

## **SRD CHANNEL MODULES (Sub rate)**

The Sub Rate Data (SRD-2) Module provides four RS-232 data circuits, or channels, over which you can transmit and receive data and/or modem control signals at speeds of 0 to 9600 bps asynchronous. (You do not have to preselect the data rates.) The four circuits operate independently of each other, simultaneously carrying their data/control signals over two FOCUS DS0 channels, or time slots.

A second version of the SRD Module (SRD-4) provides two RS-232 and two RS 485 data circuits, over which you can transmit and receive data and/or modem control signals at speeds of 0 to 9600 bps asynchronous. These four circuits also operate independently of each other over two FOCUS DS0 channels. Each DS0 time slot supports one RS-232 and one RS-485 channel.

A third version of the SRD Module (SRD-4N) adds networking circuitry to permit Local Area Networks (LANs) using DNP protocol to be extended between substations. Two or more RS-485, four-wire LANs may be interconnected to respond as one LAN.

The SRD modules do not process the data passing through it. Data and modem control signals are transferred transparently across the FOCUS DS0 channels.

The module's interface is one DB25 female connector for the RS-232 channels and compression terminal blocks for the RS-485 channels. A harness with four, female DB9 connectors (two for the SRD-4) is supplied for connecting your RS-232C equipped devices.

### ***Application***

You can use any of the module's four channels for data terminal communications requirements or Supervisory Control and Data Acquisition (SCADA). The module is especially useful when extension of the SCADA communications lines to remote sites is inconvenient or expensive. The two most typical types of application are 1) connecting remote terminal units (RTUs) from remote locations to a master and 2) connecting other types of terminal equipment (microcomputers, event recorders, modems, relays, etc.) from one remote site to another. Additionally, the SRD-4N permits extension of RS-485 LANs between several locations. Thereby greatly simplifying the LAN controller requirements.

Typical devices you can connect to the module include:

- SCADA/RTU
- IED (Intelligent Electronic Device)
- Modem you want to connect to fiber optic cables across DS 1
- SEL<sup>®</sup> Mirrored Bit Communication's pilot channel
- "Smart switch" that can select the desired RS-232C device
- Remote (e.g., miles apart), printer, or server
- Any device or LAN with RS-485 four-wire data interface