

MC251-4P/1CXT MC250-4T/1CXT

4-Port Ethernet to Coax Industrial Media Converter

OVERVIEW

These IFS 4-Port Ethernet to Coax/TP Industrial Media Converters are high-performance modules that combine two well-proven technologies—Ethernet and VDSL2— providing a cost-effective solution for utilizing an existing telephone cable* or coax cable infrastructure when migrating from analog to an Ethernet/IP system. The MC251-4P/1CXT model provides full IEEE802.3-af (15.4w) on each individual 4 RJ45 ports and serves as a PSE device.

These modules provide plug-and-play installation and can be used in combination for either telephone cable or coax cable installations. These modules can also be used with the MCR200-1T/CX over coax only for rack mount installations at the head-end.

The one box design allows for easy set-up as either a client-side (CPE) or central-side (CO) operating device. The module is IEEE 802.3 compliant and supports multiple network protocols. In addition, the module provides on-board feature-rich diagnostic LEDs.

These IFS 4-Port Ethernet/PoE-af to Coax/TP Industrial Media Converters can extend Ethernet transmission up to .87 miles (1.4km) on standard telephone (POTS) type cable or 1.49 miles (2.4km) on coaxial cable. Performance is based on bandwidth requirements and quality of the cable used.

*The MC251-4P/1CXT and MC250-4T/1CXT can utilize standard telephone (POTS) type cable for transmission of Ethernet/IP data. It is not designed for transmitting Ethernet data on a PBX system or public switch telephone network (PSTN).



MC251-4P/1CXT
PoE Support

MC250-4T/1CXT
Non-PoE

STANDARD FEATURES

VDSL2

- Cost-effective VDSL2 CO/CPE bridge solution
- One-box design, CO/CPE selectable via DIP-switch
- Selectable target data rate and target SNR margin
- Discrete Multi-Tone (DMT) line coding

Ethernet

- 10/100Mbps Ethernet
- Auto-negotiation and auto-MDI/MDI-X
- Half-duplex back pressure and IEEE802.3x full-duplex pause-frame flow control
- Supports up to 1536 bytes packet size
- 802.1Q VLAN tag transparent

Power over Ethernet (MC251-4P/1CXT only)

- Complies with IEEE 802.3af
- Inserts 48VDC (15.4w) power on Category network cable
- Protects non-PoE devices if accidentally connected

Installation & Diagnostics

- Plug-and-play installation
- Compact size
- Supports twisted-pair telephone wires (24AWG Minimum)
- Supports 50 or 75 ohm coax
- Extensive LED indicators for network diagnostics

Robust Hardened Design

- Slim IP30 metal enclosure
- DIN-rail or wall-mounting
- 24 ~ 48VDC or 24VAC Operation (MC251-4P/1CXT)
- 12 ~ 48VDC Operation (MC250-4T/1CXT)
- Redundant power with reverse-polarity protection
- Alarm relay output for port breakdown and power-failure alert
- Complies with IEC60068-2-xx standards for free-fall, shock and vibration
- Wide operating temperature range of -40°C ~ +75°C

Warranty

- 3-year warranty

MC251-4P/1CXT MC250-4T/1CXT

4-Port Ethernet to Coax
Industrial Media Converter

North America
T 855-286-8889

Asia
T 852-2907-8108

Australia
T 61-3-9239-1200

Europe
T 32-2-725-11-20

Latin America
T 561-998-6114

Specifications

Ethernet	Description
Data Rate	10/100Base-TX with Auto-negotiate and Auto-MDI/MDI-X
Connectors	4 - RJ-45
Cable	10Base-T (Cat 3, 4, 5) / 100Base-T (Cat 5, 5e, 6) — 328 ft. (100m)

VDSL2	
VDSL2 Transmission Mode	CO/CPE Mode; Channel; Rate Limit; SNR
VDSL2-DMT Encoding	ITU-T G.993.1 VDSL; ITU-T G.997.1; ITU-T G.993.2 VDSL2 (Profile 17a support)
Telephone cable	24AWG Minimum
Phone line connector	1 - RJ-11 female
Coaxial Cable	50 or 75 ohm coax
Coax Connector	1 - BNC female

VDSL2 Distance > Data Rate*	Asymmetric (Down stream/Up stream)		Symmetric (Down stream/Up stream)	
Distance	Twstd-Pair	Coax	Twstd-Pair	Coax
656 ft. (200m)	99/63 Mbps	99/65 Mbps	91/99 Mbps	95/99 Mbps
1,312 ft. (400m)	91/48 Mbps	99/64 Mbps	74/79 Mbps	92/97 Mbps
1,969 ft. (600m)	71/32 Mbps	97/59 Mbps	54/51 Mbps	81/82 Mbps
2,525 ft. (800m)	53/18 Mbps	94/51 Mbps	38/34 Mbps	71/70 Mbps
3,281 ft. (1000m)	38/8 Mbps	84/45 Mbps	27/21 Mbps	60/57 Mbps
3,937 ft. (1200m)	33/5 Mbps	73/37 Mbps	24/15 Mbps	50/44 Mbps
4,593 ft. (1400m)	28/2 Mbps	62/28 Mbps	21/10 Mbps	42/33 Mbps
5,249 ft. (1600m)		54/20 Mbps		37/27 Mbps
5,906 ft. (1800m)		48/13 Mbps		29/22 Mbps
6,562 ft. (2000m)		38/9 Mbps		23/21 Mbps
7,218 ft. (2200m)		35/6 Mbps		19/17 Mbps
7,874 ft. (2400m)		31/4 Mbps		19/13 Mbps

Power over Ethernet (PoE) Injector (MC251-4P/1CXT only)	
PoE Standard	IEEE 802.3af; Power over Ethernet / PSE; End-Span
Power PIN Assignment	(+) Pins 1 & 2; (-) Pins 3 & 6
Power Output (per port) PoE	48VDC, Max. 15.4 watts, 350mA

LED Indicators	
Power	P1: On - Green; P2: On - Green
10/100 Base-TX Port	LNK/ACT; 100Mbps - Green; PoE - Amber (MC251-4P/1CXT only)
VDSL2 Port	LNK/ACT; CO Mode; CPE Mode - Green; Sync. (Green)

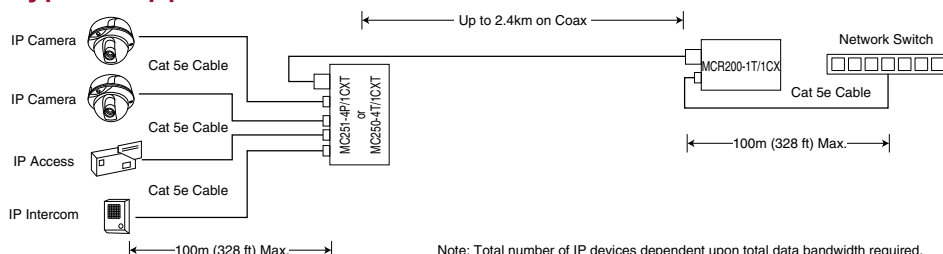
Electrical & Mechanical	
Power	• 24 ~ 48VDC or 24VAC (MC251-4P/1CXT) • 12 ~ 48VDC (MC250-4T/1CXT)
Power Consumption	66.4Watts Max. (MC251-4P/1CXT) 5.64Watts Max. (MC250-4T/1CXT)
Enclosure	IP30 rated Metal Enclosure
Dimensions (H x W x D)	5.3 x 3.5 x 1.26 in. (135 x 87.8 x 32mm) (MC250-4T/1CXT) 5.3 x 3.5 x 1.96 in. (135 x 87.8 x 50mm) (MC251-4P/1CXT)
Weight	1.40lbs/631g (MC251-4P/1CXT) 1.1 lbs/495g (MC250-4T/1CXT)

Environmental	
Operating Temperature	-40°C ~ +75°C
Storage Temperature	-40°C ~ +85°C
Relative Humidity	0% ~ 90% (non-condensing)

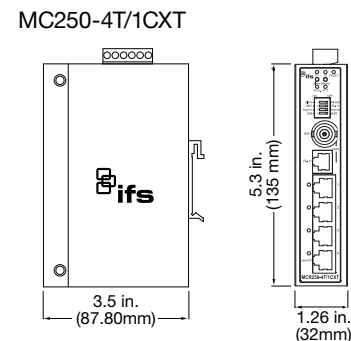
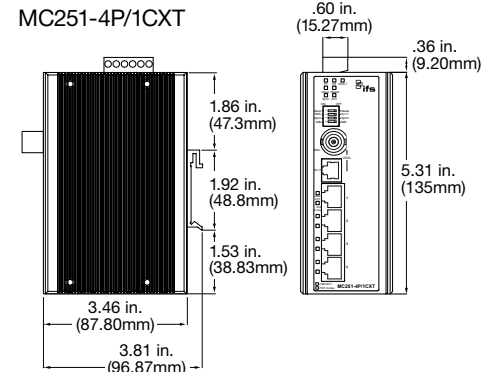
Regulatory	
EMI	EN55022 Class A; EN61000-3-2, EN61000-3-3
EMS	EN55024; IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 61000-4-8, IEC 61000-4-11

*The actual data rate will vary based on the quality of the cable and environmental factors.

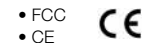
Typical Application



Dimensional Diagrams



Agency Compliances



Ordering Information

MC251-4P/1CXT	4-Port Ethernet/PoE-af to Coax Industrial Media Converter
MC250-4T/1CXT	4-Port Ethernet to Coax Industrial Media Converter
Included Accessories	User's Manual, DIN Rail Kit, Wall Mount Kit

Note: External power supply must be purchased separately.
Not compatible with the MCE-COAX.

Accessories

PS12VDC1.5A-U	12VDC 1.5A Wall Mounted Power Supply (For use with MC250-4T/1CXT only)
HLG-240-48	High Temperature 48VDC Power Supply
PS48VDC100W-DIN	48VDC@2A (100W) DIN-Rail Mount Hardened Power Supply (100~240VAC)



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Specifications subject to change without notice.

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