

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Bus system cable, PROFIBUS PA (31.25 kbps), 3-position, PVC, blue RAL 5015, shielded, Plug straight M12, coding: A, on Socket angled M12, coding: A, cable length: 20 m, For Ex area with high-grade steel knurl

## Commercial data

Item number	1419125
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	BF04
Product key	AF1CCG
GTIN	4046356541923
Weight per piece (including packing)	222.22 g
Weight per piece (excluding packing)	222.22 g
Customs tariff number	85444290
Country of origin	PL

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

## Technical data

### Product properties

Product type	Data cable preassembled
Application	Process technology
Sensor type	PROFIBUS PA
Number of positions	3
No. of cable outlets	1
Shielded	yes
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Interfaces

Bus system	PROFIBUS PA
Signal type/category	PROFIBUS PA, 31.25 kbps

### Signaling

Status display	no
Status display present	no

### Electrical properties

Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A
Transmission medium	Copper
Transmission speed	31.25 kbps

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	$\geq 100$
-----------------------------	------------

### Material specifications

Flammability rating according to UL 94	HB
Seal material	NBR

### Connection data

#### Connection assignment

Contact   Color (signal designation)   Contact (optional)	1 (Plug)   OG (DATA+)   1 (Socket)
	3 (Plug)   BU (DATA-)   3 (Socket)
	4 (Plug)   SR (shield)   4 (Socket)

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

## Connector

### Connection 1

Type	Plug straight M12
Number of positions	3
Coding type	A (Standard)
Material	CuSn (Contact) Ni/Au (Contact surface) TPU GF (Contact carrier) TPU, hardly inflammable, self-extinguishing (Grip body) Stainless steel (Screw connection)
Ambient temperature (operation)	-25 °C ... 90 °C

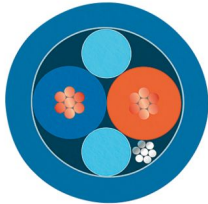
### Connection 2

Type	Socket angled M12
Number of positions	3
Coding type	A (Standard)
Material	CuSn (Contact) Ni/Au (Contact surface) TPU GF (Contact carrier) TPU, hardly inflammable, self-extinguishing (Grip body) Stainless steel (Screw connection)
Ambient temperature (operation)	-25 °C ... 90 °C

## Cable/line

Cable length	20 m
--------------	------

### Fieldbus FOUNDATION/PROFIBUS PA, blue [961]

Dimensional drawing	
Cable weight	56.552 kg/km
Number of positions	2
Shielded	yes
Cable type	Fieldbus FOUNDATION/PROFIBUS PA, blue [961]
Conductor structure	2xAWG18/7 + 1xAWG20/7
Signal speed	0.66 c
Conductor structure signal line	7x 0.40 mm
AWG signal line	18

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

Conductor cross-section	2x 0.75 mm <sup>2</sup> (Signal line)
	1x 0.5 mm <sup>2</sup> (Drain wire)
Wire diameter incl. insulation	2.24 mm ±0.05 mm
External cable diameter	7.50 mm ±0.25 mm
Outer sheath, material	PVC
External sheath, color	blue RAL 5015
Conductor material	Tin-plated Cu litz wires
Material wire insulation	PO (Signal line)
Single wire, color	blue, orange
Thickness, insulation	0.50 mm
Thickness, outer sheath	1.00 mm
Twisted pairs	2 cores to the pair
Overall twist	One pair with one drain wire and fillers for core
Optical shield covering	100 %
Max. conductor resistance	≤ 19.35 Ω/km (Signal line)
	26 Ω/km (shield)
Cable capacity	147 pF/m (at 1 kHz, core/shield)
	≤ 3.94 pF/m (capacitance unbalance)
Working capacitance	78 nF (at 1 kHz)
Cable impedance	100 Ω ±20 % (At 31.25 kHz)
Nominal voltage, cable	300 V
Smallest bending radius, fixed installation	75 mm
Tensile strength	260 N
Shield attenuation	3.00 dB/km (at 39 kHz)
Flame resistance	UL 1685 (CSA FT 4)
	UL 1685 (vertical tray)
	UL 1666 (riser)
Special properties	UL standards PLTC-ER and ITC
Ambient temperature (operation)	-40 °C ... 105 °C (cable, fixed installation)

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable

1419125

<https://www.phoenixcontact.com/us/products/1419125>

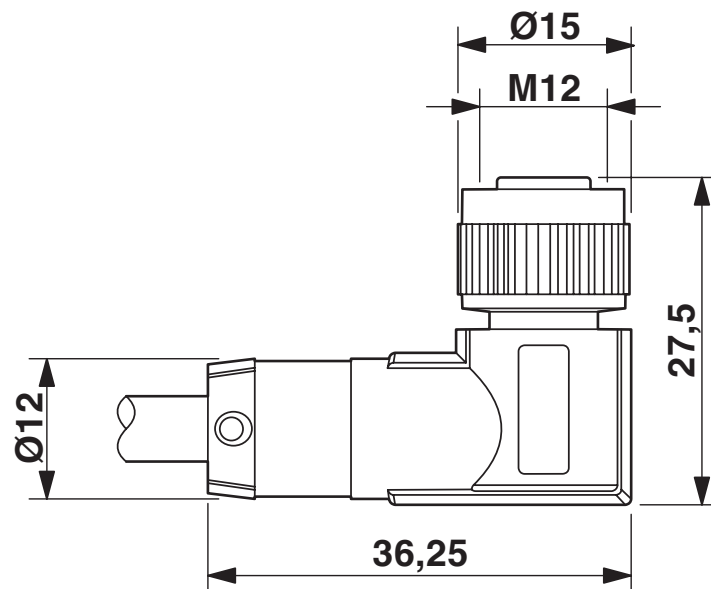
## Drawings

Dimensional drawing



Plug, M12 x 1, straight, shielded

Dimensional drawing



M12 x 1 socket, angled

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable

1419125

<https://www.phoenixcontact.com/us/products/1419125>

Schematic diagram



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

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable

1419125

<https://www.phoenixcontact.com/us/products/1419125>

Schematic diagram



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

Circuit diagram



Contact assignment of the M12 connector and the M12 socket

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

### ETIM

ETIM 9.0	EC001855
----------	----------

### UNSPSC

UNSPSC 21.0	26121600
-------------	----------

# SAC-3P-M12MS/20,0-961/M12FR VA - Bus system cable



1419125

<https://www.phoenixcontact.com/us/products/1419125>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
-----------------------------------------	--------------------

### China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

### EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)