

SPARK-XS POE

Unmanaged Industrial Ethernet Switches M12 IP65/67
Power over Ethernet



Power and Data over one cable: Compact, robust and efficient

- ▶ 24 VDC Power Supply
- ▶ Ultra-compact, ruggedized design
- ▶ Temperature range -40 to +70°C
- ▶ Polarity protection
- ▶ IP65/67 metal housing
- ▶ X-coded Gigabit Uplink Port
- ▶ DIN EN 50155 rail compliant
- ▶ 40 Watt PoE Total Powerbudget

The SPARK-XS41Q M12 Industrial PoE Ethernet Switch is perfectly suited for use in harsh industrial environments outside the control cabinet and for networks in passenger trains, buses, commercial vehicles and agricultural machinery. With a supply voltage of 24 VDC, the switch supplies connected end devices on the four D-coded M12 ports with data and power in accordance with the IEEE 802.3at (Type 1) standard with a total power budget of 40 watts. With the X-coded M12 uplink port, sufficient reserves are available for data transmission thanks to the high bandwidth. Due to the extended temperature range of -40°C to +70°C, excellent EMC performance (DIN EN 50121-3-2) and fire protection according to DIN EN 45545, the SPARK is suitable for use in trains and comply with DIN EN 50155. By supporting Autonegotiation and Auto MDI-X a quick and easy commissioning is possible.

General

Switch: IEEE802.3 Store and Forward; non-blocking wire speed

Auto-Negotiation, Auto-MDI-X, Auto-Polarity: Yes

Framegröße: 1,518 Bytes

MAC table size: 2,000 addresses

Quality of Service: Yes – 8 priority queues

Energy Efficient Ethernet: No

Flow Control: No

PROFINET suitable: Yes

Port count (X-cod. + D-cod.) **4+1**

MTBF (SN 29500, Mio. h) tbd

| Frame Forwarding (Art.-No.) | xxxxx0 | xxxxx1 |
|------------------------------------|------------|------------|
| LLDP, PTCP Delay 01:80:C2:00:00:0E | Forwarding | Blocking |
| RSTP BPDU 01:80:C2:00:00:00 | Forwarding | Forwarding |

Power supply / electronics

Nominal voltage (VDC): Vin 24

Voltage range (VDC): 16,8 - 30 (14,7 - 33,6 for 100 ms)

Connect. type: Vin M12 A-cod. (Pin1+|Pin2-) | M4 screw (FE)

Supply circuit: SELV DIN 60950 (circuit breaker 10 A)

Inrush current limiter: Yes

Input fuse: Yes, Interrupting rating 50 A @ 125 VAC/VDC

Polarity protection: Yes

PCB Conformal Coating: Yes

Protection category: III

Isolation: 2 kVDC Vin↔housing | 1,5 kVDC Vin↔X-coded
0 kVDC Vin↔D-coded PoE

Power over Ethernet

Type | Standard: PSE | IEEE 802.3af/802.3at (Typ 1)

Mode: A (Endspan); Pins V+ = 1,2 und V- = 3,6

Max. current per port (mA): 0,350

Max. power per port (W): 15.4

Max. total power budget PoE (W): 40

Galvanic isolation: No

Switching live voltage path: Yes

Isolation: 0 kVDC D-coded PoE↔D-coded PoE
2,25 kVDC D-coded PoE↔housing

Port count (X-cod. + D-cod.) **4+1**

Power consumption (W)

Idle | full load (w/o PoE) 1,5 | 2,9

Idle | full load (w PoE) 41,5 | 43,0

Input current (A)

Idle | full load (w/o PoE) 0,06 | 0,12

Idle | full load (w PoE) 1,73 | 1,80

Inrush current (A) tbd

Mechanical properties

Housing material: Nickel-plated aluminium, stainless steel

Mounting: M6 hole for wall mounting, round head screw

IP Protection class (operation): IP65/67

Port count (M12) **4+1**

Width (mm) 65

Height (mm) 135

Depth (mm) 29,8

Weight (g) 370

Ethernet Interfaces

IEEE Standards: 802.3 10BaseT, 802.3u 100BaseT(X), 1000BaseT

Isolation: 2 kVDC X-coded↔D-coded PoE

1 kVDC X-coded↔housing

Connection type: M12 D-coded (PoE), M12 X-coded

Port count | Speed: 4 | 10/100 Mbit/s + 1 | 10/100/1000 Mbit/s

Cable length: 100 m (Twisted Pair, 0,14 mm² - 0,22 mm², Cat 5)

EMC and environmental specifications

Operating temperature: -40°C to +70°C

Storage temperature: -40°C to +85°C

Relative humidity (operation): 0%-95% (not condensing)

Relative humidity (storage): 0%-95% (not condensing)

Atmospheric pressure (operation): 2,000 m (795 hPa)

EMC immunity: DIN EN - 50121-3-2, 61000-6-2

EMC radiated emission: DIN EN - 50121-3-2, 61000-6-4

Mechanical stability: DIN EN 61373

Fire protection: DIN EN 45545

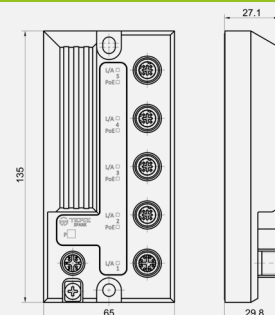
Approvals and certifications

CE, DIN EN 50155, DIN EN 60950-1

Status and diagnostic indicators

LED: Power | Link/Activity pro Port | PoE pro Port

Drawing



Products

| Article | Art.-No. | Specification |
|-------------------|-----------|-----------------------------|
| SPARK-XS41Q-31010 | 431410210 | 4+1,M12,PoE,24 V |
| SPARK-XS41Q-31011 | 431410211 | 4+1,M12,PoE,24 V,LLDP Block |

