

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Bus system cable, CANopen[®], DeviceNet[™], 5-position, PUR halogen-free, gray RAL 7001, shielded, Plug straight M12 SPEEDCON, A-coded, on Socket straight M12 SPEEDCON, A-coded, cable length: 2 m, Connector unshielded



Key Commercial Data

Packing unit	1 STK
GTIN	4 046356 542968
GTIN	4046356542968

Technical data

Dimensions

Length of cable	2 m

Ambient conditions

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

General

Rated current at 40°C	4 A
Rated voltage	48 V AC
	60 V DC
Number of positions	5
Color handle area	black
Coding	A - standard
Signal type/category	CANopen [®]
	DeviceNet™
Status display	No
Overvoltage category	II



Technical data

General

Degree of pollution	3
Torque	0.4 Nm (M12 connector)

Material

Flammability rating according to UL 94	НВ
Contact material	CuSn
Contact surface material	Ni/Au
Contact carrier material	TPU GF
Material of grip body	TPU, hardly inflammable, self-extinguishing
Material, knurls	Zinc die-cast, nickel-plated
Sealing material	NBR

Pin assignment

Position = wire color (signal) = position (optional)	1 (Plug) SR (shield) 1 (Socket)
	2 (Plug) RD (V+) 2 (Socket)
	3 (Plug) BK (V-) 3 (Socket)
	4 (Plug) WH (CAN_H) 4 (Socket)
	5 (Plug) BU (CAN_L) 5 (Socket)

Standards and Regulations

Flammability rating according to UL 94	НВ
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Cable

Cable type	CAN Bus/DeviceNet drop cable
	·
Cable type (abbreviation)	923
UL AWM style	21198 (80°C/300 V)
Cable structure	2xAWG24/19+2xAWG22/19
Conductor cross section	2x 0.25 mm² (Data cable)
	2x 0.34 mm² (Power supply)
	1x 0.34 mm² (Drain wire)
AWG signal line	24
AWG power supply	22
Conductor structure signal line	19x 0.13 mm
Conductor structure, voltage supply	19x 0.15 mm
Core diameter including insulation	1.95 mm ±0.05 mm (Data cable)
	1.4 mm ±0.05 mm (Power supply)
Wire colors	Red-black, blue-white
Twisted pairs	2 cores to the pair
Type of pair shielding	Plastic-coated aluminum foil, aluminum side outside
Overall twist	2 pairs around a drain wire in the center to the core
Shielding	Tinned copper braided shield
Optical shield covering	80 %
External sheath, color	silver-gray RAL 7001



Technical data

Cable

Cable	
External cable diameter D	6.7 mm ±0,3 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	5000000
Bending radius	70 mm
Minimum bending radius, drag chain applications	10 x D
Traversing path	4.5 m
Traversing rate	3 m/s
Acceleration	3 m/s²
Cable weight	90 kg/km
Outer sheath, material	PUR
Material conductor insulation	Foamed PE (Data cable)
	PE (Power supply)
Conductor material	Tin-plated Cu litz wires
Insulation resistance	≥ 5 GΩ*km (Data cable)
	\geq 5 G Ω *km (Power supply)
Loop resistance	≤ 181.80 Ω/km (Data cable)
	\leq 114.80 Ω /km (Power supply)
Cable capacity	nom. 40 nF/km (Data cable)
Wave impedance	120 Ω ±10 % (with 1 MHz)
Attenuation	≤ 22.9 dB/km (with 1 MHz)
	≤ 16.4 dB/km (At 500 kHz)
	≤ 9.5 dB/km (At 125 kHz)
Nominal voltage, cable	≤ 300 V (Peak value, not for high-power applications)
Test voltage Core/Core	2000 V (50 Hz, 1 min.)
Test voltage Core/Shield	2000 V (50 Hz, 1 min.)
Flame resistance	UL 1581, Sec. 1060 (FT-1)
	IEC 60332-1
Halogen-free	in accordance with DIN VDE 0472 part 815
	according to IEC 60754-1
Other resistance	Low adhesion
Ambient temperature (operation)	-40 °C 80 °C (cable, fixed installation)
	-20 °C 80 °C (cable, flexible installation)

Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings



Schematic diagram



Schematic diagram



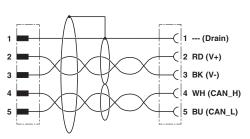
Pin assignment M12 male connector, 5-pos., A-coded, male side

Pin assignment M12 socket, 5-pos., A-coded, socket side view

Cable cross section



Circuit diagram



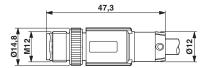
CAN Bus/DeviceNet [923]

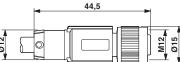
Contact assignment of the M12 plug and the M12 socket

Dimensional drawing



Dimensional drawing





Plug, M12 x 1, straight, shielded

M12 x 1 socket, straight

Approvals

Approvals

Approvals

EAC

Ex Approvals

Approval details



Approvals



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