



## MS4128-5

Industrial Networking:Industrial Ethernet:MICE:Switches

| <b>Product description</b>         |  |
|------------------------------------|--|
| Description                        | MICE, modular, managed Industrial EHTERNET Switch, store and forward switching mode, Ethernet (10 Mbit/s) and Fast-Ethernet (100 Mbit/s) and Gigabit-Ethernet (1000 Mbit/s)  |
| Port type and quantity             | up to 28 ports possible via media modules, 4 x 1000BASE-SX with SFP modules or 4 x 10/100/1000BASE-TX and 24Fast-Ethernet (100 Mbit/s) ports   |
| Type                               | MS4128-5   |
| Order No.                          | 943 746-001  |
| <b>More Interfaces</b>             |  |
| Power supply/signaling contact     | 2 plug-in terminal block, 4-pin  |
| V.24 interface                     | 1 x RJ11 socket  |
| <b>Network size - cascability</b>  |  |
| Line - / star topology             | any  |
| Ring structure (HIPER-Ring)        | 50 (reconfiguration time < 50 ms)  |
| <b>Power requirements</b>          |  |
| Operating voltage                  | 24 V DC (-25% to +30%)   |
| Current consumption at 24 V DC     | 630 mA (not including media modules)   |
| Power consumption                  | 15 W (not including media modules)   |
| <b>Service</b>                     |  |
| Management                         | serial interface, web interface SNMP v1/v2/v3, HiVision  |
| Diagnostics                        | LEDs (power, link status, data, 100 Mbit/s, auto-negotiation, full duplex, error, redundancy manager, ring port, LED test), cable tester, 2 x signal contact / fault relays (24 V DC / 1 A), RMON (statistics, history, alarms, events), port mirroring. |
| Configuration                      | Comand Line Interface (CLI), TELNET, BootP, DHCP, DHCP option 82, HIDiscovery, auto-configuration adapter (ACA21-USB)  |
| Security                           | SNMP V3 (SSH, SSL), port security, ACL, Authentication (802.1x)  |
| Other services                     | QoS 4 classes, prioritization (IEEE 802.1D/p), VLAN (802.1Q), multicast (IGMP snooping/querier, GMRP), broadcastlimiter, SNTP (simple network time protocol), flow control IEEE 802.3x   |
| Prepared for                       | TOS (Type of Service) Diff.-Serv, TOS-Prio-Mapping, protocol based VLANs, Routing RIP and OSPF HIRRP / VRRP, Proxy ARP   |
| <b>Redundancy</b>                  |  |
| Redundancy functions               | HIPER-Ring (ring structure), RSTP (rapid spanning tree protocol), redundant network/ring coupling, dual homing, redundant 24 V power supply, redundant signal contact, link aggregation dynamic and static (max. 7 trunks, 8 ports/trunk, LACP)          |
| <b>Ambient conditions</b>          |  |
| Operating temperature              | 0 °C to +60 °C   |
| Storage/transport temperature      | -25 °C to +70 °C   |
| Relative humidity (non-condensing) | 10% to 95%   |
| MTBF                               | 24.2 years; MIL-HDBK 217F: Gb 25 °C  |
| <b>Mechanical construction</b>     |  |
| Dimensions (W x H x D)             | 315 mm x 134 mm x 140 mm   |
| Mounting                           | DIN Rail 35 mm   |
| Weight                             | 2,2 kg   |

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| Protection class                           | IP 20   |
| <b>Mechanical stability</b>                |   |
| 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.;<br>3.5 mm, 3 Hz - 9 Hz, 10 cycles, 1 octave/min.; 1g, 9 Hz - 150 Hz, 10 cycles, 1 octave/min.                                       |
| <b>EMC interference immunity</b>           |   |
| EN 61000-4-2 electrostatic discharge (ESD) | 6 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)   |
| <b>EMC emitted immunity</b>                |   |
| FCC CFR47 Part 15                          | FCC CFR47 Part 15 Class A   |
| EN 55022                                   | EN 55022 Class A  |
| <b>Approvals</b>                           |   |
| Safety of industrial control equipment     | cUL 508 (E175531) in preparation  |
| Hazardous locations                        | cUL 1604 Class 1 Div 2 (E203960) in preparation   |
| Safety of information technology equipment | cUL 60950 (E168643) in preparation  |
| Germanischer Lloyd                         | Germanischer Lloyd in preparation   |
| <b>Scope of delivery and accessories</b>   |   |
| Scope of delivery                          | Device, terminal block, operating manual  |
| Accessories to order separately            | ML-MS3 labels, MB-2T expansion backplane, auto-configuration adapter (ACA 21-USB),<br>HiVision network management, 19" installation, terminal cable,<br>rail power supply RPS 30, RPS 60 or RPS 120 |