

## Bus system cable - SAC-3P-M12MR/20,0-961/M12FR VA - 1419133

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Bus system cable, PROFIBUS PA, PROFIBUS PA, 3-position, PVC, blue RAL 5015, shielded, Plug angled M12, A-coded, on Socket angled M12, A-coded, Cable length: 20 m, For Ex area with high-grade steel knurl



### Key commercial data

Packing unit	1 1
Custom tariff number	85444290
Country of origin	Germany

### Technical data

#### Dimensions

Length of cable	20 m
Stripping length of the free conductor end	50 mm

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 90 °C (Plug / socket)
Degree of protection	IP65
	IP67
	IP68
	IP69K

#### General

Note	For applications in circuits of intrinsic safety protection type "i". Electrical values following EN 60079-14.
Rated current at 40°C	4 A
Rated voltage	60 V
Number of positions	3

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### Technical data

#### General

Contact resistance	≤ 5 mΩ
Coding	B - inverse
Signal type/category	PROFIBUS PA
Status display	No
Surge voltage category	II
Pollution degree	3
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm (M12 connector)

#### Material

Inflammability class according to UL 94	HB
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	High-grade steel
Sealing material	NBR

#### Pin assignment

Position = wire color (signal) = position (optional)	1 (Plug) = OG (DATA+) = 1 (Socket)
	3 (Plug) = BU (DATA-) = 3 (Socket)
	4 (Plug) = SR (shield) = 4 (Socket)

#### Cable

Cable type	Fieldbus FOUNDATION/PROFIBUS PA, blue
Cable type (abbreviation)	961
Cable structure	2xAWG18/7 + 1xAWG20/7
Conductor cross section	2x 0.75 mm <sup>2</sup> (signal line)
	1x 0.5 mm <sup>2</sup> (Drain wire)
AWG signal line	18
Conductor structure signal line	7x 0.40 mm
Core diameter including insulation	2.24 mm ±0.05 mm
Thickness, insulation	0.5 mm (Core insulation)
	1 mm (Outer cable sheath)
Wire colors	Blue, orange
Twisted pairs	2 cores to the pair
Overall twist	One pair with one drain wire and fillers for core
Shielding	Plastic-coated aluminum foil with a drain wire
Optical shield covering	100 %

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### Technical data

#### Cable

External sheath, color	blue RAL 5015
External cable diameter	7.42 mm
External cable diameter D	7.5 mm ±0.25 mm
Smallest bending radius, fixed installation	75 mm
Cable weight	56.552 kg/km
Outer sheath, material	PVC
Material conductor insulation	PO (signal line)
Conductor material	Tin-plated Cu litz wires
Conductor resistance	19.2 Ω/km (signal line)
	26 Ω/km (shield)
Working capacitance	148 nF (core-shield)
	78 nF (core-core)
Wave impedance	100 Ω (At 31.25 kHz)
Signal speed	0.66 c
Nominal voltage, cable	300 V
Special properties	UL standards PLTC-ER and ITC
Flame resistance	UL 1685 (CSA FT 4)
Ambient temperature (operation)	-30 °C ... 105 °C (Cable)

### Classifications

#### eCl@ss

eCl@ss 4.0	27060307
eCl@ss 4.1	27060307
eCl@ss 5.0	27061801
eCl@ss 5.1	27060307
eCl@ss 6.0	27279218
eCl@ss 7.0	27279218
eCl@ss 8.0	27279218

#### ETIM

ETIM 2.0	EC000830
ETIM 3.0	EC000830
ETIM 4.0	EC001855
ETIM 5.0	EC001855

#### UNSPSC

UNSPSC 6.01	26121616
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## Classifications

### UNSPSC

UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	26121616
UNSPSC 13.2	26121616

## Approvals

### Approvals

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Approvals

GOST

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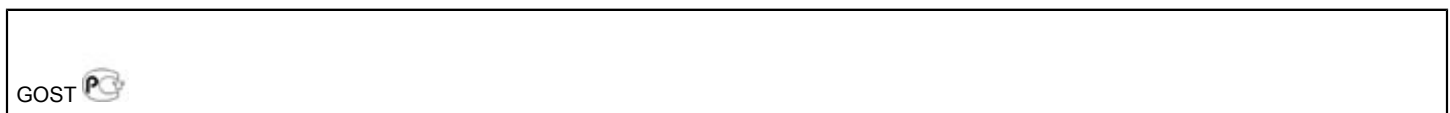
Ex Approvals

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Approvals submitted

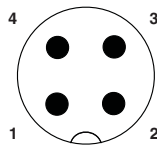
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### Approval details



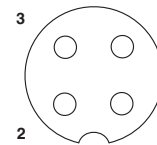
## Drawings

Schematic diagram



Pin assignment M12 plug, 3-pos., A-coded, view male side

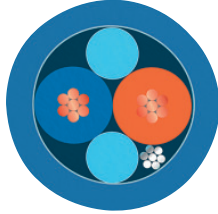
Schematic diagram



Pin assignment M12 socket, 3-pos., A-coded, view female side

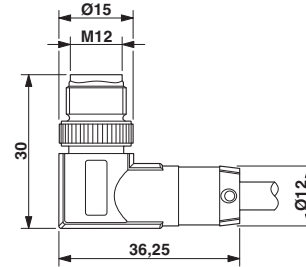
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Cable cross section



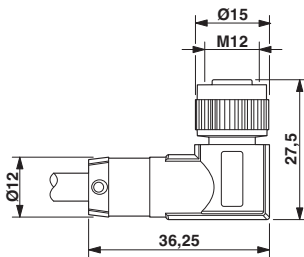
Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

Dimensioned drawing



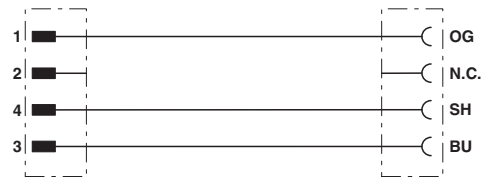
M12 x 1 male plug, angled

Dimensioned drawing



M12 x 1 socket, angled

Circuit diagram



Contact assignment of the M12 connector and the M12 socket