



Modicon Switch

Connecting Ethernet Devices

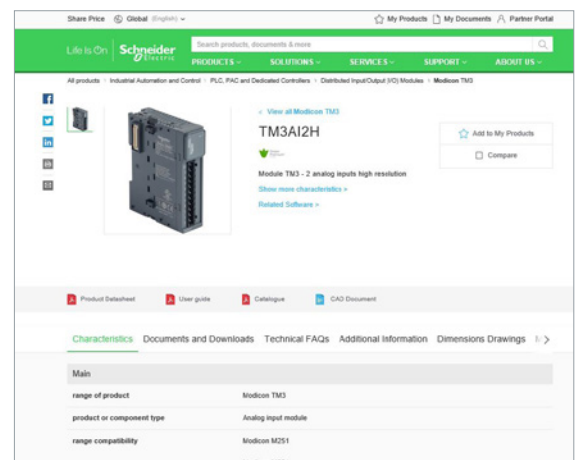
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References

Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

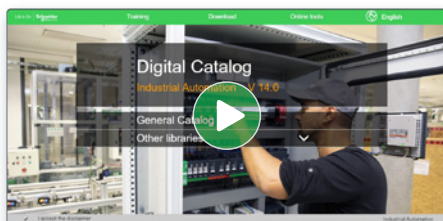
Number and type of channels	Input range	Output range	Resolution	Input terminal (Modicon)	Reference	Weight
2 enhancement inputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA or 10 mA + sign	12 bits or 12 bits + sign	Terminal 2 Terminal 3	TM3AI2H TM3AI2H	0.110 0.230
4 enhancement inputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA or 10 mA + sign	12 bits or 12 bits + sign	Terminal 2 Terminal 3	TM3AI4H TM3AI4H	0.150 0.240
4 enhancement or temperature inputs	-10...+10 VDC 0...20 mA, 4...20 mA PT100, RTD, Ni100, Ni200, Ni500, Ni1000, Pt100, Pt200	10 mA or 10 mA + sign	12 bits or 12 bits + sign	Terminal 2 Terminal 3	TM3AI4T TM3AI4T	0.150 0.240
4 differential temperature inputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA or 10 mA + sign	12 bits or 12 bits + sign	Terminal 2 Terminal 3	TM3AI4D TM3AI4D	0.150 0.240
2 enhancement	-10...+10 VDC	10 mA or 10 mA + sign	12 bits or 12 bits + sign	Terminal 2 Terminal 3	TM3AI2H TM3AI2H	0.110 0.230



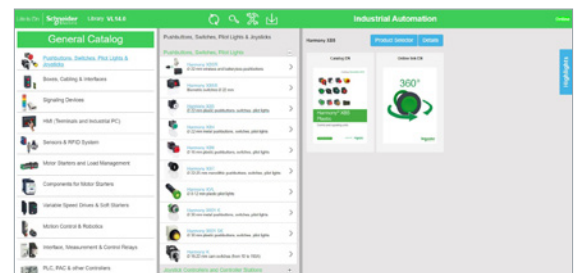
Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

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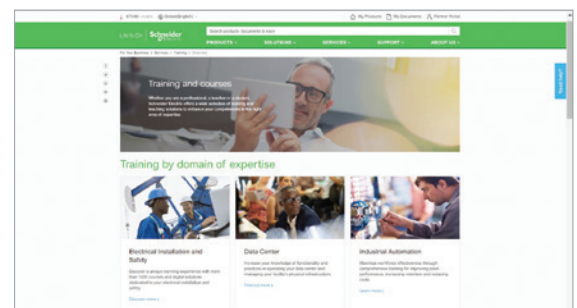


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Modicon

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Modicon - Connecting Ethernet devices






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Ethernet network

Modicon unmanaged switches



Device type		Unmanaged switches, 3, 5 ports, copper twisted pair	
			
Interfaces	Copper cable ports	Number and type	3 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		–	
Configuration		–	
Topology	Number of switches	Cascaded	Unlimited
		Redundant in a ring	–
Redundancy			–
Power supply	Voltage		12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV
	Consumption		2.2 W
	Removable terminal block		3 - pin
Operating temperature			0...+60°C/+32...+140°F
Relative humidity			0...95% non-condensing
Degree of protection			IP 30
Dimensions	W x H x D		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			0.113 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
Alarm relay			–
Reference			TCSESU033FN0 TCSESU053FN0
Pages			32

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



Device type					Unmanaged switches, 4, 5 and 8 ports, copper twisted pair and fiber optic				
									
Interfaces	Copper cable ports	Number and type	4 x 10/100BASE-TX ports	5 x 10/100BASE-TX ports	8 x 10/100BASE-TX ports				
		Shielded connectors	RJ45	M12 (type D, female)	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		–	–	–	–	–	–	–	
Configuration		–	–	–	–	–	–	–	
Topology	Number of switches	Cascaded	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
		Redundant in a ring	–	–	–	–	–	–	–
Redundancy			–	–	–	–	–	–	–
Power supply	Voltage		12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV	24 V $\overline{\text{---}}$ (18...32 V) SELV	12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV				
	Consumption		3.9 W	3.2 W	4.1 W	1.5 W	2.6 W		
	Removable terminal block		3 - pin	5 - pin, with M12 (type A, male)	3 - pin			6 - pin (redundant power supplies)	
Operating temperature			0...+60°C/+32...+140°F	0...+60°C/+32...+140°F	0...+60°C/+32...+140°F			–40°C...+70°C/–40°F...+158°F	
Relative humidity			0...95% non-condensing	0...95% non-condensing	10...95% non-condensing				
Degree of protection			IP 30	IP 67	IP 30			IP 40	
Dimensions	W x H x D		25 x 114 x 79 mm/ 0.98 x 4.49 x 3.11 in.	60 x 126 x 31 mm/ 2.36 x 4.96 x 1.22 in.	35 x 138 x 121 mm/ 1.37 x 5.43 x 4.76 in.	38 x 102 x 79 mm/ 1.50 x 4.02 x 3.11 in.	50 x 135 x 117 mm/ 1.97 x 5.31 x 4.50 in.		
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide	On a flat surface in. wide	On symmetrical DIN rail, 35 mm/1.38 in. wide				
Weight			0.120 kg/0.265 lb	0.210 kg/0.463 lb	0.246 kg/0.542 lb	0.150 kg/0.331 lb	0.440 kg/0.970 lb		
Conforming to standards			UL 508 and CSA 22.2 No. 142 IEC/EN 61131-2, IEC 60825-1 class 1	cUL 508 and CSA 22.2 No. 142, Cc	UL 508 and CSA 22.2 No. 142 IEC/EN 61131-2, IEC 60825-1 class 1	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, copper port activity, 10 or 100 Mbps data rate	Power supply, link status	Power supply, copper port activity, 10 or 100 Mbps data rate	Power supply, link status, data status	Power supply, supply voltage 1/2 status, link status, data rate, configuration update via USB		
Alarm relay			–	–	–	–	–	Yes	
Reference			TCSESU043F1N0 TCSESU051F0 TCSESU083FN0 TCSESSU083FN0 TCSESPU083FN0						
Pages			For more information, please refer to our website www.schneider-electric.com .	31	32				

Ethernet network

Modicon unmanaged switches



Device type		Unmanaged switches, 5 and 9 ports, copper twisted pair and fiber optic			
					
Interfaces	Copper cable ports	4 x 10/100BASE-TX ports		7 x 10/100BASE-TX ports	
		RJ45			
		Shielded connectors			
		Medium			
		Total length of pair			
		100 m/328 ft			
	Fiber optic ports	1 x 100BASE-FX port		2 x 100BASE-FX port	
		Connectors			
		Duplex SC			
		Medium			
Length of fiber		Multimode fiber	Single-mode fiber	Multimode fiber	Single-mode fiber
		5,000 m/16,404 ft (1)	–	5,000 m/16,404 ft (1)	–
		62.2/125 μm	–	4,000 m/13,123 ft (1)	–
		9/125 μm	–	–	–
Attenuation analysis		–	30,000 m/98,425 ft (1)	–	30,000 m/98,425 ft (1)
	50/125 μm fiber	8 dB	–	8 dB	–
	62.2/125 μm fiber	11 dB	–	11 dB	–
	9/125 μm fiber	–	16 dB	–	16 dB
Ethernet services	–				
Configuration	USB Master mode, USB 2.0 type A				
Topology	Number of switches	Unlimited			
		–			
Redundancy		–			
		–			
Power supply	Voltage	12 ... 24 V ~ (9.6...32 V) SELV			
	Consumption	4.3 W	6.9 W		
	Removable terminal block	6 - pin (redundant power supplies)			
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 117 mm/1.53 x 5.31 x 4.61 in.		56 x 135 x 117 mm/2.20 x 5.31 x 4.61 in.	
Mounting	On symmetrical DIN rail, 35 mm/1.38 in. wide				
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, link status, data status				
Alarm relay	Activity, detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~)				
Reference	TCSESPU053F1CU0 TCSESPU053F1CS0 TCSESPU093F2CU0 TCSESPU093F2CS0				
Pages	32				

(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		Unmanaged switches, 10 ports, copper twisted pair and fiber optic			
					
		8 x 10/100BASE-TX ports			
		RJ45			
		Shielded twisted pair, category CAT 5E			
		100 m/328 ft			
		2 x 100BASE-FX port			
		Duplex SC			
		Multimode fiber		Singlemode fiber	
		5,000 m/16,404 ft (1)		–	
		4,000 m/13,123 ft (1)		–	
		–		30,000 m/98,425 ft (2)	
		8 dB		–	
		11 dB		–	
		–		16 dB	
		–			
		–			
		Unlimited			
		–			
		–			
		12 ... 24 V ~ (9.6...32 V) SELV			
		8.4 W			
		3 - pin			
		–40...+70°C/-40...+158°F			
		0...95% non-condensing			
		IP 30			
		35 x 138 x 121 mm/1.37 x 5.43 x 4.76 in.			
		On symmetrical DIN rail, 35 mm/1.38 in. wide			
		0.260 kg/0.573 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), CE, GL			
		Power supply, data rate, link status fiber port state			
		Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V ~)			
		TCSESU103F2CU0		TCSESU103F2CS0	
		For more information, please refer to our website www.schneider-electric.com .			

Ethernet network

Modicon lite and basic managed switches

Device type		Lite managed switch, 4 ports, copper twisted pair	Basic managed switch, 8 ports, copper twisted pair	
				
Interfaces	Copper cable ports	Number and type Shielded connectors Medium Total length of pair	8 x 10/100BASE-TX ports RJ45 Shielded twisted pair, category CAT 5E 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	Web Management, HTTPS, SNMP V1/V2/V3, BOOTP server, DHCP server, Ethernet Switch Configurator, Log files, remote monitoring (RMON), Topology Discovery	SNTP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port	
	USB	–	–	
	Topology	Number of switches	Cascaded Redundant in a ring	Unlimited 50 max.
		Redundancy	Industry standard redundancy protocol (RSTP) enabling deployment of ring and mesh network architectures	P1 and P2 redundant power supplies, redundant single ring, ring coupling
	Power supply	Voltage	12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV	–
		Consumption	2.35 W	6 W
Removable terminal block		3 - pin	6 - pin (redundant power supplies)	
Operating temperature	0...+ 50 °C/+ 32...122 °F	0...+ 60 °C/+ 32...+ 140 °F		
Relative humidity	5...95% non-condensing	10...95% non-condensing		
Degree of protection	IP 30	IP 20		
Dimensions	W x H x D	25 x 114 x 79 mm/0.98 x 4.49 x 3.11 in.	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	On symmetrical DIN rail, 35 mm/1.38 in. wide		
Weight	0.103 kg/0.227 lb	0.400 kg/0.882 lb		
Conforming to standards	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	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		
LED indicators	Power supply status, link status, data rate	Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity		
Alarm relay	Immediately reports unusual events by sending them to a management station via SNMP	Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)		
Reference	TCSESL043F23F0	TCSESB083F23F0		
Pages	33	33		

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

Device type		Basic managed switches, 8 and 9 ports, copper twisted pair and fiber optic		
				
Interfaces	Copper cable ports	Number and type Shielded connectors Medium Total length of pair	6 x 10/100BASE-TX ports RJ45 Shielded twisted pair, category CAT 5E 100 m/328 ft	
	Fiber optic ports	Number and type Connectors Medium	2 x 100BASE-FX ports Duplex SC Multimode fiber 5,000 m/16,404 ft (1) 4,000 m/13,123 ft (1)	
	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	Web Management, HTTPS, SNMP V1/V2/V3, BOOTP server, DHCP server, Ethernet Switch Configurator, Log files, remote monitoring (RMON), Topology Discovery	SNTP client, multicast filtering for optimization of the Global Data protocol, configuration via Web access, IGMP Snooping, RSTP (Rapid Scanning Tree Protocol), priority port	
	USB	–	–	
	Topology	Number of switches	Cascaded Redundant in a ring	Unlimited 50 max.
		Redundancy	Industry standard redundancy protocol (RSTP) enabling deployment of ring and mesh network architectures	P1 and P2 redundant power supplies, redundant single ring, ring coupling
	Power supply	Voltage	12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV	–
		Consumption	2.35 W	6 W
Removable terminal block		3 - pin	6 - pin (redundant power supplies)	
Operating temperature	0...+ 50 °C/+ 32...122 °F	0...+ 60 °C/+ 32...+ 140 °F		
Relative humidity	5...95% non-condensing	10...95% non-condensing		
Degree of protection	IP 30	IP 20		
Dimensions	W x H x D	25 x 114 x 79 mm/0.98 x 4.49 x 3.11 in.	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	On symmetrical DIN rail, 35 mm/1.38 in. wide		
Weight	0.103 kg/0.227 lb	0.400 kg/0.882 lb		
Conforming to standards	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	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		
LED indicators	Power supply status, link status, data rate	Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity		
Alarm relay	Immediately reports unusual events by sending them to a management station via SNMP	Detected fault (power supply, Ethernet network, or communication port) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)		
Reference	TCSESB083F2CU0	TCSESB093F2CU0		
Pages	33	33		

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

Ethernet network

Modicon managed switches

Device type **Managed switches, 4 and 5 ports, copper twisted pair and fiber optic**



Interfaces	Copper cable ports	Number and type Shielded connectors Medium Total length of pair	4 x 10/100BASE-TX ports RJ45 Shielded twisted pair, category CAT 5E 100 m/328 ft
	Fiber optic ports	Number and type Connectors Medium	– 1 x 100BASE-FX port Duplex SC Multimode fiber Single-mode fiber
	Length of fiber	50/125 µm 62.2/125 µm 9/125 µm	– 5,000 m/16,404 ft (1) 4,000 m/13,123 ft (1) – 30,000 m/98,425 ft (2)
	Attenuation analysis	50/125 µm fiber 62.2/125 µm fiber 9/125 µm fiber	– 8 dB 11 dB – 16 dB
	Ethernet services		Ethernet TCP/IP,SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, CP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification, TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact, port hardening, password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail
	USB		–
Topology	Number of switches	Cascaded Redundant in a ring	Unlimited 50 max.
Redundancy			Redundant power supplies, redundant single ring, ring coupling, HiPER ring, RSTP, link aggregation, link backup, redundant network coupling, MRP
Power supply	Voltage Consumption Removable terminal block		12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV 5 W 6 W 6-pin (redundant power supplies)
Operating temperature			0...+60°C/+32...+140°F
Relative humidity			1...95% non-condensing
Degree of protection			IP 30
Dimensions	W x H x D		57 x 138 x 111 mm/2.24 x 5.43 x 4.37 in.
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide
Weight			0.380 kg/0.837 lb 0.420 kg/0.925 lb
Conforming to standards			EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy
LED indicators			P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic
Alarm relay			Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)
Reference			MCSESM043F23F0 MCSESM053F1CU0 MCSESM053F1CS0
Pages			34

(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, 6 and 8 ports, copper twisted pair and fiber optic**



	4 x 10/100BASE-TX ports		8 x 10/100BASE-TX ports
	RJ45		RJ45
	Shielded twisted pair, category CAT 5E		Shielded twisted pair, category CAT 5E
	100 m/328 ft		100 m/328 ft
	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)	–	–
	–	30,000 m/98,425 ft (2)	–
	8 dB	–	–
	11 dB	–	–
	–	16 dB	–
	Ethernet TCP/IP,SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, CP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification, TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact, port hardening, password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail		Ethernet TCP/IP,SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, CP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification, TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact, port hardening, password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail
	–		–
	Unlimited		Unlimited
	50 max.		50 max.
	Redundant power supplies, redundant single ring, ring coupling, HiPER ring, RSTP, link aggregation, link backup, redundant network coupling, MRP		Redundant power supplies, redundant single ring, ring coupling, HiPER ring, RSTP, link aggregation, link backup, redundant network coupling, MRP
	12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV		12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV
	5 W	6 W	7 W
	6-pin (redundant power supplies)		6-pin (redundant power supplies)
	0...+60°C/+32...+140°F		0...+60°C/+32...+140°F
	1...95% non-condensing		1...95% non-condensing
	IP 30		IP 30
	57 x 138 x 111 mm/2.24 x 5.43 x 4.37 in.		57 x 138 x 111 mm/2.24 x 5.43 x 4.37 in.
	On symmetrical DIN rail, 35 mm/1.38 in. wide		On symmetrical DIN rail, 35 mm/1.38 in. wide
	0.380 kg/0.837 lb	0.420 kg/0.925 lb	0.420 kg/0.925 lb
	EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy		EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy
	P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic		Power supply status, alarm relay status, active redundancy, redundancy management, copper port status, and copper port activity, redundancy ring fault, power supply fault, switch fault, data link status
	Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)		P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic
	MCSESM063F2CU0 MCSESM063F2CS0 MCSESM083F23F0 MCSESM083F23F0H		
	34		34

(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).

Ethernet network

Modicon managed switches

Device type Managed switches, 9 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 ports	Number and type	1 x 100BASE-FX port	
		Connectors	Duplex SC	
		Medium	Multimode fiber	
		Length of fiber	50/125 μm	Single-mode fiber
			62.2/125 μm	–
			9/125 μm	–
			–	30,000 m/98,425 ft (2)
	Attenuation analysis	50/125 μm fiber	8 dB	–
		62.2/125 μm fiber	11 dB	–
		9/125 μm fiber	–	16 dB
	Ethernet services	Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, SCP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification, TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact, port hardening, password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail		
	USB	–		
Topology	Number of switches	Cascaded	Unlimited	
		Redundant in a ring	50 max.	
Redundancy	Redundant power supplies, ring coupling, redundant single ring, HiPER ring, link aggregation link backup, redundant network coupling, MRP			
Power supply	Voltage	12...24 V $\overline{\text{DC}}$ (9.6...32 V) SELV		
	Consumption	7 W		
	Removable terminal block	6-pin (redundant power supplies)		
Operating temperature	0...+60°C/+32...+140°F			
Relative humidity	1...95% non-condensing			
Degree of protection	IP 30			
Dimensions	W x H x D	73 x 138 x 111 mm/2.87 x 5.43 x 4.37 in.		
Mounting	On symmetrical DIN rail, 35 mm/1.38 in. wide			
Weight	0.500 kg/1.102 lb			
Conforming to standards	EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy			
LED indicators	P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic			
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	MCSESM093F1CU0		MCSESM093F1CS0	
Pages	34			

(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, 10 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 ports	Number and type	2 x 100BASE-FX ports			
		Connectors	Duplex SC			
		Medium	Multimode fiber		Single-mode fiber	
		Length of fiber	5,000 m/16,404 ft (1)	–	–	–
			4,000 m/13,123 ft (1)	–	–	–
			–	–	30,000 m/98,425 ft (2)	–
	Attenuation analysis	50/125 μm fiber	8 dB	–	–	–
		62.2/125 μm fiber	11 dB	–	–	–
		9/125 μm fiber	–	–	16 dB	–
	Ethernet services	Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, SCP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification, TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact, port hardening, password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail				
	USB	–				
Topology	Number of switches	Cascaded	Unlimited			
		Redundant in a ring	50 max.			
Redundancy	Redundant power supplies, ring coupling, redundant single ring, HiPER ring, link aggregation link backup, redundant network coupling, MRP					
Power supply	Voltage	12...24 V $\overline{\text{DC}}$ (9.6...32 V) SELV				
	Consumption	8 W				
	Removable terminal block	6-pin (redundant power supplies)				
Operating temperature	0...+60°C/+32...+140°F		–40...+70°C/–40...+158°F		0...+60°C/+32...+140°F	
Relative humidity	1...95% non-condensing					
Degree of protection	IP 30					
Dimensions	W x H x D	73 x 138 x 111 mm/2.87 x 5.43 x 4.37 in.				
Mounting	On symmetrical DIN rail, 35 mm/1.38 in. wide					
Weight	0.500 kg/1.102 lb		0.570 kg/1.256 lb		0.500 kg/1.102 lb	
Conforming to standards	EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy					
LED indicators	P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic					
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	MCSESM103F2CU0		MCSESM103F2CU0H		MCSESM103F2CS0	
Pages	34					

(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).

Ethernet network

Modicon managed switches

Device type			Managed switches, 8 gigabit ports, copper twisted pair with PoE
Interfaces	Copper cable ports	Number and type	8 x 10/100BASE-TX ports with PoE
		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	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, SNMP- Traps and SYSLOG, port hardening password protection, RADIUS assignment, DoS prevention, role-based access control, audit trail, Power over Ethernet		
USB	–		
Topology	Number of switches	Cascaded	Unlimited
		Redundant in a ring	50 max.
Redundancy			redundant power supplies, ring coupling, redundant single ring, HiPER ring, link aggregation link backup, redundant network coupling, MRP
Power supply	Voltage	24 V $\overline{\text{---}}$ (18...30 V) SELV	
	Consumption	106 W	
	Removable terminal block	6-pin (redundant power supplies)	
Operating temperature			0... + 60°C / + 32... + 140°F -40... + 70°C / -40... + 158°F
Relative humidity			1...95% non-condensing
Degree of protection			IP 30
Dimensions	W x H x D	125 x 138 x 111 mm/4.92 x 5.43 x 4.37 in.	
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide
Weight			1.4 kg/3.086 lb
Conforming to standards			EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy
LED indicators			P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic
Alarm relay			Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)
Reference			MCSESP083F23G0 MCSESP083F23G0T
Pages			34

(1) These optional references of SFP transceivers are available in Separate parts for accessories for managed switches in page 30.

Device type			Managed switch, 8 ports and 4 gigabit ports, copper twisted pair and SFP
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	100/1000BASE SFP
		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	Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, SCP, LLDP, SNMP-Traps and SYSLOG, IGMP Snooping, VLAN, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, bandwidth management, MAC notification TCP dump, link flap detection, RMON (remote network monitoring), self test, signal contact		
USB	–		
Topology	Number of switches	Cascaded	Unlimited
		Redundant in a ring	50 max.
Redundancy			Redundant power supplies, ring coupling, redundant single ring, HiPER ring, link aggregation link backup, redundant network coupling, MRP
Power supply	Voltage	12...24 V $\overline{\text{---}}$ (9.6...32 V) SELV	
	Consumption	9 W + 1 W per SFP fiber optic module	
	Removable terminal block	6-pin (redundant power supplies)	
Operating temperature			0... + 60°C / + 32... + 140°F
Relative humidity			1...95% non-condensing
Degree of protection			IP 30
Dimensions	W x H x D	73 x 138 x 111 mm/2.87 x 5.43 x 4.37 in.	
Mounting			On symmetrical DIN rail, 35 mm/1.38 in. wide
Weight			0.570 kg/1.256 lb
Conforming to standards			EN/IEC 61000-6-2, EN/IEC 61000-6-4, EN/IEC 61010-2-201, CE, cULus, RCM, Merchant Navy
LED indicators			P1 and P2 power supplies status, device status, memory backup medium status, channel diagnostic
Alarm relay			Detected fault (power supply, Ethernet network, communication port, or redundancy) (volt-free contact 1 A max. at 24 V $\overline{\text{---}}$)
Reference			MCSESM123F2LG0
Pages			34

(1) These optional references of SFP transceivers are available in Separate parts for accessories for managed switches in page 30.



More technical information on www.schneider-electric.com



More technical information on www.schneider-electric.com

Ethernet network

Modicon managed switches

Device type: Managed switches, 16 ports, copper twisted pair and fiber optic



Interfaces	Copper cable ports	Number and type	16 x 10/100BASE-TX ports	14 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
		50/125 μm		5,000 m/16,404 ft (1)
		62.2/125 μm		4,000 m/13,123 ft (1)
	Attenuation analysis	9/125 μm		
50/125 μm fiber			8 dB	
62.2/125 μm fiber			11 dB	
Ethernet services	9/125 μm fiber			
	Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, SCP, LLDP, configuration via web server, VLAN, multicast filtering, data stream control, secure port, IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening			
Topology	Number of switches	Cascaded	Unlimited	
		Redundant in a ring	50 max.	
Redundancy		Redundant power supplies, redundant single ring, ring coupling		
Power supply	Voltage	24 V ~ (9.6...60 V ~ /18...30 V ~) SELV		
	Consumption	9.4 W	11.8 W	
	Removable terminal block	6 - pin (redundant power supplies)		
Operating temperature		0...+ 60°C/+ 32...+ 140°F		
Relative humidity		10...95% 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		
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		
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 ~)		
Reference		TCSESM163F23F0	TCSESM163F2CU0	
Pages		33		

(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, 16 and 24 ports, copper twisted pair and fiber optic



Interfaces	Copper cable ports	Number and type	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
		50/125 μm		5,000 m/16,404 ft (1)
		62.2/125 μm		4,000 m/13,123 ft (1)
	Attenuation analysis	9/125 μm		
50/125 μm fiber			8 dB	
62.2/125 μm fiber			11 dB	
Ethernet services	9/125 μm fiber			
	Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP, SFTP, SCP, LLDP, configuration via web server, VLAN, multicast filtering, data stream control, secure port, IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening			
Topology	Number of switches	Cascaded	Unlimited	
		Redundant in a ring	50 max.	
Redundancy		Redundant power supplies, redundant single ring, ring coupling		
Power supply	Voltage	24 V ~ (9.6...60 V ~ /18...30 V ~) SELV		
	Consumption	11.8 W	14.5 W	
	Removable terminal block	6 - pin (redundant power supplies)		
Operating temperature		0...+ 60°C/+ 32...+ 140°F		
Relative humidity		10...95% 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		
Conforming to standards		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		
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, communication port, or redundancy) (volt-free contact 1 A max. at 24 V ~)		
Reference		TCSESM163F2CS0	TCSESM243F2CU0	
Pages		33		

(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).

Ethernet network

Modicon extended managed switches

Device type: Extended Managed switches, 8 ports, copper twisted pair




Interfaces	Copper cable ports	Number and type Shielded connectors Medium Total length of pair	8 x 10/100BASE-TX ports RJ45 Shielded twisted pair, category CAT 5E 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		Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP SFTP, SCP, LLDP, configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening
Topology	Number of switches	Cascaded Redundant in a ring	Unlimited 50 max.
Redundancy			Redundant power supplies, redundant single ring, ring coupling, rings supporting MRP, Fast HiPER Ring and RSTP ring coupling, redundant power supplies, redundant single ring, HiPER ring, dual RSTP
Power supply	Voltage Consumption Removable terminal block		24...48 V ~ (10...60 V ~) SELV 10 W 2 x 2 - pin
Operating temperature			0...+60°C/+32...+140°F -40...+85°C/-40...+185°F
Relative humidity			10...95% 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			1.000 kg/2.204 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 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, C-Tick
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 TCSESM083F23F1C
Pages			33

(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: Extended Managed switches, 8 ports, copper twisted pair and fiber optic





				6 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 5,000 m/16,404 ft (1) 4,000 m/13,123 ft (1) – 8 dB 11 dB –
				Single-mode fiber – – 30,000 m/98,425 ft (2) 16 dB
				Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP SFTP, SCP, LLDP, configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening Ethernet TCP/IP, SSH, HTTP, HTTPS, SNMP, MRP (Media Redundancy Protocol), RSTP SFTP, SCP, LLDP, configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening configuration via web server, VLAN, multicast filtering, data stream control, secure port IGMP Snooping, SMTP V3, SNMP-Traps and SYSLOG, priority port, Telnet, TFTP, address conflict detection, port monitoring, port mirroring, port hardening
Topology				Unlimited 50 max.
Redundancy				Redundant power supplies, redundant single ring, ring coupling, rings supporting MRP, Fast HiPER Ring and RSTP ring coupling, redundant power supplies, redundant single ring, HiPER ring, dual RSTP Redundant power supplies, redundant single ring, ring coupling, rings supporting MRP, Fast HiPER Ring and RSTP ring coupling, redundant power supplies, redundant single ring, HiPER ring, dual RSTP
Power supply	Voltage Consumption Removable terminal block			24...48 V ~ (10...60 V ~) SELV 12 W max. 2 x 2 - pin
Operating temperature				0...+60°C/+32...+140°F -40...+85°C/-40...+185°F 0...+60°C/+32...+140°F -40...+85°C/-40...+185°F
Relative humidity				10...95% 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				1.000 kg/2.204 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 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, C-Tick, LR, BV, ATEX Zone 2 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, C-Tick, LR, BV, ATEX Zone 2 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 UL 1604 Class 1 Division 2, EN/IEC 61131-2 CSA C22.2 No 213 Class 1 Division 2 CSA C22.2 No 214, UL 508
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 ~, 2-way)
Reference				TCSESM063F2CU1 TCSESM063F2CU1C TCSESM063F2CS1 TCSESM063F2CS1C
Pages				33

Device type		Tofino Industrial Firewall TX/TX
		
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 (Tofino Configurator) that is used to create configuration files for Tofino Firewall	
Security capabilities		Built-in security modules (Firewall, Event Logger, Modbus TCP Enforcer, NetConnect), optional field upgradeable modules for adding the new LSM modules for other protocols (DNP3, IEC104 and GOOSE), Tofino Configurator for creating secure zones, DoS prevention and MAC address filtering for encryption protocol.
Power supply	Voltage	12...24 V ⎓ (9.6...32 V) SELV
	Consumption	6.9 W
	Removable terminal block	6-pin (Redundant power supplies)
Operating temperature		0° to 60° C/ 32° to 140° F
Relative humidity		10 to 95% non-condensing
Degree of protection		IP 20
Dimensions		W x H x D 60 x 145 x 125 mm /2.36 x 5.71 x 4.92 in.
Mounting		On symmetrical DIN rail, 35 mm/1.38 in. wide
Weight		0.660 kg/1.455 lb
Conforming to standards		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, CSA C22.2 No 213 Class I Division 2, UL 1604 Class 1 Division 2, CSA C22.2 No 214, UL 508, EN/IEC 61131-2
LED indicators		Power supply, link activity, detected fault, mode, save/load, reset
References		TCSEFEA23F3F22
Pages		35

(1) The 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		Industrial Firewall/Router TX/TX	Industrial Firewall/Router TX/MM
			
Interfaces	Copper cable ports	Number and type 2 x 10/100 BASE-TX ports for internal and external networks	1 x 10/100BASE-TX port for internal network
		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 –	1 x 100BASE-FX port for external network
		Connectors –	Duplex SC
		Medium –	Multimode fiber
	Length of fiber	50/125 µm –	5,000 m/16,404 ft (2)
		62.2/125 µm –	4,000 m/13,123 ft (3)
	Attenuation analysis	50/125 µm fiber –	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		Built-in security modules (Firewall, Event Logger, Modbus TCP Enforcer, NetConnect), role-based access control, syslog protocol support, IPSec optional field upgradeable modules for adding the new LSM modules for other protocols (DNP3, IEC104 and GOOSE), Tofino Configurator for creating secure zones, and MAC address filtering for encryption protocol.	
Power supply	Voltage	24 V ⎓ (9.6...32 V) SELV	
	Consumption	6.9 W	8.3 W
	Removable terminal block	6-pin (Redundant power supplies)	
Operating temperature		0° to 60° C/ 32° to 140° F	
Relative humidity		10 to 95% non-condensing	
Degree of protection		IP 20	
Dimensions		60 x 145 x 125 mm /2.36 x 5.71 x 4.92 in.	
Mounting		On symmetrical DIN rail, 35 mm/1.38 in. wide	
Weight		0.610 kg/1.345 lb	
Conforming to standards		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), UL 508, CSA C22.2 No 213 Class I Division 2, CSA C22.2 No 214, UL 1604 Class 1 Division 2, EN/IEC 61131-2	
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, External Port Status, Internal Port Status, Serial Port Status	
References		TCSEFEC23F3F21	TCSEFEC23FCF21
Pages		35	

(1) The 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
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		38

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					
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					
38					



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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	
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	
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		38	

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		
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		38		




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			
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		39			

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 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				
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		TCSEAZ03P101UM2	TCSEAZ03P401UM2	TCSEAZ03P105UM2	TCSEAZ03P405UM2	TCSEAZ03P410UM2
Pages		39				



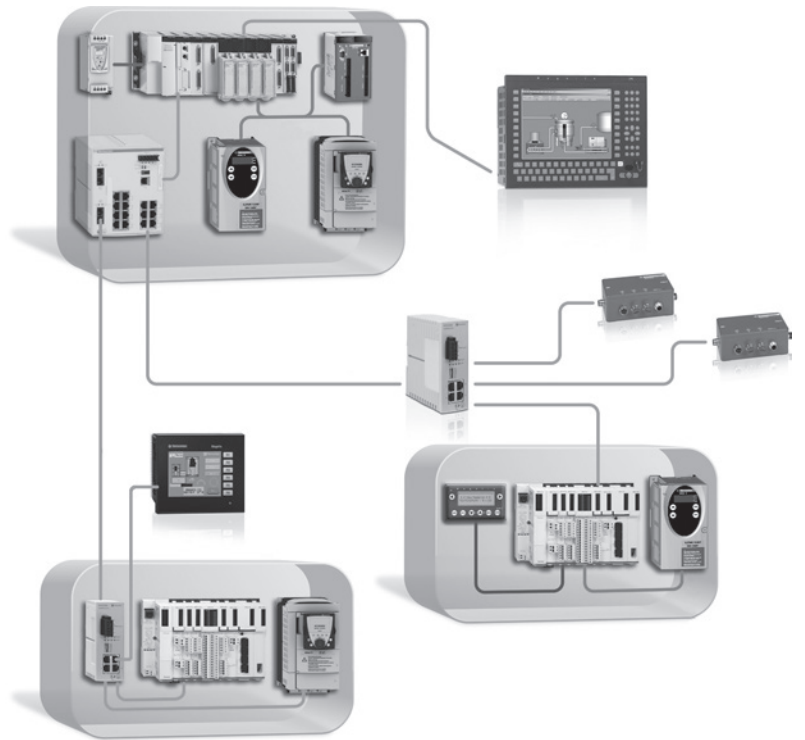
Managed Ethernet Switches					
Features		Lite Managed	Basic Managed	Managed	Extended
Web Interface	HTTP	–	☑	☑	☑
	HTTPS	☑	–	–	–
Diagonostics	SNMP	☑	☑	☑	☑
	Alarms	☑	☑	☑	☑
	LLDP	☑	☑	☑	☑
	Port Mirroring	–	☑	☑	☑
Switch Security	Password	☑	☑	☑	☑
	Port Access Control	–	–	☑	☑
Redundancy	Single Ring	☑	☑	☑	☑
	Dual Ring	–	–	☑	☑
	RSTP Protocol	☑	☑	☑	☑
	MRP Protocol	–	☑	☑	☑
Switching/Performance	QOS (Quality of Service)	☑	☑	☑	☑
	Multicast IGMP/GMRP	–	☑	☑	☑
	Rate Limiting	–	–	☑	☑
Filtering	VLAN	–	–	☑	☑
	Broadcast Limiting	–	–	☑	☑
Time	SNTP/PTP	–	☑	☑	☑

Presentation

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

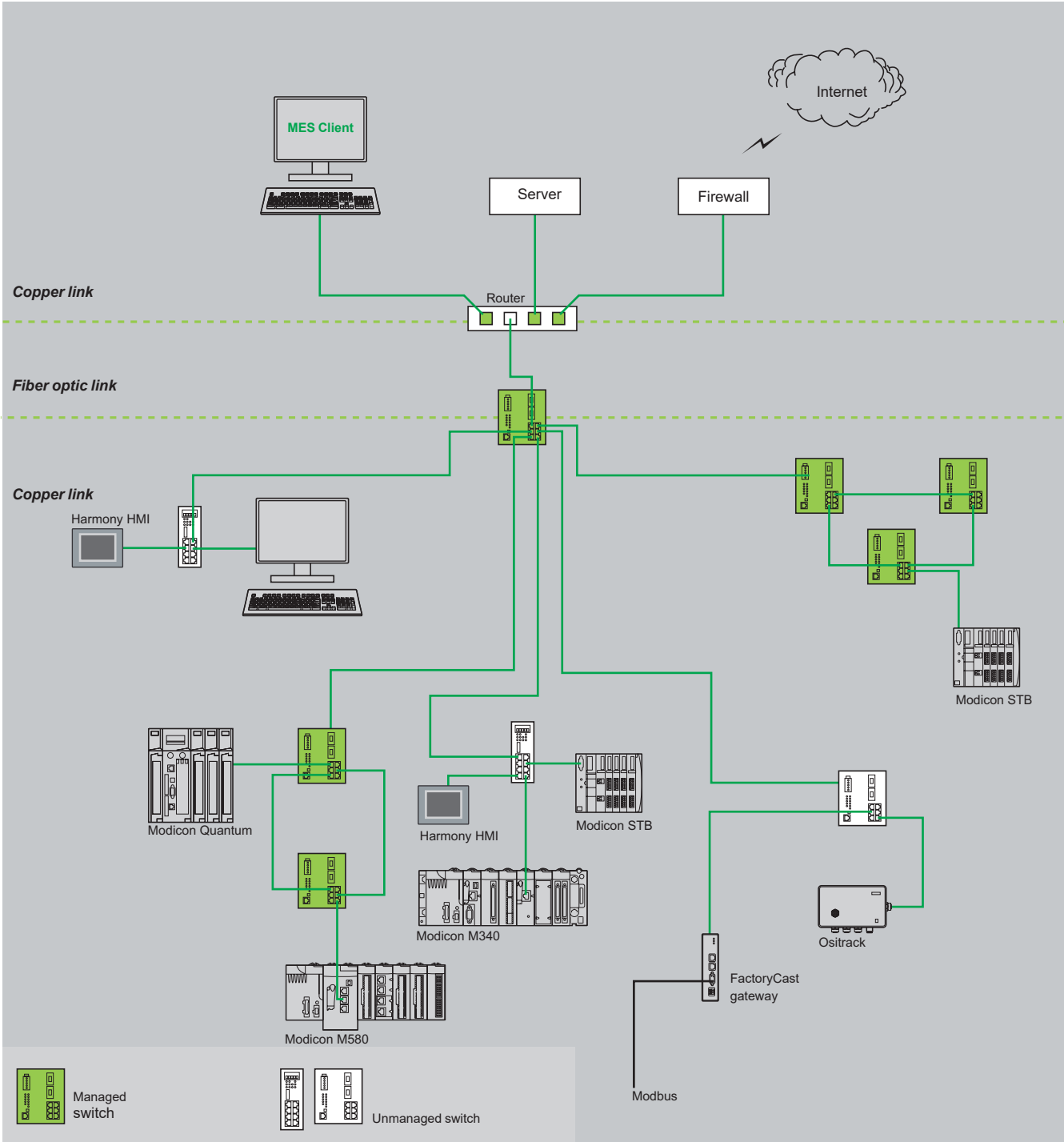
Examples

Mixed IP 20 and IP 67 wiring (copper)



Examples (continued)

Mixed copper and fiber optic wiring



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	—



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	—
			Rugged	1/3.28	TCSECU3M3M1S4	—
				2/6.56	TCSECU3M3M2S4	—
				3/9.84	TCSECU3M3M3S4	—
				5/16.40	TCSECU3M3M5S4	—

Do it Yourself copper cable and connectors

The 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	—

Separate parts for accessories for managed switches

Description	Fiber/TX	Type	Reference	Weight kg/ lb
Fiber optic and copper adaptors	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
	TX/RJ45	10/100BASE -TX	MCSEAAF1LFT00	0.040/ 0.088
	TX/RJ45	1000BASE -TX	MCSEAAF1LFG00	0.040/ 0.088
	Multimode 50/125 µm or 62.5/125 µm	10/100BASE-SX	MCSEAAF1LFU00	0.040/ 0.088
	Single mode 62.5/125 µm	10/100BASE-LX	MCSEAAF1LFS00	0.040/ 0.088



MCSEAAF1LFT00

Description	Use	Port	Reference	Weight kg/ lb
Configuration backup key for MCS ESM switches	Connected on the front of the switch; used to: <ul style="list-style-type: none"> - Save and retrieve the switch configuration 	USB	TCSEAM0100	0.050/ 0.110
Configuration backup key for TCS ESB switches	<ul style="list-style-type: none"> - Update the internal software 	RJ45 (V24)	TCSEAM0200	0.050/ 0.110
Modicon Memory Back Up Adapter for MCSESM switches		USB	MCSEAM0100	0.050/ 0.110

Connection components for IP 67 switch

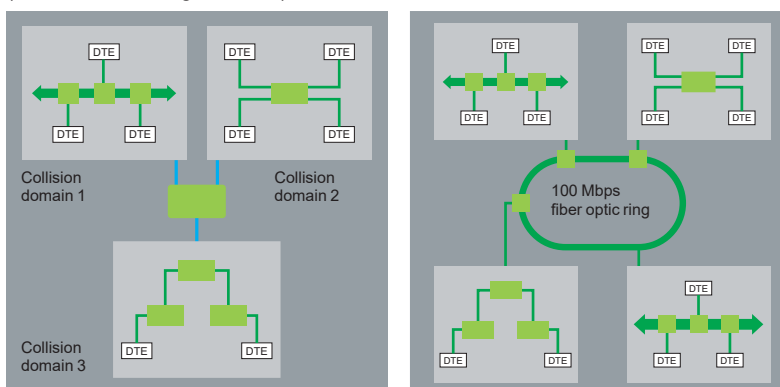
Description	With connectors at both ends	No.	Length m/ft	Reference	Weight kg/ lb	
Straight-through copper cables	1 x IP 67 4-way M12 connector and 1 x RJ45 connector	8	1/3.28	TCSECL1M3M1S2	–	
			3/9.84	TCSECL1M3M3S2	–	
			10/32.81	TCSECL1M3M10S2	–	
			25/82.02	TCSECL1M3M25S2	–	
			40/131	TCSECL1M3M40S2	–	
	2 x IP 67 4-way M12 connectors	–	1/3.28	TCSECL1M1M1S2	–	
			3/9.84	TCSECL1M1M3S2	–	
			10/32.81	TCSECL1M1M10S2	–	
	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	–

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 Modicon 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 or configured using USB cable (Premium unmanaged switch)



TCSESU051F0

References

Description	Interfaces	Reference	Weight kg/ lb
IP67 Unmanaged switches	5 x 10BASE-T/100BASE-TX ports (copper cable), shielded M12 type D connectors, IP67	TCSESU051F0	0.210/ 0.463

Description	With connectors at both ends	Length m/ft	Reference	Weight kg/ lb	
IP67 power supply cables (for 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 TCSESU051F0)	Female M12 straight connector	–	XZCC12FDM50B	–
		Female M12 elbowed connector	–	XZCC12FCM50B	–



TCSESU053FN0



TCSESSU083FN0



TCSESPU053F1CU0
TCSESPU053F1CS0



TCSESPU093F2CU0
TCSESPU093F2CS0



TCSESPU083FN0

Unmanaged switches, 3, 5, 8 and 10 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/lb
Unmanaged switches	3 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU033FN0	0.113/ 0.249
	5 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU053FN0	0.113/ 0.249
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector 	TCSESU043F1N0	0.120/ 0.264
	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESU083FN0	0.246/ 0.542
	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESSU083FN0	0.150/ 0.331
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX port (multimode fiber), duplex SC connector 	TCSESU103F2CU0	0.260/ 0.573
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX port (single mode fiber), duplex SC connectors 	TCSESU103F2CS0	0.260/ 0.573

Premium unmanaged switches, 5, 8 and 9 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/lb
Premium unmanaged switches	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (multimode fiber), duplex SC connector 	TCSESPU053F1CU0	0.430/ 0.948
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX port (singlemode fiber), duplex SC connector 	TCSESPU053F1CS0	0.430/ 0.948
	<ul style="list-style-type: none"> ■ 7 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector 	TCSESPU093F2CU0	0.510/ 1.124
	<ul style="list-style-type: none"> ■ 7 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (singlemode fiber), duplex SC connector 	TCSESPU093F2CS0	0.510/ 1.124
	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESPU083FN0	0.440/ 0.970



TCSESL043F23F0



TCSESB083F23F0



MCSESM043F23F0


 MCSESM063F2CU0
 MCSESM063F2CS0

Lite managed switches, 4 ports, twisted pair

References

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

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

References

Description	Interfaces	Reference	Weight kg/ lb
Basic managed switches	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESB083F23F0	0.400/ 0.882
	<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	0.410/ 0.904
	<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	0.410/ 0.904

Managed switches, 4, 5 and 6 ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
Managed switches	4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	MCSESM043F23F0	0.380/ 0.837
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX ports (multimode fiber), duplex SC connector 	MCSESM053F1CU0	0.420/ 0.925
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX ports (single mode), duplex SC connector 	MCSESM053F1CS0	0.420/ 0.925
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector 	MCSESM063F2CU0	0.420/ 0.925
	<ul style="list-style-type: none"> ■ 4 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single mode fiber), duplex SC connector 	MCSESM063F2CS0	0.420/ 0.925



MCSESM083F23F0
MCSESM083F23F0H

Managed switches, 8, 9 and 10 ports, twisted pair and fiber optic

References			
Description	Interfaces	Reference	Weight kg/lb
Managed switches	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	MCSESM083F23F0	0.420/ 0.925
	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	MCSESM083F23F0H	0.500/ 1.102
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX ports (multimode fiber), duplex SC connector 	MCSESM093F1CU0	0.500/ 1.102
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 1 x 100BASE-FX ports (single mode fiber), duplex SC connector 	MCSESM093F1CS0	0.500/ 1.102
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors, 1 Gb ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector 	MCSESM103F2CU0	0.500/ 1.102
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single-mode fiber), duplex SC connector 	MCSESM103F2CU0H	0.570/ 1.256
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (single mode fiber), duplex SC connectors 	MCSESM103F2CS0	0.500/ 1.102
	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 2 x 100BASE-FX ports (multimode fiber), duplex SC connector 	MCSESM103F2CS0H	0.570/ 1.256



MCSESP083F23G0
MCSESP083F23G0T

Managed switches, 8 gigabit ports, copper twisted pair with PoE

References			
Description	Interfaces	Reference	Weight kg/lb
Managed switches	8 x 10/100/1000BASE-TX ports (copper cable), RJ45 shielded connectors	MCSESP083F23G0	1.400/ 3.086
	8 x 10/100/1000BASE-TX ports (copper cable), RJ45 shielded connectors	MCSESP083F23G0T	1.400/ 3.086



MCSESM123F2LG0

Managed switch, 8 ports and 4 gigabit ports, copper twisted pair and SFP

References			
Description	Interfaces	Reference	Weight kg/lb
Managed switches	<ul style="list-style-type: none"> ■ 8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors ■ 4 x 1000BASE-SFP (fiber optic - Gbit) 	MCSESM123F2LG0	0.570/ 1.256

Ethernet network

Modicon managed switches

Industrial Ethernet firewalls



TCSESM163F23F0



TCSESM243F2CU0



TCSESM063F2CS1



TCSEFEA23F3F22
TCSEFEC23F3F21
TCSEFEC23FCF21

Managed switches, 16 and 24 ports, twisted pair and fiber optic

References

Description	Interfaces	Reference	Weight kg/ lb
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
Managed switches	<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	0.610/ 1.345

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

References

Description	Interfaces	Reference	Weight kg/ lb
Extended managed switches	8 x 10/100BASE-TX ports (copper cable), RJ45 shielded connectors	TCSESM083F23F1 (1)	1.000/ 2.204
	<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 	TCSESM063F2CU1 (1)	1.000/ 2.204
	<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 	TCSESM063F2CS1 (1)	1.000/ 2.204

Industrial Ethernet firewalls

References

Description	Interfaces	Reference	Weight kg/ lb
Tofino industrial Ethernet firewall TX/TX with multiple LSM available for deep Packet inspection	2 x 10/100BASE-TX ports (copper cable) for internal and external network connections	TCSEFEA23F3F22	0.660/ 1.455
Industrial Firewall/Router TX/TX	2 x 10/100BASE-TX ports (copper cable) for internal and external network connections	TCSEFEC23F3F21	0.610/ 1.345
Industrial Firewall/Router TX/MM	<ul style="list-style-type: none"> ■ 1 x 10/100BASE-TX port for internal network ■ 1 x 10/100BASE-TX port for external network 	TCSEFEC23FCF21	0.610/ 1.345

(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 in the Conformal Coating version. For further information on treatments for harsh environments, please consult our website www.schneider-electric.com.



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.

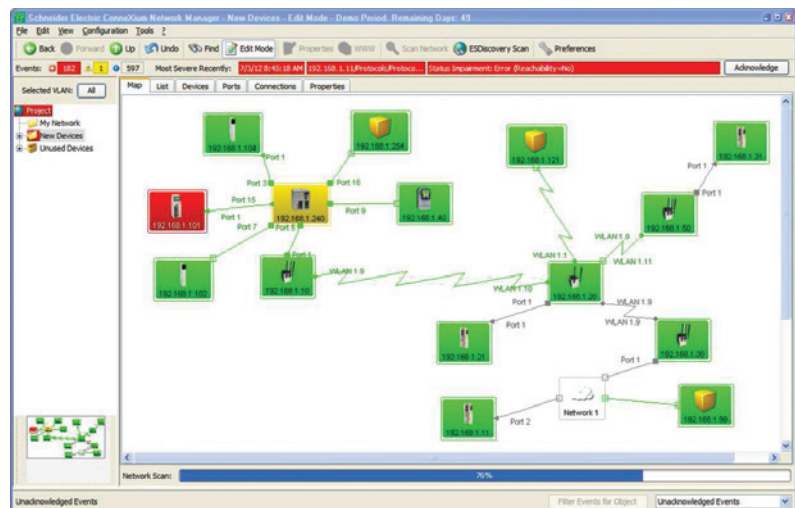
Device identification and network topology maps

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

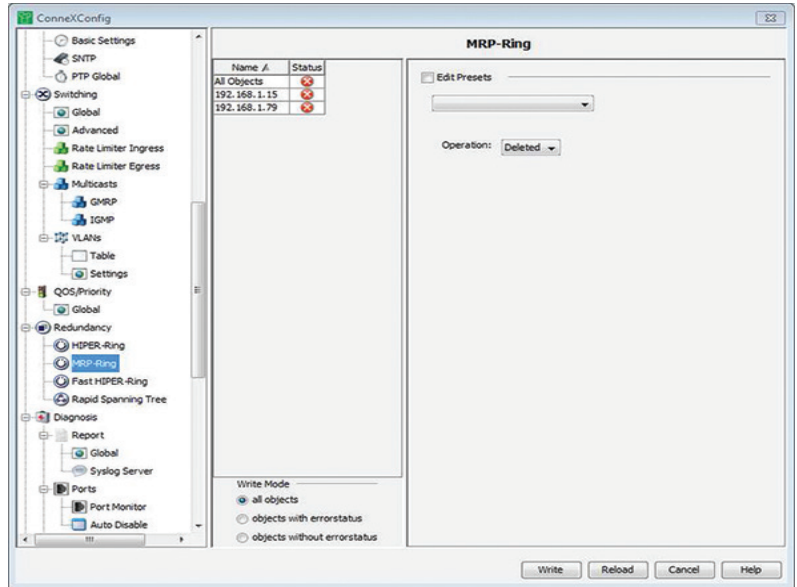
Presentation

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.

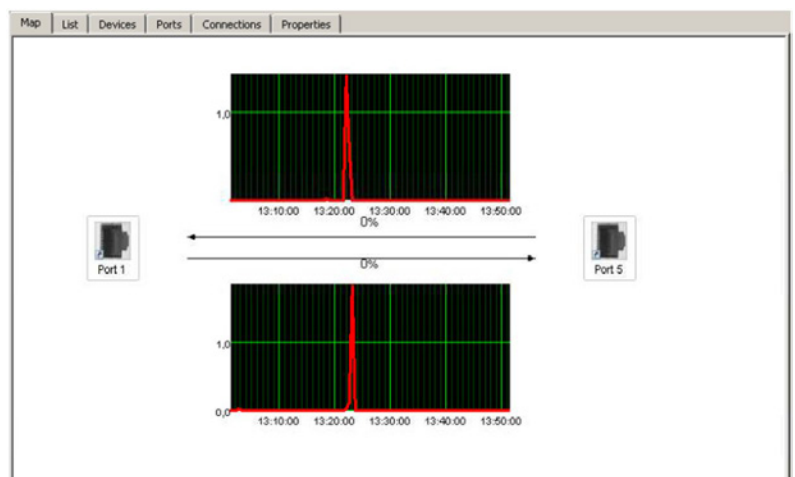
With the click of a button, selected Ethernet links can report congestion, bit rates, or packets per second.

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 4,000 nodes	Upgraded	TCSEAZ03P405UM2	–
ConneXium Network Manager (CNM), 1,000 to 4,000 nodes	Upgraded	TCSEAZ03P410UM2	–

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