




Product information OCTOPUS 16M Train

Industrial Ethernet:Waterproof IP67/IP54 Switches:Managed Waterproof IP67/IP54 Switches:Fast Ethernet Managed Waterproof IP67 Switches:OCTOPUS 16M Train

<http://www.e-catalog.beldensolutions.com/link/57078-24455-49850-109276-124128-40813/en/conf/uistate>

Name	OCTOPUS 16M Train
	
	Managed IP 67 switch in accordance with IEEE 802.3, store-and-forward-switching, software layer 2 Professional, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s)
Delivery informations	
Availability	available
Product description	
Description	Managed IP 67 switch in accordance with IEEE 802.3, store-and-forward-switching, software layer 2 Professional, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s)
Port type and quantity	16 x 10/100 BASE-TX, M12 D coding, 4-pole, TP cable auto-crossing, auto-negotiation, auto-polarity
Type	OCTOPUS 16M Train
Order No.	943 984-001
More interfaces	
Power supply/signaling contact	1 x M12 5-pin connector, A coding
V.24 interface	1 x M12 4-pin socket, A coding
USB interface	1 x M12 5-pin socket, A coding
Network size - length of cable	
Twisted pair (TP)	0 - 100 m
Multimode fiber (MM) 50/125 µm	n/a
Multimode fiber (MM) 62.5/125 µm	n/a
Network size - cascadiability	
Line - / star topology	Any
Ring structure (HIPER-Ring) quantity switches	50 (reconfiguration time < 0.3 sec.)
Power requirements	
Operating voltage	DC 9.6 to 60 V
Power consumption	max. 9.5 W
Current consumption at 24 V DC	380 mA
Current consumption at 48 V DC	n/a
Service	
Management	Serial interface, Web interface, SNMP V1/V2/V3 (HiVision/Industrial HiVision)
Diagnostics	LEDs (power 1, power 2, link status, data, redundancy manager, error) cable tester, signalling contact, RMON (statistics, history, alarms, events), SysLog support, port mirroring
Configuration	Command Line Interface (CLI scripting), auto-configuration adapter (ACA21-M12), TELNET, BootP, DHCP Option 82, HiDiscovery
Security	Port security (MAC and IP address), SNMPv3, SSHv3, SNMP access settings (VLAN/IP), IEEE 802.1X authentication
Other services	4 QoS queues, user priority (IEEE 802.1D/p), VLAN (IEEE 802.1Q), unknown multicast filtering, multicast support (IGMP Snooping/Querier, GMRP), broadcast limiter per port, ingress and egress packet limiter, Flow Control IEEE 802.3x, LLDP (topology discovery IEEE 802.1AB), Link Aggregation (IEEE 802.3ad), buffered real-time clock, PTP support (Precision Time Protocol) (IEEE 1588 client for system clock only), SNTP support (Simple Network Time Protocol, client/server)
Redundancy	
Redundancy functions	HIPER-Ring (ring structure), RSTP (Rapid Spanning Tree Protocol, IEEE 802.1w), redundant network/ring coupling, redundant power supply
Ambient conditions	
Operating temperature	-40 °C to +70 °C
Storage/transport temperature	-40 °C to +85 °C
MTBF	17.8 years; MIL-HDBK 217F: Gb 25 °C
Relative humidity	10 to 100% (also condensing)



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Mechanical construction

Dimensions (W x H x D)	261 mm x 189 mm x 70 mm
Mounting	Wall mounting
Weight	1920 g
Protection class	IP 67

Mechanical stability

IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 vibration	1 mm, 2 Hz - 13.2 Hz, 90 min.; 0,7g, 13.2 Hz - 100 Hz, 90 min.; 3.5 mm, 3 Hz - 9 Hz, 10 cycles, 1 octave/min.; 1g, 9 Hz - 150 Hz, 10 cycles, 1 octave/min.

EMC interference immunity

EN 61000-4-2 electrostatic discharge (ESD)	4 kV contact discharge, 8 kV air discharge
EN 61000-4-3 electromagnetic field	10 V/m (80 - 1000 MHz)
EN 61000-4-4 fast transients (burst)	2 kV power line, 1 kV data line
EN 61000-4-5 surge voltage	power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line
EN 61000-4-6 conducted immunity	3 V (10 kHz - 150 kHz), 10 V (150 kHz - 80 MHz)

EMC emitted immunity

FCC CFR47 Part 15	FCC CFR47 Part 15 Class A
EN 55022	EN 55022 Class A

Approvals

Electronic mechanisms on rail-mounted vehicles	EN 50155
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Scope of delivery and accessories

Scope of delivery	covers for sealing unused ports, M12-connector (ELWIKA 5012 PG7) for power connection, description and operating instructions
Accessories to order separately	Auto Configuration Adapter (ACA21-M12), order no. 943 931-001; modem cable (OCTOPUS Terminalkabel), order no. 943 902-001; field assembleable M12-connector (EM12S OCTOPUS), order no. 934 445-001; patchcords (EM12S 001Lxxxx OCTOPUS), order no. 934 578-xxx; crossing M12 to RJ45 (EF12RJ45 OCTOPUS), order no. 934 498-001

Note	Please note that some recommended accessory parts only support a temperature range from -25 °C to +70 °C and might limit the possible operating conditions for the entire system. Specially designed connector types with protection class IP67 and extended temperature range are available on request. Furthermore unsealed accessories like RJ45 adapters or terminal access cables are certainly not suitable inside IP67 areas.
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