

Hybrid cable - VS-M12MS-M12MS-94H-HYB/20,0SCO - 1402441

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Hybrid cable, Ethernet hybrid CAT5 (100 Mbps), 8-position, Plug straight M12 SPEEDCON / IP67, coding: Y, on Plug straight M12 SPEEDCON / IP67, coding: Y, cable length: 20 m, Power with Ethernet (PWE)



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 615983
GTIN	4046356615983
Weight per Piece (excluding packing)	1,780.000 g
Custom tariff number	85444210
Country of origin	Poland

Technical data

Dimensions

Length of cable	20 m
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Ambient conditions

Degree of protection	IP65
	IP67

General data

Rated current at 40°C	6 A (Power)
	0.5 A (Data)
Rated voltage	30 V AC (Power and data)
	30 V DC
Number of positions	8

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Technical data

General data

Signal type/category	Ethernet hybrid CAT5 (IEC 11801), 100 Mbps
Degree of pollution	2
Transmission characteristics (category)	CAT5
Transmission speed	100 Mbps

Characteristics head 1

Head type	Plug straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	8 (4+4)
Coding	Y (Hybrid)
Color	black
Material (component)	CuZn (Contact)
	Ni/Au (Contact surface)
	PP (Contact carrier, data)
	PA (Contact carrier, power)
	TPU, hardly inflammable, self-extinguishing (Grip)
	Zinc die-cast, nickel-plated (Screw connection)
Shielded	yes
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

Characteristics head 2

Head type	Plug straight M12 SPEEDCON / IP67
No. of positions (pin connector pattern)	8 (4+4)
Coding	Y (Hybrid)
Color	black
Material (component)	CuZn (Contact)
	Zinc die-cast, nickel-plated (Screw connection)
	Ni/Au (Contact surface)
	PP (Contact carrier, data)
	PA (Contact carrier, power)
	TPU, hardly inflammable, self-extinguishing (Grip)
Shielded	yes
Insulation resistance	≥ 100 MΩ
Insertion/withdrawal cycles	≥ 100
Torque	0.4 Nm
Ambient temperature (operation)	-25 °C ... 90 °C

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Technical data

Standards and Regulations

Flammability rating according to UL 94	V0
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Cable

Cable type	Ethernet hybrid
Cable type (abbreviation)	94H
UL AWM style	20963 (80°C/30 V)
Signal type/category	Ethernet hybrid CAT5 (IEC 11801), 100 Mbps
Cable structure	1x4xAWG26+1x4xAWG20
Conductor cross section	4x 0.15 mm ² (Data)
	4x 0.6 mm ² (Power)
AWG signal line	26
AWG power supply	20
Conductor structure signal line	19x 0.10 mm
Conductor structure, voltage supply	19x 0.20 mm
Core diameter including insulation	1.05 mm (Data)
	1.4 mm (Power)
Wire colors	White/orange, orange, white/green, green, white, blue, brown, black
Overall twist	1 star quad and 4 wires with 2 fillers
Shielding	Tinned copper braided shield
Optical shield covering	85 %
External sheath, color	black RAL 9005
External cable diameter D	7.6 mm ±0.2 mm
Minimum bending radius, fixed installation	5 x D
Minimum bending radius, flexible installation	10 x D
Number of bending cycles	2000000
Minimum bending radius, drag chain applications	10 x D
Traversing path	4.5 m
Traversing rate	3 m/s
Acceleration	3 m/s ²
Tensile strength GRP	70 N (in accordance with DIN EN 50565-1 for flexible installation)
	240 N (in accordance with DIN EN 50565-1 for fixed installation)
Cable weight	87 kg/km
Outer sheath, material	PUR
Material conductor insulation	PP (Data)
	PP (Power)
Conductor material	Bare Cu litz wires
Insulation resistance	≥ 5 GΩ*km
Loop resistance	≤ 280.00 Ω/km (Data)

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Technical data

Cable

	≤ 34.60 Ω/km (Power)
Working capacitance	nom. 50 nF (per kilometer)
Wave impedance	100 Ω ±15 Ω (4 MHz ... 100 MHz)
Near end crosstalk attenuation (NEXT)	56.3 dB (at 4 MHz)
	50.3 dB (at 10 MHz)
	47.2 dB (at 16 MHz)
	45.8 dB (at 20 MHz)
	42.9 dB (at 31.25 MHz)
	38.4 dB (at 62.5 MHz)
	35.3 dB (at 100 MHz)
Attenuation	6 dB (at 4 MHz)
	9.5 dB (at 10 MHz)
	12.1 dB (at 16 MHz)
	13.5 dB (at 20 MHz)
	17.1 dB (at 31.25 MHz)
	24.8 dB (at 62.5 MHz)
	32 dB (at 100 MHz)
Shield attenuation	≥ 80 dB (30 MHz ... 125 MHz)
Differential impedance	100 Ω ±5 % (at 100 MHz)
Nominal voltage, cable	≤ 50 V (Peak value, not for high-power applications)
Test voltage Core/Core	1500 V (50 Hz, 1 min.)
Test voltage Core/Shield	1500 V (50 Hz, 1 min.)
Special properties	Free of substances which would hinder coating with paint or varnish
	Silicone-free
Flame resistance	in acc. with UL 1581, section 1061
	in acc. with UL 1581, section 1061
Halogen-free	according to IEC 60754
	in accordance with DIN VDE 0472 part 815
Resistance to oil	according to IEC 60811-2-1
	according to VDE 0282 Part 10
Other resistance	Low adhesion
Ambient temperature (operation)	-40 °C ... 90 °C (cable, fixed installation)
	-30 °C ... 70 °C (cable, flexible installation)
Shielded	yes

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years

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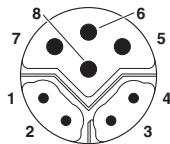
Technical data

Environmental Product Compliance

	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"
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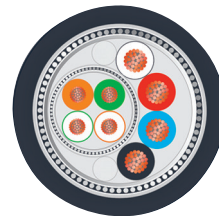
Drawings

Schematic diagram



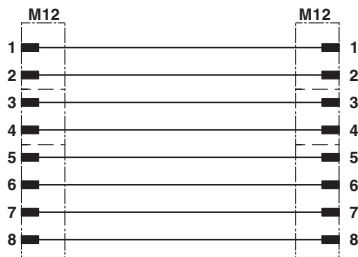
M12 hybrid connector pin assignment, 8-pos., pin side view

Cable cross section

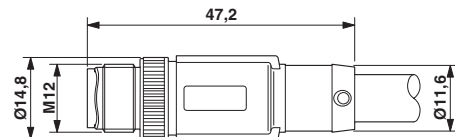


Ethernet hybrid [94H]

Circuit diagram



Dimensional drawing



M12 connector, straight, shielded

Classifications

eCl@ss

eCl@ss 10.0.1	27060308
eCl@ss 11.0	27060308
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27259200
eCl@ss 5.1	27259200
eCl@ss 6.0	27279200
eCl@ss 7.0	27279218
eCl@ss 9.0	27060308

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Classifications

ETIM

ETIM 4.0	EC002599
ETIM 6.0	EC001262
ETIM 7.0	EC001262

UNSPSC

UNSPSC 6.01	31251501
UNSPSC 7.0901	31251501
UNSPSC 11	31251501
UNSPSC 12.01	31251501
UNSPSC 13.2	31251501
UNSPSC 18.0	26121604
UNSPSC 19.0	26121604
UNSPSC 20.0	26121604
UNSPSC 21.0	26121604

Approvals


Approvals

Approvals

UL Listed / cUL Listed / EAC-RoHS / cULus Listed


Ex Approvals

Approval details


UL Listed		http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm	FILE E 335024
Nominal voltage UN	56.5 V		
Nominal current IN	0.175 A		

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Approvals

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 335024
Nominal voltage UN		56.5 V	
Nominal current IN		0.175 A	

EAC-RoHS		RU D- DE.HB35.B.00385
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cULus Listed	
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