

# SAC-6P-MR/ 5,0-970/FR SCO - Bus system cable



1428704

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Bus system cable, VARAN (100 Mbps), 6-position, SANTOPRENE halogen-free/TPE halogen-free, black RAL 9005, shielded, Plug angled M12 SPEEDCON, coding: A, on Socket angled M12 SPEEDCON, coding: A, cable length: 5 m

## Commercial data

Item number	1428704
Packing unit	1 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Product key	AF1CMM
GTIN	4046356322980
Weight per piece (including packing)	417.1 g
Weight per piece (excluding packing)	417.1 g
Country of origin	PL

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## Technical data

### Product properties

Product type	Data cable preassembled
Application	Standard
Number of positions	6
No. of cable outlets	1
Coding	A

### Insulation characteristics

Overvoltage category	II
Degree of pollution	3

### Interfaces

Bus system	VARAN
Signal type/category	VARAN, 100 Mbps

### Signaling

Status display	no
Status display present	no

### Electrical properties

Insulation resistance	≥ 100 MΩ
Nominal voltage $U_N$	30 V AC
	30 V DC
Nominal current $I_N$	2 A
Transmission medium	Copper
Transmission speed	100 Mbps

### Material specifications

Flammability rating according to UL 94	HB
Seal material	NBR
Material of grip body	TPU, hardly inflammable, self-extinguishing
Contact material	CuZn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material for screw connection	Zinc die-cast, nickel-plated

### Connection data

#### Connection assignment

Contact   Color (signal designation)   Contact (optional)	1 (Plug)   N.C.   1 (Socket)
	2 (Plug)   N.C.   2 (Socket)
	6 (Plug)   BU (Power)   6 (Socket)
	7 (Plug)   BN (Power)   7 (Socket)

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	5 (Plug)   GNWH (RD+)   5 (Socket)
	8 (Plug)   GN (RD-)   8 (Socket)
	2 (Plug)   OGWH (TD+)   2 (Socket)
	3 (Plug)   OG (TD-)   3 (Socket)

## Connector

### Connection 1

Type	Plug angled M12 SPEEDCON
Number of positions	6
Locking type	SPEEDCON
Coding type	A (Standard)


### Connection 2

Type	Socket angled M12 SPEEDCON
Number of positions	6
Locking type	SPEEDCON
Coding type	A (Standard)

## Cable/line

Cable length	5 m
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### VARAN [970]

Dimensional drawing	
Cable weight	81 kg/km
Number of positions	6
Shielded	yes
Cable type	VARAN [970]
Conductor structure	1x2xAWG22/19 + 1x4xAWG24/19
Conductor structure signal line	19x 0.13 mm
AWG signal line	24
Conductor structure, voltage supply	19x 0.16 mm
AWG power supply	22
Conductor cross-section	4x 0.25 mm <sup>2</sup> (Signal line) 2x 0.38 mm <sup>2</sup> (Power supply)
Wire diameter incl. insulation	1.35 mm (Signal line) 1.5 mm (Power supply)
External cable diameter	7.80 mm ±0.2 mm

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Outer sheath, material	SANTOPRENE halogen-free
External sheath, color	black RAL 9005
Conductor material	Bare Cu litz wires
Material, filler	Yarn
Material wire insulation	PP
Single wire, color	brown, blue, white/orange, white/green, green, orange
Type of pair shielding	Tinned copper braided shield, 95 % covering
Overall twist	1 star quad and 2 wires with 2 fillers
Max. conductor resistance	77 Ω/m (Data cable)
Insulation resistance	5 GΩ*km (Data cable)
Wave impedance	100 Ω ±15 %
Working capacitance	50 nF (Data cable)
Nominal voltage, cable	125 V (Data cable)
	48 V (Power supply)
Test voltage	2000 V (Power supply)
	max. 700 V AC (Data cable)
Smallest bending radius, fixed installation	≥ 93 mm
Smallest bending radius, movable installation	≥ 93 mm
Dynamic load capacity (bending)	Max. bending cycles: 3000000, Bending radius: 93 mm, Traversing path: 2 m, Traversing rate: 1 m/s, Acceleration: 2 m/s <sup>2</sup>
Halogen-free	in accordance with DIN EN 50267-2-1
Ambient temperature (operation)	-20 °C ... 80 °C (Cable)
Ambient temperature (installation)	0 °C ... 50 °C

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65
	IP67
Ambient temperature (operation) (male connector/female connector)	-25 °C ... 90 °C (Plug / socket)

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## Drawings

Dimensional drawing



M12 x 1 male plug, angled, shielded

Dimensional drawing

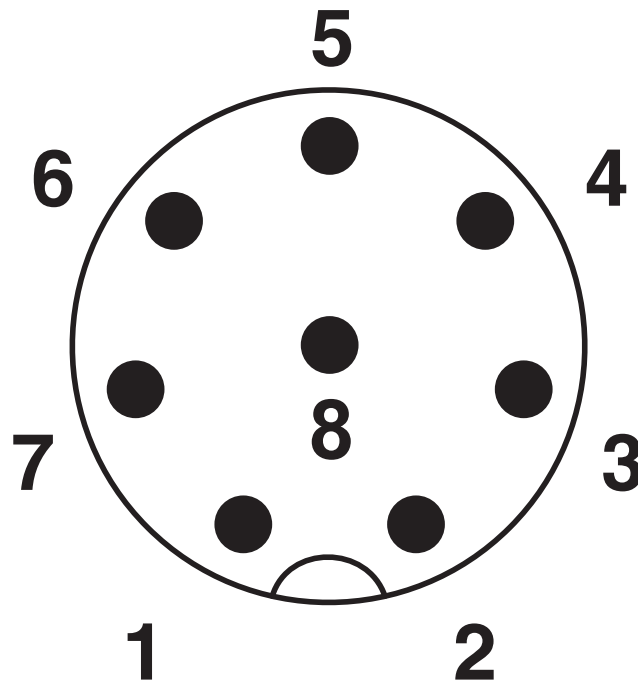


M12 x 1 socket, angled, shielded

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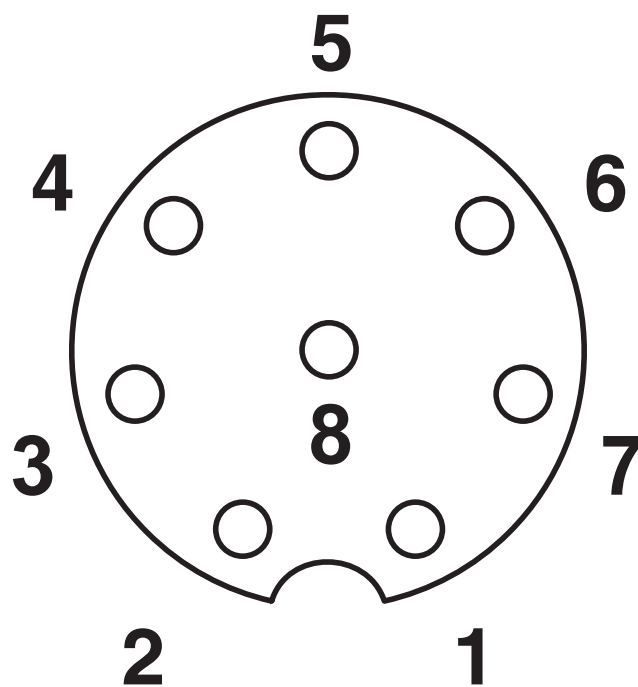
<https://www.phoenixcontact.com/us/products/1428704>

Schematic diagram



Pin assignment M12 plug, 8-pos., view plug side

Schematic diagram



Pin assignment M12 socket, 8-pos., A-coded, view female side

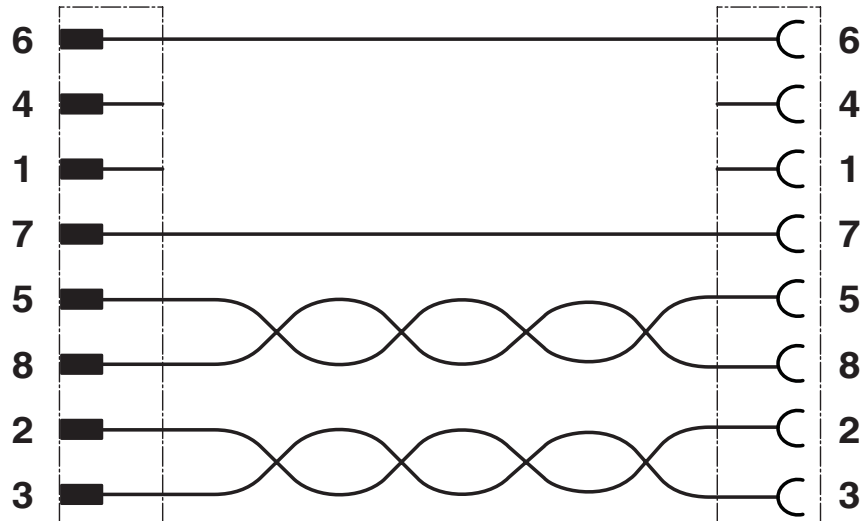
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Circuit diagram



Contact assignment of the M12 connector and the M12 socket

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## Classifications

### ECLASS

ECLASS-13.0	27060307
ECLASS-15.0	27060307

### ETIM

ETIM 9.0	EC001855
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### UNSPSC

UNSPSC 21.0	26121600
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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%
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