comnet
Communication Networks

INSTALLATION AND OPERATION MANUAL

FVT/FVR200D8
20-CHANNEL DIGITALLY ENCODED VIDEO
+ 8 CHANNELS OF BI-DIRECTIONAL DATA

The FVT/FVR200D8 is a twenty (20) channel ten (10) bit digitally encoded video transmission system. It combines twenty individual video signals into one high speed digital stream along with eight channels of bi-directional data and transmits this over one optical fiber. The FVT/FVR200D8 consists of a twenty channel video transmitter (FVT200D8) and a twenty channel video receiver (FVR200D8). The first module (A) also transmits and receives eight bi-directional data channels: RS232, RS422 and RS485 (2W & 4W).

Both the transmitter and receiver are made up from six modules:

1 × 8 Channel Video Module with 8 bi-directional data channels (Module "A")

1 × 8 Channel Video Module labeled "B", "C" and "D"

1 × 4 Channel Video Module labeled "B", "C" and "D"

1 × Passive Optical Wavelength Division Multiplexor (WDM)

1 × Chassis with integral power supply

The outputs of the three (3) Video Modules are combined at the transmitter into a single optical signal by means of the WDM and separated out at the receiver with an identical WDM. The video channels are referred to as A1, A2, etc., and B1, B2, etc. A video input to the A3 transmitter BNC connector will be received out of the A3 BNC on the corresponding video module.

The FVT200D8 and the FVR200D8 come completely assembled and tested from the factory. There are no optical or electrical adjustments required or permitted.

However, the DATA CHANNELS must be configured for the specific type of data; i.e. RS232, RS422 or RS485 2W or 4W. See **Figure 5** on **Page 5** for specific switch settings. See **Figures 1** – **7** for complete installation instructions.

FIGURE 1 – FVT200D8 TRANSMITTER FRONT AND REAR
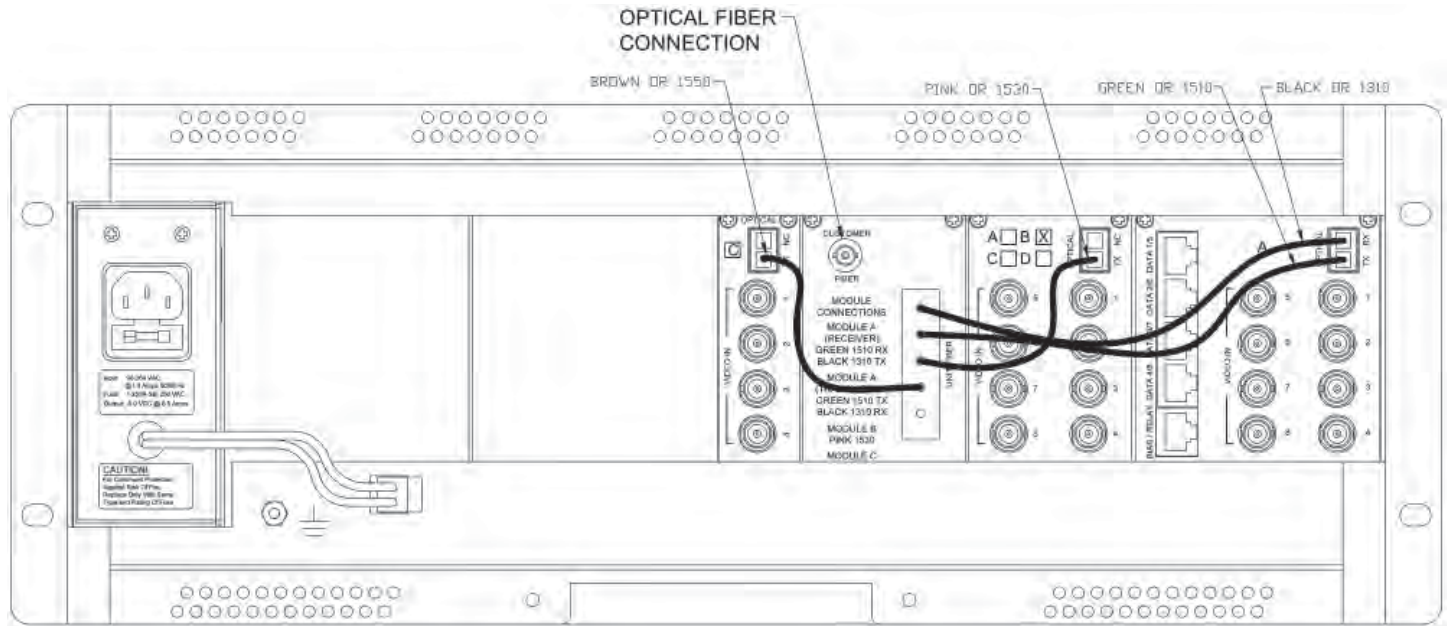
Power Sources - The product should only be operated from the ComNet C1PS power supply.
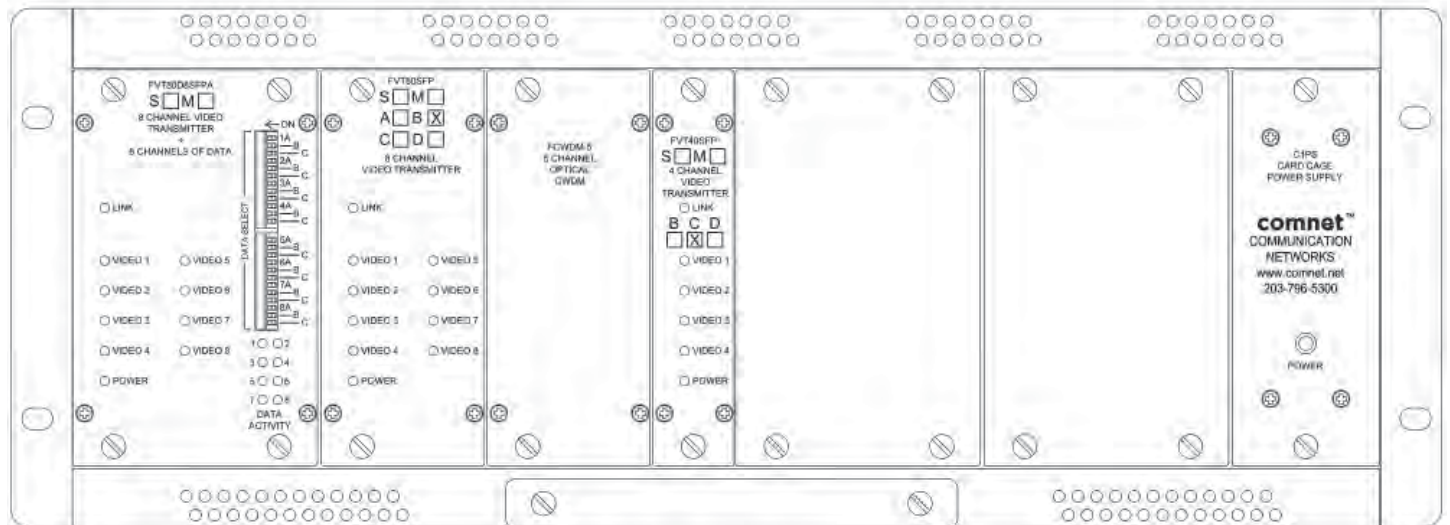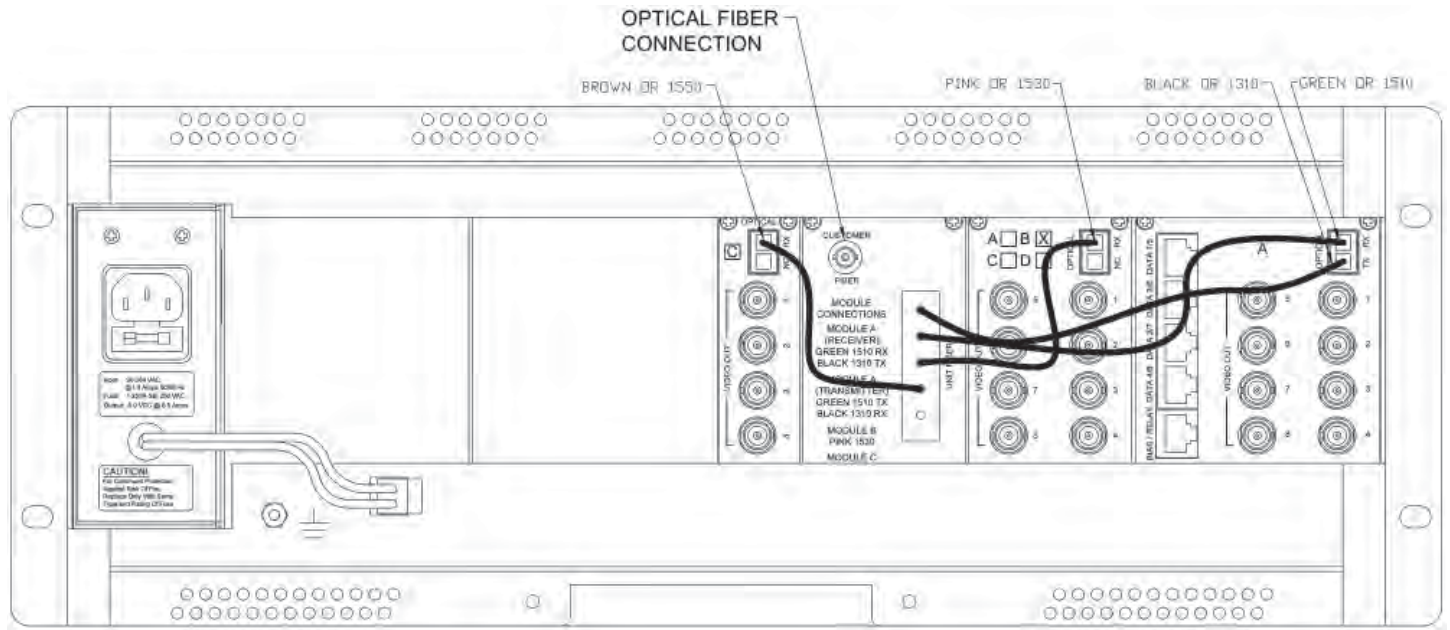
FIGURE 2 – FVR200D8 RECEIVER FRONT AND REAR

Power Sources - The product should only be operated from the ComNet C1PS power supply.
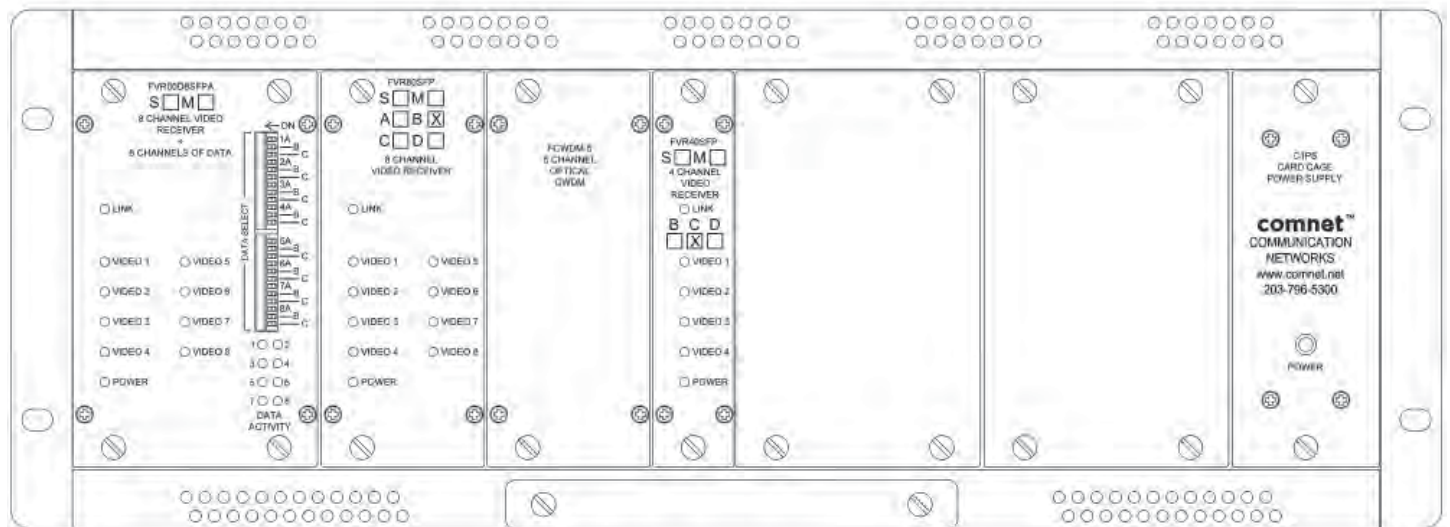
FIGURE 3 – LED INDICATORS

	LINK	VIDEO	DATA	POWER
GREEN	Communication link has been established over optical fiber	An active video signal is present on the BNC connector.	An active video signal is present on the BNC connector.	Unit powered up
RED	Communication link has not been established.	No Video Signal	–	–
OFF	Not powered up correctly	–	No Video Signal	Unit powered down

FIGURE 4 – RJ45 BREAK-OUT ASSEMBLY

5 pc. Factory Supplied
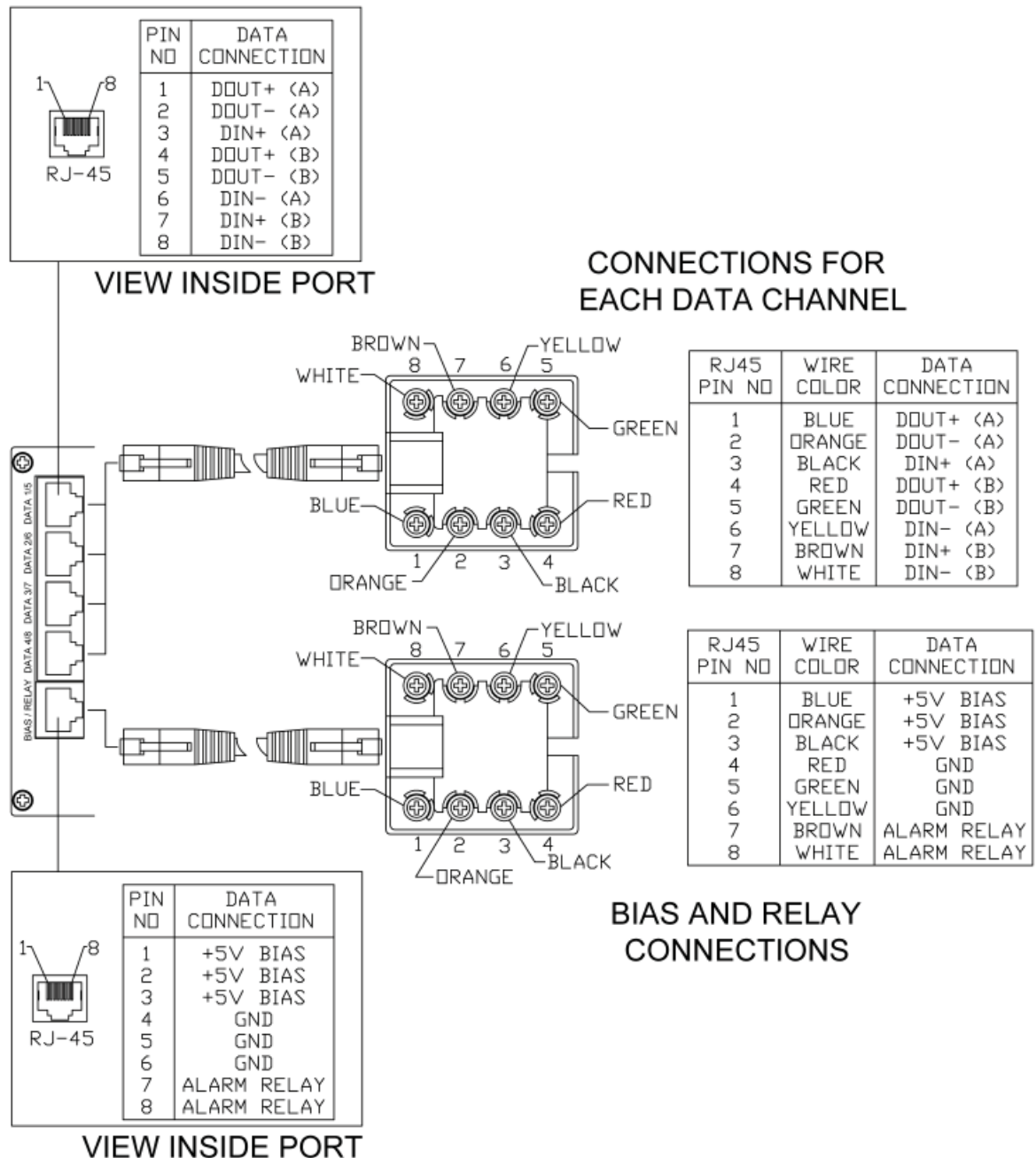
TECH SUPPORT: 1.888.678.9427

FIGURE 5 – SWITCH POSITIONS – FRONT PANEL

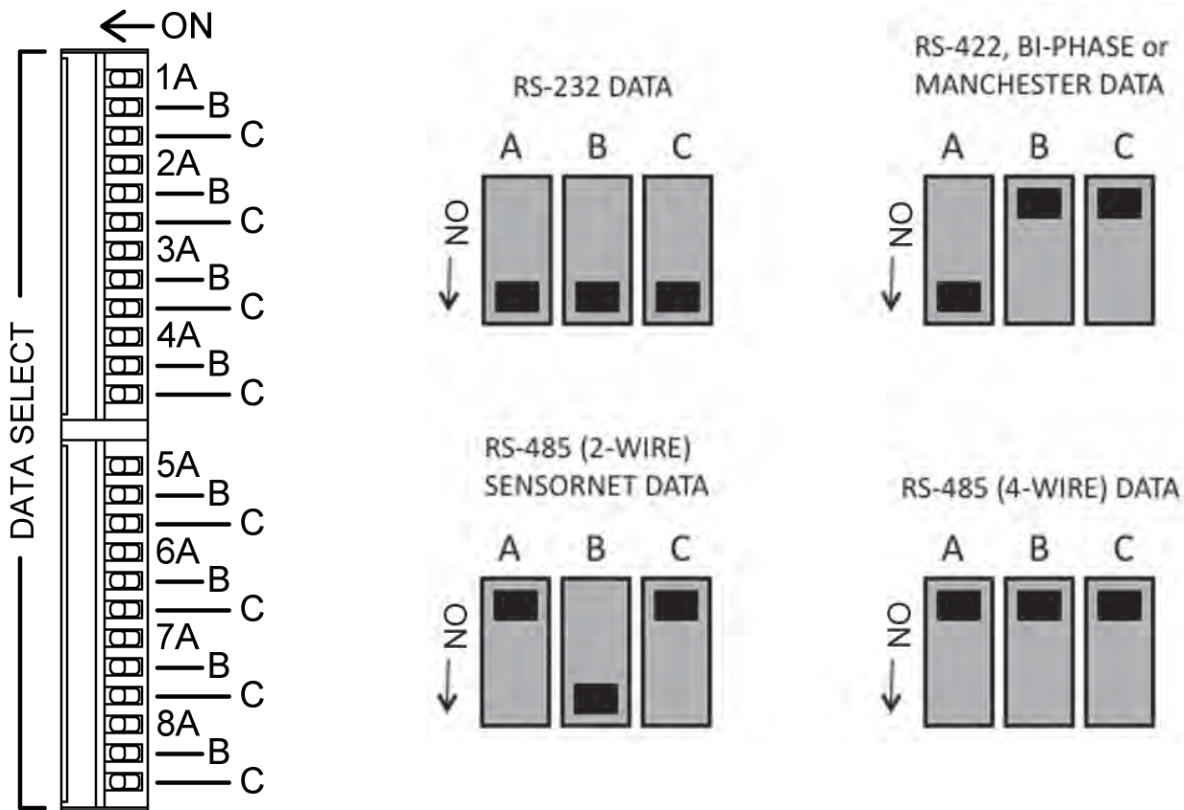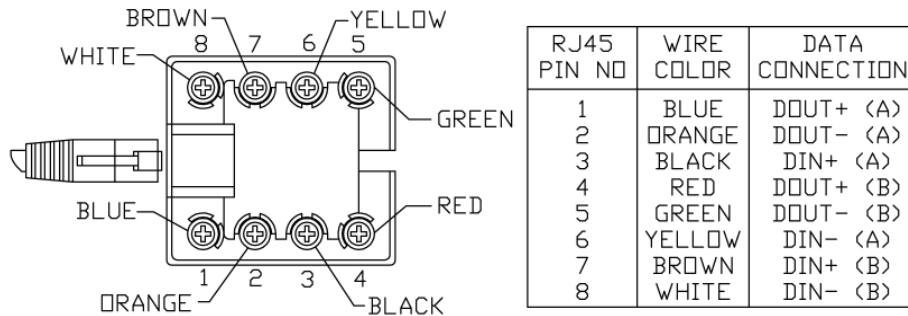The mode for each data channel is configured using a set of three switches on the front panel of the unit.

FIGURE 6 – SWITCH POSITIONS – RJ45

A Ports - Data Channels 1-4
B Ports - Data Channels 5-8

RJ45 PIN NO	WIRE COLOR	DATA CONNECTION
1	BLUE	DOUT+ (A)
2	ORANGE	DOUT- (A)
3	BLACK	DIN+ (A)
4	RED	DOUT+ (B)
5	GREEN	DOUT- (B)
6	YELLOW	DIN- (A)
7	BROWN	DIN+ (B)
8	WHITE	DIN- (B)

RS232

1 NC
2 Out A (-)
3 Ground A
4 NC
5 OUT B (-)
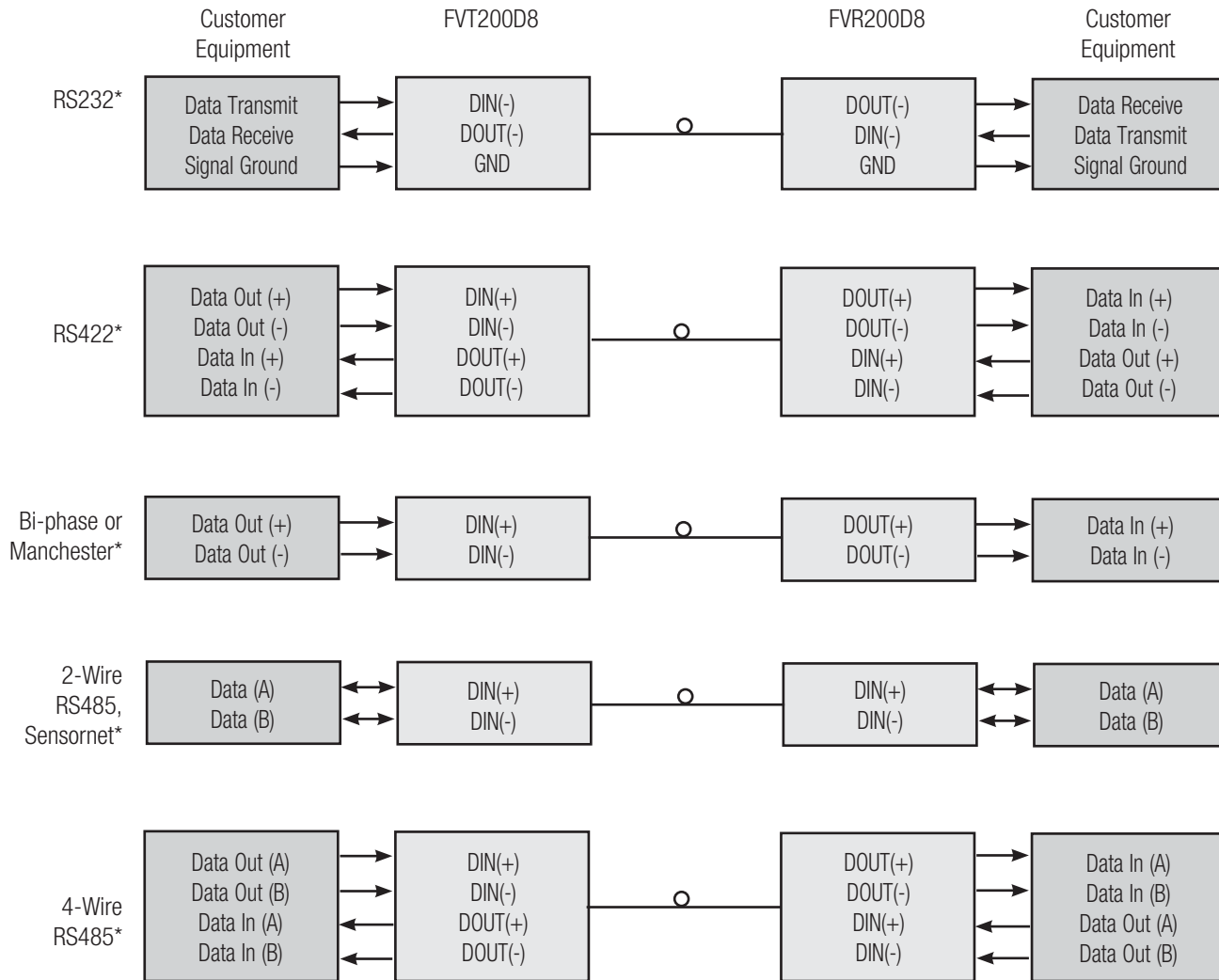6 IN A (-)
7 GROUND B
8 IN B (-)

RS485 (2W)
& SENSORNET

1 NC
2 NC
3 IN A (+)
4 NC
5 NC
6 IN A (-)
7 IN B (+)
8 IN B (-)

RS422, RS485 (4W),
Manchester
& Bi-Phase

1 OUT A (+)
2 OUT A (-)
3 IN A (+)
4 OUT B (+)
5 OUT B (-)
6 IN A (-)
7 IN B (+)
8 IN B (-)

NC = No Connection

FIGURE 7 – DATA CONNECTIONS

	Customer Equipment	FVT200D8		FVR200D8	Customer Equipment
RS232*	Data Transmit → Data Receive ← Signal Ground →	DIN(-) DOUT(-) GND	○	DOUT(-) DIN(-) GND	← Data Receive → Data Transmit ← Signal Ground
RS422*	Data Out (+) → Data Out (-) → Data In (+) ← Data In (-) ←	DIN(+) DIN(-) DOUT(+) DOUT(-)	○	DOUT(+) DOUT(-) DIN(+) DIN(-)	→ Data In (+) → Data In (-) ← Data Out (+) ← Data Out (-)
Bi-phase or Manchester*	Data Out (+) → Data Out (-) →	DIN(+) DIN(-)	○	DOUT(+) DOUT(-)	→ Data In (+) → Data In (-)
2-Wire RS485, Sensornet*	Data (A) ↔ Data (B) ↔	DIN(+) DIN(-)	○	DIN(+) DIN(-)	↔ Data (A) ↔ Data (B)
4-Wire RS485*	Data Out (A) → Data Out (B) → Data In (A) ← Data In (B) ←	DIN(+) DIN(-) DOUT(+) DOUT(-)	○	DOUT(+) DOUT(-) DIN(+) DIN(-)	→ Data In (A) → Data In (B) ← Data Out (A) ← Data Out (B)

* See Page 5 for Switch Settings

MECHANICAL INSTALLATION INSTRUCTIONS

INSTALLATION CONSIDERATIONS
This fiber-optic link is supplied as a Rack. Units should be installed in dry locations protected from extremes of temperature and humidity.
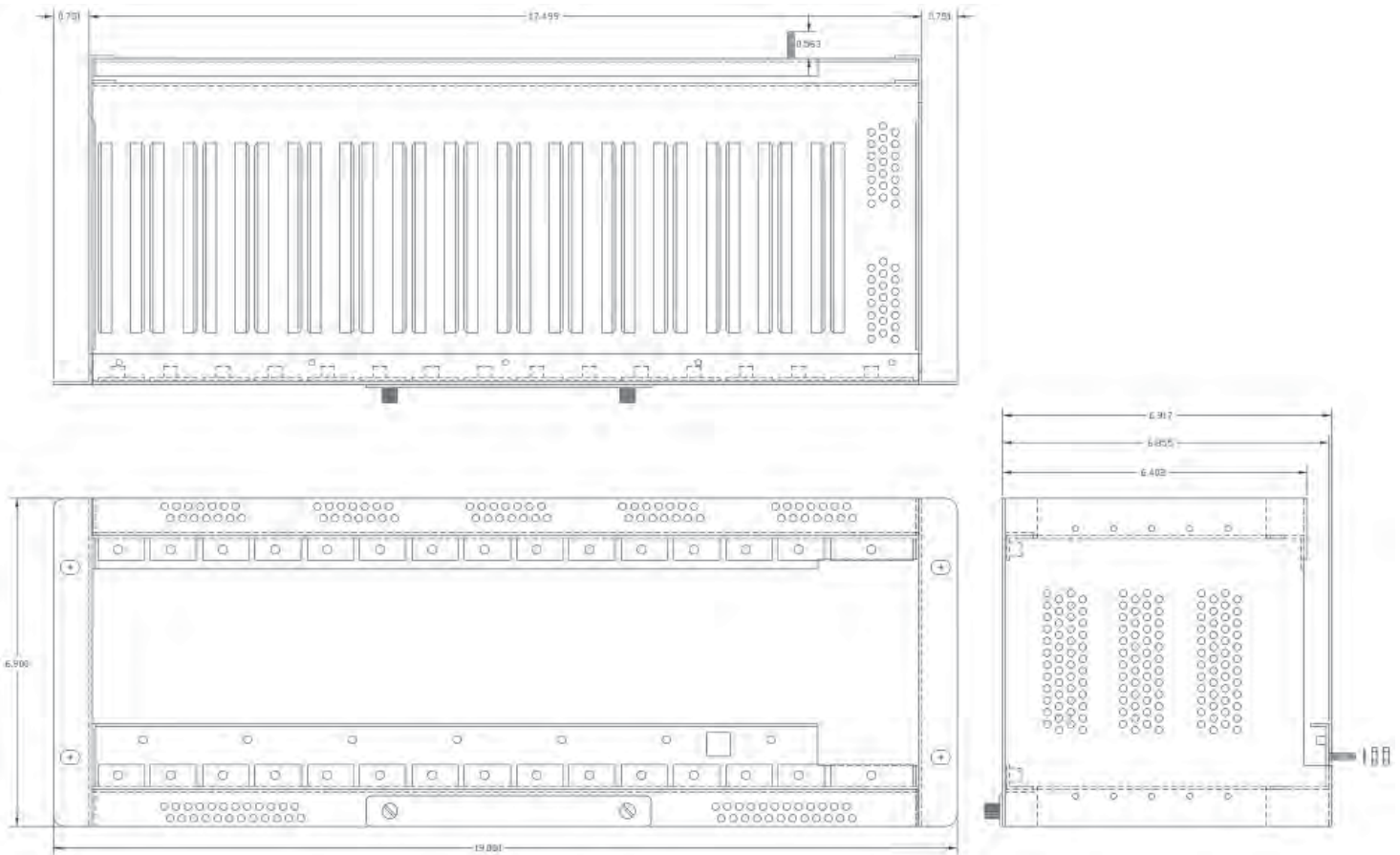
IMPORTANT SAFEGUARDS:
A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

MADE IN THE USA

C1-US, C1-EU, C1-AU OR C1-CH CARD CAGE RACKS
CAUTION: Although ComNet units are hot-swappable and may be installed without turning power off to the rack, ComNet recommends that the power supply be turned off and that the rack power supply is disconnected from any power source. **Note:** Remove electrical connectors on ComNet units before installing in card cage rack.

1. Make sure that the card is oriented right side up, and slide it into the card guides in the rack until the edge connector at the back of the card seats in the corresponding slot in the rack's connector panel. Seating may require thumb pressure on the top and bottom of the card's front panel.

CAUTION: Take care not to press on any of the LEDs.

2. Tighten the thumb screws on the card until the front panel of the card is seated against the front of the rack.

WARNING: Unit is to only be used with included C1PS power supply.

FIGURE A
Dimensions are for a standard ComNet™ C1 card cage

INS_FVT/FVR200D8_REVA
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