



technical datasheet

9206-ET/ETX

6 port unmanaged Ethernet switch

- 4 fast RJ45 and 2 noise-immune fibre ports
- Truly industrial hardened design
- Slim case for DIN rail or direct panel mounting
- High performance and value
- Plug and play saves you time and money



The 9206-ET is a 6 port industrial Ethernet switch featuring 2 fast fibre optic ports. It provides advanced performance for real-time deterministic operation and is ruggedized to provide superior reliability. This switch requires no user setup and immediately starts operating as soon as you power it up. MTL switches are designed to make your job easier, ensuring your system will keep running for many years to come.

TROUBLE FREE OPERATION

- Ultra-reliable 1,000,000 + hours MTBF
- -40 to +85 °C operating range (-ET model)
- UL/CSA (CUL), CE and hazardous location (Zone 2) rated
- Dual power inputs keeps you running
- Industrial surge and spike protection
- Self-test/alarm output contact

REAL-TIME SECURE PERFORMANCE

- Fast wire-speed switching
- Intelligent routing - No collisions!
- Ideal for any system

EPS9206-ET/ETX DRAFT

COOPER Crouse-Hinds

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SPECIFICATION

ETHERNET PERFORMANCE

- 4 fast RJ45 and 2 fibre optic ports
- Unmanaged, store & forward, wire-speed
- All IEEE 802.3 Ethernet protocols supported
- RJ45 ports (shielded) 10/100BaseTX
- RJ45 port speed auto-negotiation
- RJ45 MDI/MDIX auto-crossover
- RJ45 TD and RD auto-polarity
- Fibre on ports 5 and 6
- Fibre optic port speed: 100Mbps
- Fibre typical specs (see separate datasheet for details)
 - Multimode, 4km, 1310nm, 50-62.5/125µm
 - Singlemode, 20km, 1310nm, 9-10/125µm
 - Long haul, up to 120km, 1550nm, 9-10/125µm
- Typical latency (varies on load & settings)
 - @ 10Mbps: 16µs + frame time
 - @ 100Mbps: 5µs + frame time
- Full duplex operation with flow control
- MAC addresses supported 1024
- Memory bandwidth 3.2Gbps
- Ethernet isolation 1500VRMS 1 minute

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)

POWER INPUT

- Redundant input terminals
- Reverse polarity protection
- Input power (typ. with all ports active)
 - 5 W (-4/5 model w/ 2 fibre)
- Power input voltage 10-30VDC
- Transient protection 15,000 watts peak
- Spike protection 5,000 watts (10x for 10µs)

ENVIRONMENTAL

- Operating temperature:
 - ET: -40 to +85°C (cold startup at -40°C)
 - ETX: -40 to +60°C
- Storage temperature -40 to +85°C
- Humidity (non-condensing) 5 to 95% RH (optional conformal coating is available)
- Vibration and shock – IEC60068-2-6, -27, -32

STANDARDS COMPLIANCE

- Electrical safety – UL508 / CSA C22.2/14; EN61010-1, CE
- EMC – FCC part 15, ICES-003; EN61000-6-2/4
- Hazardous locations* – UL1604 / CSA 22.2/213 (Class I, Div. 2); EN60079-15 (Zone 2, Category 3), CE (ATEX)
- RoHS and WEEE compliant
- ISO9001:2000 certified company
- * **Except 9206-ET-2L-Sx variant**

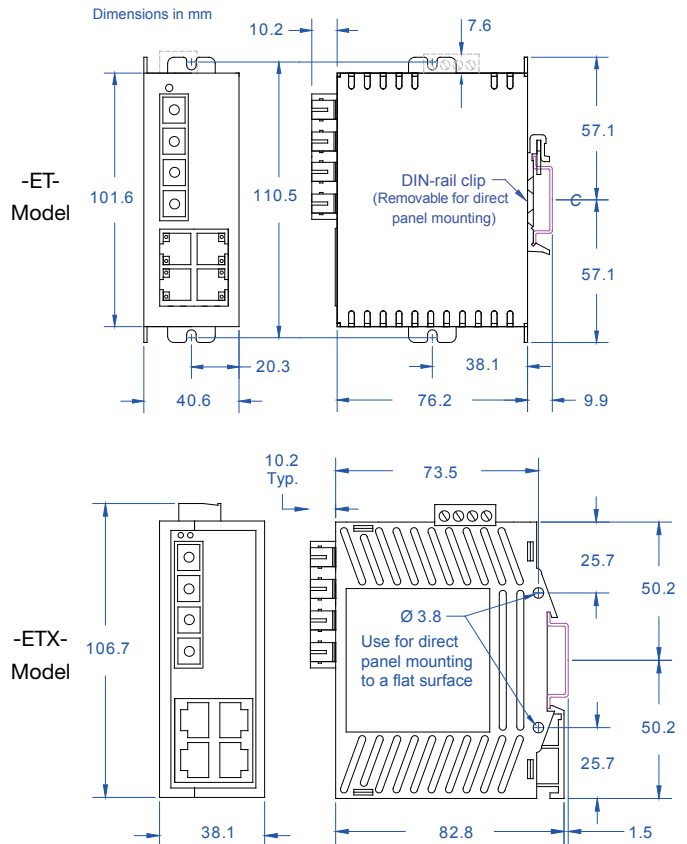
PHYSICAL

- DIN rail or direct panel mounting
- Case – Aluminum (ET) or Lexan (ETX)
- Ingress protection – IP30
- Weight – ET: 0.23 kg (8 oz.); ETX: 0.17 kg (6 oz.)
- Dimensions – see mechanical diagram

“OK” ALARM OUTPUT

- Indicates power & operational status
- Voltage same as switch input voltage
- Maximum current output 0.5 Amp

MECHANICAL



ORDERING INFORMATION

9206-ET-2M-SC	4 RJ45 ports, 2 multimode fibre ports with SC or ST style connectors for up to 4km
9206-ET-2M-ST	4 RJ45 ports, 2 multimode fibre ports with SC or ST style connectors for up to 4km
9206-ET-2S-SC	4 RJ45 ports, 2 singlemode fibre ports with SC or ST style connectors for up to 20km
9206-ET-2S-ST	4 RJ45 ports, 2 singlemode fibre ports with SC or ST style connectors for up to 20km
9206-ET-2L-SC	4 RJ45 ports, 2 singlemode fibre ports with SC or ST style connectors for up to 40km
9206-ET-2L-ST	4 RJ45 ports, 2 singlemode fibre ports with SC or ST style connectors for up to 40km
9206-ETX-2M-SC	4 RJ45 ports, 2 multimode fibre ports with SC or ST style connectors for up to 4km -40° to +60°C
9206-ETX-2M-ST	4 RJ45 ports, 2 multimode fibre ports with SC or ST style connectors for up to 4km -40° to +60°C

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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EPS9206-ET/ETX DRAFT

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	1310	1360	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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