





Industrial Ethernet




MACH 4000 > SFP Fast-Ethernet Transceiver for media module


Type	M-FAST SFP-MM/LC	M-FAST SFP-SM/LC
Order No.	943 865-001	943 866-001
		
	SFP Fiberoptic Fast-Ethernet Transceiver	SFP Fiberoptic Fast-Ethernet Transceiver
Product description Port type and quantity	1 x 100 BASE-FX with LC connector	1 x 100 BASE-FX with LC connector
Network size - length of cable Multimode fiber (MM) 50/125 µm Single mode fiber (SM) 9/125 µm	5 km (4 km at 62,5/12,5µm)	25 km
Power requirements Operating voltage Power consumption	power supply via the switch 1 W	power supply via the switch 1 W
Service Diagnostics		optical input- and output power, transceiver temperature
Ambient conditions Operating temperature Storage/transport temperature Relative humidity (non-condensing)	0°C to +60°C -40°C to +85°C	0°C to +60°C -40°C to +85°C

Type	M-FAST SFP-SM/LC-EEC	M-FAST SFP-SM+/LC-EEC
Order No.	943-946-001	943-947-001
		
	SFP Fiberoptic Fast-Ethernet Transceiver	SFP Fiberoptic Fast-Ethernet Transceiver
Product description Port type and quantity	1 x 100 BASE-FX with LC connector	1 x 100 BASE-FX with LC connector
Network size - length of cable Multimode fiber (MM) 50/125 µm Single mode fiber (SM) 9/125 µm	25 km	25 - 65 km
Power requirements Operating voltage Power consumption	power supply via the switch 1 W	power supply via the switch 1 W
Service Diagnostics	optical input- and output power, transceiver temperature	optical input- and output power, transceiver temperature
Ambient conditions Operating temperature Storage/transport temperature Relative humidity (non-condensing)	-40 °C to +85 °C -40°C to +85°C	-40 °C to +85 °C -40°C to +85°C

Industrial Ethernet

MACH 4000 > SFP Fast-Ethernet Transceiver for media module

M-FAST SFP-SM+/LC 943 867-001	M-FAST SFP-LH/LC 943 868-001	M-FAST SFP-MM/LC- EEC 943-945-001
		
SFP Fiber optic Fast-Ethernet Transceiver	SFP Fiber optic Fast-Ethernet Transceiver	SFP Fiber optic Fast-Ethernet Transceiver
1 x 100 BASE-FX with LC connector	1 x 100 BASE-FX with LC connector	1 x 100 BASE-FX with LC connector
25 - 65 km	40 - 100 km	5 km (4 km at 62,5/12,5µm)
power supply via the switch 1 W	power supply via the switch 1 W	power supply via the switch 1 W
optical input- and output power, transceiver temperature	optical input- and output power, transceiver temperature	
0°C to +60°C -40°C to +85°C	0°C to +60°C -40°C to +85°C	-40 °C to +85 °C -40°C to +85°C

M-FAST SFP-LH/LC-EEC 943-948-001

SFP Fiber optic Fast-Ethernet Transceiver
1 x 100 BASE-FX with LC connector
40 - 100 km
power supply via the switch 1 W
optical input- and output power, transceiver temperature
-40 °C to +85 °C -40°C to +85°C



Industrial Ethernet



MACH 4000 > SFP Gigabit-Ethernet Transceiver for media module

Type	M-SFP-LX/LC
Order No.	943 015-001
	 <p>SFP Fiberoptic Gigabit Ethernet Transceiver for: MICE media modules, MM4-4TX/SFP and MM4-2TX/SFP, OpenRail RS30-Switches, MACH 4000, SmartLION and GigaLION.</p>
Product description	
Port type and quantity	1 x 1000BASE-LX with LC connector
Network size - length of cable	
Twisted pair (TP)	
Multimode fiber (MM) 50/125 µm	0 - 550 m, 0 - 11 dB link budget at 1310 nm A = 1 dB/km, 3 dB reserve, B = 800 MHz x km With f/o adapter in line with IEEE 802.3-2000 clause 38 (single-mode fiber offset-launch mode conditioning patch cord)
Multimode fiber (MM) 62.5/125 µm	0 - 550 m, 0 - 11 dB link budget at 1310 nm A = 1 dB/km, 3 dB reserve, B = 500 MHz x km With f/o adapter in line with IEEE 802.3-2000 clause 38 (single-mode fiber offset-launch mode conditioning patch cord)
Single mode fiber (SM) 9/125 µm	0 m - 20 km, 0 - 11 dB link budget at 1310 nm A = 0.4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km)
Single mode fiber (LH) 9/125 µm (long haul transceiver)	
Power requirements	
Operating voltage	power supply via the switch
Power consumption	1 W
Service	
Diagnostics	optical input and output power, transceiver temperature
Ambient conditions	
Operating temperature	0 °C to +60 °C
Storage/transport temperature	-40°C to +85°C
Relative humidity (non-condensing)	10% to 95%
MTBF	
Mechanical construction	
Dimensions (W x H x D)	20 mm x 18 mm x 50 mm
Mounting	SFP slot
Weight	40 g
Protection class	IP 20
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)	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), 1kV 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	
Safety of industrial control equipment	cUL 508 (E175531)
Hazardous locations	cUL 1604 Class 1 Div 2 (E203960)
Safety of information technology equipment	
Germanischer Lloyd	Germanischer Lloyd (43 109-02 HH)
Scope of delivery and accessories	
Scope of delivery	SFP module
Accessories to order separately	

Industrial Ethernet



SFP Gigabit-Ethernet Transceiver for media module > Versions

Type	M-SFP-LH/LC	M-SFP-LH+/LC
Order No.	943 042-001	943 049-001
		
	SFP Fiberoptic Gigabit Ethernet Transceiver for: MICE media modules, MM4-4TX/SFP and MM4-2TX/SFP, OpenRail RS30-Switches, MACH 4000, SmartLION and GigaLION.	SFP Fiberoptic Gigabit Ethernet Transceiver for: MICE media modules, MM4-4TX/SFP and MM4-2TX/SFP, OpenRail RS30-Switches, MACH 4002 48+4G, SmartLION and GigaLION.
Product description Port type and quantity	1 x 1000BASE-LX with LC connector	1 x 1000BASE-LX with LC connector
Network size - length of cable Single mode fiber (LH) 9/125 µm (long haul transceiver)	16 - 80 km 6 - 22 dB link budget at 1550 nm A = 0.25 dB/km, 2 dB reserve, D = 19 ps/(nm x km)	44 - 120 km 13 - 32 dB link budget at 1550 nm A = 0.25 dB/km, 2 dB reserve, D = 19 ps/(nm x km)
Ambient conditions Operating temperature Storage/transport temperature	0 °C to +60 °C -25 °C to +70 °C	0 °C to +60 °C -40°C to +85°C

Type	M-SFP-SX/LC	M-SFP-LX/LC EEC
Order No.	943 014-001	943 897-001
		
	SFP Fiberoptic Gigabit Ethernet Transceiver for: MICE media modules, MM4-4TX/SFP and MM4-2TX/SFP, OpenRail RS30-Switches, MACH 4000, SmartLION and GigaLION.	SFP Fiberoptic Gigabit Ethernet Transceiver, extended temperature range
Product description Port type and quantity	1 x 1000BASE-SX with LC connector	1 x 1000BASE-LX with LC connector
Network size - length of cable Multimode fiber (MM) 50/125 µm	0 - 550 m 0 - 7,5 dB link budget at 850 nm A = 3 dB/km, 3 dB reserve, B = 400 MHz x km	0 - 550 m, 0 - 11 dB link budget at 1310 nm A = 1 dB/km, 3 dB reserve, B = 800 MHz x km With f/o adapter in line with IEEE 802.3-2000 clause 38 (single-mode fiber offset-launch mode conditioning patch cord)
Multimode fiber (MM) 62.5/125 µm	0 - 275 m 0 - 7,5 dB link budget at 850 nm A = 3,2 dB/km, 3 dB reserve, B = 200 MHz x km	0 - 550 m, 0 - 11 dB link budget at 1310 nm A = 1 dB/km, 3 dB reserve, B = 500 MHz x km With f/o adapter in line with IEEE 802.3-2000 clause 38 (single-mode fiber offset-launch mode conditioning patch cord)
Single mode fiber (SM) 9/125 µm		0 m - 20 km, 0 - 11 dB link budget at 1310 nm A = 0,4 dB/km, 3 dB reserve, D = 3.5 ps/(nm x km)
Ambient conditions Operating temperature Storage/transport temperature	0 °C to +60 °C -40°C to +85°C	-40 °C to +85 °C -40°C to +85°C



Industrial Ethernet

SFP Gigabit-Ethernet Transceiver for media module > Versions

Type	M-SFP-LH/LC EEC	M-SFP-SX/LC EEC
Order No.	943 898-001	943 896-001
		
	SFP Fiberoptic Gigabit Ethernet Transceiver for: MICE media modules, MM4-4TX/SFP and MM4-2TX/SFP, OpenRail RS30-Switches, MACH 4000, SmartLION and GigaLION.	SFP Fiberoptic Gigabit Ethernet Transceiver, extended temperature range
Product description		
Port type and quantity	1 x 1000BASE-LX with LC connector	1 x 1000BASE-SX with LC connector
Network size - length of cable		
Multimode fiber (MM) 50/125 µm		0 - 550 m 0 - 7,5 dB link budget at 850 nm A = 3 dB/km, 3 dB reserve, B = 400 MHz x km
Multimode fiber (MM) 62.5/125 µm		0 - 275 m 0 - 7,5 dB link budget at 850 nm A = 3,2 dB/km, 3 dB reserve, B = 200 MHz x km
Single mode fiber (LH) 9/125 µm (long haul transceiver)	16 -80 km 6 - 22 dB link budget at 1550 nm A = 0,25 dB/km, 2 dB reserve, D = 19 ps/(nm x km)	
Ambient conditions		
Operating temperature	-40 °C to +85 °C	-40 °C to +85 °C
Storage/transport temperature	-40°C to +85°C	-40°C to +85°C



Industrial Ethernet

System Accessories > Power supply



Type	RPS 30	RPS 80 EEC
Order No.	943 662-003	943 662-080
		
	24 V DC DIN rail power supply unit	24 V DC DIN rail power supply unit
More Interfaces		
Voltage input	1 terminal block, 3-pin	1 Bi-stable, quick-connect spring clamp terminals, 3-pin
Voltage output	1 terminal block, 5-pin	1 Bi-stable, quick-connect spring clamp terminals, 4-pin
Power requirements		
Operating voltage	230 V	230 V
Input data		
230 V	100 to 240 V AC; 47 to 63 Hz or 85 to 375 V DC	100-240 V AC (+/-15%); 50-60Hz or 110 to 300 V DC (-20/+25%)
Current consumption		
230 V	max. 0,35 A at 296 V AC	max. 1.8-1.0 A at 100-240 V AC max. 0.85 - 0.3 A at 110 - 300 V DC
Activation current	< 36 A at 240 V AC and cold start	< 13 A at 230 V AC
Output data		
Output voltage	24 V DC (-0,5%, +0,5%)	24 - 28 V DC (typ. 24.1 V) external adjustable
Output current		
230 V	1,3 A at 100 - 240 V AC	3,4-3,0 A continuous min 5,0-4,5 A for typ. 4 sec
Service		
Diagnostics	LED (power, DC ON)	LED (DC OK, Overload)
Redundancy		
Redundancy functions	Power supply units can be connected in parallel	Power supply units can be connected in parallel
Ambient conditions		
Operating temperature	-10 °C to +70 °C (from 60 °C derating)	-25 °C to +70 °C (ab 60 °C Derating)
Storage/transport temperature	-25 °C to +85 °C	-40 °C to +85 °C
Relative humidity (non-condensing)	max. 95% without condensation	5 to 95 %
MTBF	74.2 years; Siemensnorm SN 29500 : 40 °C	-
Mechanical construction		
Dimensions (W x H x D)	45 mm x 75 mm x 98 mm	32 mm x 124 mm x 102 mm
Mounting	DIN Rail 35 mm	DIN Rail 35 mm
Weight	230 g	440 g
Protection class	IP 20	IP 20
EMC interference immunity		
EN 50082-1	EN 61000-6-2 (includes EN 55024)	EN 61000-6-1
EN 50082-2	EN 61000-6-2 (includes EN 55024)	EN 61000-6-2 (includes EN 55024)
EMC emitted immunity		
EN 50081-1	EN 50081-1	EN 61000-3-2, 61000-3-3, 61000-6-3, 61000-6-4
EN 50081-2	EN 50081-2	
Approvals		
Safety of industrial control equipment	cUL 508 (E 198865)	cUL 508 (E 198865)
Safety of information technology equipment	cUL 60950 (E 137006)	cUL 60950 (E 137006)
Hazardous locations	UL 1604 Class 1 Div. 2 (E246877)	UL 1604 Class 1 Div. 2 (E246877)
Scope of delivery and accessories		
Scope of delivery	Rail power supply, Description and operating manual	Rail power supply, Description and operating manual

Industrial Ethernet

System Accessories > Power supply

Type	RPS 120 EEC	RPS60/48V EEC
Order No.	943 662-120  24 V DC DIN rail power supply unit	943 952-001  48 V DC rail power supply unit
More Interfaces		
Voltage input	1 Bi-stable, quick-connect spring clamp terminals, 3-pin	1 Federkraft-Klemmblock, 4-polig
Voltage output	1 Bi-stable, quick-connect spring clamp terminals, 6-pin	1 Federkraft-Klemmblock, 4-polig
Power requirements		
Operating voltage	230 V	230 V
Input data		
230 V	100-240 V AC (-15/+10%); 50-60Hz or 110 to 300 V DC (+/-20%)	100 to 240 V AC; 50-60Hz or 85 to 264 V AC; 47-63Hz (DC 100 to 375V)
Current consumption		
230 V	max. 1,4-0,65 A at 100-240 V AC max. 1,2 - 0,45 A bei 120 - 300 V DC < 15 A at 100 and 230 V AC	Max. 0.7 A at 230 V max. 1.3 A at 100V < 40 A at 264 V AC
Activation current		
Output data		
Output voltage	24-28 V DC (typ. 24,1 V); externally adjustable	47-52 V DC (typ. 48 V); externally adjustable
Output current		
230 V	min. 5 - 4,5 A continuous 7,5 - 6,7 A for typ. 4 sec	1,25 A static at 48 V nominal 1,88 A (150% of nominal load) for max. 2,5 seconds
Service		
Diagnostics	LED (DC OK, Overload)	LED (green)
Redundancy		
Redundancy functions	Power supply units can be connected in parallel	
Ambient conditions		
Operating temperature	-25 °C to +70 °C (ab 60 °C Derating)	-20 °C to +70 °C
Storage/transport temperature	-40 °C to +85 °C	-25 °C to +85 °C
Relative humidity (non-condensing)	5 to 95 %	max. 95 % without condensation
MTBF	-	
Mechanical construction		
Dimensions (W x H x D)	40 mm x 124 mm x 117 mm	44,8 mm x 75 mm x 104,5 mm
Mounting	DIN Rail 35 mm	DIN Rail 35 mm
Weight	620 g	245 g
Protection class	IP 20	IP 20
EMC interference immunity		
EN 50082-1	EN 61000-6-1	EN 61000-6-1
EN 50082-2	EN 61000-6-2 (includes EN 55024)	EN 61000-6-2
EMC emitted immunity		
EN 50081-1	EN 61000-3-2, 61000-3-3, 61000-6-3, 61000-6-4	61000-6-3, 61000-6-4, EN 55011, EN 55022 class A
EN 50081-2	-	harmonic input current, fulfills EN 61000-3-2
Approvals		
Safety of industrial control equipment	cUL 508 (E 198865)	UL 508
Safety of information technology equipment	cUL 60950 (E 137006)	cUL 60950
Hazardous locations	UL 1604 Class 1 Div. 2 (E246877)	Ex nA II T4 X
Scope of delivery and accessories		
Scope of delivery	Rail power supply, Description and operating manual	Rail power supply, ferrit with safety key, Description and operating manual

Industrial Ethernet

RPS90/48V LV	RPS90/48V HV
943 980-001	943 979-001
	
48 V DC rail power supply unit	48 V DC rail power supply unit
1 terminal block, 2-pin 1 terminal block, 4-pin	1 terminal block, 3-pin 1 terminal block, 4-pin
24 V DC	60 / 120 / 250 V DC (48-320 V) und 110 / 230 V AC
N/A	100-240 V AC; 50-60 Hz oder 85 bis 264 V AC; 47-63 Hz (DC 100-375 V)
24 V DC (4,2 A), 48 V DC (2,1 A) N/A	60 V DC (1.7 A), 250 V DC (0.4 A), 110 V AC (1.0 A), 230 V AC (0.5 A) N/A
48 - 54 V DC (typ. 48 V); externally adjustable	48 - 54 V DC (typ. 48 V); externally adjustable
1.25 A static at 48 V nominal 1.88 A (150% of nominal load) for max. 2.5 seconds	1.25 A static at 48 V nominal 1.88 A (150% of nominal load) for max. 2.5 seconds
LED (green)	LED (green)
redundant power supply	redundant power supply
-40 °C bis +70 °C -40 °C bis +85 °C max. 95 % without condensation N/A	-40 °C bis +70 °C -40 °C bis +85 °C max. 95 % without condensation N/A
60 mm x 137 mm x 115 mm DIN Rail 770 g IP 30	60 mm x 137 mm x 115 mm DIN Rail 740 g IP 20
EN 61000-6-1 EN 61000-6-2 (beinhaltet EN 55024), EN 61850-3, IEEE 1613, EN 50121-4, 50121-3-2, GL	EN 61000-6-1 EN 61000-6-2 (beinhaltet EN 55024), EN 61850-3, IEEE 1613, EN 50121-4, 50121-3-2, GL
61000-6-3	61000-6-3
61000-6-4, EN 55011, EN 55022 Klasse A, GL, Netzrückwirkungen gemäß EN 61000-3-2	61000-6-4, EN 55011, EN 55022 Klasse A, GL, Netzrückwirkungen gemäß EN 61000-3-2
cUL 508 (in Vorbereitung) cUL 60950 (in Vorbereitung) Ex nA II T4 X (in Vorbereitung)	cUL 508 (in Vorbereitung) cUL 60950 (in Vorbereitung)
Rail Power Supply, Description and operating manual, 1 x terminal block, 2-pin, 1 x terminal block, 4-pin	Rail Power Supply, Description and operating manual, 1 x terminal block, 3-pin, 1 x terminal block, 4-pin



Industrial Ethernet



System Accessories > Adapter cable

Type	ACA11
Order No.	943 751-001
	 <p>Auto-configuration adapter saves the configuration data of the connected switch. It enables managed switched to be easily commissioned and quickly replaced.</p>
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	RJ11 connector n/a n/a
Power requirements Operating voltage	via the RS232 interface on the switch
Service Diagnostics Configuration	writing to ACA, reading from ACA, writing/reading not OK; (display using LEDs on the switch) via the RS232 interface of the switch and via SNMP/Web
Ambient conditions Operating temperature Storage/transport temperature Relative humidity (non-condensing) MTBF	0 °C to +60 °C -25 °C to +70 °C 10% to 95% 370.9 years; MIL-HDBK 217F: Gb 25 °C
Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Cable length	90 mm x 27 mm x 12 mm plug-in module 35 g IP 40 31.5 cm
Mechanical stability IEC 60068-2-27 shock IEC 60068-2-6 vibration	15 g, 11 ms duration, 18 shocks 1 g, 10 Hz - 150 Hz, 30 cycles
EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field	6 kV contact discharge, 8 kV air discharge 10 V/m
EMC emitted immunity EN 55022	EN 55022
Approvals Safety of industrial control equipment Hazardous locations Germanischer Lloyd Employment in vehicles Electronic mechanisms on rail-mounted vehicles	cUL 508 cUL 1604 Class 1 Div 2 Germanischer Lloyd (43 109-02 HH) n/a n/a
Scope of delivery and accessories Scope of delivery	device, operating manual

Industrial Ethernet



Adapter cable > Versions


Type	ACA11-EEC	ACA11-miniDIN EEC
Order No.	943 751-002	943 973-001
		
	Auto-configuration adapter with extended temperature range saves the configuration data of the connected switch. It enables managed switched to be easily commissioned and quickly replaced.	Auto-configuration adapter with extended temperature range saves the configuration data of the connected switch. It enables managed switched to be easily commissioned and quickly replaced.
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	RJ11 connector n/a n/a	RJ11 connector n/a n/a
Power requirements Operating voltage	via the RS232 interface on the switch	via the RS232 interface on the switch
Service Configuration	via the RS232 interface of the switch and via SNMP/Web	via the RS232 interface of the switch and via SNMP/Web
Ambient conditions Operating temperature Storage/transport temperature MTBF	-40 °C to +70 °C -40 °C to +85 °C 370.9 years; MIL-HDBK 217F: Gb 25 °C	-40 °C to +70 °C -40 °C to +85 °C 370.9 years; MIL-HDBK 217F: Gb 25 °C
Mechanical construction Weight Protection class Cable length	35 g IP 40 31.5 cm	35 g IP 40 31.5 cm
Approvals Hazardous locations Germanischer Lloyd Employment in vehicles Electronic mechanisms on rail-mounted vehicles	cUL 1604 Class 1 Div 2 Germanischer Lloyd (43 109-02 HH) n/a n/a	cUL 1604 Class 1 Div 2 Germanischer Lloyd (43 109-02 HH) n/a n/a

Type	ACA11-M12 (EEC)	ACA21-USB
Order No.	943 972-001	943 271-001
		
	Auto-configuration adapter, with M12 connection, saves two different versions of configuration data and operating software from the connected switch. It enables managed switched to be easily commissioned and quickly replaced.	Auto-configuration adapter, with USB connection, saves two different versions of configuration data and operating software from the connected switch. It enables managed switched to be easily commissioned and quickly replaced.
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	n/a n/a M12 connection	USB connection n/a USB connector
Power requirements Operating voltage	via the USB interface on the switch	via the USB interface on the switch
Service Configuration	via USB interface of the switch and via SNMP/Web	via USB interface of the switch and via SNMP/Web
Ambient conditions Operating temperature Storage/transport temperature MTBF	-40 °C to +70 °C -40 °C to +85 °C 359 years (MIL-HDBK-217F)	0 °C to +60 °C -25 °C to +70 °C 359 years (MIL-HDBK-217F)
Mechanical construction Weight Protection class Cable length	25 g IP 67 50 cm	25 g IP 20 20 cm
Approvals Hazardous locations Germanischer Lloyd Employment in vehicles Electronic mechanisms on rail-mounted vehicles	cUL 1604 Class1 Div 2 Germanischer Lloyd in preparation E1 in preparation EN 50155 in preparation	cUL 1604 Class 1 Div 2 Germanischer Lloyd n/a n/a

Industrial Ethernet


Adapter cable > Versions

Type	ACA21-USB EEC	ACA21-M12
Order No.	943 271-002	943 913-001
	 <p>Auto-configuration adapter, with USB connection and extended temperature range, saves two different versions of configuration data and operating software from the connected switch. It enables managed switched to be easily commissioned and quickly replaced.</p>	 <p>Auto-configuration adapter, with M12 connection, saves two different versions of configuration data and operating software from the connected switch. It enables managed switched to be easily commissioned and quickly replaced.</p>
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	USB connection n/a USB connector	n/a n/a M12 connection
Power requirements Operating voltage	via the USB interface on the switch	via the USB interface on the switch
Service Configuration	via USB interface of the switch and via SNMP/Web	via USB interface of the switch and via SNMP/Web
Ambient conditions Operating temperature Storage/transport temperature MTBF	-40 °C to +70 °C -40 °C to +85 °C 359 years (MIL-HDBK-217F)	-40 °C to +70 °C -40 °C to +85 °C 359 years (MIL-HDBK-217F)
Mechanical construction Weight Protection class Cable length	25 g IP 20 20 cm	25 g IP 67 50 cm
Approvals Hazardous locations Germanischer Lloyd Employment in vehicles Electronic mechanisms on rail-mounted vehicles	cUL 1604 Class 1 Div 2 Germanischer Lloyd n/a n/a	cUL 1604 Class1 Div 2 Germanischer Lloyd in preparation E1 in preparation EN 50155 in preparation

Type	ACA21-M12 EEC
Order No.	943 913-002
	 <p>Auto-configuration adapter, with M12 connection and extended temperature range, saves two different versions of configuration data and operating software from the connected switch. It enables managed switched to be easily commissioned and quickly replaced.</p>
More Interfaces To the USB interface on the switch	M12 connection
Power requirements Operating voltage	via the USB interface on the switch
Service Configuration	via USB interface of the switch and via SNMP/Web
Ambient conditions Operating temperature Storage/transport temperature MTBF	-40 °C to +70 °C -40 °C to +85 °C 359 years (MIL-HDBK-217F)
Mechanical construction Weight Protection class Cable length	25 g IP 67 50 cm
Approvals Hazardous locations Germanischer Lloyd Employment in vehicles Electronic mechanisms on rail-mounted vehicles	cUL 1604 Class1 Div 2 Germanischer Lloyd in preparation E1 in preparation EN 50155 in preparation


Industrial Ethernet

System Accessories > Adapter cable

Type	Terminal Cable	Modem-Cable
Order No.	943 301-001	943 222-001
	 <p>Terminal cable for configuring managed rails, MICE and MACH switches via the RS232 interface of the switch in connection with terminal software.</p>	 <p>Cable for connecting an analog-/ ISDN-modem to an Eagle system.</p>
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	RJ11 connector Sub-D connector, 9-pin	RJ11 connector Sub-D connector, 9-pin
Power requirements Operating voltage		
Service Diagnostics Configuration	dialog window on the PC or notebook	
Ambient conditions Operating temperature Storage/transport temperature Relative humidity (non-condensing) MTBF	0 °C to +60 °C -20 °C to +80 °C 10% to 95%	0 °C to +60 °C -20 °C to +80 °C 10% to 95%
Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Cable length	210 g 500 cm	210 g 500 cm
Mechanical stability IEC 60068-2-27 shock IEC 60068-2-6 vibration		
EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field		
EMC emitted immunity EN 55022		
Approvals Hazardous locations Germanischer Lloyd Safety of information technology equipment Safety of industrial control equipment		
Scope of delivery and accessories Scope of delivery	cable	Cable

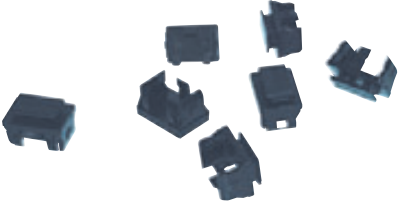
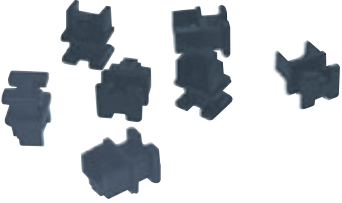
Industrial Ethernet

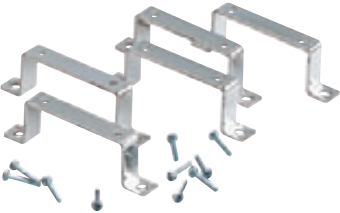
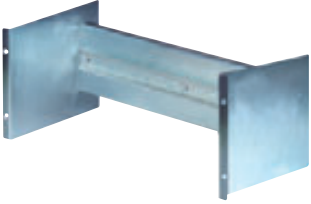
System Accessories > Adapter cable

Type	OCTOPUS Terminal Cable	OCTOPUS M12-MiniPower Adaptor
Order No.	943 902-001	943 944-001
	 <p>Terminal cable for configuring managed OCTOPUS switches via the RS232 interface of the switch in connection with terminal software.</p>	
More Interfaces To the RS232 interface on the switch To the RS232 interface on the PC or notebook To the USB interface on the switch	M12 A Coding 4-pin connector Sub-D connector, 9-pin	
Power requirements Operating voltage		
Service Diagnostics Configuration	dialog window on the PC or notebook	
Ambient conditions Operating temperature Storage/transport temperature Relative humidity (non-condensing) MTBF	0 °C to +60 °C -20 °C to +80 °C 10% to 95%	
Mechanical construction Dimensions (W x H x D) Mounting Weight Protection class Cable length	130 g 2 m	45 g 50 cm
Mechanical stability IEC 60068-2-27 shock IEC 60068-2-6 vibration		
EMC interference immunity EN 61000-4-2 electrostatic discharge (ESD) EN 61000-4-3 electromagnetic field		
EMC emitted immunity EN 55022		
Approvals Hazardous locations Germanischer Lloyd Safety of information technology equipment Safety of industrial control equipment		
Scope of delivery and accessories Scope of delivery	cable	

Industrial Ethernet

System Accessories > Mounting accessories

Type	SFP Dust-Cover (25 pcs.)	RJ45 Dust-Cover (50 pcs.)
Order No.	943 942-001	943 936-001
	 <p>SFP Dust-Cover</p>	 <p>RJ45 Dust-Cover</p>
Mechanical construction		
Dimensions (W x H x D)	n/a	n/a
Mounting	n/a	n/a
Weight	n/a	n/a
Scope of delivery and accessories		
Scope of delivery	n/a	n/a

Type	Wall Mounting Device for Mini Transc.	19 Zoll DIN Rail Adapter.
Order No.	943 426-001	943 766-002
	 <p>Wall mounting device for fastening the mini transceiver to the wall or cabinet</p>	 <p>Installation rack for 19" cabinet, 8 units wide and 4 units high</p>
Mechanical construction		
Dimensions (W x H x D)	72 mm x 10 mm x 21 mm	481 mm (usable 435 mm) x 177 mm x 275 mm DIN Rail variable in height and depth adjustable (increment 10 mm)
Mounting	wall or cabinet	19" rack or cabinet
Weight	100 g	3 kg
Scope of delivery and accessories		
Scope of delivery	5 mounting device, each with 2 screws	19" Installation rack