



INSTRUCTIONS

FSD101A and FSD201A

FIBER SUBSYSTEM DATALINK

Description

The FSD101A and FSD201A Fiber Subsystem Datalink are used in pairs to communicate between a G-NET Host and the DLM (GEK-100609).

Application

The Fiber Subsystem Datalink is installed between the GNET host and a power line monitoring device such as a DLP or DLM to provide communications and time synchronization in applications unsuitable for RS-232 cables. There are two kinds of fiber optic adapters; one is the Model FSD101A, used at the host, and the other is the Model 201A, used at the DLM or DLP. Refer to Figure 1 for connection of the adapters.

The Model FSD101A contains two optical transmitters, one for data and the other for time sync. It contains one optical receiver for data. The unit is furnished with 5 volt power from the host via pin 18 on the RS-232 connector. This pin is unassigned by the RS-232 standard.

The Model FSD201A contains two optical receivers, one for data and one for time sync. It has one optical transmitter for sending data to the host. This unit is furnished with 5 volt power from the relay via pin 11 on the RS-232 connector (another unassigned pin). Different pins are used for power in the two types of adapters, to avoid the possibility of having the power supplies at the host and the relay shorted together when an RS-232 cable is used instead of fiber.

The adapters will operate at any RS-232 baud rate up to 9.6K baud.

These instructions do not purport to cover all details or variations in equipment nor provide for every possible contingency to be met in connection with installation, operation or maintenance. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to the General Electric Company. To the extent required the products described herein meet applicable ANSI, IEEE and NEMA standards; but no such assurance is given with respect to local codes and ordinances because they vary greatly.

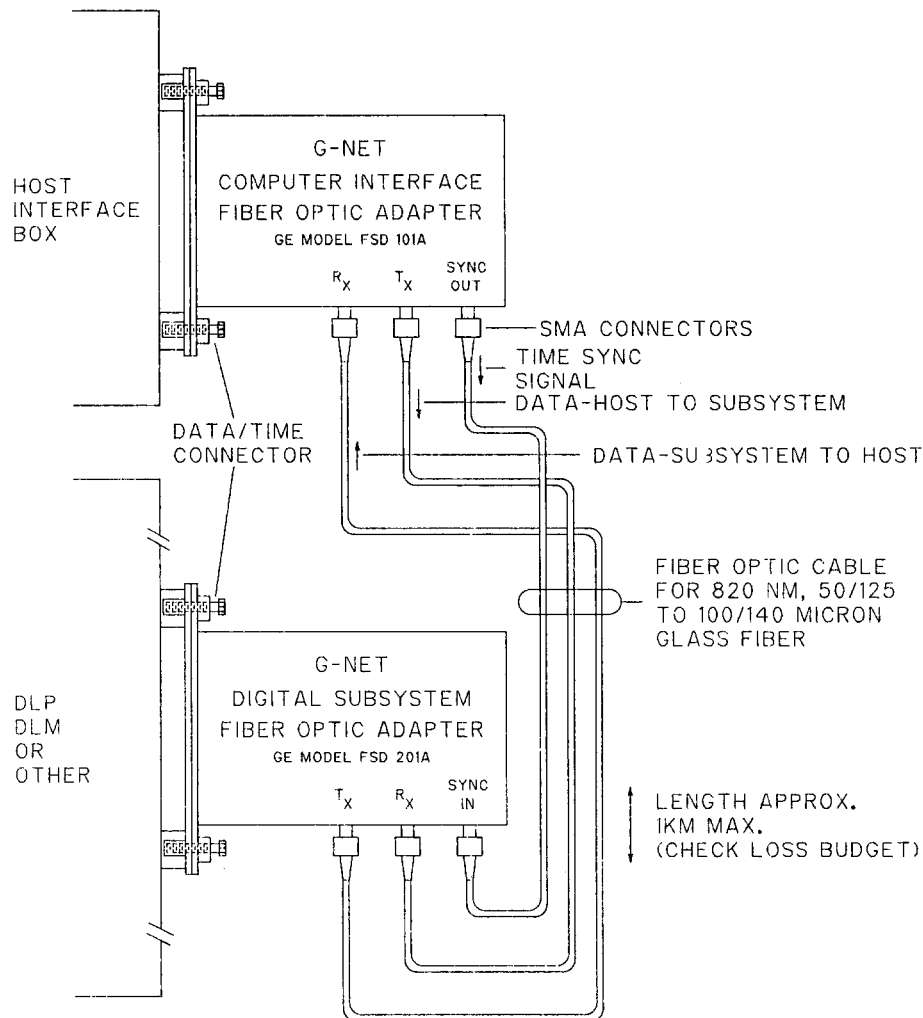


Figure 1 (0286A3586) Fiber Subsystem Datalink Connections

Receiving, Handling, and Storage

Immediately upon receipt, the equipment should be unpacked and examined for any damage sustained in transit. If damage resulting from rough handling is evident, file a damage claim at once with the transportation company and promptly notify the nearest GE Sales Office.

If the equipment is not to be installed immediately, it should be stored indoors in a location that is dry and protected from dust, metallic chips, and severe atmospheric conditions.

Specifications

Power		
Rated Voltage		5 VDC
Rated Current		0.15 A
Electrical Interface		
Standard		RS-232
Connector		25 pin D-type Male
Optic Interface		
Connectors		3 SMA type

Baud Rate	DC to 9.6 kBaud
Temperature	
Storage	-40C to +80C
Operating	-20C to +65C
Dimensions	
Height	0.74 inches (18.80 millimeters)
Width	3.32 inches (84.45 millimeters)
Depth	2.09 inches (53.03 millimeters)
Weight	0.18 pounds (0.082 kilograms)

Construction

The FSD is enclosed in a metal case that mounts directly to the RS-232 connectors on a DLM or G-NET Host. The unit is secured with captive mounting screws on the RS-232 connector. Refer to Figure 2 for outline dimensions.

Physically the two types of adapters are almost identical. Each fiber optic link requires three fibers. One is for data transmit, one for data receive, and the third for the time sync signal. The RS-232 handshake lines are not used with fiber optic links or with wire links when the host is communicating with GE relays. These handshake lines are looped-back inside the fiber optic adapters. Refer to Table 1 for connector pinouts.

TABLE 1

<u>Signal</u>	<u>Connector Pin Number</u>	
	<u>FSD101</u>	<u>FSD201</u>
TD	2	2
RD	3	3
RTS	4	4
CTS	5	5
DSR	6	6
GND	7	7
DCD	8	8
+5V	18	11
DTR	20	20
TS	25	25

- NOTES:
1. All other pins are not internally connected
 2. RTS and CTS are internally shorted
 3. DSR, DCD, and DTR are internally shorted

Installation

The adapters use 820 nm optical signals in 100/140 to 50/125 micron glass fibers, which provide a maximum range of one kilometer. The connectors for the optical fibers are SMA type. The transmitter is a Hewlett Packard HFBR-1404 and the receiver an HFBR-2402. Transmitter drive is 20 mA. With this information, the type of optical cable, and the figures for other losses (splices and connectors) found in the Hewlett Packard literature, the user can compute the usable range. This is advisable if the optical cables are long, and is a normal part of designing a fiber optic installation. The proper cables and installation techniques must be used for indoor duct runs, vertical runs in walls, suspended runs, and buried runs, to avoid damage to the optical fibers. Except for the simplest installations, it is desirable to have expert engineering assistance.

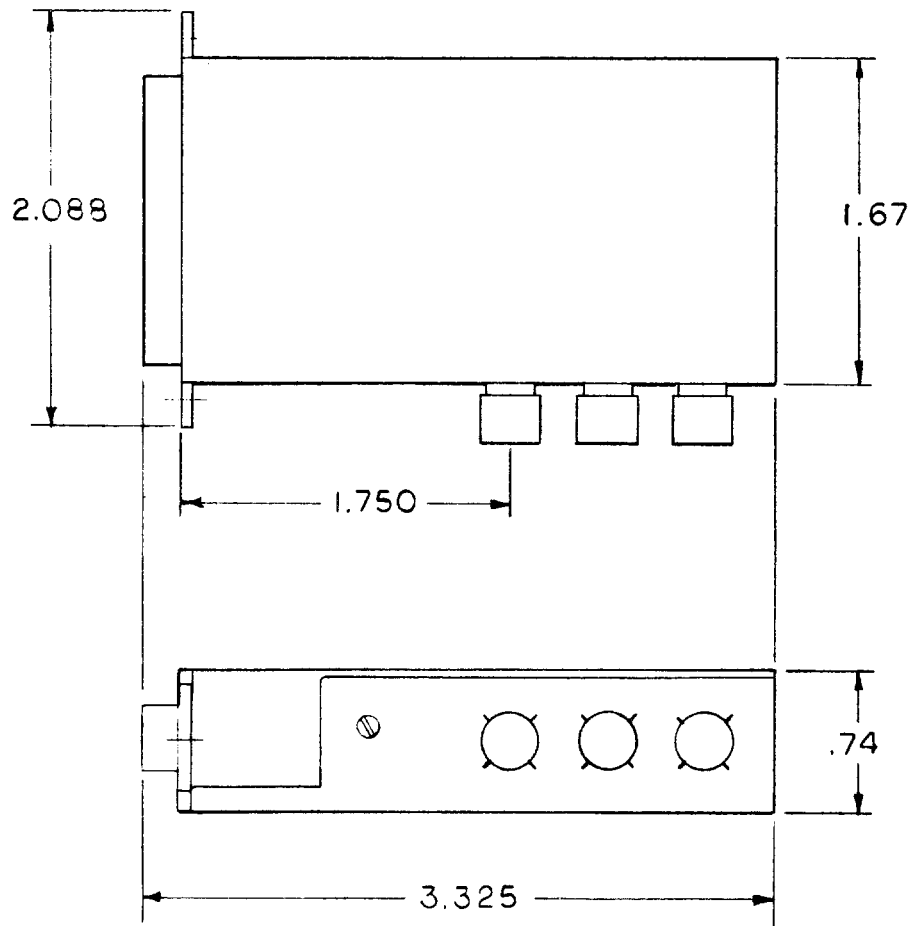


Figure 2 (0286A3780) Fiber Subsystem Outline

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