

## Bus system cable - SAC-3P-M12MR/ 0,5-961/M12FS VA - 1419111

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Bus system cable, PROFIBUS PA (31.25 kbps), 3-position, PVC, blue RAL 5015, shielded, Plug angled M12, A-coded, on Socket straight M12, A-coded, Cable length: 0.5 m, For Ex area with high-grade steel knurl



### Key Commercial Data

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

### Technical data

#### Dimensions

Length of cable	0.5 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

Coding	B - inverse
Signal type/category	PROFIBUS PA, 31.25 kbps
Status display	No
Overvoltage category	II
Degree of pollution	3
Insertion/withdrawal cycles	$\geq 100$
Torque	0.4 Nm (M12 connector)

### Material

Flammability rating 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	Stainless 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)

### Standards and Regulations

Flammability rating according to UL 94	HB
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### 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 $\pm 0.05$ mm
Thickness, insulation	0.5 mm
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

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## Technical data

### Cable

Optical shield covering	100 %
External sheath, color	blue RAL 5015
Outer sheath thickness	1 mm
External cable diameter D	7.5 mm $\pm 0.25$ 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	$\leq 19.35 \Omega/\text{km}$ (Signal line)
	26 $\Omega/\text{km}$ (shield)
Working capacitance	78 nF (at 1 kHz)
Cable capacity	147 pF/m (at 1 kHz, core/shield)
	$\leq 3.94 \text{ pF/m}$ (capacitance unbalance)
Signal speed	0.66 c
Shield attenuation	3 dB/km (At 39 kHz)
Cable impedance	100 $\Omega \pm 20\%$ (At 31.25 kHz)
Inductance	0.6233 $\mu\text{H}$ (per meter)
Nominal voltage, cable	300 V
Special properties	UL standards PLTC-ER and ITC
Flame resistance	UL 1685 (CSA FT 4)
	UL 1685 (vertical tray)
	UL 1666 (riser)
Ambient temperature (operation)	-40 $^{\circ}\text{C}$ ... 105 $^{\circ}\text{C}$

## 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
eCl@ss 9.0	27060311

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### Classifications

#### ETIM

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

#### UNSPSC

UNSPSC 6.01	26121616
UNSPSC 7.0901	26121616
UNSPSC 11	26121604
UNSPSC 12.01	26121616
UNSPSC 13.2	26121616

### Approvals

#### Approvals

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Approvals

EAC

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Ex Approvals

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Approvals submitted

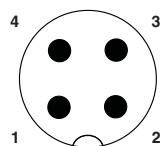
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Approval details

EAC
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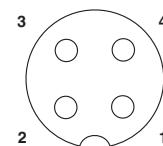
### Drawings

Schematic diagram



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

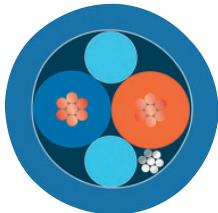
Schematic diagram



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

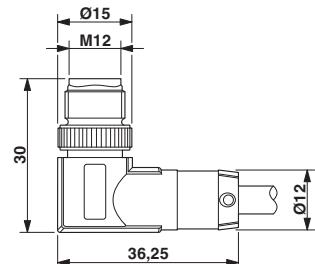
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Cable cross section



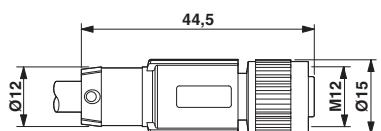
Fieldbus FOUNDATION/PROFIBUS PA,  
blue [961]

Dimensional drawing

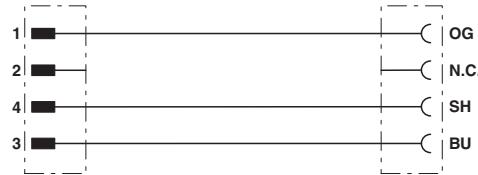


M12 x 1 male plug, angled

Dimensional drawing



Circuit diagram



Contact assignment of the M12 connector and the M12 socket

M12 x 1 socket, straight

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