



# FLD400SA Series Fiber Optic Line Transceivers



## Description

The GDI FLD-400SA series is a combination of a Fiber Optic Modem and a Series 400 Modem. The GDI FLD-400SA series has an FSK input and output connection to the fiber optic section of the modem. This modem will tie directly to the FSK interface of our Series 400 modems used on NEMA traffic control equipment. The existing modems used in the traffic control equipment can be left in place when converting over to a fiber optic system.

The FLD-400SA series operates at 1200, 2400, and 9600 baud dependent on model ordered.

The FLD-400SA-1 series operates at 850 nm into multi-mode cable utilizing ST type connectors. The FLD400SA-2 series has 1300 nm single mode LED emitters and detectors and is available with ST or FC type connectors. The fiber optic section of the GDI FLD-400SA-1 series has a range of about 3—5 km depending on the connector losses and quality of cable. The range of the GDI FLD-400SA-2 series depends on the power level of the emitter being utilized. Power ranges of -21 to -13 dBm are available.

## FEATURES

- \* GDI Series 400 style input (FSK)
- \* Plug & Play into existing systems utilizing interconnect wire
- \* 850 nm MM and/or 1300 nm SM
- \* Rechargeable Battery Backup
- \* Anti-streaming times selectable
- \* Meets 170 and NEMA temperature Specs
- \* Master or Remote operation

The FLD-400SA series has two modes of operation: Master and Remote. In the Master mode, data from the FSK section is transmitter to both Emitters of the fiber optic section. Data from the two detectors is ORed together and sent to the FSK section.

In the Remote mode, data arriving on Detector 1 is sent to the FSK section and Emitter 2 where the signal is re-generated to the next downstream modem. Data transmitted upstream from the remote modem arrives on Detector 2 and is ORed with data from the FSK section and is transmitted upstream on Emitter 1. Due to the signal regeneration there is no maximum length for a system as long as each hop is less than the maximum range of the FLD-400SA series.

A 9-volt lithium battery is used to keep the fiber optic section operating in the event of a power failure. A front panel switch disables the battery to prevent it from discharging when the modem is not in use. A front panel LED indicates the status of the battery.

The FSK section of the FLD-400SA series can operate in either four-wire or two-wire configuration. The FLD-400SA series also has user selectable anti-streaming capability.

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## SPECIFICATIONS

### INTERFACES

#### Electrical

Standalone..... 4 wire terminal block

#### Optical

Connectors ST (Multimode)  
ST, FCPC (Singlemode)  
Dynamic Range 15db @ 850nm MM. LED  
(Minimum) 15db @ 1300nm MM. ELED.  
12db @ 1310nm. SM. ELED  
21db @ 1310nm SM. Laser

#### FSK

Freq Range 1200 to 2200 Hz (1200 baud)  
2400 to 4400 Hz (2400 baud)  
11200 to 17600 Hz (9600 baud)  
Output level -8 to 0 dBm adjustable  
Sensitivity -42 dBm  
Line Impedance 600 ohms  
Modulation Phase coherent FSK

### USER ADJUSTABLE OPTIONS.

#### Front Switches

Battery On/Off

#### Rear Switches

RMTE - MAST Remote/Master  
A-STR Anti - Streaming On/Off  
FULL Full duplex on/off  
HALF Half duplex on/off  
ECHO Echo on/off

### INDICATORS

#### Front Panel

TXD Transmit Data  
RXD Received Data  
BAT Battery  
CD Carrier Detect  
PWR AC Power

#### Front Panel Connectors

EMIT1 Transmit Optical Data 1  
DET1 Receive Optical Data 1  
EMIT2 Transmit Optical Data 2  
DET2 Receive Optical Data 2

#### Back Panel

FSK connector 4 wire terminal block

### FORM FACTOR

Stand Alone... 1.54" H x 5.75" W x 8.4" D  
Aluminum case

### POWER REQUIREMENTS

Stand Alone..... 90-135 VAC @ < 2 W  
Battery Back-up Lithium 9V—8 hours  
Alkaline Battery Optional

### ENVIRONMENTAL

Temperature.... -37 to +74° C  
Humidity..... 95% non-condensing

### VERSIONS (Stand Alone)

FLD-400SA 1200 baud  
FLD-404SA 2400 baud  
FLD-496SA 9600 baud  
  
FLD-4xxSA -1 850nm MM  
-2 1300nm SM, -2M MM  
-3 1310nm SM

Specifications subject to change without notice

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