Zn, Nickel-plated					
Contacts	Brass, CuZn, Gold-plated				Metal, CuZn, Gold-plated					
Contact carriers	PA, Black				PA, Black					
Protection class	IP67				IP67					
Rated voltage	125 V				125 V					
Terminal cross-section	0.14...0.75 mm ²				0.14...0.75 mm ²					
Cable external diameter	min. 6...8.5 mm				min. 7...9 mm					
Stationary usage	-25...+85 °C				-40...+85 °C					

Female connector

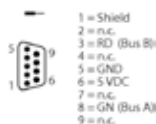
Male connector



Field-Wireable Connectors – Sub-D

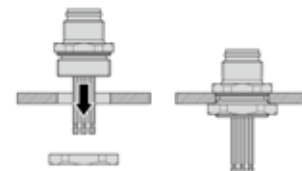
	<p>Number of pins</p> <p>Current load [A]</p> <p>ID number</p> <p>Type</p>	<p>Number of pins</p> <p>Current load</p> <p>ID number</p> <p>Type</p>
<p>Male connector, straight</p>	 <p>9</p> <p>4</p> <p>6604221</p> <p>FW-D9TLEDKU9XX-G-FC-ME-SH-8.5</p>	 <p>9</p> <p>2</p> <p>6780088</p> <p>6GK1500-0FC10</p>
<p>Male connector, angled</p>		 <p>9</p> <p>2</p> <p>6780102</p> <p>6ES7972-0BA52-0XA0-IP20FC</p>
<p>Male connector, angled, PG connector socket</p>	 <p>9</p> <p>4</p> <p>6604220</p> <p>FW-D9TLEDKU9PG-W-FC-ME-SH-8.5</p>	 <p>9</p> <p>2</p> <p>6780101</p> <p>6ES7972-0BB52-0XA0-IP20FC-PG</p>
<p>Connection mode</p>	<p>Insulation displacement connection</p>	<p>Insulation displacement connection</p>
<p>Grip</p>	<p>Die-cast zinc, GD-Zn</p>	<p>Plastic, Gray</p>
<p>Contacts</p>	<p>Metal, CuZn, Gold-plated</p>	<p>Metal, CuZn, Gold-plated</p>
<p>Contact carriers</p>	<p>PA, Black</p>	<p>White</p>
<p>Protection class</p>	<p>IP20</p>	<p>IP20</p>
<p>Rated voltage</p>	<p>12 V</p>	<p>24 V</p>
<p>Cable external diameter</p>	<p>min. 6...8 mm</p>	<p>min. 6...8 mm</p>
<p>Stationary usage</p>	<p>-20...+75 °C</p>	<p>-25...+60 °C</p>

Female connector Male connector



M12 × 1 Receptacles for Front-Panel Mounting

Screw-in thread seal	Plastic, NBR
Protection class	IP67
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3
Insulation resistance	≥ 10 ⁸ Ω
Contact resistance	≤ 5 mΩ
Ambient temperature	
Stationary usage	-30...+90 °C


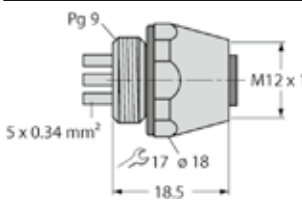
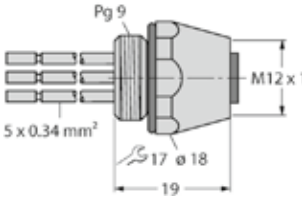
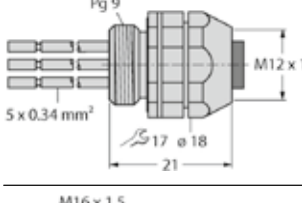
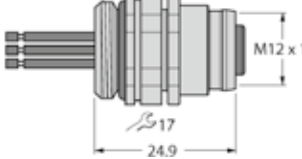


Female connector


Male connector

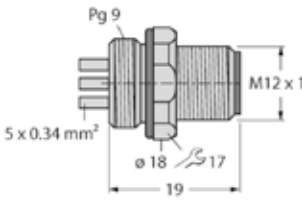
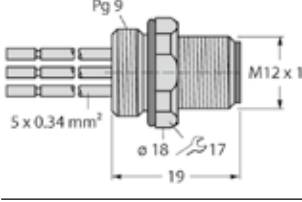
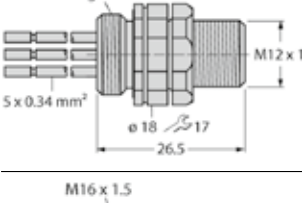
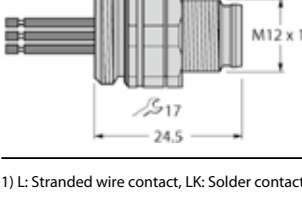


Types and Features — Selection Table

	Design	Receptacle housing	Number of pins	Connection mode	Rated voltage [V]	Current load [A]	Contact carriers	Cable length [m]	ID number	Type
	Female connector	Brass	5	LK	60	4	TPU, Black		6935916	FKW5L
	Female connector	Brass	5	L	60	4	TPU, Black	0.5	6935718	FKW4.54-0.5
	Female connector	Brass	5	L	60	4	TPU, Black	0.5	6935159	FKDW4.54-0.5
	Female connector	Brass	5	L	60	4	TPU, Black	0.5	6935753	EC-FKDW4.54-0.5/16

Types and Features — Selection Table

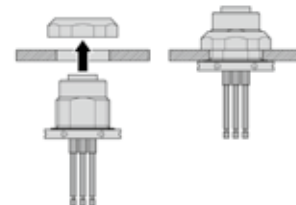


Design	Receptacle housing	Number of pins	Connection mode	Rated voltage [V]	Current load [A]	Contact carriers	Cable length [m]	ID number	Type	
	Male connector	Brass	5	LK	60	4	TPU, Black	6935979	FSW5L	
	Male connector	Brass	5	L	60	4	TPU, Black	0.5	6935717	FSW4.54-0.5
	Male connector	Brass	5	L	60	4	TPU, Black	0.5	6935716	FSDW4.54-0.5
	Male connector	Brass	5	L	60	4	TPU, Black	0.5	6935755	EC-FS-DW4.54-0.5/16

1) L: Stranded wire contact, LK: Solder contact, P: Print contact

M12 × 1 – Receptacles for Rear Panel Installation

Screw-in thread seal	Plastic, NBR
Protection class	IP67
Mechanical Lifespan	> 100 mating cycles
Pollution degree	3
Insulation resistance	$\geq 10^8 \Omega$
Contact resistance	$\leq 5 \text{ m}\Omega$
Ambient temperature	
Stationary usage	-30...+90 °C



Female connector


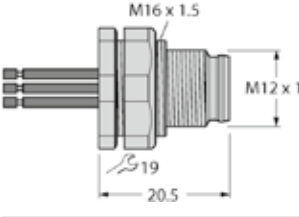
Male connector



Types and Features — Selection Table

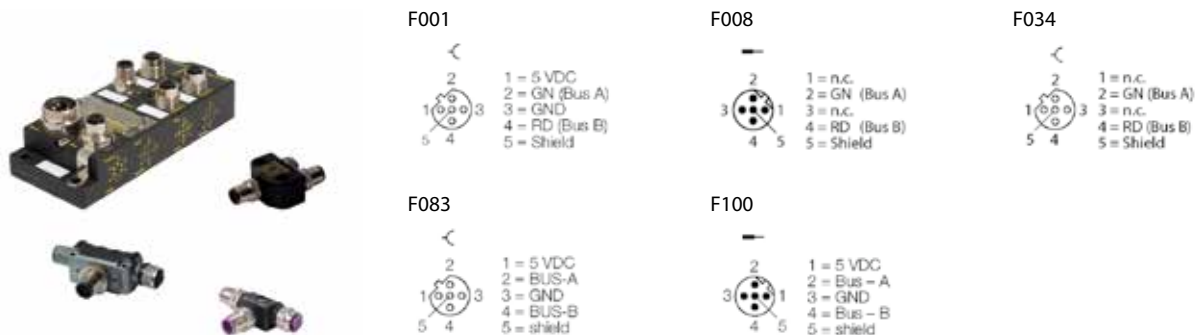
Design	Receptacle housing	Number of pins	Connection mode	Rated voltage [V]	Current load [A]	Contact carriers	Cable length [m]	ID number	Type
	Brass	5	L	60	4	TPU, Black	0.5	6935249	FKFDW4.54-0.5
	Brass	5	L	60	4	TPU, Black	0.5	6935250	FSFDW4.54-0.5
	Brass	5	L	60	4	TPU, Black	0.5	6935754	EC-FKFDW4.54-0.5/16

Types and Features — Selection Table

	Design	Receptacle housing	Number of pins	Connection mode	Rated voltage [V]	Current load [A]	Contact carriers	Cable length [m]	ID number	Type
	Male connector	Brass	5	L	60	4	TPU, Black	0.5	6936231	EC-FSFDW4.54-0.5/16

1) L: Stranded wire contact, LK: Solder contact, P: Print contact

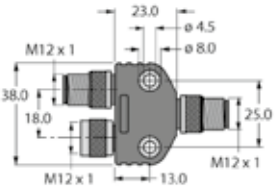
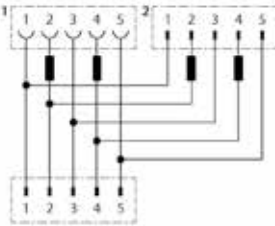
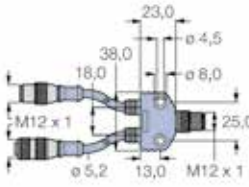
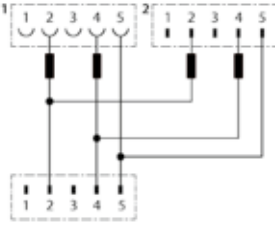
Repeater, Y- and T-Splitters



Types and Features — Selection Table

Design	Pin Assignment	Graph	Properties	ID number	Type
	F100		PROFIBUS-DP repeater, M12 × 1 B-coded Glass fiber reinforced polyamide (PA6-GF30) Protection class IP67 Up to 12 Mbps	6825354	REP-DP 0002
	F001 F001 F008		PROFIBUS-DP T-splitter, M12 × 1 B-coded Fully shielded, 12 Mbps Current load: 4A Rated voltage: 60V Protection class IP67, (mounted) Temperature range: -30 °C... +90 °C	6914180	RKSW-2RSSW45-0001
	F001 F100		PROFIBUS-DP T-splitter, M12 × 1 B-coded Fully shielded, 12 Mbps Current load: 4A Rated voltage: 60V Protection class IP67, (mounted) Temperature range: -30 °C... +90 °C	6934899	RKSW54.5[5]-2RSSWS


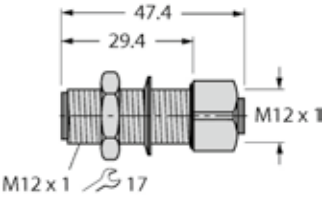
Types and Features — Selection Table

Design	Pin Assignment	Graph	Properties	ID number	Type
	<p>F100 F083</p>		<p>PROFIBUS DP Y-splitter without cable M12 × 1 B-coded, fully shielded, 12 Mbps Current load: 150mA (pins 2, 4), 4A (pins 1, 3, 5) Rated voltage: 150V (pins 2, 4), 250V (pins 1, 3, 5) Protection class IP67 Temperature range: -40 °C... +105 °C</p>	<p>6996009</p>	<p>VB2-FSW-FKW-FSW-45</p>
	<p>F034 F008</p>		<p>PROFIBUS DP Y-splitter with cable M12 × 1 B-coded, fully shielded Cable: PVC, purple, AWG 22/1 Jacket diameter: 8.5 mm UL approved</p>	<p>6996038</p>	<p>VB2-FSW/RSSW-RKSW455-0.5M-0.5M</p>

Connectivity for PROFIBUS-DP

Wall Feed-through

Types and Features — Selection Table

	Description	ID number	Type
	<ul style="list-style-type: none"> ■ Design: M12 adapter, reverse-keyed ■ 5-pin feed-through male/female ■ For use in PROFIBUS-DP applications ■ Voltage: 60 V ■ Current load: 4 A ■ Temperature: -40 °C...+80 °C ■ Protection class IP67, (screwed together) 	6602309	FKW-FSW45-M12