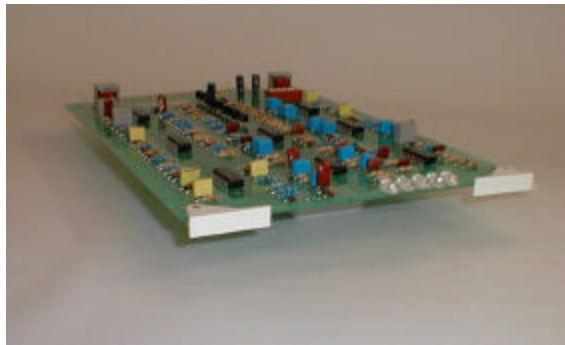




# Model 400

## Series Modems

Models 400, 400F, 400NY, 404  
419, 496 Cards and Standalone



### FEATURES

- \* 1200 to 19,200 bps
- \* Intergal Power Supply
- \* RS232 Interface
- \* 2 & 4 Wire Switchable
- \* Rugged Metal Enclosure
- \* Switch Selectable Timings
- \* Bell 202T Type (400 only)
- \* Model 170/179 Style Card
- \* Temperature Hardened
- \* Anti-Streaming Option

## Description

The GDI Series 400 Modems are the most versatile models for private wire and Telco 3002 interconnect. There are 11 versions of standalones and card for different applications. Begin with the industry standard Model 400 at 1200 bps, add anti-streaming for the Model 400F/400NY and 2400 bps for the Model 404. Then raise the speed to 9600 or 19,200 bps for Models 496 and 419 respectively. They are temperature tested rugged modems designed for the transportation industry. Directly connected to traffic controllers or variable message signs, they communicate at 1200 bps over leased telephone lines or higher speeds via private wire interconnect. Both point-to-point and multi-drop, the GDI Series 400 modems offer data rates of 1200 to 19,200 bps. The internal fused power supply on the standalone model eliminates the common "Brick" external transformer.



## Specifications — General

### Environmental Operating Ranges

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

### Modem

|                |   |
|----------------|---|
| Modulation     | Frequency Shift Keying  |
| Data Interface | RS-232C compatible via DB9F for standalone and Model 400 for card |
| Mechanical     | Standalone case 1.5"H X 5."W x 8.5"D<br>Card Model 400 standard   |

### Industrial Grade Modems

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#### Models, Frequencies & Data Rates

| Model | Mark Hz | Space Hz | Soft Carrier Hz | Data Rate |
|-------|---------|----------|-----------------|-----------|
| 400   | 1200    | 2200     | 900             | 0-1200    |
| 400F  | 1200    | 2200     | 900             | 0-1200    |
| 400NY | 1300    | 2100     | 900             | 0-1800    |
| 404   | 2400    | 4400     | 1800            | 0-2400    |
| 496   | 11200   | 17600    | 7800            | 0-9600    |
| 419   | 19200   | 38400    | 13800           | 0-19200   |

#### Power Requirements

##### Standalone:

|           |   |
|-----------|---|
| Voltage   | 90 to 130 VAC (Standard)<br>180 to 260 VAC (Optional) |
| Frequency | 47 Hz to 63 Hz  |
| Power     | 4 watts maximum                                       |

##### Card:

+12 volts and 12 volts  $\pm$  5% @ 75 mA

#### Indicators

|     |                               |
|-----|-------------------------------|
| XMT | Transmit Data                 |
| RCV | Receive Data                  |
| RTS | Request To Send               |
| CTS | Clear To Send                 |
| DCD | Carrier Detect                |
| MR  | Modem Ready (standalone only) |

#### Timing (Switch Selectable)

| Function         | Model 400   | All other Models  |
|------------------|-------------|-------------------|
| RTS—CTS          | 12mS + 2mS  | 6 or 12 mS + 2mS  |
| CAR Delay        | 8mS + 2mS   | 4 or 8 mS + 2mS   |
| Soft Carrier Off | 10mS + 2mS  | 5 or 10 mS + 2mS  |
| Rcvr Squelch     | 6.5mS + 2mS | 3 or 6 mS + 1mS   |
| Anti-Streaming   | None        | Switchable on/off |

#### Receiver Characteristics

|                           |                  |
|---------------------------|------------------|
| Dynamic Range             | +3dBm to -48dBm  |
| Carrier Detect Threshold  | -42 $\geq$ 3 dBm |
| Carrier Detect Hysteresis | 3dB              |
| Demodulator Distortion    | <10% peak        |

#### Transmit, Level & Duplex

-8 dBm to 0 dBm potentiometer adjustable  
2 wire half duplex, 4 wire full duplex switch selectable  
Transmit Frequency Tolerance +1%

#### Multidrop Capability

Recommend a maximum of 8 units per line. More can be used if the line is short, low noise or controller software configuration allows.

#### Line Interface

4 Wire Interconnect Positions

| Pin | Function        | Direction |
|-----|-----------------|-----------|
| 1   | Data Tip Rec.   | In        |
| 2   | Data Ring Rec.  | Return    |
| 3   | Data Tip Trans. | In/Out    |
| 4   | Data Tip Trans. | Return    |

All Model 400 modems above are enhanced replacements designed to take advantage of newer traffic controllers and other products capable of higher speeds. System communications with our Series 400 modems can be improved due to the selectable timing, anti-streaming and transmitter options.

#### Model Numbers for Ordering

| Card Model | Standalone Model |
|------------|------------------|
| 400, 400F  | 400SA            |
| 400NY      | 400NYSA          |
| 404        | 404SA            |
| 496        | 496SA            |
| 419        | 419SA            |

Specifications subject to change without notice

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