



technical datasheet

9202-ETX

Ethernet Media Converter

- Slim packaging fits on your DIN rail
- High performance and value
- Truly industrial hardened design
- Dual power inputs keeps you running
- Plug & play saves you time and money
- UL/CSA, CE, Hazardous Locations (Zone 2)
- Ultra-reliable 1,000,000+ hours MTBF



The 9202-ETX series are industrial Ethernet copper to fibre media converters that provide fast performance allowing for real-time operation. These ruggedized converters are industrial hardened to provide superior reliability. They require no user setup and immediately start operating as soon as you power them up.

PRODUCT HIGHLIGHTS

- Slim packaging fits on your DIN rail
- High performance and value
- Truly industrial hardened design
- Dual power inputs keeps you running
- Plug & play saves you time and money
- UL/CSA, CE, Hazardous Locations (Zone 2)
- Ultra-reliable 1,000,000+ hours MTBF

ETHERNET COMPLIANCE

- IEEE 802.3 (10Mbps Ethernet supports legacy devices)
- IEEE 802.3u (Fast Ethernet 100Mbps for newer devices)
- IEEE 802.3x (Full-Duplex with Flow Control)

9202-ETX DRAFT

 **COOPER** Crouse-Hinds

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SPECIFICATION

ETHERNET PERFORMANCE

- 2 Ethernet ports: 1 copper and 1 fibre
- Ethernet protocols supported: all IEEE 802.3
- RJ45 port (shielded): 10/100BaseTX
- RJ45 speed (10 or 100Mbps): auto-negotiation
- RJ45 MDI/MDIX: auto-crossover and TD/RD auto-polarity
- Fibre optic port speed: 100BaseFX (100Mbps)
- Fibre optic port wavelength typical: 1300nm center typ.
- Fibre -M versions- multimode (mm) typical: 50 or 62.5/125µm (SC or ST)
- Fibre -S/L versions-singlemode (sm) typical: 9 or 10/125µm (SC or ST)
- Typ. latency for 100Mbps ports: 5µs + frame time; varies on load
- Fibre duplex operation: Full
- MAC addresses supported: 1024
- Memory bandwidth: 3.2Gbps
- Ethernet isolation: 1500VRMS 1 minute

POWER INPUT

- Input power (typical): 2.0W (all ports active)
- Redundant power inputs: 10-30VDC
- Transient protection: 15,000 watts peak
- Spike Protection: 5,000 watts (10 times for 10µs)

ENVIRONMENTAL

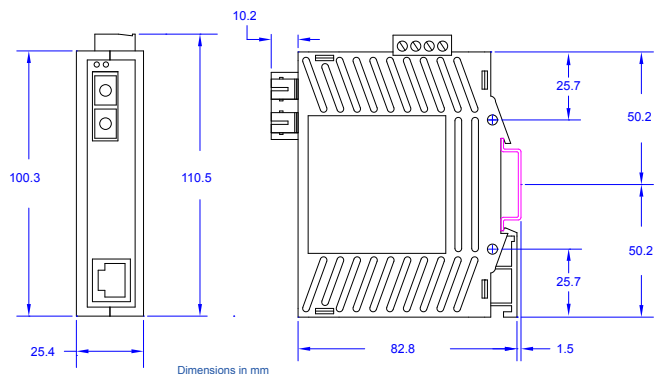
- Operating temperature range: -10 to +60°C
- Storage temperature range: -40 to +85°C
- Humidity (non-condensing): 5 to 95% RH
- Vibration: IEC60068-2-6 STANDARDS COMPLIANCE
- Electrical safety: UL508/CSA C22.2/14, EN61010-1, CE*
- EMI emissions: FCC part 15, ICES-003; EN61000-6-4, CE
- EMC immunity: EN61000-6-2, CE
- Hazardous locations: UL1604/CSA C22.2/213 (Class I, Div. 2); EN60079-15 (Zone 2, Category 3), CE (ATEX*)
- Maritime: Rated for marine & offshore per ABS*
- Eye safety (fibre models): IEC60825-1, Class 1; FDA 21 CFR 1040.10 and 1040.11

*9202-ETX-L-xx approvals pending

PHYSICAL

- DIN rail or direct panel mounting
- Case: UL94V0 Lexan with IP30 protection
- Dimensions: see mechanical drawing
- Weight (typical): 0.11kg (4oz.)

MECHANICAL



ORDERING INFORMATION

9202-ETX-M-SC	1 RJ45 port & 1 multimode fibre optic port with SC or ST style connector, 4 Km
9202-ETX-M-ST	1 RJ45 port & 1 multimode fibre optic port with SC or ST style connector, 4 Km
9202-ETX-S-SC	1 RJ45 port & 1 singlemode fibre optic port with SC or ST style connector, 20 Km
9202-ETX-S-ST	1 RJ45 port & 1 singlemode fibre optic port with SC or ST style connector, 20 Km
9202-ETX-L-SC	1 RJ45 port & 1 singlemode fibre optic port with SC or ST style connector, 60 Km
9202-ETX-L-ST	1 RJ45 port & 1 singlemode fibre optic port with SC or ST style connector, 60 Km

Special, mixed or long haul (up to 120km) fibre transceivers are available for special order.

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.



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TRANSMITTER OPTICAL CHARACTERISTICS:

PARAMETER	RATING	MIN.	TYP.	MAX	UNIT	NOTE
Optical Transmit Power	-M- -S- -L-	-19 -15 -3	- - -	-14 -7 2	dBm	Average
Extinction Ratio	-M-, -S- -L-	8.2 10	- -	- -	dB	P1/P0
Output Centre Wavelength	-M-, -S- -L-	1260 1480	1310 1550	1360 1580	nm	
Spectral Width (-20dB)	-M- -S- -L-	- - -	- - -	80 7.7 4	nm	
Rise/Fall time (10% - 90%)	All models	-	-	2	ns	
Relative Intensity Noise	-	-	-	-117	dB/Hz	
Output Eye	Compliant with Bellcore TR-NWT-000253 and ITU-T G.957/OC3					

RECEIVER OPTICAL CHARACTERISTICS:

Wavelength Operation	All models	1200	-	1600	nm	
Sensitivity	-M- -S- -L-	- - -	- - -	-32 -21 -36	dBm	Note 2
Saturation Input Power	All models	-3	-	-	dBm	Note 2
Signal Detect - Asserted	-M- -S- -L-			-32 -31 -36	dBm	
Signal Detect - Deasserted	All models	-45	-	-	dBm	
Signal Detect - Hysteresis	All models	1	-	6	dB	

Notes:

- 1). The distance rating is for reference only. The actual transmission distance will depend on the system setup, and the power budget should be used for distance estimation.
- 2). Minimum sensitivity and saturation levels measured at 10^{-10} BER for 2^{23-1} PRBS

For distances of from 60-120km consult MTL for special fibre options

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