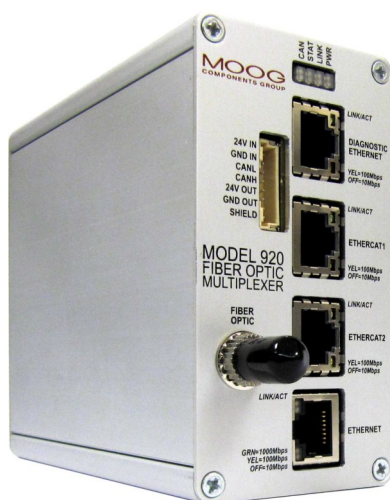


Ethernet and Data Multiplexer

Model 920-EDM

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom products for harsh environment applications and is a leading manufacturer of high performance and high quality multiplexers. Contact Focal for any assistance in selecting the best solution for your requirements.



More than just a media converter, the model 920-EDM Ethernet and Data Multiplexer combines two 10/100 BASE-T(X) Ethernet channels, one 1000 BASE-T Gigabit Ethernet channel, and a CAN Bus channel on a single bidirectional fiber-optic link. This seamless integration of multiple channels in a single interface box reduces overall system costs and space requirements when optical links are needed. The availability of several interface types supports multiple control system protocols or upgrades without the need to change the interface modules. Furthermore, the low latency design of the 920-EDM makes it ideal for real-time control applications.

Front panel LEDs provide status on critical functions while detailed diagnostic information, such as optical Rx/Tx power, temperature, internal voltage and error counts, may be monitored through a Modbus TCP interface on a dedicated 10/100 BASE-T(X) Ethernet port. Built-In-Tests (BITs) may also be triggered and monitored via the diagnostic link to independently verify optical and system performance.

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Features

- Multiplexes 10/100 M and Gigabit Ethernet, plus CAN Bus on the same optical link
- Ethernet and CAN Bus channels are independent and have dedicated bandwidth (i.e. non-switching)
- Single fiber operation
- Diagnostics via Modbus link on an independent Ethernet port
- Low and deterministic latency to allow for real-time protocols such as EtherCAT and DeviceNet

Benefits

- Replaces multiple media converters with a single module
- Replaces multiple fiber cables with a single fiber
- Supports multiple real-time serial protocols e.g. CAN Bus, DeviceNet
- Supports multiple real-time Ethernet protocols, e.g. EtherCAT, PROFINET, and Modbus TCP
- Simplifies troubleshooting and system testing with advanced diagnostics

Applications

- Wind Energy
- Industrial Controls
- Remote Tooling Stations
- Sensor Monitoring Systems

Specifications

| Ethernet | |
|--|--|
| No. Copper Ports and Data Rates | 3 x 10/100 BASE-T(X) (920-EDM-600M) or 2 x 10/100 BASE-T(X) and 1 x 10/100/1000 BASE-T(X) (920-EDM-2.5G) |
| Features | Non-switched dedicated bandwidth ports, low latency for real-time signals, auto-negotiation, auto MDI/MDIX |

Latency is 4uS/pair for all Ethernet channels.

| CAN Bus | |
|----------------------|--|
| No. Channels | 1 |
| Data Rate | 125/250/500 kbps with autobaud |
| Latency | 0.12 to 4.6 ms depending on bit-rate |
| Optical | |
| Optical Fiber | 1 multimode (50/125 μm) |
| Baud Rate | 625 Mbaud (920-EDM-600M) or 2.5 Gbaud (920-EDM-2.5G) |
| Wavelength | 1310/1550 nm standard |
| Flux Budget | >10 dB (15 dB optional) |
| Range | 500 m - may be further limited by acceptable CAN Bus latency |
| Options | Singlemode, CWDM wavelengths |
| Mechanical | |
| Dimensions | 53 x 103 x 122.8 mm [2.09 x 4.06 x 4.83 inches] |
| Weight | 550g |
| Mounting | DIN-rail mounts included |

| Electrical | |
|-------------------------|---|
| Power Voltage | +24V +/- 20%, regulated |
| Power Current | 0.2 A typical (0.45 A max.) |
| Power used | 5 W typical (8 W max.) |
| Protection | ESD, EMI, over voltage, reverse voltage, over current |
| Connectors | |
| Optical | 1 x ST/PC |
| Ethernet | 4 x RJ-45 (including diagnostics port) |
| CAN Bus | 2 pins of 8-pin header |
| Power | 2 input pins and 2 output pins of 8-pin header |
| Environmental | |
| Temperature | -10°C to +70°C (operational) -45°C to + 85°C (storage) |
| Humidity | 85% RH, non-condensing |
| Ingress | IP40 |
| Diagnostics and Control | |
| IP Address | 1 per card, assigned by DHCP or static |
| Accessibility | LEDs and data over dedicated 10/100M Ethernet port using Modbus TCP |
| Parameters | Tx/Rx power, optical/copper link, temperature, current, voltages |

All specifications and information are subject to change without notice. Please contact Focal for the latest updates.

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