

# IMC-21A Series

## Industrial 10/100BaseT(X) to 100BaseFX media converters



- > Multi-mode or single-mode, with SC or ST fiber connector
- > Link Fault Pass-Through (LFP)
- > -40 to 75°C operating temperature range (T models)
- > DIP switches to select FDX/HDX/10/100/Auto/Force



### Introduction

The IMC-21A industrial media converters are entry-level 10/100BaseT(X) to 100BaseFX media converters designed to provide reliable and stable operation in harsh industrial environments. The converters can operate reliably in temperatures ranging from -40

to 75°C. The rugged hardware design ensures that your Ethernet equipment can withstand demanding industrial conditions. The IMC-21A converters are easy to mount on a DIN rail or in distribution boxes.

### Specifications

#### Technology

##### Standards:

IEEE 802.3 for 10BaseT  
 IEEE 802.3u for 100BaseT(X) and 100BaseFX  
 IEEE 802.3x for Flow Control

##### Interface

**RJ45 Ports:** 10/100BaseT(X)

**Fiber Ports:** 100BaseFX (SC/ST connectors)

**LED Indicators:** Power, 10/100M (TP port), 100M (fiber port), FDX/ COL (fiber port)

**DIP Switches:** TP port's 10/100M, Half/Full modes, Force/Auto modes; fiber port's Half/Full modes, Link Fault Pass-Through (LFP)

##### Optical Fiber

		100BaseFX		
		Multi-Mode		Single-Mode
Fiber Cable Type		OM1	50/125 μm 800 MHz*km	G.652
Typical Distance		4 km	5 km	40 km
Wave-length	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
	Link Budget (dB)	12		29
	Dispersion Penalty (dB)	3		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).

#### Physical Characteristics

**Housing:** Metal, IP30 protection

**Dimensions:** 30 x 125 x 79 mm (1.19 x 4.92 x 3.11 in)

**Weight:** 170 g (0.37 lb)

**Installation:** DIN-rail mounting

#### Environmental Limits

##### Operating Temperature:

Standard Models: -10 to 60°C (14 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

**Storage Temperature:** -40 to 75°C (-40 to 167°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

#### Power Requirements

**Input Voltage:** 12 to 48 VDC

**Input Current:** 265 mA @ 12 VDC max.

**Connection:** Removable 3-contact terminal block

**Overload Current Protection:** 1.1 A

**Reverse Polarity Protection:** Present

#### Standards and Certifications

**Safety:** UL 60950-1

**EMC:** EN 55022/24

**EMI:** CISPR 22, FCC Part 15B Class A

##### EMS:

EN 61000-4-2 (ESD): Contact: 6 kV; Air: 8 kV

EN 61000-4-3 (RS): 80 MHz to 1 GHz: 1 V/m

EN 61000-4-4 (EFT): Power: 1 kV; Signal: 1 kV

EN 61000-4-5 (Surge): Power: 1 kV; Signal: 1 kV

EN 61000-4-6 (CS): 150 kHz to 80 MHz: 3 V/m

EN 61000-4-8 (PFMF)

EN 61000-4-11

**Green Product:** RoHS, CRoHS, WEEE

**Shock:** IEC 60068-2-27

**Freefall:** IEC 60068-2-32

**Vibration:** IEC 60068-2-6

**MTBF** (mean time between failures)

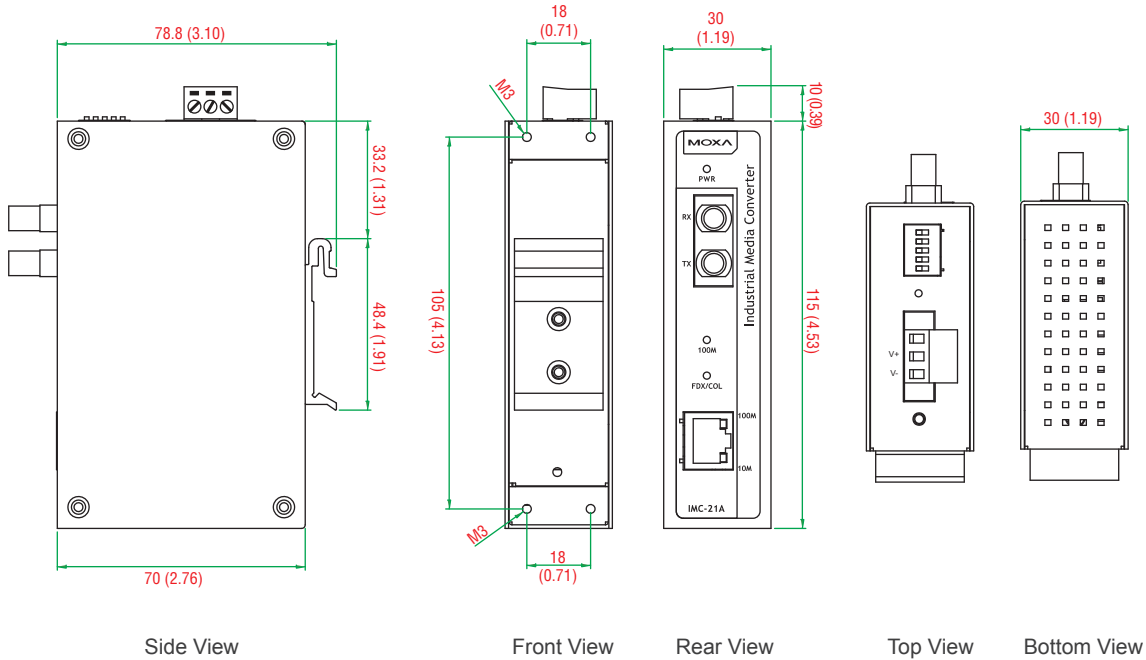
Time: 353,000 hrs  
Standard: MIL-HDBK-217F

**Warranty**

Warranty Period: 5 years  
Details: See [www.moxa.com/warranty](http://www.moxa.com/warranty)

**Dimensions**

Unit: mm (inch)



**Ordering Information**

**Available Models**

**IMC-21A-M-SC:** Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, -10 to 60°C operating temperature

**IMC-21A-M-ST:** Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, -10 to 60°C operating temperature

**IMC-21A-S-SC:** Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, -10 to 60°C operating temperature

**IMC-21A-M-SC-T:** Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, SC connector, -40 to 75°C operating temperature

**IMC-21A-M-ST-T:** Industrial 10/100BaseT(X) to 100BaseFX media converter, multi-mode, ST connector, -40 to 75°C operating temperature

**IMC-21A-S-SC-T:** Industrial 10/100BaseT(X) to 100BaseFX media converter, single-mode, SC connector, -40 to 75°C operating temperature

**Optional Accessories** (can be purchased separately)

**SC to ST Connectors:** See Appendix A

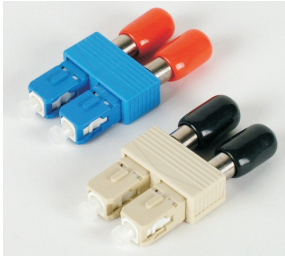
**Package Checklist**

- 1 IMC-21A media converter
- Quick installation guide (printed)
- Warranty card

# Fiber Accessories

## : Fiber Optic Adapters

### *SC male to ST female duplex adapters*



These SC male to ST female duplex adapters are provided as an optional accessory to give users of Moxa industrial Ethernet switches more fiber optic connection options. Simply plug the adapters directly into the SC connector of any Moxa industrial Ethernet switch to convert the original SC connector into an ST connector. This allows you to use an ST connector with any MOXA industrial Ethernet switch, but without the need for an extra patchcord.

#### **ADP-SCm-STf-S**

SC male to ST female duplex adapter for single-mode fiber

**Single-mode:** 9/125  $\mu\text{m}$

**Ferrules and Sleeves:** Zirconia Ceramic

**Body Color:** Blue

**Insertion Loss:** 0.5/1.1 (TYP/MAX)

**SC-side Connector:** SC male

**ST-side Connector:** ST female

#### **ADP-SCm-STf-M**

SC male to ST female duplex adapter for multi-mode fiber

**Multi-mode:** 62.5/125  $\mu\text{m}$

**Ferrules and Sleeves:** Zirconia Ceramic

**Body Color:** Gray

**Insertion Loss:** 0.1/0.3 (TYP/MAX)

**SC-side Connector:** SC male

**ST-side Connector:** ST female