

## **F290X / F293X FOM II Series Fiber Optic Isolators**



**F290X Dual Channel Transmitter**



**F293X Dual Channel Receiver**

### **GENERAL DESCRIPTION**

VERSITRON FOM II Series Fiber Optic Isolators are transmitters and receivers designed to transmit simplex information channels over a pair of fiber optic cables. F290X and F293X Isolators fully support the interface control signals associated with RS-422, RS-423, RS-449, RS-530, MIL-STD-188-114 balanced / unbalanced, TTL and NRZ standards. These Isolators support data rates from 50Bps to 10Mbps for Balanced and 50Bps to 100Kbps for Unbalanced signals. Using both channels the unit may be configured as one synchronous data and one clock circuit or as dual asynchronous data channels. Models F2902 / F2932 use 850nm multimode optics and transmit up to 6 Km (3.7mi/19,680ft) over multimode fiber optic cable. Models F2904 / F2934 use 1300nm multimode optics and transmit up to 18 Km (11.2mi/59,040ft) over multimode fiber cable. Models F2905 / F2935 use 1300nm single mode optics and transmit up to 30 Km (18.6mi/98,400ft) over single mode fiber cable. ST fiber optic connectors are standard for all models.

Three housing options are available. Model HF-1 single-card enclosures are available for standalone applications. Model HF-2SS 2-slot or HF-20 20-slot chassis are available for standard 19" rack mount applications. Each modem installed in either the HF-1 or HF-2SS requires its own VAC to VDC power adapter. Modems installed in the HF-20 chassis are powered by the AC150W power supply. Models ADPHF01 (single slot) and ADPHF02 (dual slot) blank panels are available to cover any unused empty slots.

### **FEATURES**

There are four status indicators on the F290X Transmitter: DC power ON (PWR), Alarm (loss of signal) (ALM), Transmit Ch. 1 (TXC1), and Transmit Ch. 2 (TXC2). There are also four status indicators for the F293X Receiver: DC power ON (PWR), Alarm (loss of signal) (ALM), Receiver Ch. 1 (RXC1), and Receive Ch. 2 (RXC2). No audible alarm is available. The F290X provides two dedicated simplex channels each independently handling a digital clock or data signal. Transmission of Balanced or Unbalanced signals is user selectable by jumpers. Control signals are processed in a similar manner. Inputs are converted to TTL (+5V or Ground) prior to input to the optic modules. The optic modules convert the TTL digital data stream to light and provide the connection to the fiber optic cable. The F293X provides the inverse process of the transmitter enabling a transparent path or signal translation (balanced to unbalanced or vice versa) if required.

# SPECIFICATIONS

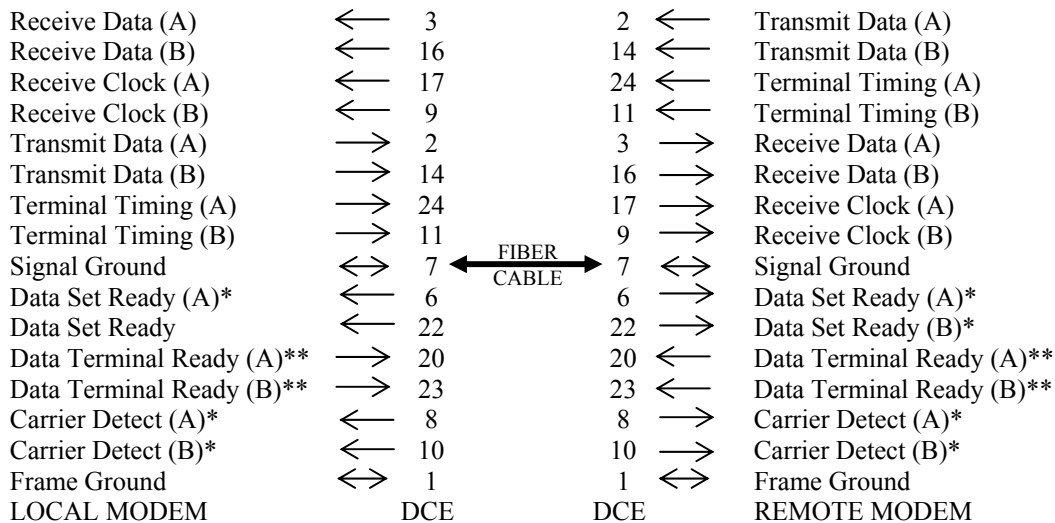
<b>GENERAL</b>	<b>Dimensions</b>	7 x 1 x 11.6 in. WxHxL (17.8 x 2.5 x 29.5 cm)
	<b>Weight</b>	12.0 oz (0.34 kg)
	<b>Operating Temperature</b>	0° to 50°C (32° to 122°F)
	<b>Storage Temperature</b>	-40° to 70°C (-40° to 158°F)
	<b>Humidity</b>	Up to 95% relative humidity (noncondensing)
	<b>Altitude</b>	Up to 10,000 ft

<b>ELECTRICAL</b>	<b>Power Requirements</b>	12 VDC / 1.0A
	<b>Data Rate</b>	50Bps – 10Mbps (balanced) 50Bps – 100Kbps (unbalanced)
	<b>Operation</b>	Simplex
	<b>Error Rate</b>	Better than 10 <sup>-9</sup>
	<b>Connector</b>	DB25 female
	<b>Digital Interface</b>	Signal levels and format conform to EIA RS-422, RS-423, RS-449, RS-530, MIL-STD-188-114 Balanced/Unbalanced, TTL and NRZ standards.

<b>FIBER OPTIC</b>	<b>Model</b>	<b>F2902 / F2932</b>	<b>F2904 / F2934</b>	<b>F2905 / F2935</b>
	<b>Wavelength</b>	Multimode 850nm LED	Multimode 1300nm LED	Single Mode 1300nm LED
	<b>Connectors (2)</b>	ST	ST	ST
	<b>Link Budget</b>	>20 dB	>20 dB	>20 dB
	<b>Operating Range</b>	6 Km / 3.7 mi / 19,680 ft	18 Km / 11.2 mi / 59,040 ft	30 Km / 18.6 mi / 98,400 ft
	<b>Fiber Cable *</b>	50/125, 62.5/125, 100/140 μM	50/125, 62.5/125, 100/140 μM	8/125, 9/125, 10/125 μM

\* Note: Multimode tests were performed on 62.5/125 μM fiber optic cable.  
Single Mode tests were performed on 9/125 μM fiber optic cable.

<b>ACCESSORIES</b>	<b>Model</b>	<b>Description (Note: Dimensions measured WxHxL)</b>	<b>Weight</b>
	<b>HF-1</b>	Single card standalone enclosure. 7.1 x 1.3 x 11.6 in. (18 x 3.3 x 29.5 cm)	18 oz (0.5 kg)
	<b>HF-2SS</b>	2-Slot rack mount chassis. 19 x 1.7 x 13.8 in. (48.3 x 4.3 x 35.1 cm)	40 oz (1.2 kg)
	<b>HF-20</b>	20-Slot rack mount chassis. 19 x 7.1 x 12.4 in. (48.3 x 18 x 31.5 cm)	73 oz (2.1 kg)
	<b>AC150W</b>	HF-20 power supply / monitor. 7.x 2 x 11.6 in. (17.8 x 5.1 x 29.5cm)	44 oz (6.0 kg)
	<b>ADPHF01</b>	Single slot blank panel.	2 oz (0.05 kg)
	<b>ADPHF02</b>	Double slot blank panel.	3 oz (0.09 kg)
	<b>PSAC08</b>	Power adapter, 120 VAC to 12 VDC (US). (Used with HF-1 and HF-2SS)	14 oz (0.4 kg)
	<b>PSAC09</b>	Power adapter, 230 VAC to 12 VDC (VDE). (Used with HF-1 and HF-2SS)	14 oz (0.4 kg)



\* Produced by local modem, not received from remote modem  
\*\* Signal not physically passed, used to control signal flow through local modem

VERSITRON fiber optic modems are available for converting RS-232, RS-422, RS-423, RS-449, RS-485, RS-530, V.35, MIL-STD-188-114, MIL-STD-188C, T1, E1, DS3, NRZ, TTL and Audio (2-wire or 4-wire analog). LAN products also available.