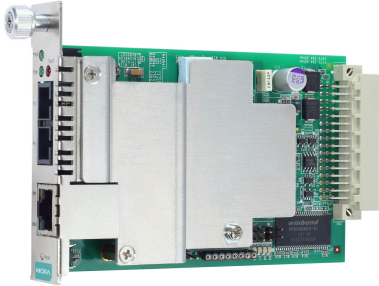


CSM-400 Series

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

Optical Fiber

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 μm	G.652
Typical Distance		4 km	5 km	40 km
Wavelength	Typical (nm)	1300		1310
	TX Range (nm)	1260 to 1360		1280 to 1340
	RX Range (nm)	1100 to 1600		1100 to 1600
Optical Power	TX Range (dBm)	-10 to -20		0 to -5
	RX Range (dBm)	-3 to -32		-3 to -34

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 μm	G.652
			800 MHz x km	
	Link Budget (dB)		12	29
	Dispersion Penalty (dB)		3	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>				

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 WDM-A	
		Single-Mode	Single-Mode
Fiber Cable Type		G.652	G.652
Typical Distance		20 km	20 km
Wave-length	Typical (nm)	1310/1550 nm	1550/1310 nm
	TX Range (nm)	1280 to 1340	1480 to 1600
	RX Range (nm)	1480 to 1600	1280 to 1340
Optical Power	TX Range (dBm)	-5 to -15	-5 to -15
	RX Range (dBm)	-3 to -32	-3 to -32
	Link Budget (dB)	17	17
	Dispersion Penalty (dB)	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

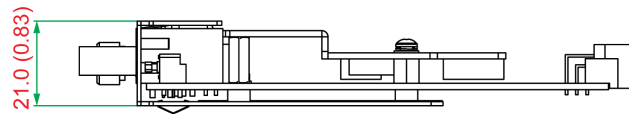
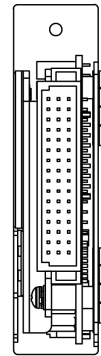
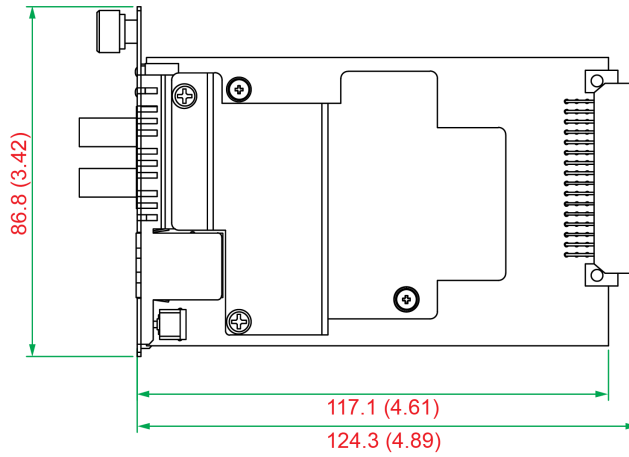
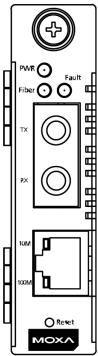
Package Contents

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

Dimensions

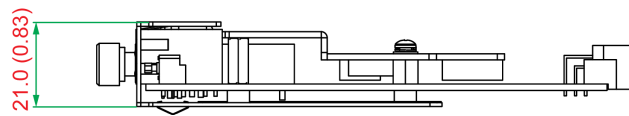
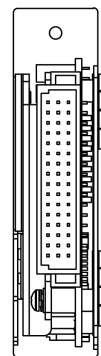
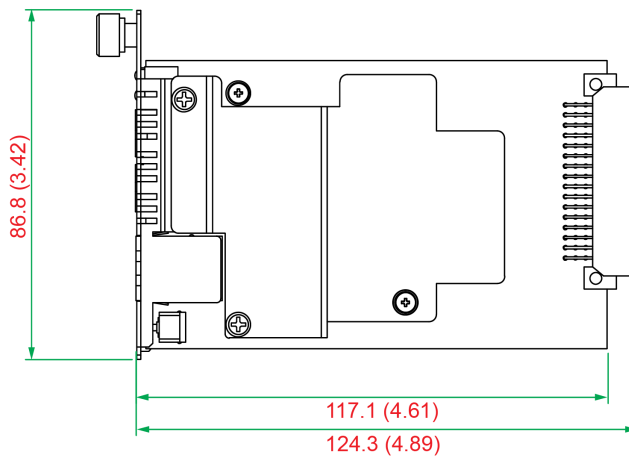
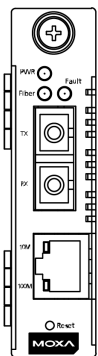
CSM-400-1213

Unit: mm (inch)



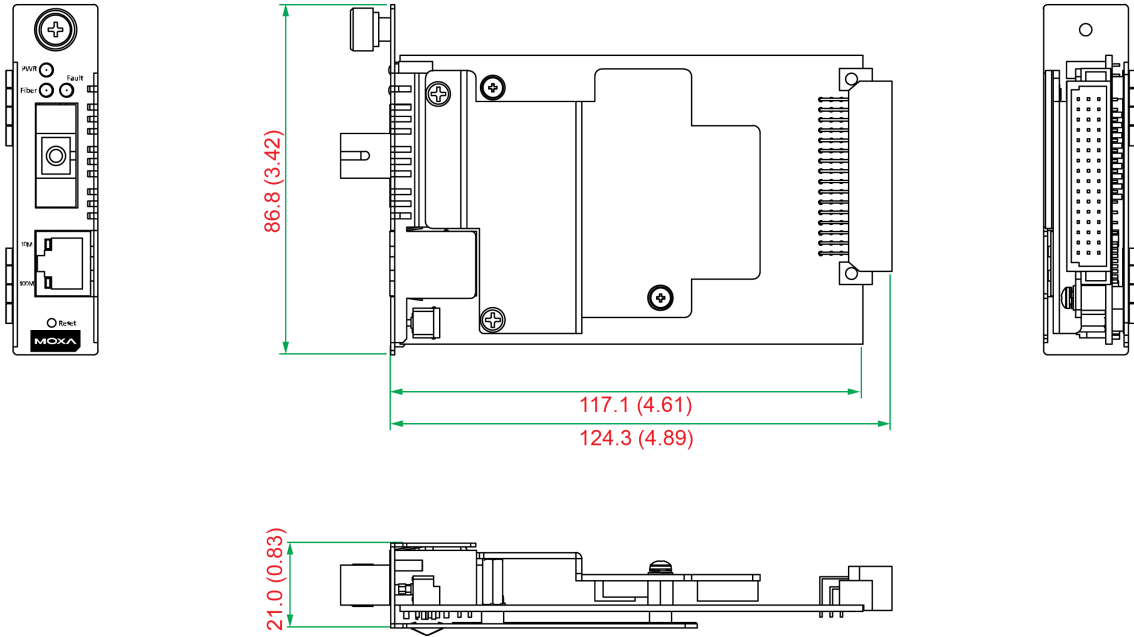
CSM-400-1214, CSM-400-1218

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
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

© Moxa Inc. All rights reserved. Updated Nov 12, 2018.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.