



**SPIDER family**
**2 port media converter switches**

Product description	SPIDER 1TX/1FX	SPIDER 1TX/1FX EEC
		
<b>Product description</b>		
Description	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s)	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s)
Port type and quantity	1 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity 1 x 100 BASE-FX, MM cable, SC sockets	1 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity 1 x 100 BASE-FX, MM cable, SC sockets
Type	SPIDER 1TX/1FX	SPIDER 1TX/1FX EEC
Order No.	943 890-001	943 927-001
<b>More Interfaces</b>		
Power supply/signaling contact	1 plug-in terminal block, 3-pin, no signal contact	1 plug-in terminal block, 3-pin, no signal contact
<b>Network size – length of cable</b>		
Twisted pair (TP)	0–100 m	0–100 m
Multimode fiber (MM) 50/125 μm	0–5000 m, 8 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 800 MHz x km	0–5000 m, 8 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 800 MHz x km
Multimode fiber (MM) 62,5/125 μm	0–4000 m, 11 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km	0–4000 m, 11 dB link budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km
Singlemode fiber (SM) 9/125 μm		
Singlemode fiber (LH) 9/125 μm (long haul transceiver)		
<b>Network size – cascading</b>		
Line-/star topology	Any	Any
<b>Power requirements</b>		
Operating voltage	9.6–32 VDC	9.6–32 VDC
Current consumption at 24 VDC	Max. 130 mA	Max. 130 mA
Power consumption	Max. 3.0 W 10.2 Btu (IT)/h at 24 V DC	Max. 3.0 W 10.2 Btu (IT)/h at 24 V DC
<b>Service</b>		
Diagnostics	LEDs (power, link status, data, data rate)	LEDs (power, link status, data, data rate)
<b>Redundancy</b>		
Redundancy functions		
<b>Ambient conditions</b>		
Operating temperature	0°C up to +60°C	–40°C up to +70°C
Storage/transport temperature	–40°C up to +70°C	–40°C up to +85°C
Relative humidity (non-condensing)	10% up to 95%	10% up to 95%
MTBF	128.1 years; MIL-HDBK 217F: Gb 25°C	128.1 years; MIL-HDBK 217F: Gb 25°C
<b>Mechanical construction</b>		
Dimensions (W x H x D)	25 mm x 114 mm x 79 mm	25 mm x 114 mm x 79 mm
Mounting	DIN rail 35 mm	DIN rail 35 mm
Weight	105 g	105 g
Protection class	IP 30	IP 30
<b>Mechanical stability</b>		
IEC 60068-2-27 shock	15 g, 11 ms duration, 18 shocks	15 g, 11 ms duration, 18 shocks
IEC 60068-2-6 vibration	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min. 1 g, 9–150 Hz, 10 cycles, 1 octave/min.	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min. 1 g, 9–150 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	6 kV contact discharge, 8 kV air discharge
EN 61000-4-3 electromagnetic field	10 V/m (80–2000 MHz)	10 V/m (80–2000 MHz)
EN 61000-4-4 fast transients (burst)	2 kV power line, 4 kV data line	2 kV power line, 4 kV data line
EN 61000-4-5 surge voltage	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line
EN 61000-4-6 conducted immunity	10 V (150–80 kHz)	10 V (150–80 kHz)
<b>EMC emitted immunity</b>		
FCC CFR47 Part 15	FCC CFR47 Part 15 Class A	FCC CFR47 Part 15 Class A
EN 55022	EN 55022 Class A	EN 55022 Class A
<b>Approvals</b>		
Safety of industrial control equipment	cUL 508 (E175531)	cUL 508 (E175531)
EMV regulations for assembly in vehicles		
Hazardous locations		
Employment in vehicles		
Safety of information technology equipment		
German Lloyd		
<b>Scope of delivery and accessories</b>		
Scope of delivery	Device, terminal block, operating manual	Device, terminal block, operating manual
Accessories to order separately	Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame	Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame

## Switches for linear and star topologies

SPIDER 1TX/1FX-SM	SPIDER 1TX/1FX-SM EEC	SPIDER 3TX-TAP
		
Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 1 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity 1 x 100 BASE-FX, MM cable, SC sockets SPIDER 1TX/1FX-SM 943 891-001	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 1 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity 1 x 100 BASE-FX, MM cable, SC sockets SPIDER 1TX/1FX-SM EEC 943 928-001	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 3 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity SPIDER 3TX-TAP 943 899-001
1 plug-in terminal block, 3-pin, no signal contact	1 plug-in terminal block, 3-pin, no signal contact	1 plug-in terminal block, 3-pin, no signal contact
0–100 m	0–100 m	0–100 m
0–32.5 km, 16 dB link budget at 1300 nm, A = 0.4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km)	0–32.5 km, 16 dB link budget at 1300 nm, A = 0.4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km)	
Any	Any	Any
9.6–32 VDC	9.6–32 VDC	9.6–32 VDC
Max. 130 mA	Max. 130 mA	Max. 100 mA
Max. 3.0 W 10.2 Btu (IT)/h at 24 V DC	Max. 3.0 W 10.2 Btu (IT)/h at 24 V DC	Max. 2.2 W 7.5 Btu (IT)/h at 24 V DC
LEDs (power, link status, data, data rate)	LEDs (power, link status, data, data rate)	LEDs (power, link status, data, data rate)
0 °C up to +60 °C	–40 °C up to +70 °C	0 °C up to +60 °C
–40 °C up to +70 °C	–40 °C up to +85 °C	–40 °C up to +70 °C
10 % up to 95 %	10 % up to 95 %	10 % up to 95 %
101.5 years; MIL-HDBK 217F: Gb 25° C	101.5 years; MIL-HDBK 217F: Gb 25° C	138.5 years; MIL-HDBK 217F: Gb 25° C
25 mm x 114 mm x 79 mm	25 mm x 114 mm x 79 mm	25 mm x 114 mm x 79 mm
DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
105 g	105 g	113 g
IP 30	IP 30	IP 30
15 g, 11 ms duration, 18 shocks	15 g, 11 ms duration, 18 shocks	15 g, 11 ms duration, 18 shocks
3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.
1 g, 9–150 Hz, 10 cycles, 1 octave/min.	1 g, 9–150 Hz, 10 cycles, 1 octave/min.	1 g, 9–150 Hz, 10 cycles, 1 octave/min.
6 kV contact discharge, 8 kV air discharge	6 kV contact discharge, 8 kV air discharge	6 kV contact discharge, 8 kV air discharge
10 V/m (80–2000 MHz)	10 V/m (80–2000 MHz)	10 V/m (80–2000 MHz)
2 kV power line, 4 kV data line	2 kV power line, 4 kV data line	2 kV power line, 4 kV data line
Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line
10 V (150–80 kHz)	10 V (150–80 kHz)	10 V (150–80 kHz)
FCC CFR47 Part 15 Class A	FCC CFR47 Part 15 Class A	FCC CFR47 Part 15 Class A
EN 55022 Class A	EN 55022 Class A	EN 55022 Class A
cUL 508 (E175531)	cUL 508 (E175531)	cUL 508 (E175531)
Device, terminal block, operating manual Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame	Device, terminal block, operating manual Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame	Device, terminal block, operating manual Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame

SPIDER 5TX	SPIDER 5TX EEC	SPIDER 8TX
		
Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 5 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 5 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity	Entry level Industrial ETHERNET rail switch, store and forward switching mode, ETHERNET (10 Mbit/s) and Fast-ETHERNET (100 Mbit/s) 8 x 10/100 BASE-TX, TP-cable, RJ 45 sockets, auto-crossing, auto-negotiation, auto-polarity
SPIDER 5TX 943 824-002	SPIDER 5TX EEC 943 824-102	SPIDER 8TX 943 376-001
1 plug-in terminal block, 3-pin, no signal contact	1 plug-in terminal block, 3-pin, no signal contact	1 plug-in terminal block, 3-pin, no signal contact
0–100 m	0–100 m	0–100 m
Any	Any	Any
9.6–32 V DC Max. 100 mA Max. 2.2 W 7.5 Btu (IT)/h at 24 V DC	9.6–32 V DC Max. 100 mA Max. 2.2 W 7.5 Btu (IT)/h at 24 V DC	9.6–32 V DC Max. 160 mA Max. 3.9 W 13.3 Btu (IT)/h at 24 V DC
LEDs (power, link status, data, data rate)	LEDs (power, link status, data, data rate)	LEDs (power, link status, data, data rate)
0°C up to +60°C	–40°C up to +70°C	0°C up to +60°C
–40°C up to +70°C	–40°C up to +85°C	–40°C up to +70°C
10 % up to 95 %	10 % up to 95 %	10 % up to 95 %
123.7 years; MIL-HDBK 217F: Gb 25° C	123.7 years; MIL-HDBK 217F: Gb 25° C	105.7 years; MIL-HDBK 217F: Gb 25° C
25 mm x 114 mm x 79 mm	25 mm x 114 mm x 79 mm	40 mm x 114 mm x 79 mm
DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
113 g	113 g	177 g
IP 30	IP 30	IP 30
15 g, 11 ms duration, 18 shocks	15 g, 11 ms duration, 18 shocks	15 g, 11 ms duration, 18 shocks
3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.	3.5 mm, 3–9 Hz, 10 cycles, 1 octave/min.
1 g, 9–150 Hz, 10 cycles, 1 octave/min.	1 g, 9–150 Hz, 10 cycles, 1 octave/min.	1 g, 9–150 Hz, 10 cycles, 1 octave/min.
6 kV contact discharge, 8 kV air discharge	6 kV contact discharge, 8 kV air discharge	6 kV contact discharge, 8 kV air discharge
10 V/m (80–2000 MHz)	10 V/m (80–2000 MHz)	10 V/m (80–2000 MHz)
2 kV power line, 4 kV data line	2 kV power line, 4 kV data line	2 kV power line, 4 kV data line
Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line 10 V (150–80 kHz)	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line 10 V (150–80 kHz)	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line 10 V (150–80 kHz)
FCC CFR47 Part 15 Class A	FCC CFR47 Part 15 Class A	FCC CFR47 Part 15 Class A
EN 55022 Class A	EN 55022 Class A	EN 55022 Class A
cUL 508 (EE175531)	cUL 508 (E175531)	cUL 508 (E175531)
	approval according to motor vehicle directive 2005/83/EG (e1)	
	E1	
Device, terminal block, operating manual	Device, terminal block, operating manual	Device, terminal block, operating manual
Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame	Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame	Rail power supply RPS 30, RPS 80 EEC or RPS 120 EEC, 19" installation frame