

CSM-400 Series

Managed 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 ST connector)	CSM-400-1213: 1 CSM-400-1213: 1
100BaseFX Ports (multi-mode SC 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 SC 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	20 km
	Wavelength	Typical (nm)	1300		1310	1310/1550	1550/1310
		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
	Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power. Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).						

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

Security Functions

Authentication	Local database (password only)
Encryption	HTTPS AES-128 RSA-1024 SHA-1 SHA-256
Security Protocols	SSHv2 HTTPS (TLS 1.2)

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	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 55032/35
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: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 2 kV(AC), 1 kV(DC); Signal: 1 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
Environmental Testing	IEC 60068-2-1 IEC 60068-2-14 IEC 60068-2-2 IEC 60068-2-3
Safety	EN 62368-1 UL 62368-1
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

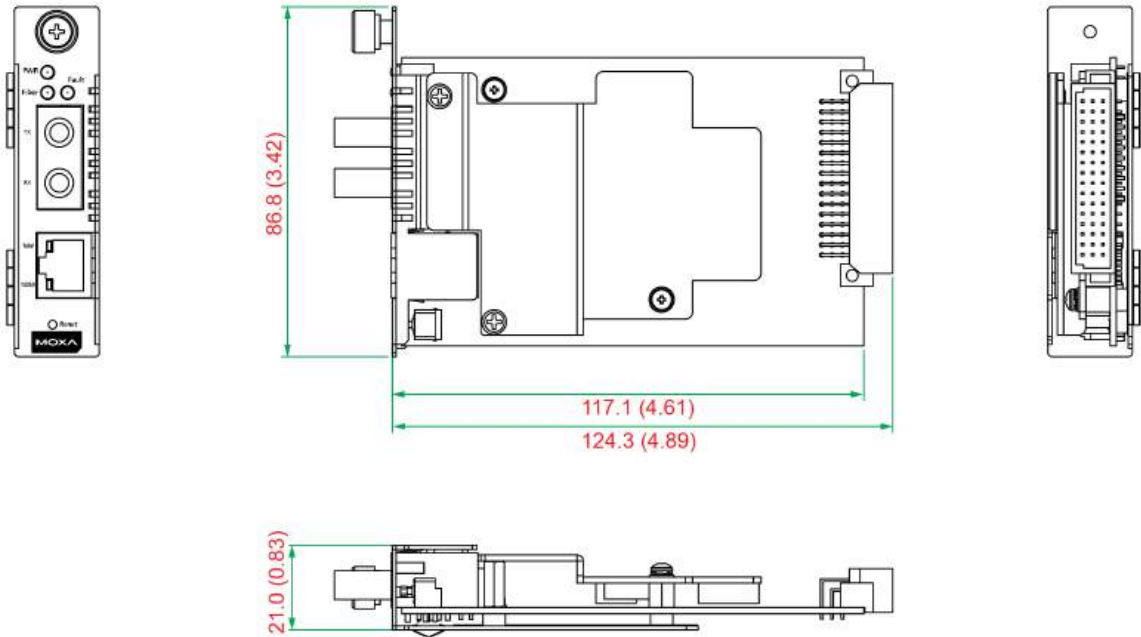
Package Contents

Device	1 x CSM-400 Series module
Documentation	1 x quick installation guide 1 x warranty card

Dimensions

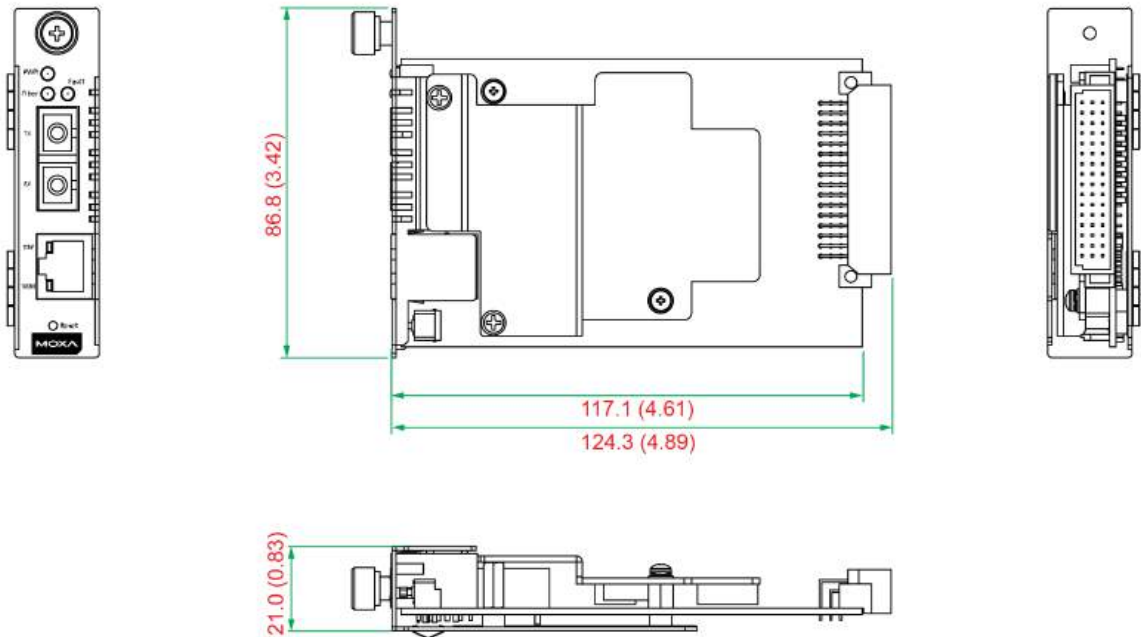
CSM-400-1213

Unit: mm (inch)



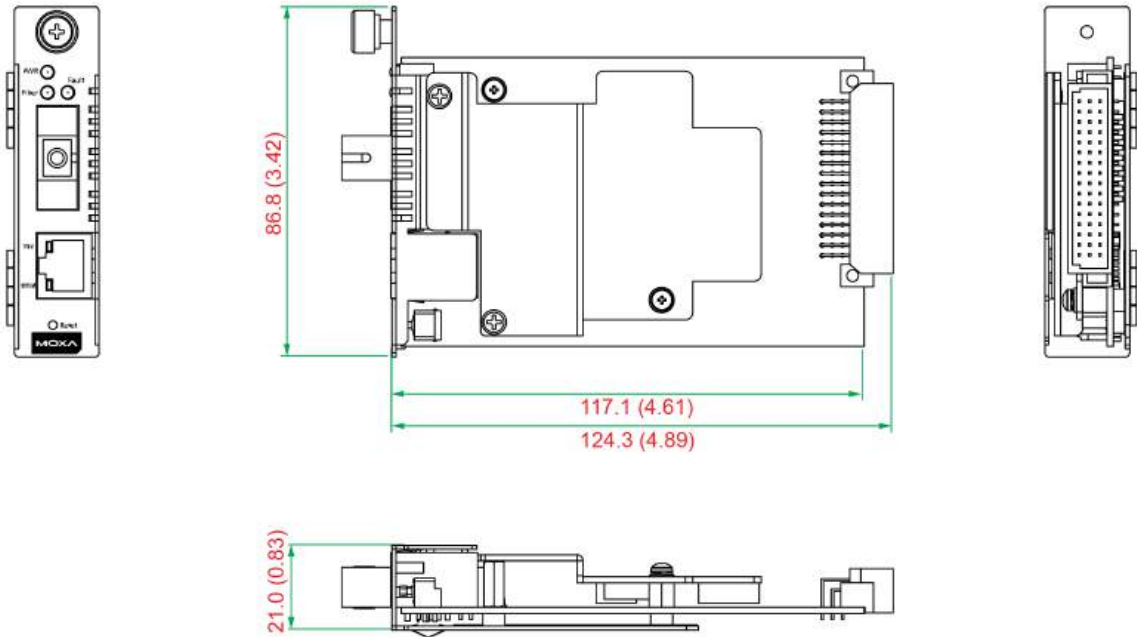
CSM-400-1214, CSM-400-1218

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
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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