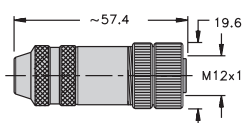


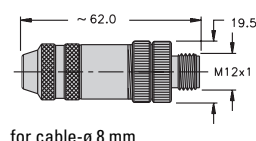
Connectors for incremental and absolute encoders

Fig.	PIN assignment	Type	Use	Order code	Suitable for encoders
		M12-straight coupling, 8 pins, self-assembly, IP67	Incremental encoders Absolute encoders	05.CMB-8181-0	5000, 5020, 5853, 5873, 5863, 5883
		M12-straight connector, 8 pins, self-assembly, IP67	Incremental encoders Absolute encoders	05.CMBS-8181-0	5000, 5020, 5853, 5873, 5863, 5883

Coupling:



Connector:



Pre-assembled cables for incremental and absolute encoders

Fig.	PIN-assignment	Type	Use	Order code	Suitable for encoders
		M12-straight coupling, 8 pins, single-ended, PVC -Cable 2...15 m	Incremental encoders Absolute encoders	2m: 05.WAKS8-2/P00 5m: 05.WAKS8-5/P00 10m: 05.WAKS8-10/P00 15m: 05.WAKS8-15/P00	5000, 5020
		M12-straight coupling, 8 pins, single-ended, PUR -Cable 2...15 m	Incremental encoders Absolute encoders	2m: 05.WAKS8-2/S366 5m: 05.WAKS8-5/S366 10m: 05.WAKS8-10/S366 15m: 05.WAKS8-15/S366	5000, 5020
		M12-right-angle coupling 8 pins, single-ended, PVC -Cable 2...30 m	Incremental encoders Absolute encoders	2m: 05.WWAKS8-2/P00 5m: 05.WWAKS8-5/P00 10m: 05.WWAKS8-10/P00 15m: 05.WWAKS8-15/P00 30 m: 05.WWAKS8-30/P00	5000, 5020

Characteristics Connector:

Connector/coupling body:	blueTPU plastic
Contact:	moulded polyurethane
Connecting nut:	gold-plated brass
Temperature:	-30 ... +90 °C
Protection:	IP 67, screwed
Rated current:	8 pins 2 A
Rating:	30 V

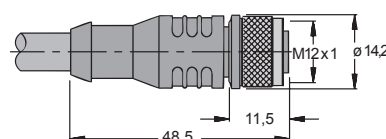
Characteristics PVC-Cable P00 (LiFYY):

Cable-ø	6.2 ±0.2 mm
Colour:	grey, similar to Ral 7040
Conductor specifications:	shielded, 8 x 0.25 mm ²

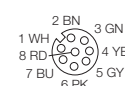
Characteristics PUR-PVC-Cable, halogen-free (LiF9YHC11YH):

Rating:	240 V, 80 °C
Material:	Outer jacket: polyether-polyurethane Wire isolation: Polypropylene, Oil resistant acc. to VDE 0472, Section 803, Flame resistant acc. to VDE 0472, Section 804 / B, Sea water resistant, halogen-free
Cable-ø	6.5 ±0.2 mm, 8 x 0.25 mm ² screened
Colour:	grey, similar to Ral 7040
Temperature range:	-40 ... +90 °C
Bending radius:	min. 10 x cable ø for mobile use

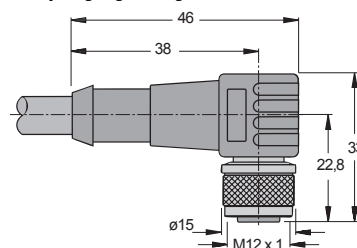
Coupling straight:



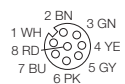
PIN-assignment:



Coupling right angle:



PIN-assignment:



Profibus-DP

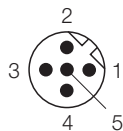


Fig.	PIN assignment	Type	Use	Order code	Suitable for encoders
		M12-straight coupling, 5 pins for PROFIBUS-DP cables	Profibus	05.BMWS 8151-8.5	5858, 5860, 5868, 5878, 5888, 9080
		M12-straight connector, 5 pins for PROFIBUS-DP cables	Profibus	05.BMSWS 8151-8.5	5858, 5860, 5868, 5878, 5888, 9080
		M12-right angle coupling, 5 pins for PROFIBUS-DP cables	Profibus	05.BMWS 8251-8.5	5858, 5860, 5868, 5878, 5888, 9080
		M12-right angle connector, 5 pins for PROFIBUS-DP cables	Profibus	05.BMSWS 8251-8.5	5858, 5860, 5868, 5878, 5888, 9080

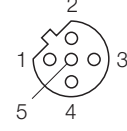
Charactereristics:

Materials:	
Body and contact carrier:	brass (CuZn), nickel-plated surface
Contact surface:	alloy (CuSnZs)
Coupling nuts:	nickel-plated brass
Cross section for connector:	0.75 mm², screwed
Temperature:	-40 ... +85 °C
Protection acc. to EN 60529:	IP 67
Rated voltage/contact:	30 V AC/36 V DC
Rated current/contact:	4 A

PIN-assignment:
M12 x 1 connector



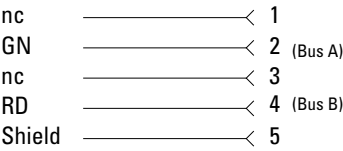
PIN-assignment:
M12 x 1 coupling



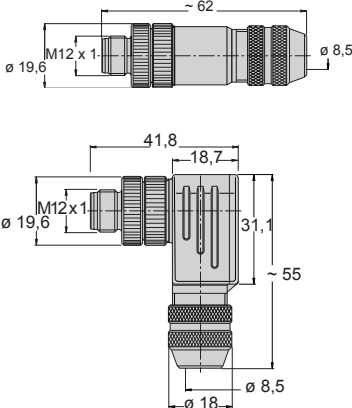
Connection diagram:



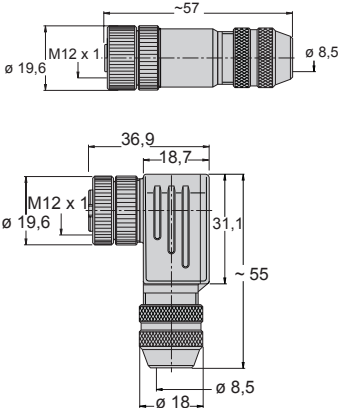
Connection diagram:



Connector:

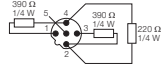


Coupling:



Profibus-DP

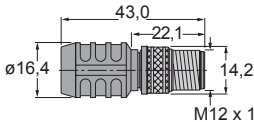


Fig.	PIN assignment	Type	Use	Order code	Suitable for encoders
		Terminating resistor	Profibus	05.RSS4.5-PDP-TR	5858, 5860, 5868, 5878, 5888, 9080
		M12 lead-through	Profibus	05.FKW-FSW45/M12	5858, 5860, 5868, 5878, 5888, 9080

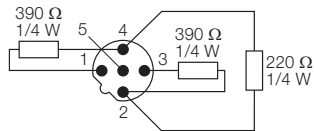
Characteristics for Terminating resistor:

Materials:	
Body and contact carrier:	oil resistant polyurethane
Contact material:	gold plated copper alloy
Coupling nut:	nickel-plated brass
Temperature:	-40 ... +80 °C
Protection acc. to EN 60529:	IP 67
Rated voltage:	50 V DC
Internal resistance:	390 Ω 1/4 W, 220 Ω 1/4 W

Dimensions:



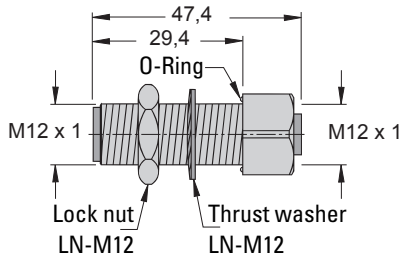
Pin-assignment:



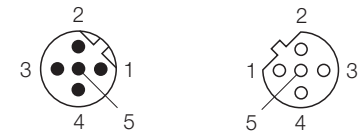
Characteristics for Lead-through:

Materials:	
Body:	nickel-plated brass
Contact carrier:	PA 6
Contact material:	gold-plated brass
Temperature:	-40 ... +105 °C
Protection acc.EN 60529:	IP 67 and NEMA 1, 3, 4, 6

Dimensions:



Pin-assignment:

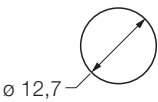


Connector M12 x 1 Coupling M12 x 1

Connection diagram:



Hole pattern:



Profibus-DP - Bus cable



Fig.	PIN assignment	Type	Use	Order code	Suitable for encoders
		M12 straight coupling, single-ended, PUR cable, length 6 ... 15 m	Profibus, Bus in	6m: 05.RKSW451-6M 10m: 05.RKSW451-10M 15m: 05.RKSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight connector, single-ended, PUR cable, length 6 ... 15 m	Profibus, Bus out	6m: 05.RSSW451-6M 10m: 05.RSSW451-10M 15m: 05.RSSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		M12 right-angle coupling, single-ended, PUR cable, length 6 ... 15 m	Profibus, Bus in	6m: 05.WKSW451-6M 10m: 05.WKSW451-10M 15m: 05.WKSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		M12 right-angle connector, single-ended, PUR cable, length 6 ... 15 m	Profibus, Bus out	6m: 05.WSSW451-6M 10m: 05.WSSW451-10M 15m: 05.WSSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight connector, M12 straight coupling, PUR cable, length 2 ... 15 m	Profibus, Bus out-Bus in	2m: 05.RSSW-RKSW451-2M 6m: 05.RSSW-RKSW451-6M 10m: 05.RSSW-RKSW451-10M 15m: 05.RSSW-RKSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		M12 right-angle connector, M12 right-angle coupling, PUR cable, length 2 ... 15 m	Profibus, Bus out-Bus in	2m: 05.WSSW-WKSW451-2M 6m: 05.WSSW-WKSW451-6M 12m: 05.WSSW-WKSW451-10M 15m: 05.WSSW-WKSW451-15M	5858, 5860, 5868, 5878, 5888, 9080
		Sub-D connector with terminating resistor, single-ended, PUR cable, length 0.5 ... 2m	Profibus, Master	0.5 m: 05.D9T-451-0.5M 2 m: 05.D9T-451-2M	5858, 5860, 5868, 5878, 5888, 9080
		Sub-D connector with terminating resistor, M12 coupling, PUR cable, length 0.5 ... 2m	Profibus, Master, Bus in	0.5 m: 05.RKSW-D9T451-0.5M 2 m: 05.RKSW-D9T451-2M	5858, 5860, 5868, 5878, 5888, 9080
		Sub-D connector with terminating resistor, M12 coupling, PUR cable, length 0.5 ... 2m	Profibus, Master, Bus out	0.5 m: 05.RSSW-D9T451-0.5M 2 m: 05.RSSW-D9T451-2M	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight connector-Sub-D-connector-M12 straight coupling, PUR cable, length 2x0.5m ... 2x2m	Profibus, Master, Bus in, Bus out	2x0.5 m: 05.RSSW-D9-RKSW451-0.5M-0.5M 2x2 m: 05.RSSW-D9-RKSW451-2M-2M	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight coupling-Sub-D-connector-M12 straight coupling, PUR cable, length 2x0.5m ... 2x2m	Profibus, Bus in, Bus out	2x0.5 m: 05.RKSW-D9-RKSW451-0.5M-0.5M 2x2 m: 05.RKSW-D9-RKSW451-2M-2M	5858, 5860, 5868, 5878, 5888, 9080

Characteristics M12-Connector:

Connector/coupling:	M12 x 1, reverse-coded, according to PNO guidelines
Connector-/coupling body:	moulded polyurethane
Contacts:	gold plated brass
Coupling nut:	nickel-plated brass screened
Temperature:	-40 ... +80 °C
Protection:	IP 67 and NEMA 1, 3, 4, 6, 13
Rated current:	4 A

Characteristics SUB-D-Connector:

Connector: SUB-D,	9-Pin
Protection:	IP20

Characteristics for cable: see next page

Profibus-DP - Bus cable

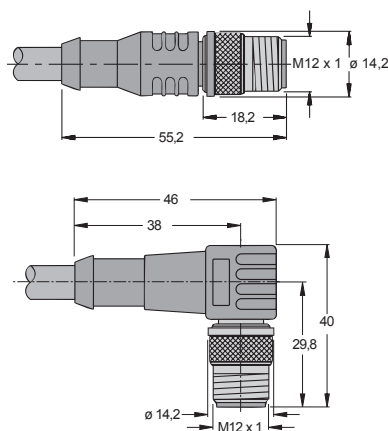


Characteristics for cable:

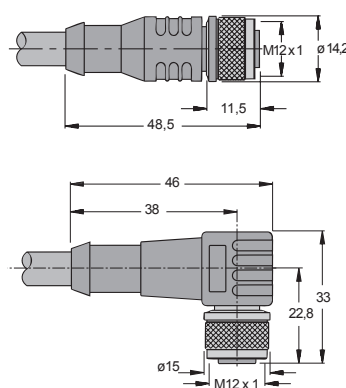
Rating:	36 V, 80 °C
Materials:	PUR-outer jacket, PE-wire insulation
Colour:	violet
Conductor specifications:	red, green 2 x 0.34 mm ² , stranded tinned copper, 7 x 0.25 mm, twisted pair, 300 V, PE, 80 °C, DC resistance - 50 Ω/km rated current - 4 A, rated impedance 150 Ω ± 15 Ω at 3 ... 20 MHz, rated capacitance conductor to conductor 30 pF/m

Screen /drain:	tinned copper braid, aluminum foil coverage 100% 0.5 mm ² stranded tinned copper
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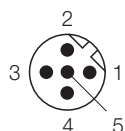
Connector:



Coupling:



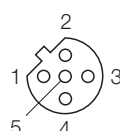
PIN-assignment:



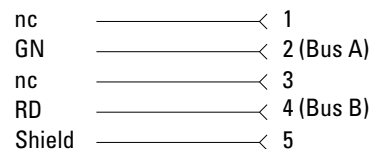
Connection diagram::



PIN-assignment:



Connection diagram::



1 cable outlet:

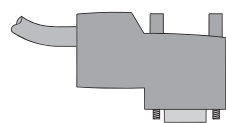
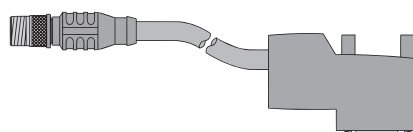


Illustration with connector:



Example of connection with M12-connector:

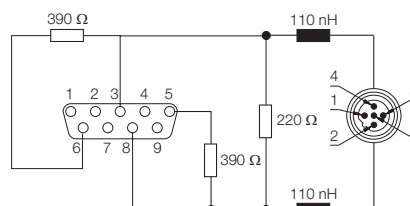
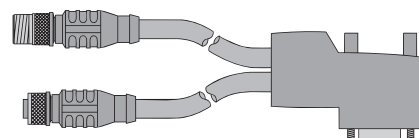
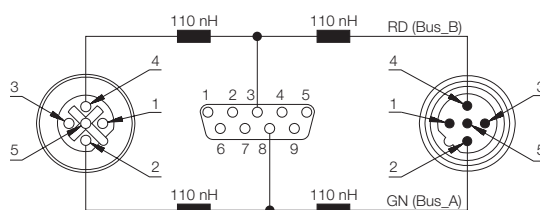


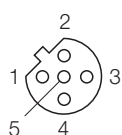
Illustration of 2 cable outlets with connector and/or coupling:



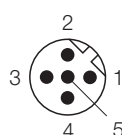
Connection example:



M12 x 1 coupling:



M12 x 1 connector:



Profibus-DP - Power supplies

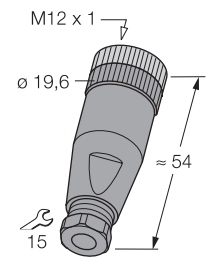


Fig.	PIN-assignment	Type	Use	Order code	Suitable for encoders
		4-pin plug-and-socket connector, M12 straight coupling, self-assembly	Profibus voltage supply	05.B8141-0	5858, 5860, 5868, 5878, 5888, 9080
		4-pin plug-and-socket connector, M12 right-angle coupling, self-assembly	Profibus voltage supply	05.B8241-0	5858, 5860, 5868, 5878, 5888, 9080
		4-pin plug-and-socket connector, M12 straight connector, self-assembly	Profibus voltage supply	05.BS8141-0	5858, 5860, 5868, 5878, 5888, 9080
		4-pin plug-and-socket connector, M12 right-angle connector, self-assembly	Profibus voltage supply	05.BS8241-0	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight coupling, single-ended, PUR/PVC cable, length 2...10 m	Profibus voltage supply	2 m: 05.WAK4-2/S90 10 m: 05.WAK4-10/S90	5858, 5860, 5868, 5878, 5888, 9080
		M12 right-angle coupling, single-ended, PUR/PVC cable, length 2...10m	Profibus voltage supply	2m: 05.WWAK4-2/S90 10m: 05.WWAK4-10/S90	5858, 5860, 5868, 5878, 5888, 9080
		M12 straight connector-M12 straight coupling, PUR/PVC cable, length 2...10m	Profibus voltage supply	2m: 05.WAK-2-WAS4/S90 5m: 05.WAK-5-WAS4/S90 10m: 05.WAK-10-WAS4/S90	5858, 5860, 5868, 5878, 5888, 9080

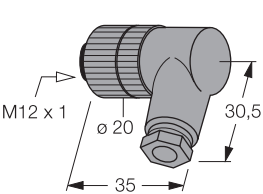
Characteristics for connectors:

Rating:	125 V AC/150 V DC
Rated current:	4 A
Ambient temperature:	-40 ... +80 °C
Materials:	handle part: PBT, coupling nuts: CuZn-Ni
Protection:	IP 67

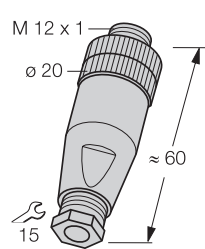
Coupling:
 straight



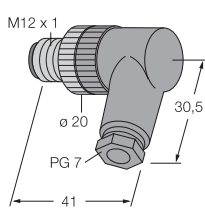
right angle



Connector:
 straight



right angle



PIN-assignment



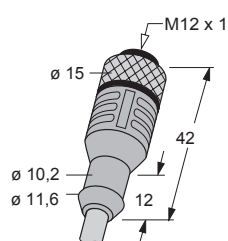
Profibus-DP - Power supplies



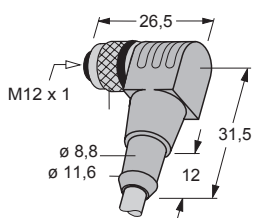
Characteristics for connection cable:

Rated voltage:	250 V AC/300 V DC
Ambient temperature:	Cable: -25 ... +80 °C
Materials:	handle part: PVC coupling nut: CuZn-Ni cable: sheath: PUR insulation of leads: PVC
Protection:	IP 67

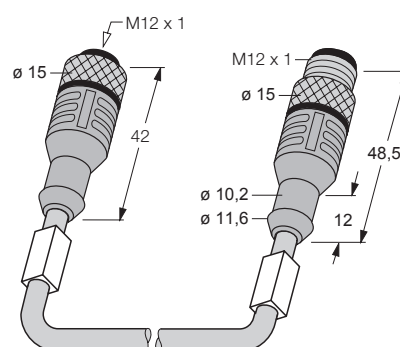
Coupling: straight



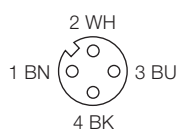
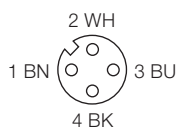
right angle



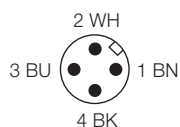
Dimensions:



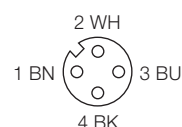
PIN-assignment:



PIN-assignment connector

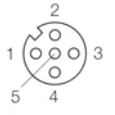
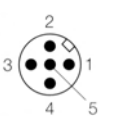
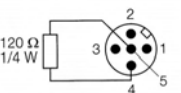


PIN-assignment coupling



CANopen/DeviceNet

DeviceNet. CANopen

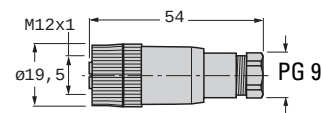
Fig.	PIN-assignment	Type	Use	Order code	Suitable for encoders
		M12 self-assembly coupling	CANopen/ DeviceNet in	straight 05.B-8151-0/9 right angle 05.B-8251-0/9	3658, 3678, 5858, 5860, 5868, 5878, 5888, 9080
		M12 self-assembly connector	CANopen/ DeviceNet out	straight 05.BS-8151-0/9 right angle 05.BS-8251-0/9	5858, 5860, 5868, 5878, 5888, 9080
		Terminating resistor	CANopen/DeviceNet	05.RSE 57 TR2	5858, 5860, 5868, 5878, 5888, 9080

Characteristics for connectors:

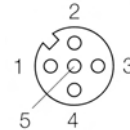
Connector/coupling:	M12 x 1
Connector/coupling body:	polyester, black PBT
Contact materials:	nickel-plated copper alloy
Connector-inserts	PTB, spacings to VDE 0110. group C
Coupling nut:	nickel-plated brass screened
Temperature:	-40 ... +85 °C
Protection:	IP 67 and NEMA 1, 3, 4, 6p
Rated current:	3 A, 36 V DC
Max. cable diameter:	6 ... 8 mm



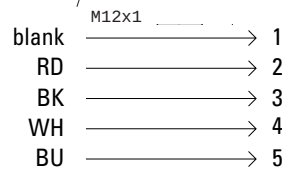
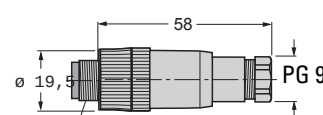
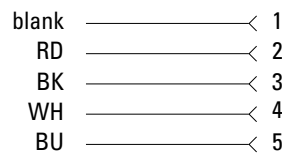
Dimensions:



PIN-assignment:



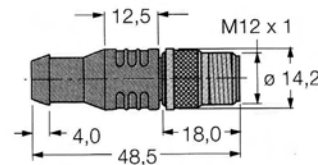
Connection diagramm:



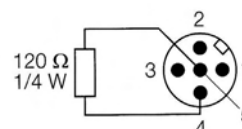
Characteristics for bus terminating resistor:

Materials:	
Body and contact carrier:	oil resistant polyurethane
Contact materials:	gold plated copper alloy
Coupling nut:	nickel-plated brass
Temperature:	-40 ... +80 °C
Protection EN 60529:	IP 67
Rated voltage:	24 V D
Internal resistance:	120 Ω 1/4 W

Dimensions:



Pin-assignment:

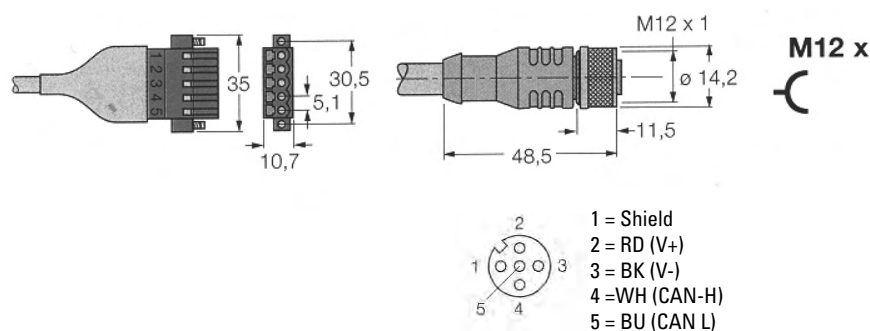


DeviceNet		DeviceNet			
Fig.	PIN-assignment	Type	Use	Order code	Suitable for encoders
		CBC5 open connector/M12*1 coupling combination, cable length 2m	DeviceNet for control connection	05.CBC5 572-2M	5860, 9080
		M12 straight connector, single-ended, PVC cable, length 6...15m	DeviceNet out	6m: 05.RSC-572-6M 15m: 05.RSC-572-15M	5860, 9080
		M12 straight coupling, single-ended, PVC cable, length 6...15m	DeviceNet in	6m: 05.RKC-572-6M 15m: 05.RKC-572-15M	5860, 9080
		M12 straight connector - M12 straight coupling, PVC cable, length 0.5...15m	DeviceNet in/out	0.5m: 05.RSC-RKC-572-0.5M 1m: 05.RSC-RKC-572-1M 2m: 05.RSC-RKC-572-2M 4m: 05.RSC-RKC-572-4M 10m: 05.RSC-RKC-572-10M 15m: 05.RSC-RKC-572-15M	5860, 9080
		M12 right-angle connector M12 right-angle coupling, PVC cable, length 0.5...6m	DeviceNet in/out	0.5m: 05.WSC-WKC-572-0.5M 2m: 05.WSC-WKC-572-2M 6m: 05.WSC-WKC-572-6M	5860, 9080

Characteristics for CBS5:

Connector/coupling:	M12 x 1
Connector/coupling body:	moulded polyurethane
Contacts:	gold plated brass
Coupling nut:	nickel-plated brass screened
Temperature:	-40 ... +80 °C
Protection (CBS5):	IP 20
Rated current:	4 A

Cable:	
Certified:	AWM 300 V
Conductor specifications:	Power supply: black, red; 2/17 AWG, 2 x 1.04 mm ² DCR 16.9Ω/km, Insulation PVC
	Data transmission line: blue/white; 2/20 AWG, DCR 34.1Ω/km, Insulation PE
Cable	grey diameter 8.4 mm
Shield	foil, drain 20 AWG 0.52 mm ²



DeviceNet

DeviceNet.

Connector:

Connector/coupling:	M12 x 1
Connector/coupling body:	moulded polyurethane
Contacts:	gold-plated brass
coupling nut:	nickel-plated brass screened
Temperature:	-40 ... +80 °C
Protection:	IP 67 and NEMA 1, 3, 4, 6, 13
Rated current:	4 A

Cable:

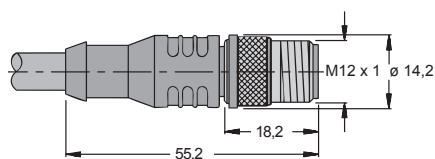
Rating:	36 V, 80 °C
Material:	PVC outer jacket, PE Insulation
Colour:	grey
Conductor specifications:	Power supply: red, black; 2 x 0.32 mm ² 2/22 AWG , DCR 54.1 Ω/km, Insulation PVC Data transmission line: white, blue; 2 x 0.32 mm ² 2/22 AWG , Outer jacket PVC grey, Outer diameter 7.3 mm Aluminium shield, draw wire 2/22 AWG 0.32 mm ²



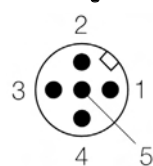
cULus

Bus cable pre-assembled:

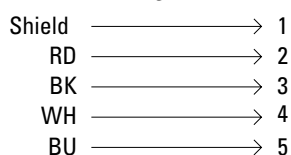
Connector:



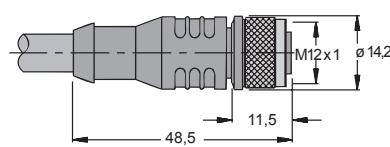
PIN-assignment:



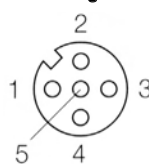
Connection diagramm:



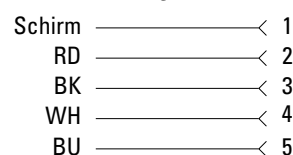
Coupling:



PIN-assignment:

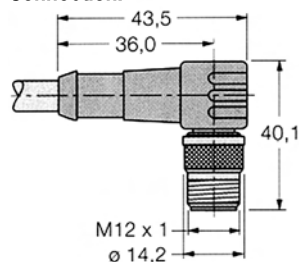


Connection diagramm:

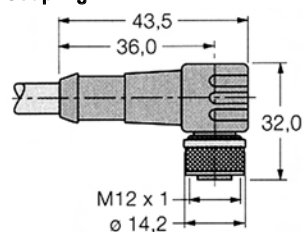


Connection/Coupling-combination:

Connection:



Coupling:



Connectors



- Wide choice of connectors
- Female or male
- 5 pins, 7 pins and 10 pins
- Connectors with MS
- Right-angle plug

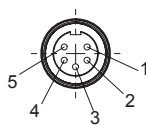
Round connectors:

Order description:

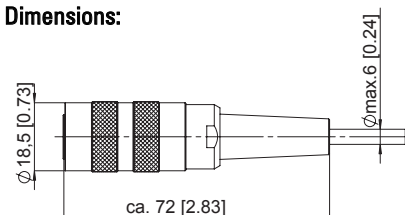
5-pin cable connector
female

Order code 8.0000.5022.0000

Pin-assignment:

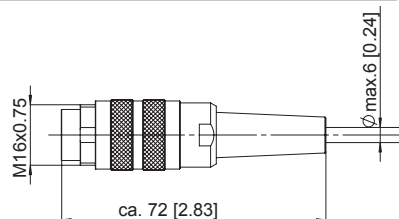
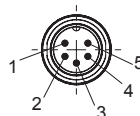


Dimensions:



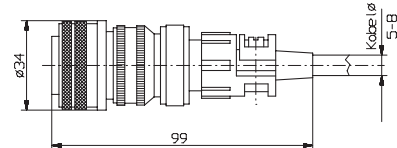
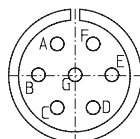
5-pin coupling
male

Order code 8.0000.5025.0000



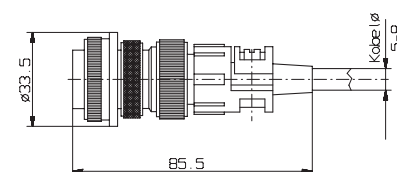
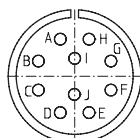
7-pin cable connector
female

Order code 8.0000.5052.0000



10-pin cable connector
female

Order code 8.0000.5062.0000



M23 connectors for connection to fan cowls



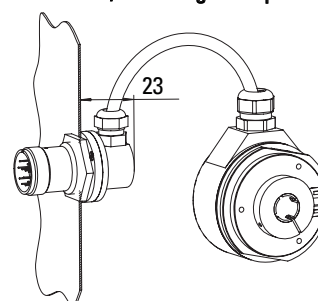
Your benefit

- Right angle connector with fixing nut, offering optimal installation height
- For lead-through to ventilator plates on geared motors or control cabinets
- 9, 12 or 17 pins, project-oriented

Product features

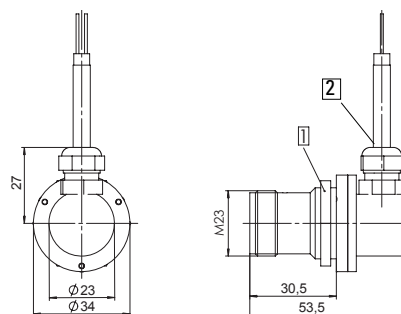
- Needs only 23 mm high installation space
- IP 66 when screwed-in
- Mechanically solid construction
- Pin inserts

Installation/mounting example:



Order code:

Can only be ordered in conjunction with encoders and cable outlet.



- 1 M25 x 1,5
- 2 cable-Ø 4 ... 6,5 mm

Round connectors series M23x1 male:



- Wide choice of connectors
- 9 pins, 12 pins and 17 pins
- Robust construction, metal body
- Pin inserts can be supplied wired clockwise or counter clockwise
- Coupling thread for cables $\varnothing$ 5.5 – 10.5 mm

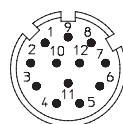
Round connectors:

Order description:

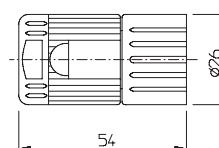
Plug connector, 12 pins
pin assignment ccw

Order code 8.0000.5011.0000

PIN-assignment

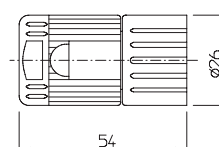
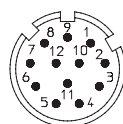


Dimensions:



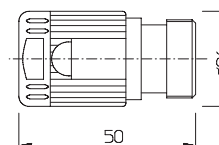
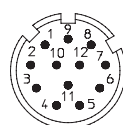
Plug connector, 12 pins
pin assignment cw

Order code 8.0000.5011.0001



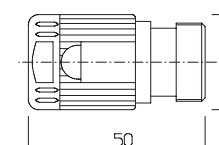
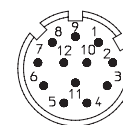
Plug connector with coupling thread,
12 pins, pin assignment ccw
Standard connector M23 for encoders
with cable

Order code 8.0000.5015.0001



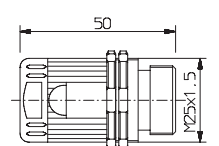
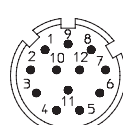
Plug connector with coupling thread,
12 pins, pin assignment cw

Order code 8.0000.5015.0002



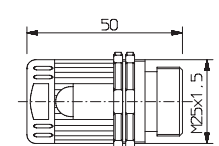
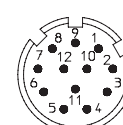
Plug connector with coupling thread,
12 pins, with central fastening
pin assignment ccw

Order code 8.0000.5015.0000



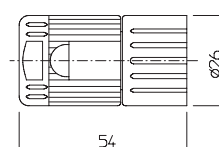
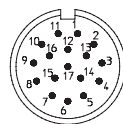
Plug connector with coupling thread,
12 pins, with central fastening
pin assignment cw

Order code 8.0000.5015.0003



Plug connector, 17 pins
pin assignment cw

Order code 8.0000.5041.0000



Round connectors series M23x1 female



- Wide choice of connectors
- 9 pins, 12 pins and 17 pins
- Robust construction, metal body
- Pin sockets can be supplied wired clock-wise or counter clockwise
- Coupling thread for cables $\varnothing$ 5.5 – 10.5 mm

Round connectors

Order description:

12-pin plug connector

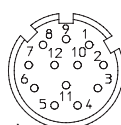
Pin socket assignment cw

Standard-M23-connector

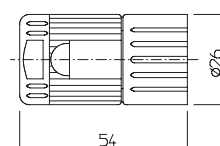
Order code 8.0000.5012.0000

(Mating connector, suitable for 8.0000.5015.0001)

PIN-assignment:



Dimensions:

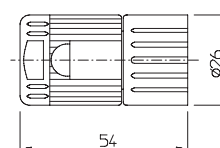
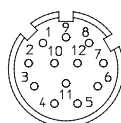


12-pin plug connector

Pin socket assignment ccw

Order code 8.0000.5012.0001

(Mating connector, suitable for 8.0000.5015.0002)

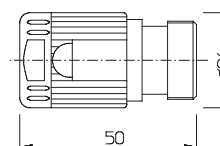
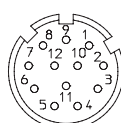


12 pin-coupling

Pin socket assignment cw

Order code 8.0000.5016.0000

(Mating connector, suitable for 8.0000.5011.0000)

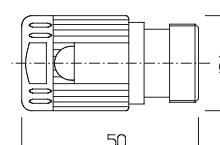
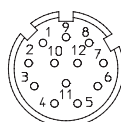


12 pin-coupling

Pin socket assignment ccw

Order code 8.0000.5016.0001

(Mating connector, suitable for 8.0000.5011.0001)

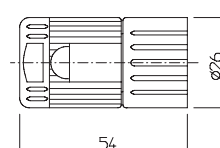
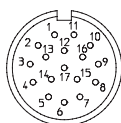


17-pin plug connector

Pin socket assignment ccw

Order code 8.0000.5042.0000

(Mating connector, suitable for 8.0000.5041.0000)

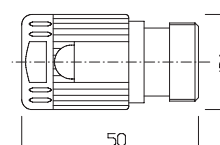
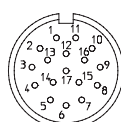


17-pin coupling

Pin socket assignment ccw

Order code 8.0000.5046.0000

(Mating connector, suitable for 8.0000.5041.0000)



Cable

Unprepared, cut to length

Description:	PUR electronic trailing cable	PVC electronic cable LiYCY	PVC electronic cable LiYCY	PVC electronic cable LiYCY
Order code:	8.0000.6100	8.0000.6200	8.0000.6300	8.0000.6400
Suitable for:	robust incremental encoders	incremental encoders Standard-Cable inversions	incremental encoders without	Limes, 365X, 368X SSI and analog
Number of conductors:	12 core + shield	12 core + shield	5 core + shield	8 core + shield
Cross section:	10 x 0.14 mm ² + 2 x 0.5 mm ²	12 x 0.14 mm ²	5 x 0.14 mm ²	8 x 0.14 mm ²
Permanent working temp. range:				
Flexible installation:	-30 °C ... +70 °C	-5 °C ... +70 °C	-5 °C ... +70 °C	-20 +80 °C
Secure installation:	-50 °C ... +90 °C	-30 °C ... +80 °C	-30 °C ... +80 °C	-40 +80 °C
Bending radius:				
Flexible installation:	min. 70 mm	min. 100 mm	min. 75 mm	min. 65 mm
Secured installation:	min. 50 mm	min. 100 mm	min. 75 mm	min. 45 mm
Cable-ø	ca. 6.9 ±0,2 mm	ca. 6.9 ±0,2 mm	ca. 4.7 ±0,2 mm	ca. 5.5 ±0,2 mm
Colour of conductors:	see pre-assembled cables with plug			

Description:	TPE electronic cable LiYCY (TP)	PVC electronic cable LiYCY (TP)	PVC electronic cable LiYCY
Order code	8.0000.6E00	8.0000.6900	8.0000.6700
Suitable for:	High temperatures or voltages Sine wave encoders	SSI and 4 ... 20 mA output twisted paired cond.	Absolute encoders with parallel interface twisted paired conductors
Number of conductors:	12 core + shield	12 core + shield	18 core + shield
Cross section	5 x 2 x 0.14 mm ² + 2 x 0.5 mm ²	6 x 2 x 0.14 mm ²	18 x 0.14 mm ²
Permanent working temp. range:			
Flexible installation:	-40 ... +110 °C	-5 ... +70 °C	-5 ... 70 °C
Secure installation:	-60 ... +135 °C	-30 ... +80 °C	-30 ... +80 °C
Bending radius:			
Flexible installation:	min. 90 mm	min. 110 mm	min. 100 mm
Secured installation:	min. 70 mm	min. 75 mm	min. 100 mm
Cable-ø:	ca. 8.5 ±0,4 mm	ca. 7.3 ±0,2 mm	ca. 7.8 ±0,2 mm
	halogen-free		
Colour of conductors:	see pre-assembled cables with plug		

Order code:

8.0000.6X00.XXXX

Type of cable

Designations of colours to DIN standard 757

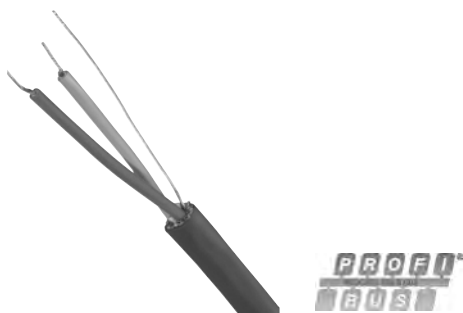
Length in meters

e.g. (0025 => 25 m)

available lengths:

2, 3, 5, 8, 10, 15, 20, 25 and 30 m
other lengths upon request

Profibus-DP- Cable



Your benefit

- Colour-coded for Profibus-DP systems
- Highly flexible stranded-wire construction
- Oil and abrasion resistant outer jacket
- Halogen-free

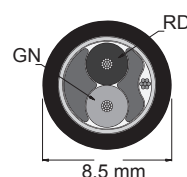
Product features

- PUR exhibits excellent oil resistance
- Can be used in drag chain installations

Characteristics:

Rating:	36 V, 80 °C
Materials:	TPUS-outer jacket, PE-wire isolation
Colour:	violet
Conductor specifications:	red, green 2 x 0.34 mm ² , stranded bare copper, 7 x 0.25 mm, twisted pair, 300 V, PE, 80 °C, DC resistance - 50 Ω/km current rating - 4 A, rated impedance 150 Ω ±15 Ω at 3 ... 20 MHz, rated capacitance conductor to conductor 30 pF/m
Screen/drain:	tinned copper braid, aluminium foil coverage 100% 0.5 mm ² stranded tinned copper

Cable profile:



Order code:

05.KABEL451.XXX

Cable length [m]
Example: 010 is 10 m

DeviceNet - Cable



Your benefit

- Highly flexible stranded-wire construction
- Oil and abrasion resistant outer jacket
- Halogen-free

Product features

- PUR exhibits excellent oil resistance
- Can be used in drag chain installations

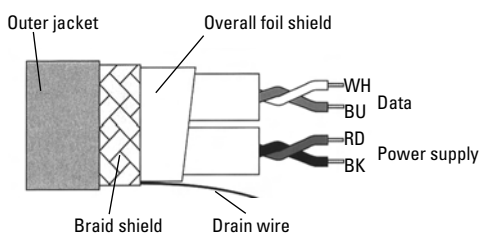
Characteristics:

Certified	AWM 300 V
Conductor specifications:	Power supply: black, red; 2/17 AWG, 2 x 1.04 mm ² DCR 16,9Ω/km, insulation PVC Data transmission: blue, white; 2/20 AWG, DCR 34.1Ω/km, insulation PE
Outer jacket	PUR, colour: grey outer diameter 8.4 mm
Shield	Aluminum foil, drain wire 20 AWG 0.52 mm ²

Order code:

05.KABEL5723.XXX

Cable length [m]
Example: 010 is 10 m



Pre-assembled cables for incremental encoders



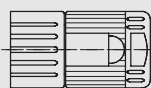
- Compatible with Kübler encoders
- Saves on installation time, thanks to pre-wiring
- Reduces the possibility of wiring errors
- Eliminates risks of short-circuits
- Available lengths: 2, 3, 5, 8, 10, 15, 20, 25 and 30m; other lengths upon request.

Stock types
all connectors and cables
can be delivered from stock

Suitable for encoders with push-pull output, inverted push-pull and RS 422 type series 5000, 5020, 5800, 5802, 5820, 5822, 9000. Assembled with 12-pin plug connector (female)

Order code 8.0000.6101.XXXX
(XXXX = length in m)

Includes plug connector type 8.0000.5012.0000 and cable type 8.0000.6100.XXXX



(PUR cable 10 x 0.14 mm² + 2 x 0.5 mm²)

PIN – cable colour assignment

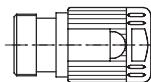
PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	PK	BN	BU	RD	GN	YE	–	GY	–	WH 0.5 mm ²	WH	BN 0.5 mm ²

Shield applied on the connector housing

Suitable for encoders with push-pull output, type series 5000, 5020, 5800, 5802, 5820, 5822, 9000 and A020. Assembled with 12-pin plug connector (female) with coupling thread

Order code 8.0000.6103.XXXX
(XXXX = length in m)

Includes plug connector type 8.0000.5016.0000 and cable type 8.0000.6100.XXXX



(PUR cable 10 x 0.14 mm² + 2 x 0.5 mm²)

PIN – cable colour assignment

PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	PK	BN	BU	RD	GN	YE	–	GY	–	WH 0.5 mm ²	WH	BN 0.5 mm ²

Shield applied on the connector housing

Suitable for encoders with push-pull output, inverted push-pull and RS 422 type series 5800, 5802, 5820, 5822, 9000 and A020. Assembled with 12-pin plug connector (female)

Order code 8.0000.6201.XXXX
(XXXX = length in m)

Includes plug connector type 8.0000.5012.0000 and cable type 8.0000.6200.XXXX type 8.0000.6200.XXXX



PVC Cable 12 x 0.14 mm²

PIN – cable colour assignment

PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	PK	RD BU	BU	RD	GN	YE	–	GY	–	WH	GY PK	BN

Shield applied on the connector housing

Pre-assembled cables for incremental encoders



- Compatible with Kübler encoders
- Saves on installation time, thanks to pre-wiring
- Reduces the possibility of wiring errors
- Eliminates risks of short-circuits
- Available lengths: 2, 3, 5, 8, 10, 15, 20, 25 and 30m; other lengths upon request.

Stock types
 all connectors and cables
 can be delivered from stock

Suitable for encoders with push-pull out-put, type series 5000, 5020, 5800, 5802, 5820,5822, 9000 and A020.
 Assembled with 12-pin plug connector (female) with coupling thread

Order code 8.0000.6203.XXXX
 (XXXX = length in m)

Includes plug connector type 8.0000.5016.0000 and cable type 8.0000.6200.XXXX



PVC cable 12 x 0.14 mm²

PIN – cable colour assignment

PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	PK	RD BU	BU	RD	GN	YE	–	GY	–	WH	GY PK	BN

Shield applied on the connector housing

Suitable for encoders with push-pull out-put, type series 5810.
 Assembled with 5-pin plug connector (female)

Order code 8.0000.6311.XXXX
 (XXXX = length in m)

Includes plug connector type 8.0000.5022.0000 and cable type 8.0000.6300.XXXX



PVC cable 5 x 0.14 mm²

PIN – cable colour assignment

PIN:	1	2	3	4	5
Cable colour:	WH	BN	GN	YE	GY

Shield applied on the connector housing

Suitable for encoders with RS 422 type or Voltage Sine Wave output, type series 5000, 50020, 5800, 5802, 5803, 5804, 5820, 5822, 5823, 5824, 9000, A020.
 Assembled with 12-pin plug connector (female)

Order code 8.0000.6901.XXXX
 (XXXX = length in m)

Includes plug connector type 8.0000.5012.0000 and cable type 8.0000.6900.XXXX



PVC Cable 6 x 2 x 0.14 mm²

PIN – cable colour assignment

PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	PK	RD BU	BU	RD	GN	YE	–	GY	–	WH	GY PK	BN

Shield applied on the connector housing

Pre-assembled cables for incremental encoders



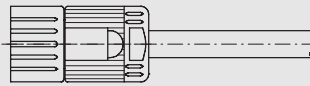
- Compatible with Kübler encoders
- Saves on installation time, thanks to pre-wiring
- Reduces the possibility of wiring errors
- Eliminates risks of short-circuits
- Available lengths: 2, 3, 5, 8, 10, 15, 20, 25 and 30 m; other lengths upon request.

Stock types
all connectors and cables
can be delivered from stock

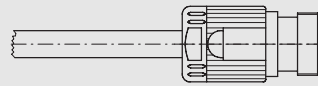
Suitable for all incremental encoders with push-pull output or RS 422 interface, type series 50xx, 58xx and 90xx

12-pin female plug to 12-pin male plug with coupling thread.

Order code 8.0000.6905.XXXX
(XXXX = length in m)



Includes plug connector type
8.0000.5012.0000 and cable type

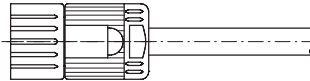


8.0000.6900.XXXX and connector type
8.0000.5015.0001 (pins)

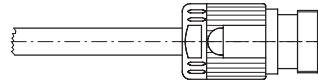
Suitable for encoders with push-pull outputs type series 5803, 5823, 5804 and 5824

12-pin female plug to 12-pin male plug with coupling thread: 1:1 connection

Order Code 8.0000.6E04.XXXX
(XXXX = length in m)



Includes plug connector type
8.0000.5012.0000 and cable type



8.0000.6E00.XXXX and connector type
8.0000.5015.0001 (pins)

Pre-assembled cables for absolute encoders



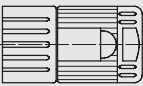
- Compatible with Kübler encoders
- Saves on installation time, thanks to pre-wiring
- Reduces the possibility of wiring errors
- Eliminates risks of short-circuits
- Available lengths: 2, 3, 5, 8, 10, 15, 20, 25 and 30m; other lengths upon request

Stock types
all connectors and cables
can be delivered from stock

Suitable for encoders with up to 14-bit parallel output, type series 5850, 5852, 5870, 5872. Assembled with 17-pin plug connector (female)

Order code 8.0000.6741.XXXX
(XXXX = length in m)

Includes plug connector type
8.0000.5042.0000 and cable type
8.0000.6700.XXXX



PVC Cable 18 x 0.14 mm²

PIN – cable colour assignment

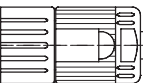
PIN:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Cable colour:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY PK	RD BU	WH GN	BN GN	WH YE	YE BN	WH GY

Shield applied on the connector housing

Suitable for encoders with SSI and analogue output, type series 5850, 5853, 5862, 5863, 5873, 5870, 5882, 5883, 9081. Assembled with 12-pin plug connector (female)

Order code 8.0000.6901.XXXX.0031
(XXXX = length in m)

Includes plug connector type
8.0000.5012.0000 and cable type
8.0000.6900.XXXX



PVC Cable 6 x 2 x 0.14 mm²

PIN – cable colour assignment

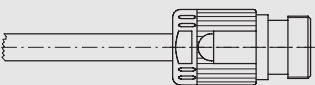
PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY PK	RD BU

Shield applied on the connector housing

Suitable for encoders with SSI and analogue output, type series 5850, 5853, 5862, 5863, 5873, 5870, 5882, 5883, 9081, 12-pin female plug to 12-pin male plug with coupling thread female plug

Order code 8.0000.6905.XXXX.0032
(XXXX = length in m)

Includes plug connector type
8.0000.5012.0000 and cable type
8.0000.6900.XXXX



8.0000.6900.XXXX

PIN – cable colour assignment

PIN:	1	2	3	4	5	6	7	8	9	10	11	12
Cable colour:	WH	BN	GN	YE	GY	PK	BU	RD	BK	VT	GY PK	RD BU

Shield applied on the connector housing

Optical fibre module

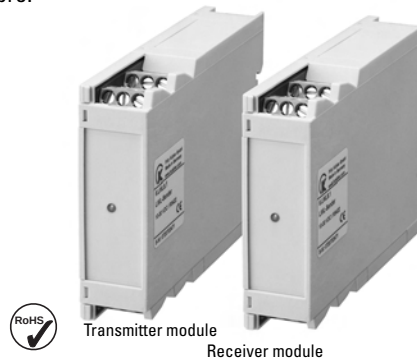
The solution for tough signal transmission.

The system is made up of an optical fibre transmitter and an optical fibre receiver. The optical fibre transmitter converts the electrical signals of an usual incremental encoder into a light signal for transmission by means of an optical fibre.

The receiving module converts the optical signal back into electrical signals. Up to 4 channels may be transmitted safely.

Innovative:

- Signal transmission thanks to a simple glass fibre
- Safe signal transmission up to 1000 m
- Input frequency up to 400 kHz
- Input level 10 – 30 V or RS 422
- Inverted input signals
- Resists extremely strong electro-magnetical fields



Compact:

- Only 22 mm wide
- DIN rail mounting, small size

Versatile:

- Process control technology and automation technology
- Interference-sensitive applications
- High voltage plants
- Plants with long transmission distances
- Potential separation
- Explosive areas

Technical data:

Supply voltage:	10 ... 30 V or 5 V $\pm$ 5%
Power consumption per module:	< 2 W
Operating voltage reverse connection protection:	available
Encoder inputs - optical fibre transmitter:	Channels A, A\, B, B\, 0, 0\
Max. input frequency - optical fibre transmitter: and output frequency - optical fibre receiver:	400 kHz
Input level - optical fibre transmitter:	10 ... 30 V or RS 422
Optical wavelength:	820 nm
Optical transmission rate:	120 Mbit/s
Optical fibre connection:	ST connector, 13 mm, $\varnothing$ 9 mm, on the bottom side of the housing
Glass fibre:	Multimode fibre, 50/125 μ m, 62,5/125 μ m
Optical fibre synchronisation display:	LED on the receiver
Input signals sampling rate:	10 MSamples/s
Max. optical fibre transmission distance:	1000 m
Dimensions:	22,5 x 110,8 x 88,4 mm (B x L x H)
Protection:	IP 40, terminals IP 20
Terminals:	Protected against contact, max. conductor diameter: 2,5 mm ²
Temperature range	-10 °C ... +60 °C
Standards:	EN 55 011 Class B1 EN 61 000 - 6 - 2: 2006

LED function:

Green LED ON when the supply voltage and the optical fibre cable are connected correctly.

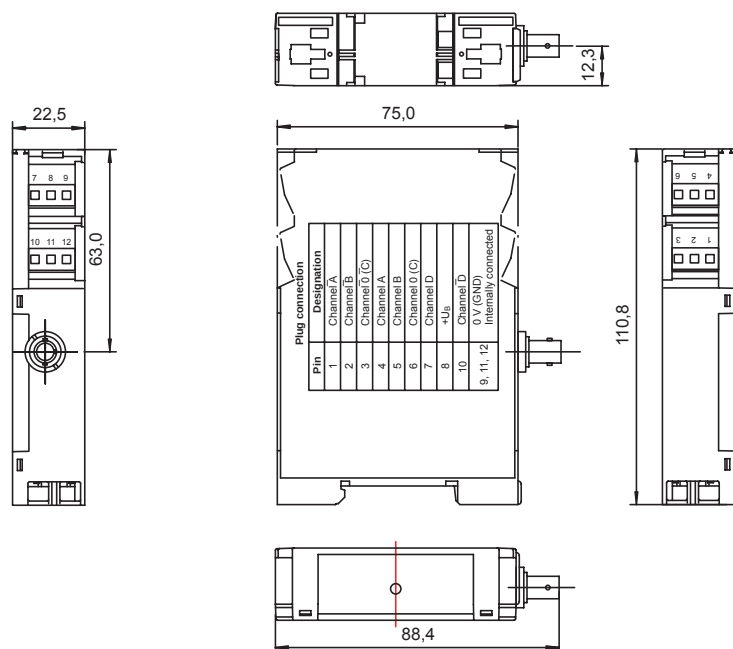
The LED in the receiver module (LWLE) blinks when the optical fibre cable is not connected correctly or is broken.

Connection technology

Optical fibre signal transmission

Optical fibre module

Dimensions:



Connecting diagram of the optical fibre transmitter and receiver:

Pin	Description
1	Channel A
2	Channel B
3	Channel 0 (C)
4	Channel A
5	Channel B
6	Channel 0 (C)
7	Channel D
8	+ B U
10	Channel D
9, 11, 12	0 V, GND, linked internally

Order code:

Optical fibre transmitter

UB = 10 ... 30 V DC, input RS 422:	6. LWLS.1
UB = 10 ... 30 V DC, input HTL, without inversions:	6. LWLS.2
UB = 5 V DC, input RS 422:	6. LWLS.4
UB = 10 ... 30 V DC, input HTL:	6. LWLS.5

Optical fibre receiver

UB = 10 ... 30 V DC, output RS 422:	6. LWLE.1
UB = 5 V DC, output RS 422:	6. LWLE.4
UB = 10 ... 30 VDC, output HTL:	6. LWLE.5

Scope of delivery:

- Optical fibre module
- Multilingual operating manual

Accessories:

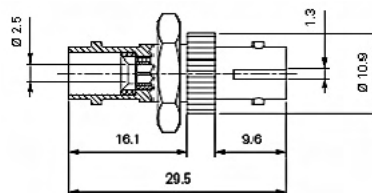
Simplex Patch cable ST-ST - Multimode

Connector: 2xST/PC, fibre: 1x50/125
Standard lengths: 2 m, 5m, 8m, 10m, 15m, 20m, ...
(in 5m steps)

Order code:

05.B09-B09-821-LXXX

Length in m



ST Multimode coupling

Barrel: ceramic, slotted
Order code: 05.LWLK.001

