| 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 - cascadibility** | |
| **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 ℃ to +70 ℃ |
| **Storage/transport temperature** | -40 ℃ to +85 ℃ |
| **MTBF** | 17.8 years; MIL-HDBK 217F: Gb 25 ℃ |
| **Relative humidity** | 10 to 100% (also condensing) |

The information published has been compiled as carefully as possible. It is subject to alteration without notice in technical as well as in price related/commercial respect.

| Mechanical construction | |
|---|---|
| **Dimensions (W x H x D)** | 261 mm x 189 mm x 70 mm |
| **Mounting** | Wall mounting |
| **Weight** | 1900 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 |
| **Scope of delivery and accessories** | |
| **Scope of delivery** | 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; OCTOPUS dust cover set (25 pieces) order no. 942 057-001 |
| **Note** | Please note that some recommended accessory parts only support a temperature range from -25 ºC to +70 ºC 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. |