

ConneXium Connecting Ethernet devices

Catalog

July 2018



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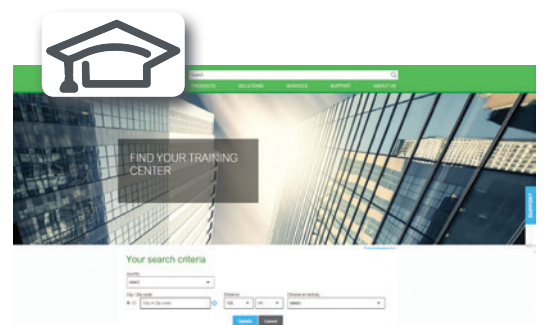
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ConneXium - Connecting Ethernet devices

ConneXium switches, firewalls, and software (CNM)

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Ethernet network
Cabling system
ConneXium unmanaged switches

Device type			Unmanaged switches, copper twisted pair		
					
Interfaces	Copper cable ports	Number and type	5 x 10BASE-T/100BASE-TX ports		8 x 10BASE-T/100BASE-TX ports
		Shielded connectors	M12 (type D)	RJ45	
		Medium	Shielded twisted pair, category CAT 5E		
		Total length of pair	100 m/328 ft		
	Fiber optic ports	Number and type	–		
		Connectors	–		
		Medium	–		
	Length of fiber	50/125 µm	–		
		62.2/125 µm	–		
	Attenuation analysis	50/125 µm fiber	–		
		62.2/125 µm fiber	–		
	Ethernet services		Storage and re-routing of received data, auto MDI/MDX, automatic negotiation of 10/100 Mbps and duplex mode (on all ports)	Storage and re-routing of received data, auto MDI/MDX, automatic negotiation of 10/100 Mbps and duplex mode (on all ports), automatic change of polarity	Storage and re-routing of received data, auto MDI/MDX, automatic negotiation of 10/100 Mbps and duplex mode (on all ports), automatic change of polarity, power supply unit, alarm, aging time QoS 802.1p mapping, flow control, broadcast & multicast storm protection/threshold, port based priority link alarm, auto-negotiation & port speed, duplex mode, auto-crossing
USB v.2.0	Connectors	–	Type A		
	Support	–	USB Master mode, USB 2.0		
	Current/Voltage	–	500 mA max / Not potential-separated		
	Number of pins	–	4		
Topology	Number of switches	Cascaded	Unlimited		
		Redundant in a ring	–		
Redundancy		–			
Power supply	Voltage	24 V ~ (18...32) SELV	12 V... 24 V (9.6 V... 32 V) Class 2 SELV	Supply voltage 1 and 2	
	Consumption	100 mA max.	1.5 W max.	2.6 W max.	
	Removable terminal block	5 terminals, M12 (type A, male)	3-way terminal block	6-way terminal block	
Operating temperature		0...+ 60 °C/+ 32...+ 140 °F		–40 °C...+70 °C/–40 °F...+158 °F	
Relative humidity		–	10...95% non-condensing		
Degree of protection		IP 67	IP 30	IP 40	
Dimensions		W x H x D	60 x 126 x 31 mm/ 2.36 x 4.96 x 1.22 in.	38 x 116 x 79 mm/ 1.5 x 4.55 x 3.11 in.	49.4 x 144.9 x 117.2 mm/ 1.94 x 5.6 x 4.5 in.
Mounting		On a flat surface	In a vertical position, on a 35 mm DIN rail in accordance with DIN EN 60715		
Weight		0.210 kg/0.163 lb	0.150 kg/0.330 lb	0.440 kg/0.970 lb	
Conforming to standards		cUL 508 and CSA 22.2 No. 142, Cc	RCM, UL/IEC 61010-1, UL/IEC 61010-2-201	ISA-12.12.01, DNVGL-CG-0339, UL/IEC 61010-1, UL/IEC 61010-2-201, RCM	
LED indicators		Power supply, link status, data rate	Power supply, link status, data status (receiving/transmitting)	Power supply, supply voltage 1/2 status, link status, data rate, configuration update via USB	
Alarm relay		–	Yes		
Reference		TCSESU051F0	TCSESSU083FN0	TCSESPU083FN0	
Pages		27	26		

(1) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).

Unmanaged switches, copper twisted pair		Unmanaged switches, 3, 4, and 5 ports, copper twisted pair and fiber optic			
					
8 x 10BASE-T/100BASE-TX ports		3 x 10BASE-T/100BASE-TX ports		4 x 10BASE-T/100BASE-TX ports	
5 x 10BASE-T/100BASE-TX ports					
RJ45					
Shielded twisted pair, category CAT 5E					
100 m/328 ft					
–		1 x 100BASE-FX port		–	
–		Duplex SC		–	
–		Multimode fiber		–	
–		5,000 m/16,404 ft (1)		–	
–		4,000 m/13,123 ft (1)		–	
–		8 dB		–	
–		11 dB		–	
Storage and re-routing of received data, auto MDI/MDX, automatic negotiation of 10/100 Mbps and duplex mode (on all ports), automatic change of polarity		Storage and re-routing of received data, auto MDI/MDX, automatic negotiation of 10/100 Mbps and duplex mode (on all ports)			
–					
–					
–					
–					
Unlimited					
–					
–					
24 V ~ (9.6...32) SELV					
4.1 W max.		2.2 W max.	3.9 W max.	2.2 W max.	
3 terminals		3 screw terminals			
0...+ 60°C/+ 32...+ 140°F					
95% max. non-condensing					
IP 30					
35 x 138 x 121 mm/1.38 x 5.43 x 4.76 in.		25 x 114 x 79 mm/0.98 x 4.49 x 3.11 in.			
On symmetrical DIN rail, 35 mm/1.38 in. wide					
0.246 kg/0.542 lb		0.113 kg/0.249 lb	0.120 kg/0.265 lb	0.113 kg/0.249 lb	
UL 508 and CSA 22.2 No.142					
IEC/EN 61131-2, IEC 60825-1 class 1					
Power supply, copper port activity, 10 or 100 Mbps data rate					
–		Fiber optic port activity and status		–	
–					
TCSESU083FN0		TCSESU033FN0		TCSESU043F1N0	
TCSESU053FN0					
27		28			

Ethernet network
Cabling system
Managed and unmanaged ConneXium switches

Device type			Unmanaged switches, 4 and 7 ports, copper twisted pair and fiber optic			
						
Interfaces	Copper cable ports	Number and type	4 x 10BASE-T/100BASE-TX ports		7 x 10BASE-T/100BASE-TX ports	
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m/328 ft			
	Fiber optic ports	Number and type	1 x 100BASE-FX port		2 x 100BASE-FX port	
		Connectors	DSC			
		Medium	Multimode fiber	Single-mode fiber	Multimode fiber	Single-mode fiber
	Length of fiber	50/125 µm	5,000 m/16,404 ft (1)			
		62.2/125 µm	4,000 m/13,123 ft (1)			
		9/125 µm	30,000 m/98,425 ft (1)			
	Attenuation analysis	50/125 µm fiber	8 dB			
		62.2/125 µm fiber	11 dB			
		9/125 µm fiber	16 dB			
Ethernet services		–				
USB	Connectors	Support	Type A			
		Current/Voltage	USB Master mode, USB 2.0			
		Number of pins	500 mA max / Not potential-separated			
			4			
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	–			
Redundancy		P1 and P2 redundant power supplies				
Power supply	Voltage		24 V $\overline{\text{DC}}$ (9.6...32 V) SELV			
	Consumption		4.3 W		6.9 W	
	Removable terminal block		6-way terminal block			
Operating temperature		- 40...+ 70°C/- 40...+ 158°F				
Relative humidity		10...95% non-condensing				
Degree of protection		IP 40				
Dimensions		W x H x D	39 x 135 x 113 mm/1.53 x 5.31 x 4.45 in.		56 x 135 x 113 mm/2.20 x 5.31 x 4.45 in.	
Mounting		In a vertical position on a 35 mm DIN rail in accordance with DIN EN 60715				
Weight			0.430 kg/0.948 lb		0.510 kg/1.124 lb	
Conforming to standards		ISA-12.12.01, DNVGL-CG-0339, UL/IEC 61010-1, UL/IEC 61010-2-201, RCM				
LED indicators		P1 and P2 power supplies, Ethernet link status, data status (receiving/ transmitting), configuration update via USB				
Alarm relay		Activity, detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V $\overline{\text{DC}}$)				
Reference		TCSESPU053F1CU0 TCSESPU053F1CS0 TCSESPU093F2CU0 TCSESPU093F2CS0				
Pages		27				

(1) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(2) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

Managed switches, 4 ports, copper twisted pair and fiber optic				
				
3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports	3 x 10/100BASE-TX ports	2 x 10/100BASE-TX ports	
RJ45				
Shielded twisted pair, category CAT 5E				
100 m/328 ft				
1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports	
Duplex SC				
Multimode fiber		Single-mode fiber		
5,000 m/16,404 ft (3)		—		
4,000 m/13,123 ft (3)		—		
—		32,500 m/106,627 ft (4)		
8 dB		—		
11 dB		—		
—		16 dB		
FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,VLAN, IGMP Snooping, RSTP (<i>Rapid Scanning Tree Protocol</i>), priority port, data stream control, secure port				
—				
—				
—				
—				
Unlimited				
50 max.				
Redundant power supplies, redundant single ring, ring coupling				
9.6...60 V $\overline{\text{DC}}$ /18...30 V $\sim$ SELV				
6.5 W	7.3 W	6.5 W	7.3 W	
6 terminals				
0...+ 60°C/+ 32...+ 140°F				
10...90% non-condensing				
IP 20				
47 x 131 x 111 mm/1.85 x 5.15 x 4.37 in.				
On symmetrical DIN rail, 35 mm/1.38 in. wide				
0.400 kg/0.882 lb				
IEC 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 142 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), C€, GL				
Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity				
Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{DC}}$)				
TCSESM043F1CU0	TCSESM043F2CU0	TCSESM043F1CS0	TCSESM043F2CS0	

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(3) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(4) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

Ethernet network
Cabling system
ConneXium managed switches

Device type			Managed switches, 4 and 8 ports, copper twisted pair	
				
Interfaces	Copper cable ports	Number and type	4 x 10/100BASE-TX ports	8 x 10/100BASE-TX ports
		Shielded connectors	RJ45	
		Medium	Shielded twisted pair, category CAT 5E	
		Total length of pair	100 m/328 ft	
	Fiber optic ports	Number and type	–	
		Connectors	–	
		Medium	–	
	Length of fiber	50/125 µm	–	
		62.2/125 µm	–	
		9/125 µm	–	
Attenuation analysis	50/125 µm fiber	–		
	62.2/125 µm fiber	–		
	9/125 µm fiber	–		
Ethernet services		FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,VLAN, IGMP Snooping, RSTP (<i>Rapid Scanning Tree Protocol</i>), priority port, data stream control, secure port		
Topology	Number of switches	Cascaded	Unlimited	
		Redundant in a ring	50 max.	
Redundancy			P1 and P2 redundant power supplies, redundant single ring, ring coupling	
Power supply	Voltage		9.6...60 V ~ /18...30 V ~ SELV	
	Consumption		5.3 W	
	Removable terminal block		6 terminals	
Operating temperature			0...+ 60°C/+ 32...+ 140°F	
Relative humidity			10...90% non-condensing	
Degree of protection			IP 20	
Dimensions		W x H x D	47 x 131 x 111 mm/1.85 x 5.15 x 4.37 in.	74 x 131 x 111 mm/2.91 x 5.15 x 4.37 in.
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide	
Weight			0.400 kg/0.882 lb	0.410 kg/0.904 lb
Conforming to standards			IEC/EN 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 214 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), C€, GL	
LED indicators			Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity	Power supply status, alarm relay status, active redundancy, redundancy management, fiber optic port status, and fiber optic port activity
Alarm relay			Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V ~-)	
Reference			TCSESM043F23F0	TCSESM083F23F0
Pages			29	

(1) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(2) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

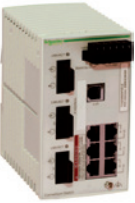
Managed switches, 8 ports, copper twisted pair and fiber optic				
				
7 x 10/100BASE-TX ports	6 x 10/100BASE-TX ports	7 x 10/100BASE-TX ports	6 x 10/100BASE-T ports	
RJ45				
Shielded twisted pair, category CAT 5E				
100 m/328 ft				
1 x 100BASE-FX port	2 x 100BASE-FX ports	1 x 100BASE-FX port	2 x 100BASE-FX ports	
Duplex SC				
Multimode fiber		Single-mode fiber		
5,000 m/16,404 ft (1)		—		
4,000 m/13,123 ft (1)		—		
—		32,500 m/106,627 ft (2)		
8 dB		—		
11 dB		—		
—		16 dB		
FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port				
Unlimited				
50 max.				
Redundant power supplies, redundant single ring, ring coupling				
9.6...60 V ~ /18...30 V ~ SELV				
6.5 W	7.3 W	6.5 W	7.3 W	
6 terminals				
0...+ 60°C/+ 32...+ 140°F				
10...90% non-condensing				
IP 20				
75 x 131 x 111 mm/2.95 x 5.15 x 4.37 in.				
On symmetrical DIN rail, 35 mm/1.38 in. wide				
0.410 kg/0.904 lb				
IEC/EN 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 214 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), C€, GL				
Power supply status, alarm relay status, active redundancy, redundancy management, fiber optic port status, and fiber optic port activity				
Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~)				
TCSESM083F1CU0	TCSESM083F2CU0	TCSESM083F1CS0	TCSESM083F2CS0	

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Ethernet network
Cabling system
Basic ConneXium managed switches

Device type			Basic managed switch, 8 ports, copper twisted pair		Lite managed switch, 4 ports, copper twisted pair	
						
Interfaces	Copper cable ports	Number and type	8 x 10/100BASE-TX ports			
		Shielded connectors	RJ45			
		Medium	Shielded twisted pair, category CAT 5E			
		Total length of pair	100 m/328 ft			
	Fiber optic ports	Number and type	–			
		Connectors	–			
		Medium	–			
	Length of fiber	50/125 µm	–			
		62.2/125 µm	–			
		9/125 µm	–			
	Attenuation analysis	50/125 µm fiber	–			
		62.2/125 µm fiber	–			
		9/125 µm fiber	–			
Ethernet services		FDR, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, IGMP Snooping, RSTP (<i>Rapid Scanning Tree Protocol</i>), priority port		Web Management, HTTPS, SNMP V1/V2/V3, BOOTP server, DHCP server, Ethernet Switch Configurator, Log files, remote monitoring (RMON), Topology Discovery		
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	50 max.			
Redundancy			P1 and P2 redundant power supplies, redundant single ring, ring coupling		Industry standard redundancy protocol (RSTP) enabling deployment of ring and mesh network architectures	
Power supply	Voltage		9.6...32 V --- SELV		24 V --- (9.6... 32 V ---)	
	Consumption		6 W		2.35 W max.	
	Removable terminal block		6 terminals		3 terminals	
Operating temperature			0...+ 60°C/+ 32...+ 140°F		0...+ 50 °C/+ 32...140°F	
Relative humidity			95% max. non-condensing			
Degree of protection			IP 20		IP 30	
Dimensions		W x H x D	47 x 131 x 111 mm/1.85 x 5.15 x 4.37 in.		25 x 114 x 79 mm/0.98 x 4.49 x 3.11 in.	
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide			
Weight			0.400 kg/0.882 lb		0.103 kg/0.23 lb	
Conforming to standards			IEC/EN 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 214 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), CEC		IEEE 802.1d-2004), UL 61010-1/-2-201, FCC 47CFR Part 15, Class A, EN55022 Class A, EN 61000-4-2, -3, -4,-5,-6, IEC 60068-2-6, IEC 60068-2-27, IEC/EN60060-2-30Db, LLDP IEEE 802.1ab	
LED indicators			Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity		Power supply status, link status, data rate	
Alarm relay			Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ---)		Immediately reports unusual events by sending them to a management station via SNMP	
Reference			TCSESB083F23F0		TCSESL043F23F0	
Pages			30		29	

(1) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(2) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

Basic managed switches, 8 and 9 ports, copper twisted pair and fiber optic		
		
		
6 x 10/100BASE-TX ports		6 x 10/100BASE-TX ports
RJ45		
Shielded twisted pair, category CAT 5E		
100 m/328 ft		
2 x 100BASE-FX ports		3 x 100BASE-FX ports
Duplex SC		
Multimode fiber		
5,000 m/16,404 ft (1)		
4,000 m/13,123 ft (1)		
–		
8 dB		
11 dB		
–		
FDR, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port		
Unlimited		
50 max.		
P1 and P2 redundant power supplies, redundant single ring, ring coupling		
9.6...32 V ~ SELV		
8 W		9 W
6 terminals		
0...+ 60°C/+ 32...+ 140°F		
95% max. non-condensing		
IP 20		
74 x 131 x 111 mm/2.91 x 5.15 x 4.37 in.		
On symmetrical DIN rail, 35 mm/1.38 in. wide		
0.400 kg/0.882 lb		
IEC/EN 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 214 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), CEC		
Power supply status, alarm relay status, active redundancy, redundancy management, fiber optic port status, and fiber optic port activity		
Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~)		
TCSESB083F2CU0		TCSESB093F2CU0
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Ethernet network
Cabling system
ConneXium managed switches

Device type			Managed switches, 8 extended ports, copper twisted pair and fiber optic (1)		
					
Interfaces	Copper cable ports	Number and type	8 x 10/100BASE-TX ports		
		Shielded connectors	RJ45		
		Medium	Shielded twisted pair, category CAT 5E		
	Fiber optic ports	Total length of pair	100 m/328 ft		
		Number and type	2 x 100BASE-FX ports		
		Connectors	Duplex SC		
	Length of fiber	Medium	Multimode fiber		Single-mode fiber
		50/125 µm	5,000 m/16,404 ft (2)		—
		62.2/125 µm	4,000 m/13,123 ft (2)		—
		9/125 µm	—		32,500 m/106,627 ft (3)
Attenuation analysis	50/125 µm fiber	8 dB		—	
	62.2/125 µm fiber	11 dB		—	
	9/125 µm fiber	—		16 dB	
Ethernet services		FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,VLAN, IGMP Snooping, RSTP (<i>Rapid Scanning Tree Protocol</i>), priority port, data stream control, secure port			
Topology	Number of switches	Cascaded	Unlimited		
		Redundant in a ring	50 max.		
Redundancy		Redundant power supplies, redundant single ring, ring coupling, rings supporting MRP, Fast HIPER Ring and RSTP			
Power supply	Voltage	18...60 V ~			
	Consumption	10 W	12 W		
	Removable terminal block	2 terminal blocks, 2 terminals			
Operating temperature		0...+ 60°C/+ 32...+ 140°F			
Relative humidity		10...90% non-condensing			
Degree of protection		IP 30			
Dimensions		W x H x D			
Mounting		120 x 137 x 115 mm/4.72 x 5.39 x 4.53 in.			
Weight		On symmetrical DIN rail, 35 mm/1.38 in. wide			
Conforming to standards		1 kg/2.205 lb			
LED indicators		IEC/EN 61131-2, IEC 61850-3, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 214 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), C€, GL, C-Tick, LR, BV, ATEX Zone 2			
Alarm relay		Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity			
Reference		Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~, 2-way)			
Pages		TCSESM083F23F1			
		TCSESM063F2CU1			
		TCSESM063F2CS1			
		30			

(1) These managed switches are also available in a Conformal Coating version for harsh environments. In this case, add the letter "C" to the end of the reference.
(2) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(3) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

Managed switches, 16 and 24 ports, copper twisted pair and fiber optic				
				
16 x 10/100BASE-TX ports				
RJ45				
Shielded twisted pair, category CAT 5E				
100 m/328 ft				
2 x 100BASE-FX ports				
Duplex SC				
Multimode fiber				
Single-mode fiber				
Multimode fiber				
5,000 m/16,404 ft (4)				
4,000 m/13,123 ft (4)				
32,500 m/106,627 ft (5)				
8 dB				
11 dB				
16 dB				
FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access,VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port				
Unlimited				
50 max.				
Redundant power supplies, redundant single ring, ring coupling				
9.6...60 V ~ /18...30 V ~ SELV				
9.4 W				
6 terminals				
0...+ 60°C/+ 32...+ 140°F				
10...90% non-condensing				
95% max. non-condensing				
10...90% non-condensing				
IP 20				
111 x 131 x 111 mm/4.37 x 5.16 x 4.37 in.				
On symmetrical DIN rail, 35 mm/1.38 in. wide				
0.600 kg/1.323 lb				
0.650 kg/1.433 lb				
IEC/EN 61131-2, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, C€, GL				
IEC/EN 61131-2, UL 508, UL 1604 class 1 division 2, CSA 22.2 No. 142 (cUL), CSA 22.2 No. 213 class 1 division 2 (cUL), C€, GL				
IEC/EN 61131-2, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, C€, GL				
Power supply status, alarm relay status, active redundancy, redundancy management, copper port status and copper port activity				
Power supply status, alarm relay status, active redundancy, redundancy management, fiber optic port status and fiber optic port activity				
Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V ~)				
TCSESM163F23F0				
TCSESM163F2CU0				
TCSESM163F2CS0				
TCSESM243F2CU0				
31				

(4) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).
(5) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

Device type			Managed switch, 8 ports and 2 Gigabit ports, copper twisted pair and fiber optic		
					
Interfaces	Copper cable ports	Number and type	8 x 10/100BASE-TX ports		
		Shielded connectors	RJ45		
		Medium	Shielded twisted pair, category CAT 5E		
		Total length of pair	100 m/328 ft		
	Fiber optic Gigabit ports (with SFP fiber optic module to be mounted on SFP connector)	Number and type	2 x 1000BASE-SX ports (1)	2 x 1000BASE-LH ports (2)	2 x 1000BASE-LX ports (3)
		Connectors	LC		
		Medium	Multimode fiber		
		Length of fiber	550 m/1,804 ft	–	550 m/1,804 ft
	Attenuation analysis	62.2/125 µm	275 m/902 ft	–	550 m/1,804 ft
		9/125 µm	–	8 - 72,000 m/26 - 236,219 ft	20,000 m/65,616 ft
Topology	Number of switches	50/125 µm fiber	7.5 dB	–	11 dB
		62.2/125 µm fiber	7.5 dB	–	11 dB
		9/125 µm fiber	–	6 - 22 dB	11 dB
		Ethernet services	FDR, SMTP V3, SNMP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, VLAN, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port, data stream control, secure port		
	Cascaded	Unlimited			
		Redundant in a ring	50 max.		
	Redundant power supplies, redundant single ring, ring coupling	9.6...60 V ~ /18...30 V ~ SELV			
		8.9 W + 1 W per SFP fiber optic module			
		6 terminals			
		0...+ 60°C/+ 32...+ 140°F			
Redundancy	Voltage	10...90% non-condensing			
		IP 20			
		111 x 131 x 111 mm/4.37 x 5.16 x 4.37 in.			
		On symmetrical DIN rail, 35 mm/1.38 in. wide			
	Consumption	0.410 kg/0.904 lb			
		cUL 60950, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, C€, GL			
		Power supply status, alarm relay status, active redundancy, redundancy management, fiber optic port status, and fiber optic port activity			
		Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~)			
	Removable terminal block	TCSESM103F2LG0			
		31			
Power supply	Operating temperature				
	Relative humidity				
	Degree of protection				
Operating temperature	Dimensions				
	Mounting				
	Weight				
Conforming to standards	LED indicators				
	Alarm relay				
	Reference				
LED indicators	Pages				
	Alarm relay				
	Reference				
Alarm relay	Pages				
	Alarm relay				
	Reference				
Reference	Pages				
	Alarm relay				
	Reference				
Pages	Pages				
	Alarm relay				
	Reference				

(1) With TCSEAAF1LFU00 fiber optic module, to be ordered separately (see page 25).
(2) With TCSEAAF1LFH00 fiber optic module, to be ordered separately (see page 25).
(3) With TCSEAAF1LFS00 fiber optic module, to be ordered separately (see page 25).

Managed switch, 8 ports and 2 Gigabit ports, copper twisted pair		
		
Interfaces	Copper cable ports	8 x 10/100BASE-TX ports and 2 x 10/100/1000BASE-TX ports (Gigabit)
		RJ45
		Shielded twisted pair, category CAT 5E
		100 m/328 ft
	Fiber optic Gigabit ports (with SFP fiber optic module to be mounted on SFP connector)	–
		LC
		–
		–
	Attenuation analysis	–
		–
Topology	Number of switches	–
		–
		–
		–
	Cascaded	–
		–
		–
		–
	Redundant power supplies, redundant single ring, ring coupling	–
		–
Redundancy	Voltage	–
		–
		–
		–
	Consumption	–
		–
		–
		–
	Removable terminal block	–
		–
Operating temperature	Dimensions	–
		–
		–
		–
	Mounting	–
		–
		–
		–
	Weight	–
		–
Conforming to standards	LED indicators	–
		–
		–
		–
	Alarm relay	–
		–
		–
		–
	Reference	–
		–
LED indicators	Pages	–
		–
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	Alarm relay	–
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	Reference	–
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Alarm relay	Pages	–
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	Alarm relay	–
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	Reference	–
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Reference	Pages	–
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	Alarm relay	–
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	Reference	–
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TCSESM103F23G0

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More technical information on www.schneider-electric.com

Device type			TX/TX Tofino firewall
			
Interfaces	Copper cable ports	Number and type	2 x 10/100 BASE-TX ports for internal and external networks
		Shielded connectors	RJ45 type
		Medium	Shielded twisted pair, category CAT 5E
		Total length of pair	100 m/328 ft
	Fiber optic ports	Number and type	–
		Connectors	–
		Medium	–
	Length of fiber	50/125 µm	–
		62.2/125 µm	–
	Attenuation analysis	50/125 µm fiber	–
	62.2/125 µm fiber	–	
Configuration tools		PC-based software tool (ConneXium Tofino Configurator) that is used to create configuration files for ConneXium Tofino Firewall	
Security capabilities			Built-in security modules (Firewall, Event Logger, Modbus TCP Enforcer, NetConnect), optional field upgradeable modules for EtherNet/IP and OPC, Tofino Configurator for creating secure zones
Power supply	Voltage	12 to 48 V $\overline{\text{---}}$ (minimum 9 V to maximum 60 V) or 24 V $\sim$ (minimum 18 V to maximum 30 V)	
	Consumption	7.0 W max.	
	Hold up time	Minimum 10 ms at 20.4 V $\overline{\text{---}}$	
Operating temperature			-40° to 70° C/-40° to 158° F
Relative humidity			10 to 95% non-condensing
Maximum operating altitude			2,000 m/6,560 ft
Pollution degree			2
Degree of protection			IP 20
MTBF (mean time between failures)			562,765 hr. at +25° C/+77° F GB
Dimensions		W x H x D	60 x 145 x 123 mm/2.36 x 5.71 x 4.84 in.
Mounting			35 mm/1.38 in. DIN rail
Weight			0.615 kg/1.356 lb
Standards and certifications			IEC 60068-2-6, IEC 60068-2-27, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-9, EN 55022 class A/FCC 47 CFR Part 15 class A cUL 508:1988, Cc (1), German Lloyd VI-7-3 Part 1 Ed. 2003, RoHS Directive
LED indicators			Power supply, link activity, detected fault, mode, save/load, reset
References			TCSEFEA23F3F22
Pages			31

(1) The ConneXium Tofino Industrial Ethernet Firewalls TCSEFEA23F3F20 and TCSEFEA23F3F21 are also compliant with Germanischer Lloyd VI-7-3 Part 1 Ed. 2003 certification.

(2) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 2,000 m/6,561 ft).

(3) Length dependent on the attenuation analysis and attenuation of the fiber (typical value: 15,000 m/49,212 ft).

TX/TX Firewall/Router		TX/MM Firewall/Router
		
2 x 10/100 BASE-TX ports for internal and external networks		1 x 10/100BASE-TX port for internal network
RJ45 type		
Shielded twisted pair, category CAT 5E		
100 m/328 ft		
–		1 x 100BASE-FX port for external network
–		Duplex SC type
–		Multimode fiber
–		5,000 m/16,404 ft (2)
–		4,000 m/13,123 ft (3)
–		8 dB
–		11 dB
V.24 connection; Ethernet Switch Configurator protocol via the application Ethernet Switch Configurator; Memory Backup Adapter; Graphical User Interface		
–		
12 to 48 V $\overline{\text{---}}$ (minimum 9 V to maximum 60 V) or 24 V $\sim$ (minimum 18 V to maximum 30 V)		
5 W max.		6 W max.
10 ms at 20.4 V $\overline{\text{---}}$ or $\sim$		
2 ms at 10.2 V $\overline{\text{---}}$		
-40° to 70° C/-40° to 158° F		
10 to 95% non-condensing		
–		
2		
IP 20		
1,788 hr. at + 25° C/+ 77° F		1,656 hr. at + 25° C/+ 77° F
60.6 x 145.3 x 128.02 mm/2.39 x 5.72 x 5.04 in.		
35 mm/1.38 in. DIN rail		
0.660 kg/1.455 lb		
EN 50121-4, EN 55022 (Class A), EN 60079-15, EN 60950-1, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-9, EN 61000-4-12, EN 61000-6-2, EN 61000-6-4, GL Guidelines VI-7-3 Part 1 Ed.2003 (EMC 1), FCC 47 CFR Part 15 (Class A), IEC 60068-2-6, IEC 60068-2-27, IEC 60825-1, IEC 61131-2, IEC/EN 61850-3, IEEE 802.1AB, IEEE 802.3-2002, IEEE 802.3ac, IEEE 1613, IEEE C37.90.1, IEEE C37.90.3, UL 508, 2011/65/EU (RoHS), 2004/108/EC (EMC)		
Device state: Power Supply 1, Power Supply 2, Detected Fault, Device Status, Router redundancy mode, EAM storage medium status; VPN status; Port state: Link status, Data status (receiving/transmitting), External Port Status, Internal Port Status, Serial Port Status		
TCSEFEC23F3F21		TCSEFEC23FCF21
31		



ConneXium Network Manager (CNM)

Software
ConneXium Network Manager (CNM), initial version

Software		ConneXium Network Manager (CNM), Sales and support	
			
Number of nodes		100	
Version upgrade		–	
Client/Server architecture		Multiple server deployments, licensing based on the number of managed devices	
System requirements	Operating system	Microsoft Windows 7, 32 or 64-bit	
	Server type	Microsoft Windows Server 2008R2	
	Available storage	Min. 2 GB	
	RAM	Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)	
	Screen resolution	Min. 1024 x 768	
Supported languages		English, German, Spanish, French, Italian, Chinese	
Displaying	General functions	Network hierarchy including Modbus Devices identification, global and individual device status	
	Protocols	ICMP, SNMP, Modbus, EIP	
	Topology	SNMP, LLDP	
Monotoring	Modes	Polling, Trap	
	Status	Port, RSTP, power supply, relay, others	
Export	Formats	pdf, jpeg, html, CSV	
	Functions	Topology maps, table exports, event list	
Asset management		Per-device reports	
System level		MTBF/MTTR	
Support		Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer	
Other functions		Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened	
Reference		TCSEAZ03S010FM2	
Page		34	

ConneXium Network Manager (CNM)				
				
25	100	500	1,000	4,000
—				
Multiple server deployments, licensing based on the number of managed devices				
Microsoft Windows 7, 32 or 64-bit				
Microsoft Windows Server 2008R2				
Min. 2 GB				
Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)				
Min. 1024 x 768				
English, German, Spanish, French, Italian, Chinese				
Network hierarchy including Modbus Devices identification, global and individual device status				
ICMP, SNMP, Modbus, EIP				
SNMP, LLDP				
Polling, Trap				
Port, RSTP, power supply, relay, others				
pdf, jpeg, html, CSV				
Topology maps, table exports, event list				
Per-device reports				
MTBF/MTTR				
Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer				
Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened				
TCSEAZ03P002FM2	TCSEAZ03P010FM2	TCSEAZ03P050FM2	TCSEAZ03P100FM2	TCSEAZ03P400FM2

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ConneXium Network Manager (CNM)

Software
ConneXium Network Manager (CNM), upgraded version
with fixed number of nodes

Software		ConneXium Network Manager (CNM): 25 and 100 nodes	
			
Number of nodes		25	100
Version upgrade		Yes	
Client/Server architecture		Multiple server deployments, licensing based on the number of managed devices	
System requirements	Operating system	Microsoft Windows 7, 32 or 64-bit	
	Server type	Microsoft Windows Server 2008R2	
	Available storage	Min. 2 GB	
	RAM	Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)	
	Screen resolution	Min. 1024 x 768	
Supported languages		English, German, Spanish, French, Italian, Chinese	
Displaying	General functions	Network hierarchy including Modbus Devices identification, global and individual device status	
	Protocols	ICMP, SNMP, Modbus, EIP	
	Topology	SNMP, LLDP	
Monotoring	Modes	Polling, Trap	
	Status	Port, RSTP, power supply, relay, others	
Export	Formats	pdf, jpeg, html, CSV	
	Functions	Topology maps, table exports, event list	
Asset management		Per-device reports	
System level		MTBF/MTTR	
Support		Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer	
Other functions		Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened	
Reference		TCSEAZ03P002UV2	TCSEAZ03P010UV2
Pages		34	

ConneXium Network Manager (CNM): 500, 1,000 and 4,000 nodes		
		
500	1,000	4,000
Yes		
Multiple server deployments, licensing based on the number of managed devices		
Microsoft Windows 7, 32 or 64-bit		
Microsoft Windows Server 2008R2		
Min. 2 GB		
Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)		
Min. 1024 x 768		
English, German, Spanish, French, Italian, Chinese		
Network hierarchy including Modbus Devices identification, global and individual device status		
ICMP, SNMP, Modbus, EIP		
SNMP, LLDP		
Polling, Trap		
Port, RSTP, power supply, relay, others		
pdf, jpeg, html, CSV		
Topology maps, table exports, event list		
Per-device reports		
MTBF/MTTR		
Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer		
Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened		
TCSEAZ03P050UV2	TCSEAZ03P100UV2	TCSEAZ03P400UV2

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ConneXium Network Manager (CNM)

Software

ConneXium Network Manager (CNM), upgraded version with a range of nodes

Software		ConneXium Network Manager (CNM): 25 and 4,000 nodes			
					
Number of nodes		25 to 100	25 to 500	25 to 1,000	25 to 4,000
Version upgrade		Yes			
Client/Server architecture		Multiple server deployments, licensing based on the number of managed devices			
System requirements	Operating system	Microsoft Windows 7, 32 or 64-bit			
	Server type	Microsoft Windows Server 2008R2			
	Available storage	Min. 2 GB			
	RAM	Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)			
	Screen resolution	Min. 1024 x 768			
Supported languages		English, German, Spanish, French, Italian, Chinese			
Displaying	General functions	Network hierarchy including Modbus Devices identification, global and individual device status			
	Protocols	ICMP, SNMP, Modbus, EIP			
	Topology	SNMP, LLDP			
Monotoring	Modes	Polling, Trap			
	Status	Port, RSTP, power supply, relay, others			
Export	Formats	pdf, jpeg, html, CSV			
	Functions	Topology maps, table exports, event list			
Asset management		Per-device reports			
System level		MTBF/MTTR			
Support		Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer			
Other functions		Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened			
Reference		TCSEAZ03P012UM2	TCSEAZ03P052UM2	TCSEAZ03P102UM2	TCSEAZ03P402UM2
Pages		35			

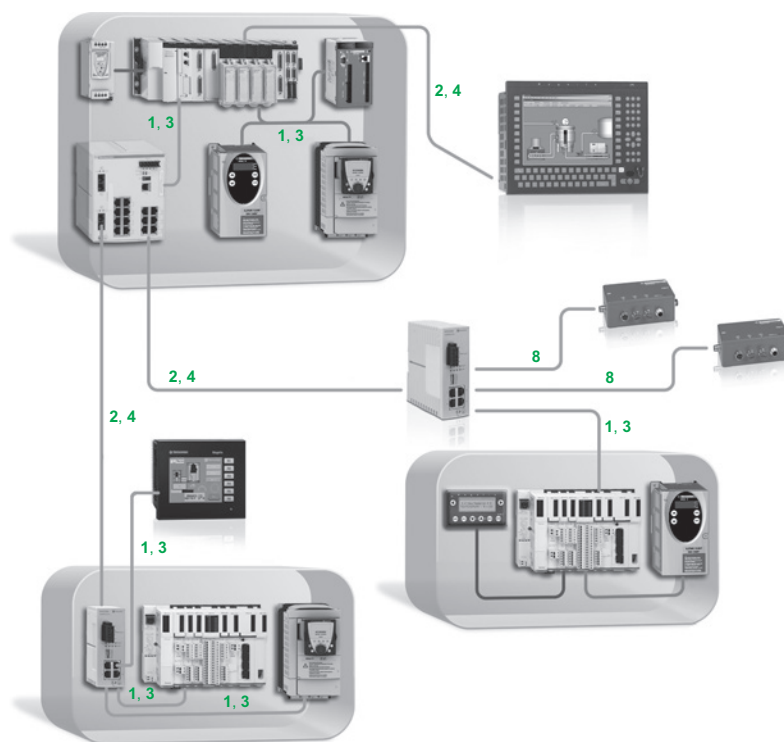
ConneXium Network Manager (CNM): 100 to 4,000 nodes, 500 to 4,000 nodes, 1,000 to 4,000 nodes					
					
100 to 500	100 to 1,000	100 to 4,000	500 to 1,000	500 to 4,000	1,000 to 4,000
Yes					
Multiple server deployments, licensing based on the number of managed devices					
Microsoft Windows 7, 32 or 64-bit					
Microsoft Windows Server 2008R2					
Min. 2 GB					
Min. 2 GB (300 MB free RAM, 500 KB RAM required for each detected agent)					
Min. 1024 x 768					
English, German, Spanish, French, Italian, Chinese					
Network hierarchy including Modbus Devices identification, global and individual device status					
ICMP, SNMP, Modbus, EIP					
SNMP, LLDP					
Polling, Trap					
Port, RSTP, power supply, relay, others					
pdf, jpeg, html, CSV					
Topology maps, table exports, event list					
Per-device reports					
MTBF/MTTR					
Web client, ConneXium switches, ConneXium firewalls, Schneider Electric M580 Programmable Automation offer					
Flexible user-defined statuses, color coding and event handling, customizable data acquisition, long-term trending, firewall friendliness, requiring a minimal set of ports to be opened					
TCSEAZ03P051UM2	TCSEAZ03P101UM2	TCSEAZ03P401UM2	TCSEAZ03P105UM2	TCSEAZ03P405UM2	TCSEAZ03P410UM2
35					

Presentation

Schneider Electric offers copper and fiber optic cables for connecting IP 20 and IP 67 Ethernet devices.

Examples

Mixed IP 20 and IP 67 wiring (copper)

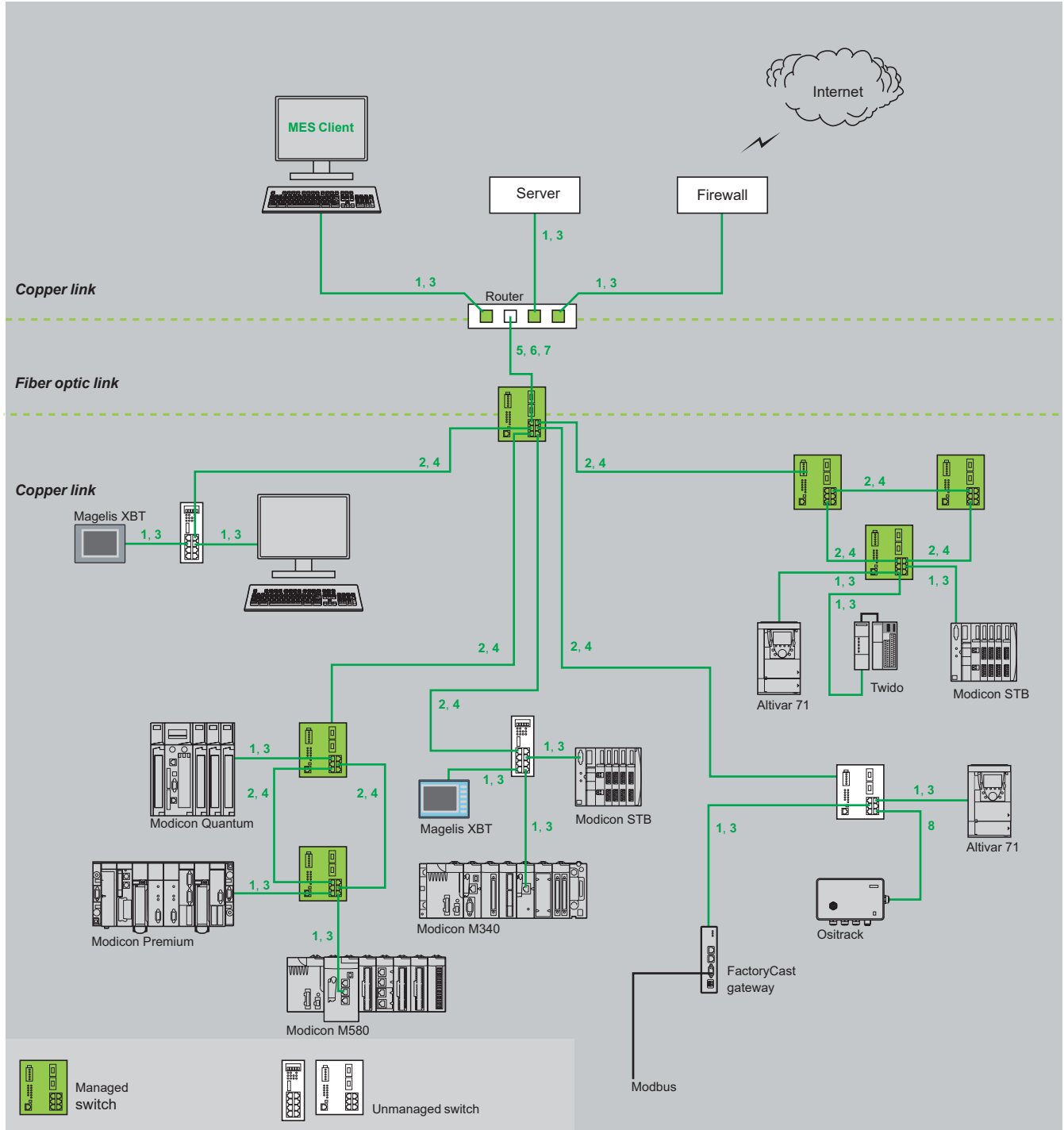


Key:

- 1, 3: Straight-through copper cables
- 2, 4: Crossover copper cables
- 8: Cables with IP 67 connector (see page 25)

Examples (continued)

Mixed copper and fiber optic wiring



Key:

1, 3: Straight-through copper cables

2, 4: Crossover copper cables

5, 6, 7: Fiber optic cables

8: Cables with IP 67 connector (see pages 24 and 25)

Ethernet network

Wiring system

ConneXium connection components

Shielded copper connection cables

ConneXium shielded connection cables are available in two versions to meet the various current standards and approvals:

■ EIA/TIA 568 shielded twisted pair cables for C€ market

These cables conform to:

- EIA/TIA-568 standard, category CAT 5E
- IEC 11801/EN 50173-1 standard, class D

Their fire resistance conforms to:

- NF C32-070 standard, class C2
- IEC 322/1 standards
- Low Smoke Zero Halogen (LSZH)

■ EIA/TIA 568 shielded twisted pair cables for UL market

These cables are:

- CEC type FT-1
- NEC type CM

A new range of ConneXium fully shielded preassembled cables has been specially designed for use in harsh industrial environments. These cables combine a category 5E shielded cable and RJ45 connectors reinforced with a metal profile.

EIA/TIA 568 shielded twisted pair cables for C€ market

Description	With connectors at both ends	No.	Type	Length m/ft	Reference	Weight kg/lb
Straight-through copper cables C€ compatible	2 x RJ45 connectors For connection to terminal equipment (DTE)	1	Standard	2/6.56	490NTW00002	—
				5/16.40	490NTW00005	—
				12/39.37	490NTW00012	—
				40/131	490NTW00040	—
				80/262	490NTW00080	—
			Rugged	1/3.28	TCSECE3M3M1S4	—
				2/6.56	TCSECE3M3M2S4	—
				3/9.84	TCSECE3M3M3S4	—
				5/16.40	TCSECE3M3M5S4	—
				10/32.81	TCSECE3M3M10S4	—
Crossover copper cables C€ compatible	2 x RJ45 connectors For connection between hubs, switches, and transceivers	2	Standard	5/16.40	490NTC00005	—
				15/49.21	490NTC00015	—
				40/131	490NTC00040	—
				80/262	490NTC00080	—



TCSEC●3M3M●●S4

Shielded twisted pair cables for UL market

Description	With connectors at both ends	No.	Type	Length m/ft	Reference	Weight kg/lb
Straight-through copper cables UL compatible	2 x RJ45 connectors For connection to terminal equipment (DTE)	3	Standard	2/6.56	490NTW00002U	—
				5/16.40	490NTW00005U	—
				12/39.37	490NTW00012U	—
				40/131	490NTW00040U	—
				80/262	490NTW00080U	—
			Rugged	1/3.28	TCSECU3M3M1S4	—
				2/6.56	TCSECU3M3M2S4	—
				3/9.84	TCSECU3M3M3S4	—
				5/16.40	TCSECU3M3M5S4	—
				10/32.81	TCSECU3M3M10S4	—
Crossover copper cables UL compatible	2 x RJ45 connectors For connection between hubs, switches, and transceivers	4	Standard	5/16.40	490NTC00005U	—
				40/131	490NTC00040U	—
				80/262	490NTC00080U	—

Do it Yourself copper cable and connectors

The ConneXium Do it Yourself offer consists of 4 references for connectors (M12 and RJ45) and 3 cable references (300 m/984 ft coil), enabling Ethernet 10/100 Mbps networks to be cabled in the field.

The maximum length of cables created in this way is 80 m/262 ft.

They are quick to assemble using a knife and simple wire cutters (no special tools are required).

Description	Characteristics	Length m/ft	Reference	Weight kg/lb
Ethernet copper cable 2 shielded twisted pairs AWG 24	Conforms to the standards and approvals listed above	300/984	TCSECN300R2	—
Ethernet copper cable 4 shielded twisted pairs AWG 24	Conforms to the CE standards	300/984	TCSECE300R2	—
	Conforms to the UL standards	300/984	TCSECU300R2	—
M12 connector	Conforms to IEC 60176-2-101	—	TCSEK1MDRS	—
RJ45 connector	Conforms to EIA/TIA-568-D	—	TCSEK3MDS	—
RJ45 rugged connectors	Set of 2 connectors	—	TCSEK3MR2	—
	Set of 10 connectors	—	TCSEK3MR10	—



490NOC00005



490NOT00005



490NOR00005

Glass fiber optic cables

Glass fiber optic cables are intended for connection:

- To terminal devices (DTE)
- Between hubs, transceivers, and switches

Description	With connectors at both ends	No.	Length m/ft	Reference	Weight kg/lb
Glass fiber optic cables	1 SC connector 1 MT-RJ connector	5	5/16.40	490NOC00005	—
	1 ST (BFOC) connector 1 MT-RJ connector	6	5/16.40	490NOT00005	—
	2 MT-RJ connectors	7	3/9.84	490NOR00003	—
			5/16.40	490NOR00005	—

Separate parts for TCSESM and TCSESB switches

Description	Fiber	Type	Reference	Weight kg/lb
Fiber optic modules for Gigabit ports with LC connector (1)	Multimode 50/125 µm or 62.5/125 µm	1000BASE-SX	TCSEAAF1LFU00	0.040/0.088
	Single-mode 9/125 µm	1000BASE-LH	TCSEAAF1LFH00	0.040/0.088
	Multimode 50/125 µm or 62.5/125 µm Single-mode 62.5/125 µm	1000BASE-LX	TCSEAAF1LFS00	0.040/0.088
Description	Use	Port	Reference	Weight kg/lb
Configuration backup key for TCS ESM switches	Connected on the front of the switch; used to: - Save and retrieve the switch configuration - Update the internal software	USB	TCSEAM0100	—
Configuration backup key for TCS ESB switches		RJ45 (V24)	TCSEAM0200	—

Connection components for IP 67 switch

Description	With connectors at both ends	No.	Length m/ft	Reference	Weight kg/lb
Straight-through copper cables	1 x IP 67 4-way M12 connector and 1 x RJ45 connector	8	1/3.28	TCSECL1M3M1S2	—
			3/9.84	TCSECL1M3M3S2	—
			10/32.81	TCSECL1M3M10S2	—
			25/82.02	TCSECL1M3M25S2	—
			40/131	TCSECL1M3M40S2	—
	2 x IP 67 4-way M12 connectors	—	1/3.28	TCSECL1M1M1S2	—
			3/9.84	TCSECL1M1M3S2	—
			10/32.81	TCSECL1M1M10S2	—
			25/82.02	TCSECL1M1M25S2	—
			40/131	TCSECL1M1M40S2	—
Power supply cables	2 female M12 straight connectors	—	2/6.56	XZCP1164L2	—
			5/16.40	XZCP1164L5	—
	2 female M12 elbowed connectors	—	2.5/8.20	XZCP1264L2	—
			5/16.40	XZCP1264L5	—
	2 female M12 straight connectors	—	—	XZCC12FDM50B	—
	2 female M12 elbowed connectors	—	—	XZCC12FCM50B	—
M12/RJ45 adapter	IP 67 4-way female M12 connector and female RJ45 connector	—	—	TCSEAAF11F13F00	—

(1) Dimensions: W x H x D = 20 x 18 x 50 mm/0.787 x 0.708 x 1.968 in.

Ethernet network

Wiring system

ConneXium unmanaged switches

ConneXium unmanaged switches, twisted pair

Presentation

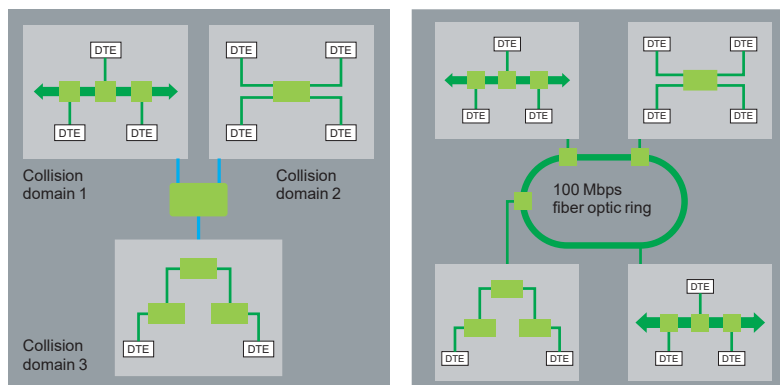
Switches are used to increase the limits of architectures based on hubs or transceivers, by separating collision domains.

Higher layer communication is provided between the ports, and collisions at link layer are not propagated (filtering).

They therefore improve performance by better allocation of the bandwidth due to the reduction of collisions and network load.

Certain ConneXium switch models also enable redundant architectures to be created on a twisted pair copper ring or fiber optic ring.

Unmanaged switches are plug and play devices that do not need to be configured by the user. Certain models can also be managed remotely via SNMP or HTTP protocols for monitoring and diagnostic purposes.



TCSESU051F0



TCSESSU083FN0



TCSESPU083FN0

References

Description	Interfaces	Reference	Weight kg/ lb
ConneXium unmanaged switches	5 x 10BASE-T/100BASE-TX ports (copper cable), shielded M12 type D connectors, IP67	TCSESU051F0	0.210/ 0.462
	8 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP30	TCSESSU083FN0	0.150/ 0.330
	8 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP40	TCSESPU083FN0	0.440/ 0.970

Description	With connectors at both ends	Length m/ft	Reference	Weight kg/ lb
IP67 power supply cables (for ConneXium switch TCSESU051F0)	Female M12 straight connector	2/6.56	XZCP1164L2	—
		5/16.40	XZCP1164L5	—
	Female M12 elbowed connector	2/6.56	XZCP1264L2	—
		5/16.40	XZCP1264L5	—
IP67 power supply connectors (for ConneXium switch TCSESU051F0)	Female M12 straight connector	—	XZCC12FDM50B	—
	Female M12 elbowed connector	—	XZCC12FCM50B	—

Ethernet network

Wiring system

ConneXium unmanaged switches



TCSESU053FN0

ConneXium unmanaged switches, 3, 4, 5, and 8 ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
ConneXium unmanaged switches	3 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU033FN0	0.113/ 0.249
	■ 4 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector	TCSESU043F1N0	0.120/ 0.264
	5 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU053FN0	0.113/ 0.249
	8 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU083FN0	0.246/ 0.542

TCSESPU053F1CU0/
TCSESPU053F1CS0

ConneXium premium unmanaged switches, 4 and 7 ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
ConneXium premium unmanaged switches	■ 4 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector	TCSESPU053F1CU0 TCSESPU053F1CS0	0.430/ 0.948
	■ 7 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESPU093F2CU0 TCSESPU093F2CS0	0.510/ 1.124

TCSESPU093F2CU0/
TCSESPU093F2CS0

Ethernet network

Wiring system

ConneXium managed switches



TCSESM043F1CU0



TCSESM043F2CS0



TCSESM083F23F0



TCSESM083F1CU0



TCSESM083F2CS0

ConneXium managed switches, 4 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	■ 3 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector	TCSESM043F1CU0	0.400/ 0.881
	■ 2 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESM043F2CU0	0.400/ 0.881
	■ 3 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (single-mode fiber), duplex SC connector	TCSESM043F1CS0	0.400/ 0.881
	■ 2 x 10BASE-T/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single-mode fiber), duplex SC connector	TCSESM043F2CS0	0.400/ 0.881

ConneXium managed switches, 4 and 8 ports, twisted pair

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESM043F23F0	0.400/ 0.881
	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESM083F23F0	0.410/ 0.904

ConneXium managed switches, 8 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	■ 7 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector	TCSESM083F1CU0	0.410/ 0.904
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESM083F2CU0	0.410/ 0.904
	■ 7 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (single-mode fiber), duplex SC connector	TCSESM083F1CS0	0.410/ 0.904
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single-mode fiber), duplex SC connector	TCSESM083F2CS0	0.410/ 0.904

Ethernet network

Wiring system

ConneXium managed switches



TCSESB083F23F0



TCSESM063F2CS1



TCSESL043F23F0

Basic ConneXium managed switches, 8 and 9 ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
Basic ConneXium managed switches	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESB083F23F0	0.400/ 0.881
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESB083F2CU0	0.400/ 0.881
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 3 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESB093F2CU0	0.400/ 0.881

ConneXium managed switches, 8 extended ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP30	TCSESM083F23F1 (1)	1.000/ 2.205
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP30 ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESM063F2CU1 (1)	1.000/ 2.205
	■ 6 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP30 ■ 2 x 100BASE-FX ports (single-mode fiber), duplex SC connector	TCSESM063F2CS1 (1)	1.000/ 2.205

ConneXium Lite managed switches, 4 extended ports, twisted pair

References

Description	Interfaces	Reference	Weight kg/ lb
ConneXium Lite managed switches	4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors, IP30	TCSESL043F23F0	0.103/ 0.227

(1) Available in Conformal Coating version. For this version, add the letter **C** at the end of the reference. For example, the **TCSESM083F23F1** switch becomes **TCSESM083F23F1C** in the Conformal Coating version. For further information on treatments for harsh environments, please consult our website www.schneider-electric.com.

Ethernet network

Wiring system

ConneXium managed switches



TCSESM163F23F0



TCSESM243F2CU0



TCSESM103F2LG0



TCSESM103F23G0

ConneXium managed switches, 16 and 24 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	16 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESM163F23F0	0.600/ 1.323
	■ 14 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESM163F2CU0	0.600/ 1.323
	■ 14 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single-mode fiber), duplex SC connector	TCSESM163F2CS0	0.600/ 1.323
	■ 22 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector	TCSESM243F2CU0	0.650/ 1.433

ConneXium managed switches, 8 ports and 2 Gigabit ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium managed switches	■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 1000BASE-SX ports (multimode fiber) (1), or ■ 2 x 1000BASE-LH ports (single-mode fiber) (2), or ■ 2 x 1000BASE-LX ports (single-mode and multimode fiber) (3)	TCSESM103F2LG0	0.410/ 0.903
	■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 10/100/1000BASE-TX (Gigabit) ports (copper cable), RJ45 shielded connectors	TCSESM103F23G0	0.410/ 0.903

(1) With TCSEAAF1LFU00 fiber optic module, to be ordered separately (see page 25)

(2) With TCSEAAF1LFH00 fiber optic module, to be ordered separately (see page 25)

(3) With TCSEAAF1LFS00 fiber optic module, to be ordered separately (see page 25)



TCSEFEA23F3F22,
TCSEFEC23F3F21,
TCSEFEC23FCF21

ConneXium industrial Ethernet firewalls

References			
Description	Interfaces	Reference	Weight kg/ lb
ConneXium Tofino industrial Ethernet firewall TX/TX with EtherNet/IP and OPC Enforcer, OSI Layer 7	2 x 10/100BASE-TX ports (copper cable) for internal and external network connections, IP20	TCSEFEA23F3F22	0.615/ 1.355
ConneXium Industrial Firewall/Router TX/TX	2 x 10/100BASE-TX ports (copper cable) for internal and external network connections, IP20	TCSEFEC23F3F21	0.660/ 1.455
ConneXium Industrial Firewall/Router TX/MM	1 x 10/100BASE-TX port for internal network, IP20	TCSEFEC23FCF21	0.660/ 1.455



Definition

The ConneXium™ Network Manager (CNM) is Schneider Electric's industrial network management system providing a common interface to discover, identify, map, monitor, and configure an array of Schneider Electric's industrial Ethernet connected devices.

General description

Why use ConneXium Network Manager (CNM)?

CNM becomes an invaluable tool for industrial control personnel, responsible for network health and maintenance, network commissioning, or device discovery procedures.

By deploying managed industrial network devices such as the Schneider Electric M580 Programmable Automation Controller series and the ConneXium line of Ethernet infrastructure, the foundation for future industrial data analytics and management becomes a reality.

CNM infrastructure data management

CNM builds on that foundation of consolidated infrastructure data management. Based on proven client/server architecture, CNM provides a single application for management of Industrial Ethernet devices.

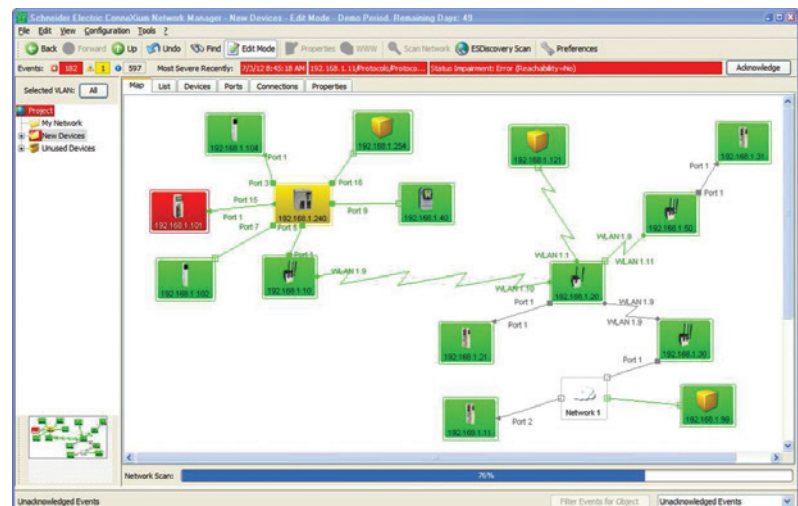
Device identification and network topology maps

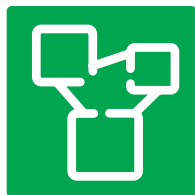
CNM provides the ability to probe networks for device identification and network topology maps. Discovery is achieved via ICMP, SNMP, Modbus, and EIP Protocols, while topology is mapped via SNMP and LLDP.

By gathering such information automatically and removing the human element, key business initiatives tied to asset management or vulnerability assessments become easier and more consistent to implement.

Examples

Device identification and network topology maps





Configuration

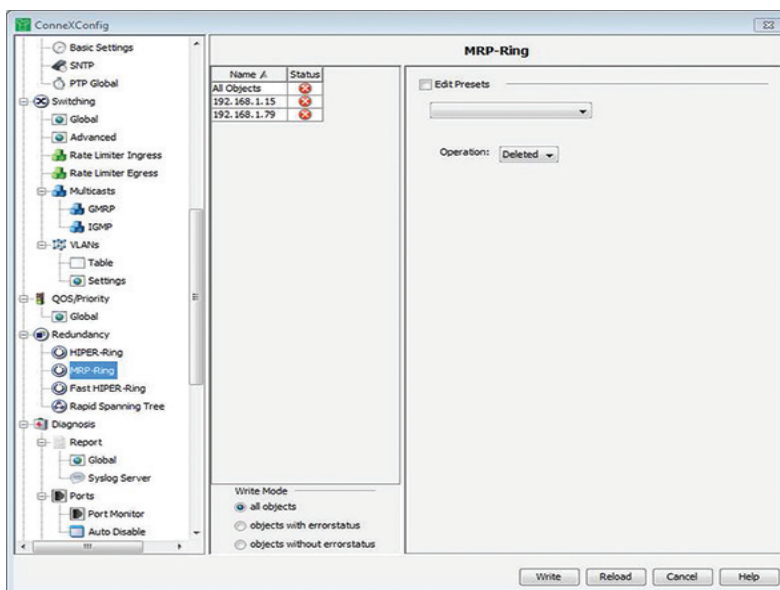
Presentation

Via CNM, a user can configure one or more Ethernet devices with a few button clicks, obviating the need to log into each device independently.

This feature alone provides a major enhancement in change control and systematic commissioning of industrial Ethernet devices.

Examples

ConneXium Network Manager (CNM)



Monitoring and reporting

Presentation

As a running operational tool, CNM provides industrial network operators with a view into the real-time status, performance, and health of their industrial Ethernet control networks.

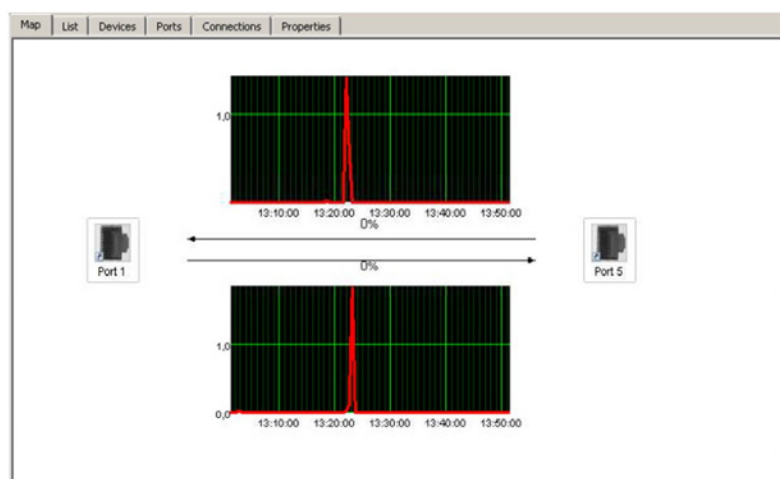
With the click of a button, selected Ethernet links can report congestion, bit rates, or packets per second.

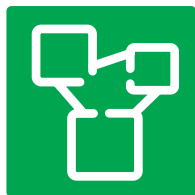
Real-time event logging with OPC and syslog interfaces facilitates time-coordinated holistic integrations with existing SCADA and IT SIEM devices.

CNM provides several reports both in pdf and CVS formats. These reports include asset documentation, device status IP/MAC addressing, event, port and VLAN information, performance monitoring, new device lists, and connection information including path MTBF/MTTR.

Examples

ConneXium Network Manager (CNM)





ConneXium Network Manager (CNM), Sales and support

References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), Sales and support, 100 nodes	Initial	TCSEAZ03S010FM2	–

ConneXium Network Manager (CNM), with fixed number of nodes

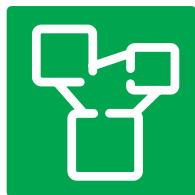
References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), 25 nodes	Initial	TCSEAZ03P002FM2	–
ConneXium Network Manager (CNM), 100 nodes	Initial	TCSEAZ03P010FM2	–
ConneXium Network Manager (CNM), 500 nodes	Initial	TCSEAZ03P050FM2	–
ConneXium Network Manager (CNM), 1,000 nodes	Initial	TCSEAZ03P100FM2	–
ConneXium Network Manager (CNM), 4,000 nodes	Initial	TCSEAZ03P400FM2	–

ConneXium Network Manager (CNM), with fixed number of nodes

References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), 25 nodes	Upgraded	TCSEAZ03P002UV2	–
ConneXium Network Manager (CNM), 100 nodes	Upgraded	TCSEAZ03P010UV2	–
ConneXium Network Manager (CNM), 500 nodes	Upgraded	TCSEAZ03P050UV2	–
ConneXium Network Manager (CNM), 1,000 nodes	Upgraded	TCSEAZ03P100UV2	–
ConneXium Network Manager (CNM), 4,000 nodes	Upgraded	TCSEAZ03P400UV2	–



ConneXium Network Manager (CNM), with a range of nodes: 25 to 4,000

References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), 25 to 100 nodes	Upgraded	TCSEAZ03P002UV2	–
ConneXium Network Manager (CNM), 25 to 500 nodes	Upgraded	TCSEAZ03P010UV2	–
ConneXium Network Manager (CNM), 25 to 1,000 nodes	Upgraded	TCSEAZ03P050UV2	–
ConneXium Network Manager (CNM), 25 to 4,000 nodes	Upgraded	TCSEAZ03P100UV2	–

ConneXium Network Manager (CNM), with a range of nodes: 100 to 4,000

References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), 100 to 500 nodes	Upgraded	TCSEAZ03P051UM2	–
ConneXium Network Manager (CNM), 100 to 1,000 nodes	Upgraded	TCSEAZ03P101UM2	–
ConneXium Network Manager (CNM), 100 to 4,000 nodes	Upgraded	TCSEAZ03P410UM2	–

ConneXium Network Manager (CNM), with ranges of nodes: 500 to 4,000, 1,000 to 4,000

References

Description	Version	Reference	Weight kg/ lb
ConneXium Network Manager (CNM), 500 to 1,000 nodes	Upgraded	TCSEAZ03P105UM2	–
ConneXium Network Manager (CNM), 500 to 4,000 nodes	Upgraded	TCSEAZ03P405UM2	–
ConneXium Network Manager (CNM), 1,000 to 4,000 nodes	Upgraded	TCSEAZ03P410UM2	–

4		TCSECL1M3M40S2	25
490NOC00005	25	TCSECN300R2	24
490NOR00003	25	TCSECU3M3M1S4	24
490NOR00005	25	TCSECU3M3M2S4	24
490NOT00005	25	TCSECU3M3M3S4	24
490NTC00005	24	TCSECU3M3M5S4	24
490NTC00005U	24	TCSECU3M3M10S4	24
490NTC00015	24	TCSECU300R2	24
490NTC00040	24	TCSEFEA23F3F22	31
490NTC00040U	24	TCSEFEC23F3F21	31
490NTC00080	24	TCSEFEC23FCF21	31
490NTC00080U	24	TCSEK1MDRS	24
490NTW00002	24	TCSEK3MDS	24
490NTW00002U	24	TCSEK3MR2	24
490NTW00005	24	TCSEK3MR10	24
490NTW00005U	24	TCSESB083F2CU0	29
490NTW00012	24	TCSESB083F23F0	29
490NTW00012U	24	TCSESB093F2CU0	29
490NTW00040	24	TCSESL043F23F0	29
490NTW00040U	24	TCSESM043F1CS0	28
490NTW00080	24	TCSESM043F1CU0	28
490NTW00080U	24	TCSESM043F2CS0	28
		TCSESM043F2CU0	28
		TCSESM043F23F0	28
T		TCSESM063F2CS1	29
TCSEAAF1LFH00	25	TCSESM063F2CU1	29
TCSEAAF1LFS00	25	TCSESM083F1CS0	28
TCSEAAF1LFU00	25	TCSESM083F1CU0	28
TCSEAAF11F13F00	25	TCSESM083F2CS0	28
TCSEAM0100	25	TCSESM083F2CU0	28
TCSEAM0200	25	TCSESM083F23F0	28
TCSEAZ03P002FM2	34	TCSESM083F23F1	29
TCSEAZ03P002UV2	34		
	35	TCSESM103F2LG0	30
TCSEAZ03P010FM2	34	TCSESM103F23G0	30
TCSEAZ03P010UV2	34	TCSESM163F2CS0	30
	35	TCSESM163F2CU0	30
TCSEAZ03P050FM2	34	TCSESM163F23F0	30
TCSEAZ03P050UV2	34	TCSESM243F2CU0	30
	35	TCSESPU053F1CS0	27
TCSEAZ03P051UM2	35	TCSESPU053F1CU0	27
TCSEAZ03P100FM2	34	TCSESPU083FN0	26
TCSEAZ03P100UV2	34	TCSESPU093F2CS0	27
	35	TCSESPU093F2CU0	27
TCSEAZ03P101UM2	35	TCSESSU083FN0	26
TCSEAZ03P105UM2	35	TCSESU033FN0	27
TCSEAZ03P400FM2	34	TCSESU043F1N0	27
TCSEAZ03P400UV2	34	TCSESU051F0	26
TCSEAZ03P405UM2	35	TCSESU053FN0	27
TCSEAZ03P410UM2	35	TCSESU083FN0	27
TCSEAZ03S010FM2	34		
TCSECE3M3M1S4	24	X	
TCSECE3M3M2S4	24	XZCC12FCM50B	25
TCSECE3M3M3S4	24		26
TCSECE3M3M5S4	24	XZCC12FDM50B	25
TCSECE3M3M10S4	24		26
TCSECE300R2	24	XZCP1164L2	25
TCSECL1M1M1S2	25		26
TCSECL1M1M3S2	25	XZCP1164L5	25
TCSECL1M1M10S2	25		26
TCSECL1M1M25S2	25	XZCP1264L2	25
TCSECL1M1M40S2	25		26
TCSECL1M3M1S2	25	XZCP1264L5	25
TCSECL1M3M3S2	25		26
TCSECL1M3M10S2	25		
TCSECL1M3M25S2	25		



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