

ConneXium Connecting Ethernet devices

Catalog

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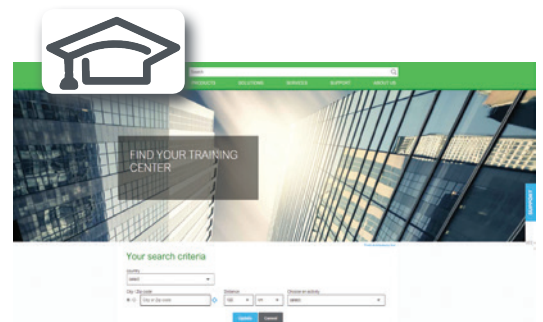
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Ethernet network

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			Supply voltage 1 and 2		
Power supply	Voltage		24 V $\overline{\text{---}}$ (18...32) SELV	12 V... 24 V (9.6 V... 32 V) Class 2 SELV	
	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).

Device type		Unmanaged switches, copper twisted pair		Unmanaged switches, 3, 4, and 5 ports, copper twisted pair and fiber optic		
Interfaces	Copper cable ports	Number and type	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	
		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	-
		Connectors	-		Duplex SC	-
		Medium	-		Multimode 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)	-
	Attenuation analysis	50/125 μm fiber	-		8 dB	-
		62.2/125 μm fiber	-		11 dB	-
	Ethernet services		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)		
	USB v.2.0	Connectors	-	-		
		Support	-	-		
		Current/Voltage	-	-		
	Number of pins	-	-			
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	-			
Redundancy			Supply voltage 1 and 2			
Power supply	Voltage		24 V $\overline{\text{---}}$ (9.6...32) SELV			
	Consumption		4.1 W max.	2.2 W max.	3.9 W max. 2.2 W max.	
	Removable terminal block		3 terminals	3 screw terminals	-	
Operating temperature			0...+60°C/+32...+140°F			
Relative humidity			95% max. non-condensing			
Degree of protection			IP 30			
Dimensions	W x H x D		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.	-	
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide			
Weight			0.246 kg/0.542 lb	0.113 kg/0.249 lb	0.120 kg/0.265 lb	0.113 kg/0.249 lb
Conforming to standards			UL 508 and CSA 22.2 No. 142 IEC/EN 61131-2, IEC 60825-1 class 1			
LED indicators			Power supply, copper port activity, 10 or 100 Mbps data rate			
			-		Fiber optic port activity and status	-
Reference			TCSESU083FN0	TCSESU033FN0	TCSESU043F1N0	TCSESU053FN0
Pages			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	
	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	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			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).

Device type		Managed switches, 4 ports, copper twisted pair and fiber optic								
										
Interfaces	Copper cable ports	Number and type	3 x 10/100BASE-TX ports		2 x 10/100BASE-TX ports		3 x 10/100BASE-TX ports		2 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	1 x 100BASE-FX port		2 x 100BASE-FX ports		1 x 100BASE-FX port		2 x 100BASE-FX ports	
		Connectors	Duplex SC							
		Medium	Multimode fiber				Single-mode fiber			
	Length of fiber		5,000 m/16,404 ft (3)				-			
			4,000 m/13,123 ft (3)				-			
			-				32,500 m/106,627 ft (4)			
Attenuation analysis		8 dB				-				
		11 dB				-				
		-				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 (Rapid Scanning Tree Protocol), priority port, data stream control, secure port								
USB	Connectors	-								
	Support	-								
	Current/Voltage	-								
	Number of pins	-								
Topology	Number of switches	Cascaded	Unlimited			50 max.				
		Redundant in a ring	-			-				
Redundancy			Redundant power supplies, redundant single ring, ring coupling			-				
Power supply	Voltage		9.6...60 V $\overline{\text{DC}}$ /18...30 V \sim SELV			-				
	Consumption		6.5 W	7.3 W		6.5 W		7.3 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.		-		-			
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide			-				
Weight			0.400 kg/0.882 lb			-				
Conforming to standards			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), CE, GL			-				
LED indicators			Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity			-				
Alarm relay			Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{DC}}$)			-				
Reference			TCSESM043F1CU0	TCSESM043F2CU0	TCSESM043F1CS0	TCSESM043F2CS0				
Pages			29			-				

(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
		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 $\overline{\text{---}}$ / 18...30 V \sim 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), CE, 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 $\overline{\text{---}}$)	
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).

Device type		Managed switches, 8 ports, copper twisted pair and fiber optic				
						
Interfaces	Copper cable ports	Number and type	7 x 10/100BASE-TX ports	6 x 10/100BASE-TX ports	7 x 10/100BASE-TX ports	6 x 10/100BASE-T 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 ports	1 x 100BASE-FX port	2 x 100BASE-FX ports
		Connectors	Duplex SC		Single-mode fiber	
		Medium	Multimode fiber		–	
	Length of fiber	5,000 m/16,404 ft (1)	–		–	
		4,000 m/13,123 ft (1)	–		–	
		–	–		32,500 m/106,627 ft (2)	
Attenuation analysis	8 dB	–		–		
	11 dB	–		–		
	–	–		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	Unlimited				
		50 max.				
Redundancy		Redundant power supplies, redundant single ring, ring coupling				
Power supply	Voltage	9.6...60 V $\overline{\text{---}}$ / 18...30 V \sim SELV				
	Consumption	6.5 W	7.3 W	6.5 W	7.3 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	75 x 131 x 111 mm/2.95 x 5.15 x 4.37 in.				
Mounting		On symmetrical DIN rail, 35 mm/1.38 in. wide				
Weight		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), CE, GL				
LED indicators		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, or communication port) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)				
Reference		TCSESM083F1CU0	TCSESM083F2CU0	TCSESM083F1CS0	TCSESM083F2CS0	
Pages		30				



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 $\overline{\text{SELV}}$	24 V $\overline{\text{SELV}}$ (9.6... 32 V $\overline{\text{SELV}}$)
	Consumption		6 W	2.35 W max.
	Removable terminal block		6 terminals	3 terminals
Operating temperature			0...+ 60°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 $\overline{\text{SELV}}$)	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).

Device type			Basic managed switches, 8 and 9 ports, copper twisted pair and fiber optic
			 
Interfaces	Copper cable ports	Number and type	6 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	2 x 100BASE-FX ports
		Connectors	Duplex SC
		Medium	Multimode fiber
	Length of fiber	5,000 m/16,404 ft (1)	
		4,000 m/13,123 ft (1)	
		-	
Attenuation analysis	8 dB		
	11 dB		
	-		
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	
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...32 V $\overline{\text{SELV}}$
	Consumption		8 W
	Removable terminal block		6 terminals
Operating temperature			0...+ 60°C/+ 32...+ 140°F
Relative humidity			95% max. non-condensing
Degree of protection			IP 20
Dimensions			W x H x D
			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
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
LED indicators			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, or communication port) (volt-free contact 1 A max. at 24 V $\overline{\text{SELV}}$)
Reference			TCSESB083F2CU0
Pages			30

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	6 x 10/100BASE-TX ports	6 x 10/100BASE-T 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		
		50/125 µm	5,000 m/16,404 ft (2)		
		62.2/125 µm	4,000 m/13,123 ft (2)		
	Attenuation analysis	9/125 µm	32,500 m/106,627 ft (3)		
50/125 µm fiber		8 dB			
62.2/125 µm fiber		11 dB			
Ethernet services	9/125 µm fiber	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				
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			
		120 x 137 x 115 mm/4.72 x 5.39 x 4.53 in.			
Mounting		On symmetrical DIN rail, 35 mm/1.38 in. wide			
Weight		1 kg/2.205 lb			
Conforming to standards		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), CE, GL, C-Tick, LR, BV, ATEX Zone 2			
LED indicators		Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity			
Alarm relay		Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~, 2-way)			
Reference		TCSESM083F23F1	TCSESM063F2CU1	TCSESM063F2CS1	
Pages		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



Interfaces	16 x 10/100BASE-TX ports	14 x 10/100BASE-TX ports	14 x 10/100BASE-TX ports	22 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	Multimode fiber			
		50/125 µm	5,000 m/16,404 ft (4)		–	5,000 m/16,404 ft (4)			
		62.2/125 µm	4,000 m/13,123 ft (4)		–	4,000 m/13,123 ft (4)			
	Attenuation analysis	9/125 µm	32,500 m/106,627 ft (5)		–	–			
50/125 µm fiber		8 dB		–	8 dB				
62.2/125 µm fiber		11 dB		–	11 dB				
Ethernet services	9/125 µm fiber	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								
Topology	Number of switches	Cascaded	Unlimited						
		Redundant in a ring	50 max.						
Redundancy	Redundant power supplies, redundant single ring, ring coupling								
	Power supply	Voltage	9.6...60 V ~ / 18...30 V ~ SELV						
Consumption		9.4 W	11.8 W	11.8 W	15.5 W				
Removable terminal block		6 terminals							
Operating temperature		0...+60°C/+32...+140°F							
Relative humidity		10...90% non-condensing		95% max. non-condensing	10...90% non-condensing				
Degree of protection		IP 20							
Dimensions		W x H x D							
		111 x 131 x 111 mm/4.37 x 5.16 x 4.37 in.							
Mounting		On symmetrical DIN rail, 35 mm/1.38 in. wide							
Weight		0.600 kg/1.323 lb			0.650 kg/1.433 lb				
Conforming to standards		IEC/EN 61131-2, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, CE, 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), CE, 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, CE, 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		TCSESM163F23F0	TCSESM163F2CU0	TCSESM163F2CS0	TCSESM243F2CU0				
Pages		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).

Ethernet network

Cabling system

ConneXium managed switches

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	Single-mode fiber	Single-mode and multimode fiber
	Length of fiber	50/125 µm	550 m/1,804 ft	–	550 m/1,804 ft
		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
	Attenuation analysis	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		
Topology	Number of switches	Cascaded	Unlimited		
		Redundant in a ring	50 max.		
Redundancy			Redundant power supplies, redundant single ring, ring coupling		
Power supply	Voltage		9.6...60 V ⎓ /18...30 V ~ SELV		
	Consumption		8.9 W + 1 W per SFP fiber optic module		
	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	111 x 131 x 111 mm/4.37 x 5.16 x 4.37 in.		
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide		
Weight			0.410 kg/0.904 lb		
Conforming to standards			cUL 60950, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, C€, GL		
LED indicators			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, or communication port) (volt-free contact 1 A max. at 24 V ⎓)		
Reference			TCSESM103F2LG0		
Pages			31		


(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).

Device type **Managed switch, 8 ports and 2 Gigabit ports, copper twisted pair**





Interfaces	Copper cable ports	Number and type	8 x 10/100BASE-TX ports and 2 x 10/100/1000BASE-TX ports (Gigabit)		
		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	–		
		Connectors	LC		
		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 (Rapid Scanning Tree Protocol), 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		
Power supply	Voltage		9.6...60 V ⎓ /18...30 V ~ SELV		
	Consumption		8.3 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	111 x 131 x 111 mm/4.37 x 5.16 x 4.37 in.		
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide		
Weight			0.410 kg/0.904 lb		
Conforming to standards			cUL 60950, UL 508 and CSA 22.2 No. 142, UL 1604 and CSA 22.2 No. 213 class 1 division 2, C€, GL		
LED indicators			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, or communication port) (volt-free contact 1 A max. at 24 V ⎓)		
Reference			TCSESM103F23G0		
Pages			31		

(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).

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, CE (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).


Device type		TX/TX Firewall/Router	TX/MM Firewall/Router	
				
Interfaces	Copper cable ports	Number and type 2 x 10/100 BASE-TX ports for internal and external networks	Number and type 1 x 10/100BASE-TX port for internal network	
		Shielded connectors RJ45 type	Shielded connectors –	
		Medium Shielded twisted pair, category CAT 5E	Medium –	
		Total length of pair 100 m/328 ft	Total length of pair –	
	Fiber optic ports	Number and type –	Number and type 1 x 100BASE-FX port for external network	
		Connectors –	Connectors Duplex SC type	
		Medium –	Medium Multimode fiber	
	Length of fiber	50/125 μm –	Length of fiber 5,000 m/16,404 ft (2)	
		62.2/125 μm –	4,000 m/13,123 ft (3)	
	Attenuation analysis	50/125 μm fiber –	Attenuation analysis 8 dB	
	62.2/125 μm fiber –	11 dB		
	Configuration tools V.24 connection; Ethernet Switch Configurator protocol via the application Ethernet Switch Configurator; Memory Backup Adapter; Graphical User Interface			
Security capabilities				
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	5 W max.	6 W max.	
	Hold up time	10 ms at 20.4 V $\overline{\text{---}}$ or \sim 2 ms at 10.2 V $\overline{\text{---}}$		
Operating temperature		-40° to 70° C / -40° to 158° F		
Relative humidity		10 to 95% non-condensing		
Maximum operating altitude				
Pollution degree				
Degree of protection		IP 20		
MTBF (mean time between failures)		1,788 hr. at +25° C / +77° F	1,656 hr. at +25° C / +77° F	
Dimensions	W x H x D	60.6 x 145.3 x 128.02 mm / 2.39 x 5.72 x 5.04 in.		
Mounting		35 mm / 1.38 in. DIN rail		
Weight		0.660 kg / 1.455 lb		
Standards and certifications		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)		
LED indicators		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		
References		TCSEFEC23F3F21	TCSEFEC23FCF21	
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).

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
Monitoring	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					
34					

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	
Monitoring	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	

Software		ConneXium Network Manager (CNM): 500, 1,000 and 4,000 nodes		
				
Number of nodes		500	1,000	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		
Monitoring	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		TCSEAZ03P050UV2	TCSEAZ03P100UV2	TCSEAZ03P400UV2
Pages		34		

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			
Monitoring	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			

Software		ConneXium Network Manager (CNM): 100 to 4,000 nodes, 500 to 4,000 nodes, 1,000 to 4,000 nodes					
							
Number of 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
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					
Monitoring	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		TCSEAZ03P051UM2	TCSEAZ03P101UM2	TCSEAZ03P401UM2	TCSEAZ03P105UM2	TCSEAZ03P405UM2	TCSEAZ03P410UM2
Pages		35					

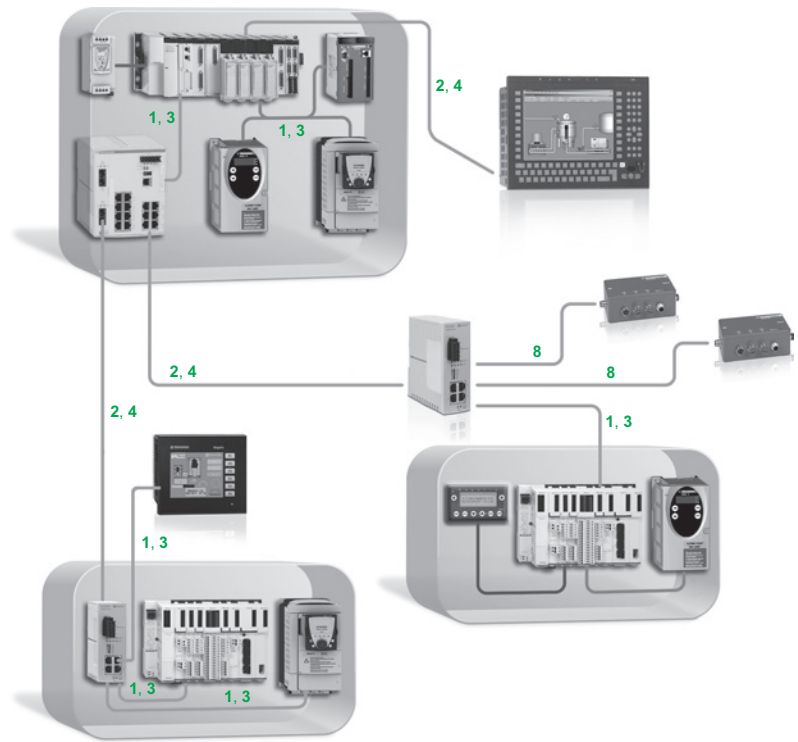


Presentation

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

Examples

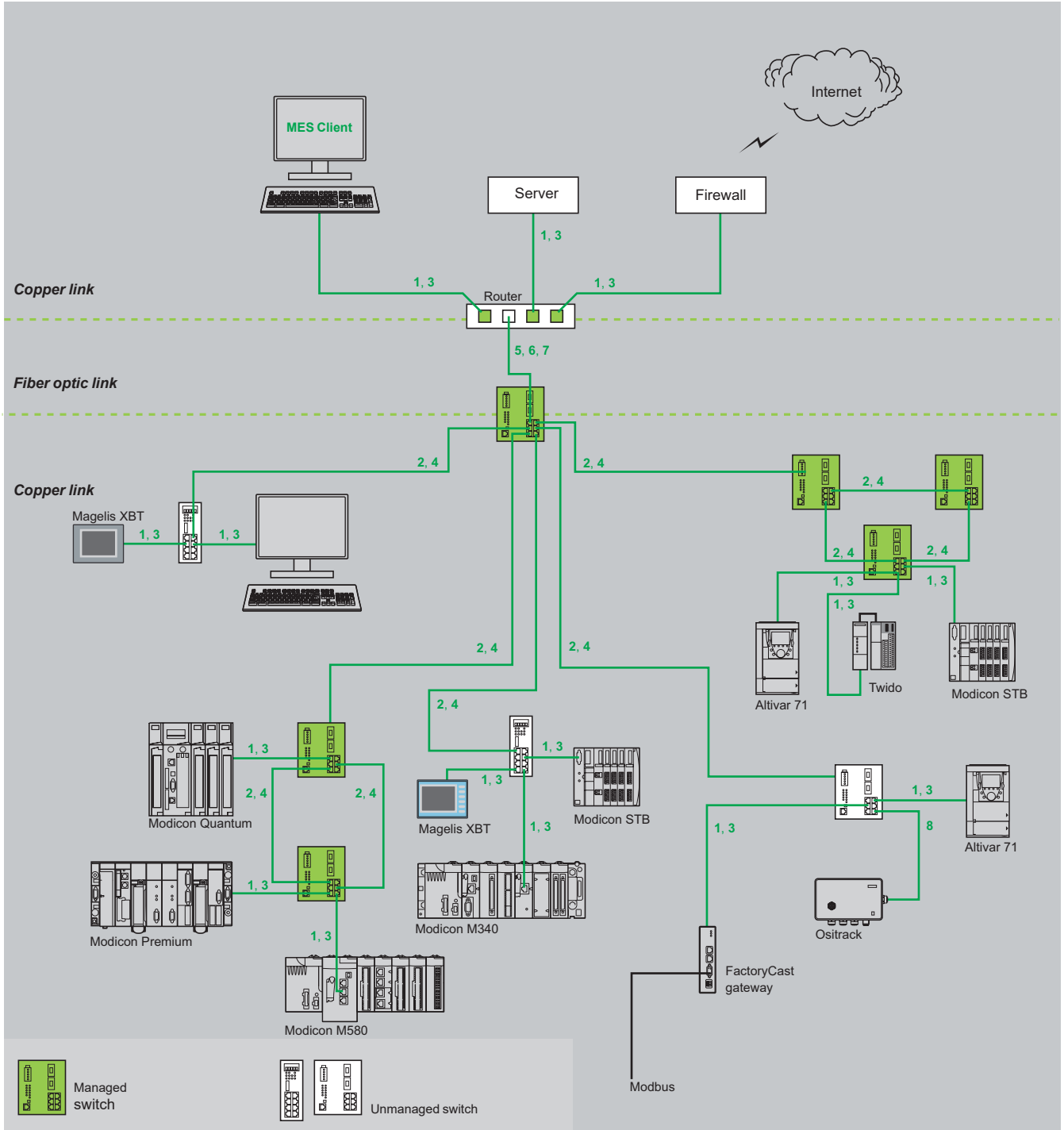
Mixed IP 20 and IP 67 wiring (copper)



- 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: <ul style="list-style-type: none"> - 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	–
M12/RJ45 adapter	2 female M12 straight connectors	–	–	XZCC12FDM50B	–
	2 female M12 elbowed connectors	–	–	XZCC12FCM50B	–
	IP 67 4-way female M12 connector and female RJ45 connector	–	–	TCSEAAF11F13F00	–

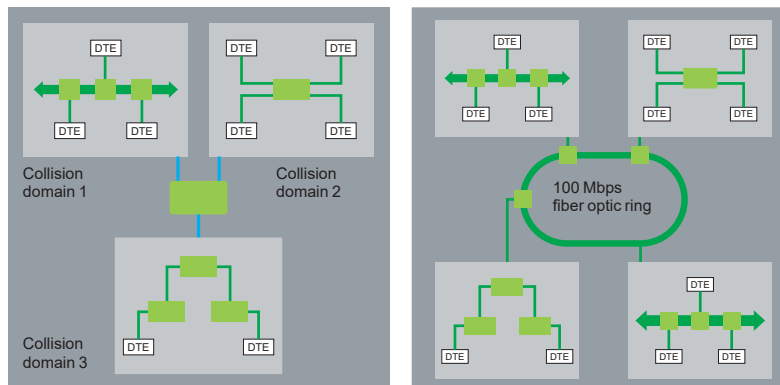
(1) Dimensions: W x H x D = 20 x 18 x 50 mm/0.787 x 0.708 x 1.968 in.

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	–



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
	<ul style="list-style-type: none"> ■ 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	TCSESPU053F1CU0	0.430/
	<ul style="list-style-type: none"> ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector 	TCSESPU053F1CS0	0.948
	<ul style="list-style-type: none"> ■ 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



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	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
ConneXium managed switches	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
ConneXium managed switches	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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



TCSESB083F23F0

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
	<ul style="list-style-type: none"> ■ 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
	<ul style="list-style-type: none"> ■ 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



TCSESM063F2CS1

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
	<ul style="list-style-type: none"> ■ 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
	<ul style="list-style-type: none"> ■ 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



TCSESL043F23F0

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
	<ul style="list-style-type: none"> ■ 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
	<ul style="list-style-type: none"> ■ 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
	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ 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
	<ul style="list-style-type: none"> ■ 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.

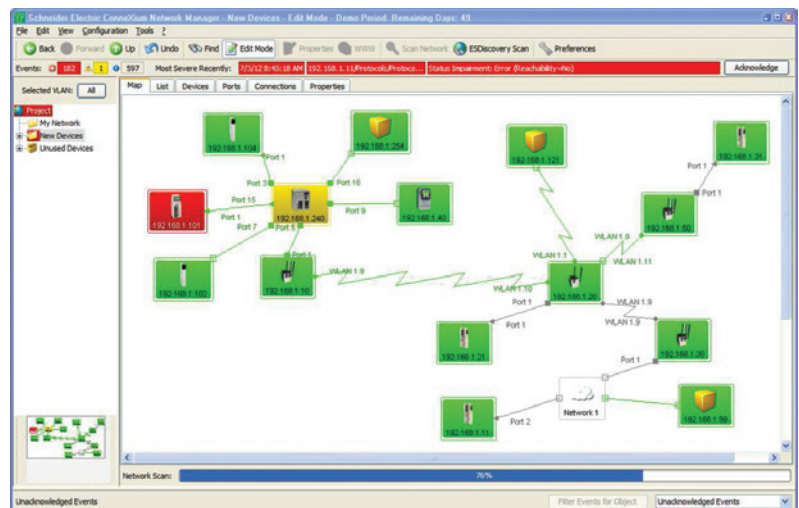
Device identification and network topology maps

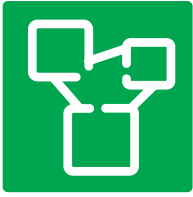
CNM provides the ability to probe networks for device identification and network topology maps. Discovery is achieved via ICMP, SNMP, Modbus, and EIP Protocols, while topology is mapped via SNMP and LLDP.

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

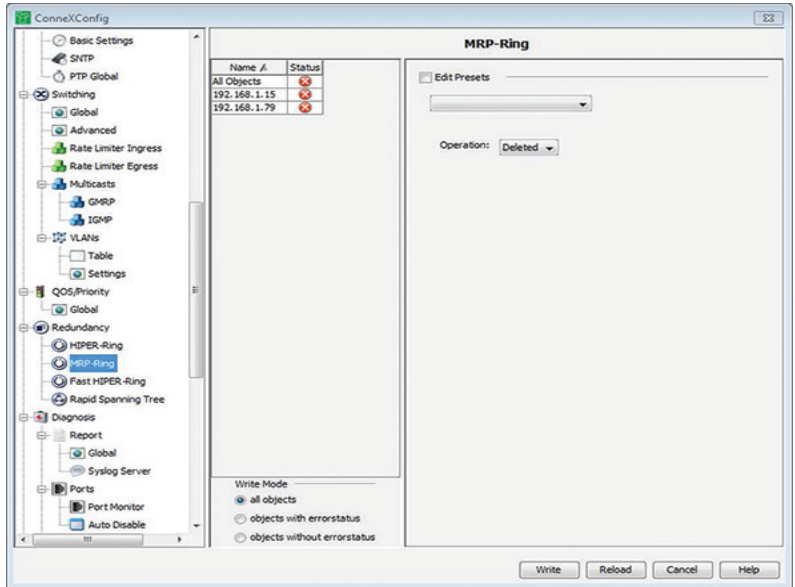
Presentation

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.

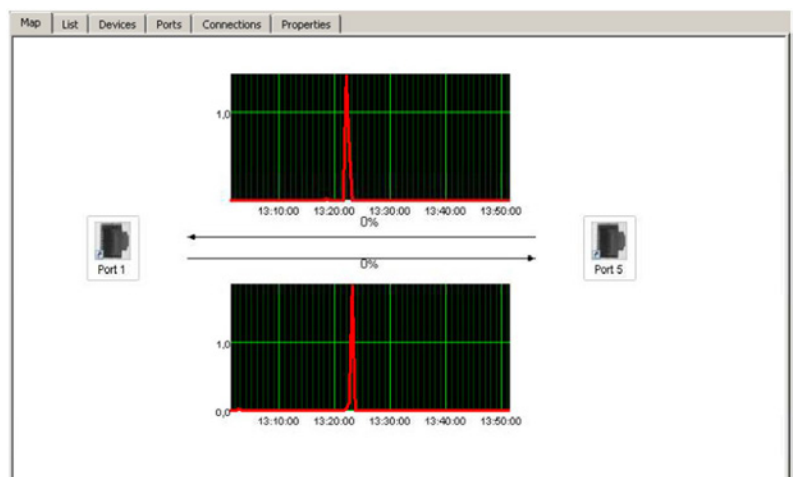
With the click of a button, selected Ethernet links can report congestion, bit rates, or packets per second.

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			
490NOC00005	25	TCSECL1M3M40S2	25
490NOR00003	25	TCSECN300R2	24
490NOR00005	25	TCSECU3M3M1S4	24
490NOT00005	25	TCSECU3M3M2S4	24
490NTC00005	24	TCSECU3M3M3S4	24
490NTC00005U	24	TCSECU3M3M5S4	24
490NTC00015	24	TCSECU3M3M10S4	24
490NTC00040	24	TCSECU300R2	24
490NTC00040U	24	TCSEFEA23F3F22	31
490NTC00080	24	TCSEFEC23F3F21	31
490NTC00080U	24	TCSEFEC23FCF21	31
490NTW00002	24	TCSEK1MDRS	24
490NTW00002U	24	TCSEK3MDS	24
490NTW00005	24	TCSEK3MR2	24
490NTW00005U	24	TCSEK3MR10	24
490NTW00012	24	TCSESB083F2CU0	29
490NTW00012U	24	TCSESB083F23F0	29
490NTW00040	24	TCSESB093F2CU0	29
490NTW00040U	24	TCSESL043F23F0	29
490NTW00080	24	TCSESM043F1CS0	28
490NTW00080U	24	TCSESM043F1CU0	28
		TCSESM043F2CS0	28
		TCSESM043F2CU0	28
		TCSESM043F23F0	28
		TCSESM063F2CS1	29
		TCSESM063F2CU1	29
		TCSESM083F1CS0	28
		TCSESM083F1CU0	28
		TCSESM083F2CS0	28
		TCSESM083F2CU0	28
		TCSESM083F23F0	28
		TCSESM083F23F1	29
		TCSESM103F2LG0	30
		TCSESM103F23G0	30
		TCSESM163F2CS0	30
		TCSESM163F2CU0	30
		TCSESM163F23F0	30
		TCSESM243F2CU0	30
		TCSESPU053F1CS0	27
		TCSESPU053F1CU0	27
		TCSESPU083FN0	26
		TCSESPU093F2CS0	27
		TCSESPU093F2CU0	27
		TCSESSU083FN0	26
		TCSESU033FN0	27
		TCSESU043F1N0	27
		TCSESU051F0	26
		TCSESU053FN0	27
		TCSESU083FN0	27
		X	
		XZCC12FCM50B	25
			26
		XZCC12FDM50B	25
			26
		XZCP1164L2	25
			26
		XZCP1164L5	25
			26
		XZCP1264L2	25
			26
		XZCP1264L5	25
			26



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