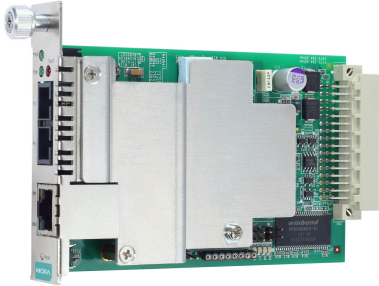


CSM-400 Series

10/100BaseT(X) to 100BaseFX slide-in modules for the NRack System™



Features and Benefits

- LFP (Link Fault Pass-Through) and FEF (Far End Fault)
- Supports store-and-forward mode and pass-through mode
- Auto-negotiation
- Supports IEEE 802.3AH OAM protocol
- Plug and play
- Hot-swappable
- IP-based remote management
- Supports WDM type modules

Certifications



Introduction

The CSM-400 Series consists of slide-in Ethernet-to-fiber managed media converters for the NRack System™. The modules provide media conversion from 10/100BaseT(X) to 100BaseFX (with SC/ST connectors), and can be installed in any NRack System™ chassis. The CSM-400 modules support LFP and FEF for easily tracing network link failures, and support store-and-forward and pass-through modes, 802.3AM OAM for remote management and monitoring, as well as WDM-type fiber modules to reduce fiber cable cost.

Specifications

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1
100BaseFX Ports (multi-mode SC connector)	CSM-400-1213: 1 CSM-400-1213-T: 1
100BaseFX Ports (multi-mode ST connector)	CSM-400-1214: 1 CSM-400-1214-T: 1
100BaseFX Ports (single-mode SC connector)	CSM-400-1218: 1 CSM-400-1218-T: 1
100BaseFX Ports, WDM-A Single-Mode SC Connector	CSM-400-1224: 1 CSM-400-1224-T: 1
100BaseFX Ports, WDM-B Single-Mode ST Connector	CSM-400-1225: 1 CSM-400-1225-T: 1

Optical Fiber

		100BaseFX		100 BaseFX WDM-A	100 BaseFX WDM-B
		Multi-Mode	Single-Mode		
Fiber Cable Type		OM1	50/125 μm	G.652	
			800 MHz x km		
Typical Distance		4 km	5 km	40 km	20 km
Wave-length	Typical (nm)	1300		1310	1310/1550
				1550/1310	

		100BaseFX		100 BaseFX WDM-A	100 BaseFX WDM-B
		Multi-Mode		Single-Mode	
Fiber Cable Type		OM1	50/125 μm	G.652	
			800 MHz x km		
	TX Range (nm)	1260 to 1360	1280 to 1340	1280 to 1340	1480 to 1600
	RX Range (nm)	1100 to 1600	1100 to 1600	1480 to 1600	1280 to 1340
Optical Power	TX Range (dBm)	-10 to -20	0 to -5	-5 to -15	-5 to -15
	RX Range (dBm)	-3 to -32	-3 to -34	-3 to -32	-3 to -32
	Link Budget (dB)	12	29	17	17
	Dispersion Penalty (dB)	3	1	1	1
<p>Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.</p> <p>Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).</p>					

Magnetic Isolation Protection	1.5 kV (built-in)
Standards	IEEE 802.3u for 100BaseT(X) and 100BaseFX

Power Parameters

Input Current	220 mA @ 12 VDC
Input Voltage	12 VDC
Overload Current Protection	Supported
Power Consumption	220 mA @ 12 VDC

Physical Characteristics

Dimensions	86.8 x 124.3 x 21 mm (3.42 x 4.89 x 0.83 in)
Weight	Packaged: CSM-400-1213/1214/1218 Series: 170 g (0.37 lb) CSM-400-1224/1225 Series: 180 g (0.40 lb) Product only: CSM-400-1213/1214/1218 Series: 115 g (0.25 lb) CSM-400-1224/1225 Series: 125 g (0.28 lb)

Environmental Limits

Operating Temperature	Standard Models: -20 to 55°C (-4 to 131°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

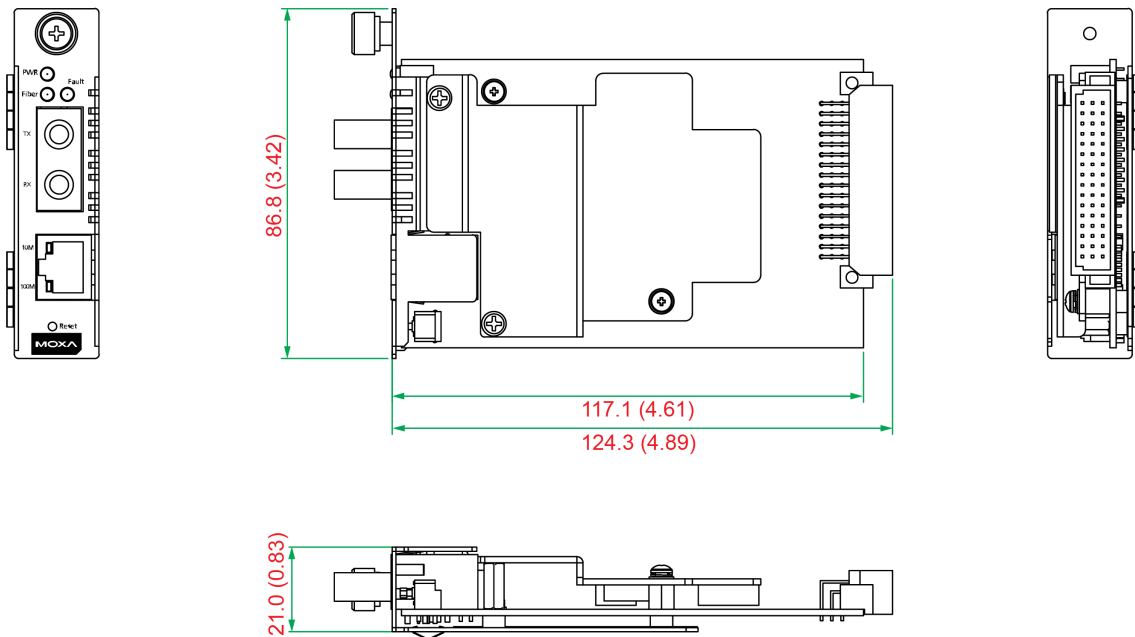
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A

EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 3 V/m IEC 61000-4-4 EFT: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 0.5 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 3 V/m; Signal: 3 V/m IEC 61000-4-8 PFMF IEC 61000-4-11 DIPs
Environmental Testing	IEC 60068-2-1 IEC 60068-2-14 IEC 60068-2-2 IEC 60068-2-3
Safety	EN 60950-1, UL 60950-1
Vibration	IEC 60068-2-6
MTBF	
Time	1,454,560 hrs
Standards	Telcordia (Bellcore), GB
Warranty	
Warranty Period	5 years
Details	See www.moxa.com/warranty
Package Contents	
Device	1 x CSM-400 Series module
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

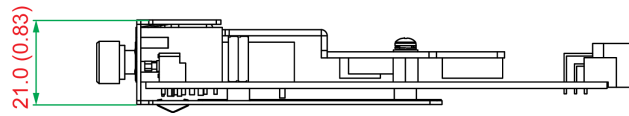
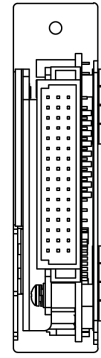
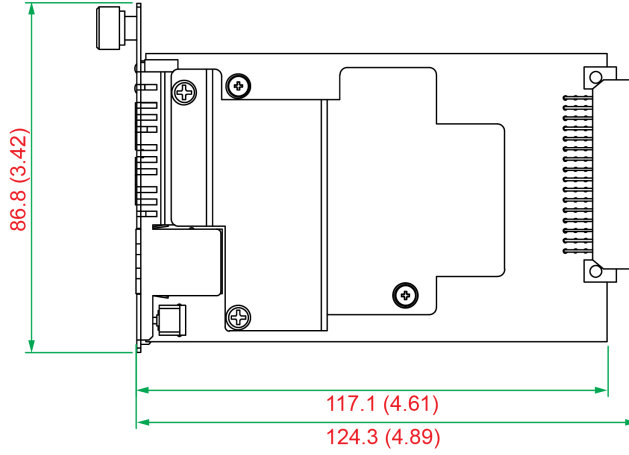
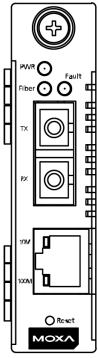
CSM-400-1213

Unit: mm (inch)



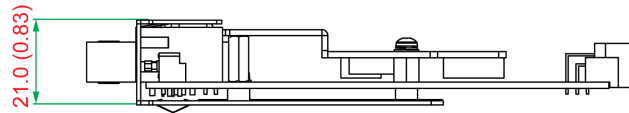
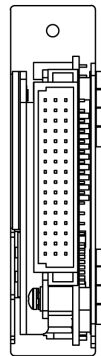
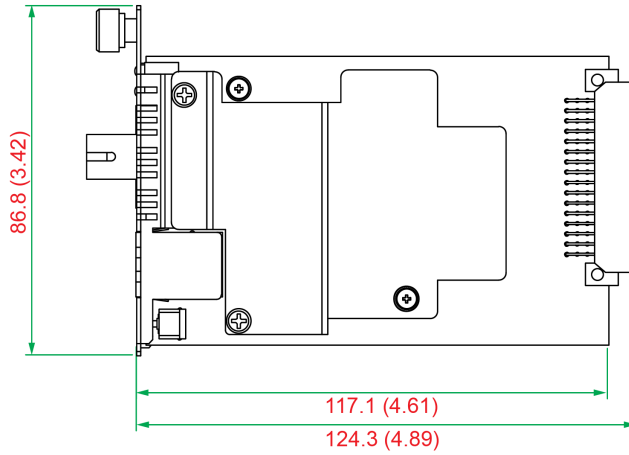
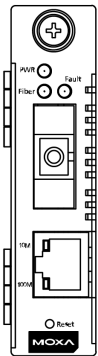
CSM-400-1214, CSM-400-1218

Unit: mm (inch)



CSM-400-1224, CSM-400-1225

Unit: mm (inch)



Ordering Information

Model Name	Operating Temp.	Fiber Module Type
CSM-400-1213	-20 to 55°C	Multi-mode ST
CSM-400-1213-T	-40 to 75°C	Multi-mode ST
CSM-400-1214	-20 to 55°C	Multi-mode SC
CSM-400-1214-T	-40 to 75°C	Multi-mode SC
CSM-400-1218	-20 to 55°C	Single-mode SC

Model Name	Operating Temp.	Fiber Module Type
CSM-400-1218-T	-40 to 75°C	Single-mode SC
CSM-400-1224	-20 to 55°C	WDM-A single-mode SC
CSM-400-1224-T	-40 to 75°C	WDM-A single-mode SC
CSM-400-1225	-20 to 55°C	WDM-B single-mode SC
CSM-400-1225-T	-40 to 75°C	WDM-B single-mode SC

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