

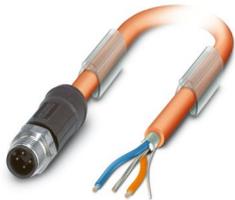
# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

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, FOUNDATION Fieldbus (31.25 kbps), 3-position, PVC, orange RAL 2003, shielded (Plastic-coated aluminum foil with a drain wire), Plug straight M12, coding: A, on free cable end, cable length: 15 m

## Commercial data

Item number	1431209
Packing unit	1 pc
Sales key	BF04
Product key	BF1CCG
Catalog page	Page 435 (C-2-2019)
GTIN	4046356431682
Weight per piece (including packing)	969.5 g
Weight per piece (excluding packing)	969.5 g
Customs tariff number	85444290
Country of origin	PL

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

## Technical data

### Notes

General	Further products with variable cable type and variable cable length can be found in the accessories section
---------	---

### Product properties

Product type	Data cable preassembled
Application	Process technology
Sensor type	FOUNDATION Fieldbus
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	FOUNDATION Fieldbus
Signal type/category	FOUNDATION Fieldbus, 31.25 kbps

### Signaling

Status display	No
Status display present	No

### Electrical properties

Insulation resistance	≥ 100 MΩ
Nominal voltage $U_N$	48 V AC
	60 V DC
Nominal current $I_N$	4 A
Transmission medium	Copper

### Mechanical properties

#### Mechanical data

Insertion/withdrawal cycles	≥ 100
-----------------------------	-------

### Material specifications

Flammability rating according to UL 94	HB
Seal material	NBR

### Connection data

#### Pin assignment

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

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

## 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 carriers)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Stainless steel (Screw connection)
Ambient temperature (operation)	-25 °C ... 90 °C

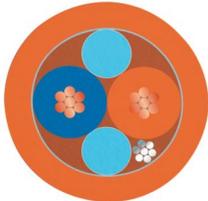
### Connection 2

Type	free cable end
------	----------------

## Cable/line

Cable length	15 m
--------------	------

### FOUNDATION Fieldbus orange [960]

Dimensional drawing	
Cable weight	56.552 kg/km
Number of positions	2
Shielded	yes
Cable type	FOUNDATION Fieldbus orange [960]
Conductor structure	2xAWG18/7 + 1xAWG20/7
Signal speed	0.66 c
Conductor structure signal line	7x 0.40 mm
AWG signal line	18
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

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

External sheath, color	orange RAL 2003
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)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
	IP68
	IP69K

# SAC-4P-M12MS/15,0-960 VA - Bus system cable

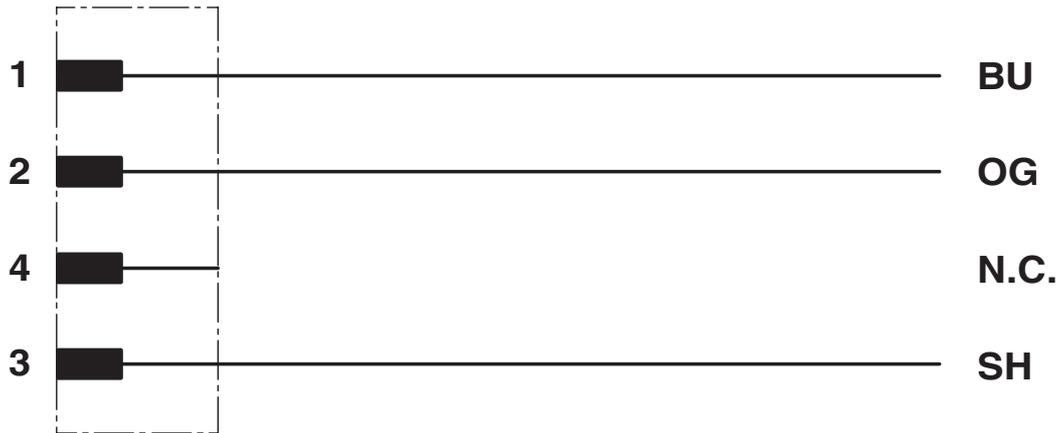


1431209

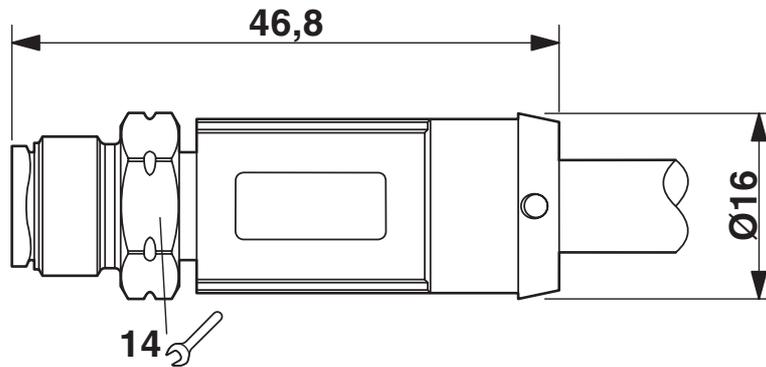
<https://www.phoenixcontact.com/us/products/1431209>

## Drawings

Circuit diagram



Dimensional drawing



Plug, M12 x 1, straight, shielded

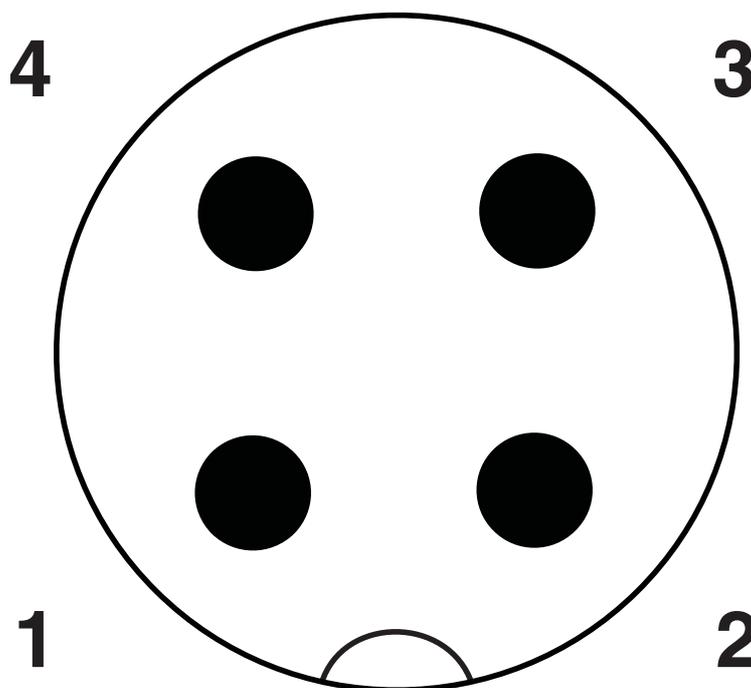
# SAC-4P-M12MS/15,0-960 VA - Bus system cable

1431209

<https://www.phoenixcontact.com/us/products/1431209>



Schematic diagram



Pin assignment M12 plug, 4-pos., A-coded, view plug side

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

## Classifications

### ECLASS

ECLASS-11.0	27060307
ECLASS-12.0	27060307
ECLASS-13.0	27060307

### ETIM

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

### UNSPSC

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

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

## 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%
-------------------------------------	----------------------------

# SAC-4P-M12MS/15,0-960 VA - Bus system cable

1431209

<https://www.phoenixcontact.com/us/products/1431209>



## Accessories

### PROT-M12 FS-PA-CHAIN - Sealing cap

1430873

<https://www.phoenixcontact.com/us/products/1430873>

M12 sealing cap made of plastic with fixing band, for sensor cables, for free M12 plugs



### SAC-4P-M12MR-M12FR FF VA/... - Bus system cable

1431393

<https://www.phoenixcontact.com/us/products/1431393>

Bus system cable, FOUNDATION Fieldbus (31.25 kbps), 3-position, Plug angled M12, coding: A, on Socket angled M12, coding: A, cable length: Free input (0.2 .. 40.0 m), High-grade steel knurl



# SAC-4P-M12MS/15,0-960 VA - Bus system cable

1431209

<https://www.phoenixcontact.com/us/products/1431209>



## SACC-M12MS-5CON-DM 5-8 SH VA - Connector

1440025

<https://www.phoenixcontact.com/us/products/1440025>



Connector, 5-position, shielded, Plug straight M12, coding: A, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

---

## SACC-M12FS-5CON-DM 5-8 SH VA - Connector

1440041

<https://www.phoenixcontact.com/us/products/1440041>



Connector, 5-position, shielded, Socket straight M12, coding: A, Screw connection, knurl material: Stainless steel 1.4404, cable gland M16, external cable diameter 5.5 mm ... 8.6 mm

# SAC-4P-M12MS/15,0-960 VA - Bus system cable

1431209

<https://www.phoenixcontact.com/us/products/1431209>



## SAC-4P-M12T/2XM12 FF VA - T distributor

1431416

<https://www.phoenixcontact.com/us/products/1431416>



T distributor, FOUNDATION Fieldbus, PROFIBUS PA, 4-position, Plug straight M12, coding: A, on Socket straight M12, coding: A and Socket straight M12, coding: A, Parallel distributor

---

## SAC-4P-M12MS FF TR VA - Termination resistor

1431403

<https://www.phoenixcontact.com/us/products/1431403>



FOUNDATION Fieldbus™ termination resistor, 4-pos., M12 connector, high-grade steel knurl

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

## TSD 04 SAC - Torque screwdriver

1208429

<https://www.phoenixcontact.com/us/products/1208429>



Torque screwdriver, with preset torque of 0.4 Nm and 4 mm hexagonal drive for M12 connectors

---

## TSD-M 1,2NM - Torque screwdriver

1212224

<https://www.phoenixcontact.com/us/products/1212224>



Torque screw driver, accuracy as per EN ISO 6789 standard, adjustable from 0.3 - 1.2 Nm

# SAC-4P-M12MS/15,0-960 VA - Bus system cable



1431209

<https://www.phoenixcontact.com/us/products/1431209>

## TSD-M SAC-BIT ADAPTER - Adapter insert

1212600

<https://www.phoenixcontact.com/us/products/1212600>



Adapter bit for TSD-M...torque tools, E6.3-1/4" drive with 4 mm hexagon to accommodate SAC bits

---

## SAC BIT M12-W14 - Tool

1212513

<https://www.phoenixcontact.com/us/products/1212513>



Nut for assembling sensor/actuator cables with M12 connector and M12 connectors for assembly, with a hexagonal knurl wrench size of 14 mm, with 4 mm hexagonal drive

---

Phoenix Contact 2024 © - 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)