

# CAN (Control Area Network) Copper to Fiber Converter

Model BB-CANFB

B+B SMARTWORX

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## FEATURES

- CAN copper (TB) to multi-mode fiber (ST) bi-directional conversion
- Works with various CAN protocols and frame lengths
- 2,000V optical isolation protection from surges and spikes
- Data rate: up to 250 kbps (bit-wise enable)
- DIN rail mount enclosure – ideal for industrial cabinets
- 10-30 VDC external power required (not included, sold separately)

Model BB-CANFB isolates and protects your CAN (Control Area Network) system from component killing surges and transients in noisy and harsh environments. Model BB-CANFB is a copper-to-fiber, fiber-to-copper converter that provides optical isolation for CAN systems. It separates and protects critical segments of the system from the rest of the CAN network. It is protocol independent, allowing it to work with different CAN protocols and frame lengths. Model BB-CANFB converter is used in pairs, one for each side of the fiber.

The CAN side is connected to the system via terminal blocks. Fiber is connected via ST connectors (multi-mode). Model BB-CANFB is housed in a rugged DIN rail mountable box, making it easy to install in industrial cabinets. A 10-30 VDC power source is required (not included, sold separately).

According to the CAN specification, the CAN network must be terminated at both ends. Networks not properly terminated may have data errors or miss the data completely. Model BB-CANFB creates two new ends on the CAN network. Space is provided on the board for a termination resistor, R8. A 120 Ohm resistor is recommended for termination. If the BB-CANFB is not at the end of the network, it should not be terminated.

Model BB-CANFB is bit-wise enabled, allowing it to automatically adjust for different baud rates. Bit-wise enable only enables the driver on every low bit received. It also disables the driver on the receive side for the low bit plus a maximum of 2µ sec. This prevents data from echoing back from the BB-CANFB, but allows the nodes to respond back. The maximum fiber length used depends on the baud rate, the BB-CANFB, and length of copper wire used. The CAN bus requires a response in one bit time.

### CAN in Industrial Automation

The multi-layer structure of Controller Area Network (CAN) allows any station on a serial bus to communicate with any other station. There are also benefits in central control and self-diagnosis and correction of transmission errors. A number of CAN-based, higher level protocols have been developed for use in industrial automation applications. CAN Application Layer (CAL), CAN Kingdom, CAN-open, DeviceNet and Smart Distributed System are just a few of these variations.

## ORDERING INFORMATION

MODEL NUMBER	ISOLATION	CAN (COPPER)	FIBER
BB-CANFB	2,000 VDC	Terminal Blocks	ST connectors

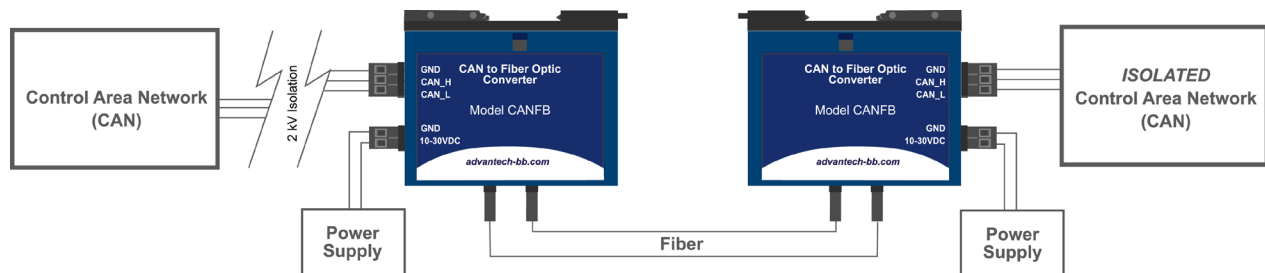
### ACCESSORIES – sold separately

BB-MDR-20-24 – 24V, 124W, 1A DIN rail mount power supply

BB-MDR-10-24 – 24V, 10W, 0.42A DIN rail mount power supply

## SPECIFICATIONS

SERIAL / FIBER TECHNOLOGY	
Baud Rate	250 kbps maximum
Fiber Cable	50/125µm, 62.5/125µm, 100/140µm, 200µm HCS fiber
Fiber Type/Wavelength	Multi-mode/820nm
Fiber Connector	ST
Turnaround	< 2µ seconds
LEDs	(1) TD, (1) RD (may be difficult to see at high baud rates)
ISOLATION	
	2000 VDC
POWER	
Power	150 mA @ 12V, 1.8W, fully loaded (approximate)
Source	External, 10-30 VDC, required (not included, sold separately)
MECHANICAL	
Dimensions	9.3 x 8.6 x 3.6 cm (4.0 x 3.4 x 1.4 in)
Enclosure	35mm DIN rail mount
MTBF	2328397 hours
MTBF Calc. Method	MIL 217F Parts Count Reliability Prediction Method (mod. Q)
ENVIRONMENTAL	
Operating Temperature	0 to +70 °C (+32 to +158 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)



All product specifications are subject to change without notice.

CANFB\_4818ds

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