MCR300-1T/1S

Gigabit Ethernet to SFP
Media Converter

OVERVIEW

The IFS Gigabit Ethernet to SFP Media Converter is designed for the most demanding extended IP network applications offering the flexibility of SFP technology for Gigabit Ethernet transmission over optical fiber.

SFP Technology
The IFS MCR300-1T/1S converts 10/100/1000Base-T Ethernet on copper to 1000Base-LX/SX optical fiber via Small Form-format Pluggable (SFP) technology. This media converter can be custom configured to your exact system design specifications by utilizing a variety of IFS SFP Mini-GBIC modules. IFS SFP Mini-GBIC modules are available in a variety of versions from multi-mode or single mode fiber, 1 or 2 fibers and wide-temperature versions.

Enhanced Smart Link Management
The MCR300-1T/1S provides Auto MDI/MDI-X on its TP port and a DIP-switch to configure the Link Fault Pass-through function (LFP). The LFP function includes both Link Loss Carry Forward (LLCF) and Link Loss Return (LLR). The LLCF/LLR function combination provides efficient TP and optical transmission media monitoring and enables immediate alarm notification to network administrators in the event of a link problem.

Unified Enclosure Design
The MCR300-1T/1S is designed with a unified enclosure that can be used in a stand-alone installation or can easily be inserted into the IFS MCR-R15 media converter rack. The IFS Media Converter Rack can provide DC power for up to 15 MCR Series Media Converters.

STANDARD FEATURES

Ethernet
- 10/100/1000Base-TX
- Complies with IEEE 802.3 10Base-T; IEEE 802.3u 100Base-TX; and IEEE 802.3ab 1000Base-T
- Auto-negotiation and Auto-MDI/MDI-X
- Half-duplex or Full-duplex for 10/100Mbps; full-duplex for 1000Mbps
- Supports OAM (TS-1000 and IEEE 802.3ah)
- 9K jumbo frame supported

SFP (Mini-GBIC) Port
- IEEE 802.3z 1000Base-LX/SX standards
- 1 SFP slot provides custom configuration
- Optical fiber and distance varies by SFP (ordered separately)

Installation & Diagnostics
- Compact size, plug-n-play installation
- LED indicators for easy local network diagnostics
- DIP-switch for LFP function (Enable / Disable) setting
- Unified design for stand-alone or rack mount installation (MCR-R15 chassis)

Warranty
- 3-year warranty

Specifications

Ethernet	Description
Data Rate	10/100/1000Mbps
Packet Forwarding Rate (64bytes)	14,880pps @10Mbps 148,810pps @100Mbps 1,488,000pps @ 1000Mbps
OAM	TS-1000, IEEE 802.3ah terminal
Jumbo Packet Size	9K
Flow Control	Half/Full-duplex
Connector	RJ-45 (Auto-MDI/MDI-X)
Cable Type and Distance	10Base-T: 2-pair UTP Cat. 3,4,5, up to 100 m 100Base-TX: 2-pair UTP Cat. 5, up to 100 m 1000Base-T : 2-pair UTP Cat. 5/5e/6, up to 100m

Fiber	
Data Rate	1000Base-LX/SX
Connector	SFP (Mini-GBIC) port
Fiber Type and Distance	Varies by SFP module

LED Indicators & Controls	
Power/Status	Green/On – power detected (+5VDC)
10/100/100Base-T port link/ activity	Green/On – link established Green/blinking – active port (TX/RX)
10/100/1000Base-T port speed	Green/On – 1000Mbps full duplex mode operation Green/Off – 10/100Mbps full duplex mode operation
SFP (Mini-GBIC) port link	Green/On – link established Green/blinking – active port (TX/RX)
DIP switch	LFP function (Enable/Disable) setting

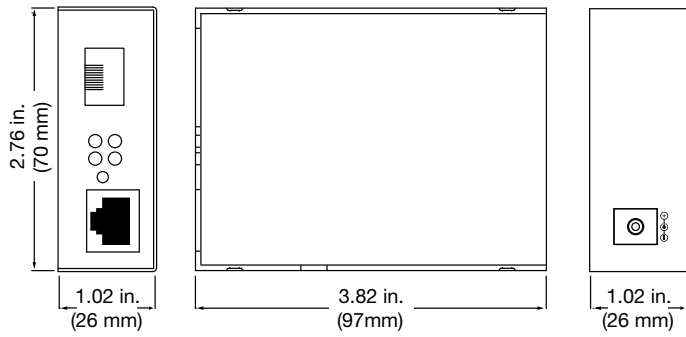| Electrical & Mechanical	
Power	5VDC, 2A (5.6 watts)
Enclosure	Metal
Dimensions (W x D x H) in, mm	3.82 x 2.76 x 1.02 in.; (97 x 70 x 26 mm)
Weight	0.41 lbs. / 190 grams

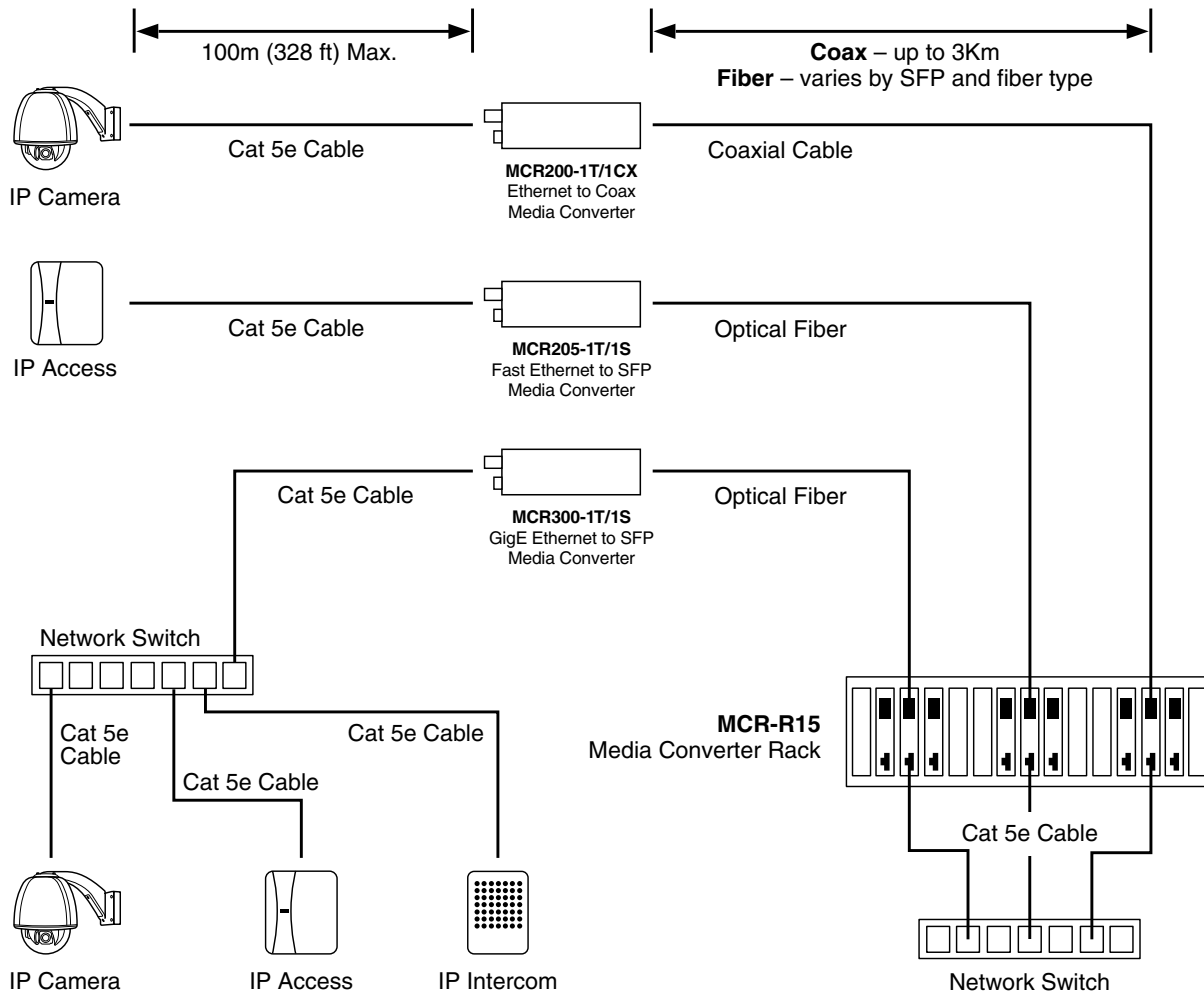| Environmental	
Operating Temperature	0°C ~ 50°C
Storage Temperature	-10°C ~ 70°C
Relative Humidity	5% ~ 90% (non-condensing)
MTBF	> 50,000 hrs @ 25°C

Standards Compliance	
IEEE	IEEE 802.3, 10Base-T IEEE 802.3u, 100Base-TX IEEE 802.3ab 1000Base-T IEEE 802.3z 1000Base-SX/LX/BX
EMI	EN 55022 CLASS A EN61000-3-2:2006 EN61000-3-3: 1995+1A:2001+A2:2005
EMS	EN 55024:1998+A1:2001+A2:2003 IEC 61000-4-2:2001 IEC 61000-4-3:2008 IEC 61000-4-4:2004 IEC 61000-4-5:2005 IEC 61000-4-6:2008 IEC 61000-4-8:2001

Dimensional Diagrams

2.76 in.
(70 mm)

1.02 in.
(26 mm)

3.82 in.
(97mm)

1.02 in.
(26 mm)

Typical Application

100m (328 ft) Max.

Coax – up to 3Km
Fiber – varies by SFP and fiber type

IP Camera

Cat 5e Cable

MCR200-1T/1CX
Ethernet to Coax
Media Converter

Coaxial Cable

IP Access

Cat 5e Cable

MCR205-1T/1S
Fast Ethernet to SFP
Media Converter

Optical Fiber

Cat 5e Cable

MCR300-1T/1S
GigE Ethernet to SFP
Media Converter

Optical Fiber

Network Switch

Cat 5e
Cable

Cat 5e Cable

Cat 5e Cable

IP Camera

IP Access

IP Intercom

MCR-R15
Media Converter Rack

Cat 5e Cable

Network Switch

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Ordering Information

MCR300-1T/1S	Gigabit Ethernet to SFP Media Converter

Important Ordering Information: This unit requires a Small Form-factor Pluggable (SFP) for operation. IFS SFPs are available for multi-mode, single mode, 1 or 2 fibers for various transmission distances over optical fiber. Please refer to the IFS SFP data sheet to select the appropriate SFP for your particular application needs. This unit uses Gigabit SFPs only.

Note: Power Supply must be ordered separately.

Accessories

PS5VDC2A-US	5VDC@2A Wall-mount Power Supply
MCR-R15	MCR Series Media Converter Chassis

Specifications subject to change without notice.

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