



# INDUSTRIAL ETHERNET SWITCHES WITH M12 CONNECTIVITY

Robust unmanaged industrial Ethernet switches with M12 connectivity for use in railways and other forms of public transport. The switches are designed to enable faster and more reliable networks. Depending on the model, the number of ports ranges between five and eight ports, all supporting M12 connectivity. They support data speeds of up to 1 Gb/s, thereby future-proofing against network expansions in the short and medium-term. The switches comply with EN50155, the international standard covering electronics equipment used on rolling stock for railway applications.

## BENEFIT STATEMENTS

- M12 cable assemblies support data speed up to 1Gb/s, making the network future proof
- Increases network reliability and safety because of redundant input of power and bypass so that in case of power failure, the switch will transfer data to the next network node
- Save cost by eliminating separate power cables due to optional Power over Ethernet (PoE)
- Compliant with EN50155 to meet international standard covering electronics equipment used in rolling stock for railway applications

## Industrial Ethernet Switches with M12 Connectivity

### APPLICATIONS

- Public transportation
- Railway
- Tram
- Metro
- Heavy industrial applications

### FEATURES

- 5-8 ports supporting M12 connectivity
- Ruggedized switches
- Supports data speeds up to 1Gb/s
- EN50155 compliant
- Optional PoE
- Redundant input power and bypass

### STANDARDS & SPECIFICATIONS

- IEEE 802.3 at
- EN50155
- IEC60068-2-27 / -2-32 / -2-6

### ELECTRICAL

- Input power 12-57VDC (24VDC) or 71-110VDC
- 5-8 Ethernet ports

### MECHANICAL

- IP40
- -40 to 75°C



Ruggedized M12 Connectivity enables application in Rail

Optional Bypass improves system reliability

EN50155 compliant metal casing

Redundant power supply

| Rugged design features                                                                                                                                                                                                                                                                    | Secure data transmission                                                                                                                                                                                                                                                         | Others                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• M12 Connectors for toughest environments</li> <li>• Shock resistant according to IEC60068-2-27</li> <li>• Vibration resistant according to IEC60068-2-6</li> <li>• Reverse polarity protection</li> <li>• Overload current protection</li> </ul> | <ul style="list-style-type: none"> <li>• Compliant to IEEE 802.3</li> <li>• Dual DC input reduces risk of power failure</li> <li>• Optional bypass function</li> <li>• Relay output enables remote monitoring of the device</li> <li>• Store and forward capabilities</li> </ul> | <ul style="list-style-type: none"> <li>• Operating temp -40 to 75°C</li> <li>• IP-40</li> <li>• Optional bypass ports help protect the network in case of power failure</li> <li>• Optional POE</li> </ul> |

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|                                                                                    | PN                    | Description                                 | # ports | # PoE ports          | Speed                     | Input Voltage | Bypass |
|------------------------------------------------------------------------------------|-----------------------|---------------------------------------------|---------|----------------------|---------------------------|---------------|--------|
|   | 500 Mbit/s with POE   |                                             |         |                      |                           |               |        |
|                                                                                    | 1-2320401-1           | 5-PORT 500MBPS SWITCH, 4-PORT POE, 24V      | 5       | 4 (max 30W per port) | 10/100/500 Base-T(X)      | 12-57VDC      | No     |
|                                                                                    | 1-2320401-3           | 5-PORT 500MBPS SWITCH, 4-PORT POE, MV       |         |                      |                           | 72-110VDC     |        |
|   | 1 Gbit/s              |                                             |         |                      |                           |               |        |
|                                                                                    | 1-2320402-4           | 8-PORT 1GBPS SWITCH                         | 8       | none                 | 10/100/1000 Base-T(X)     | 12-48VDC      | No     |
|                                                                                    | 1-2320402-1           | 8-PORT 1GBPS SWITCH, 2XBYPASS               |         |                      |                           |               | 2x     |
|                                                                                    | 1-2320402-2           | 8-PORT 1GBPS SWITCH, MV                     |         |                      |                           | 72-110VDC     | No     |
|                                                                                    | 1-2320402-3           | 8-PORT 1GBPS SWITCH, 2XBYPASS, MV           |         |                      |                           |               | 2x     |
|  | 500M/1Gbit/s with POE |                                             |         |                      |                           |               |        |
|                                                                                    | 1-2320404-4           | 8-PORT 500M/1GBPS POE SWITCH, 24V           | 8       | 8                    | 10/100/500/1000 Base-T(X) | 12-57VDC      | No     |
|                                                                                    | 1-2320404-1           | 8-PORT 500M/1GBPS POE SWITCH, 2XBYPASS, 24V |         |                      |                           |               | 2x     |
|                                                                                    | 1-2320404-5           | 8-PORT 500M/1GBPS POE SWITCH, MV            |         |                      |                           | 72-110VDC     | No     |
|                                                                                    | 1-2320404-6           | 8-PORT 500M/1GBPS POE SWITCH, 2XBYPASS, MV  |         |                      |                           |               | 2x     |

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