

**CommOptic Models 2199-801 and 2199-802 Optically Isolated Din Rail Mounting
RS232 to RS422/485 Protocol Converters**

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The CommOptic model 2199 provides conversion from RS232 to RS422/485 with optically isolated transmit and receive circuits.
The mode of operation is configured by setting jumpers on internal links.



Specifications

Power Supply:

Input voltage 10 to 30VDC
Max Input current:
158mA at 10VDC input,
62mA at 24VDC input
Input power (approx 1.6Watts max)

Max Baud Rate:

19,200 bps (76,800 bps on high speed versions)

RS232 Connector: 9 pin female - DB9F

RS422/485 Connector: 5 way pluggable screw terminal

Direction Change for RS485 mode:

Transmit/Receive direction change is automatic in RS485 mode (Model 2199-801 only). No direction control signal is required.

Transmit Enable for RS422: (RS422 mode only)

For Model 2199-801 the RS422 transmitter is continuously enabled in RS422 mode.

For Model 2199-802 the RS422 transmitter is only enabled when the RTS input is active (i.e. pulled +ve). When the RTS input is off the RS422 transmitter is open circuit (i.e. tristate) The CTS output follows the state of the RTS input. The model 2199-802 is intended for use in multidrop applications.

Line Termination:

An internal receive line termination of 120ohms nominal is provided. This termination can be disconnected for RS422 mode but is always required for correct operation of the RS485 auto direction detection when using the model 2199-801. NB: When the model 2199-801 jumper links are set to RS485 mode a maximum of two model 2199-801's may be on the RS485 data bus. This is due to the loading effect of the 120 ohm termination required on each unit. For multidrop systems requiring more than two units use the model 2199-802. Refer to figures 3 and 4.

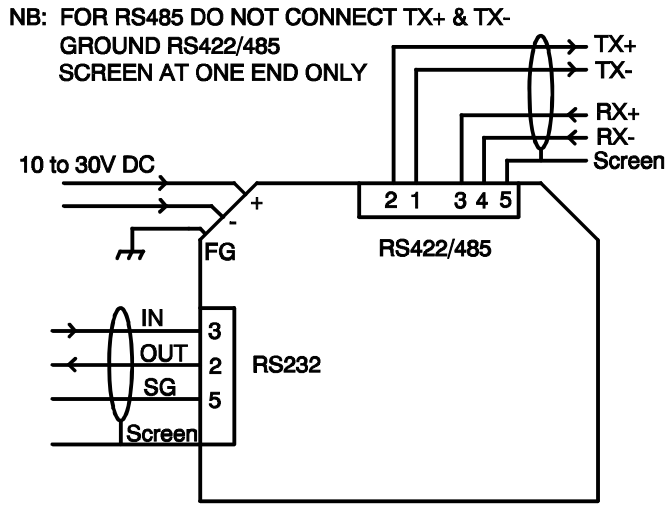
Indicators:

LED Indicators are provided for Transmit and Receive signals

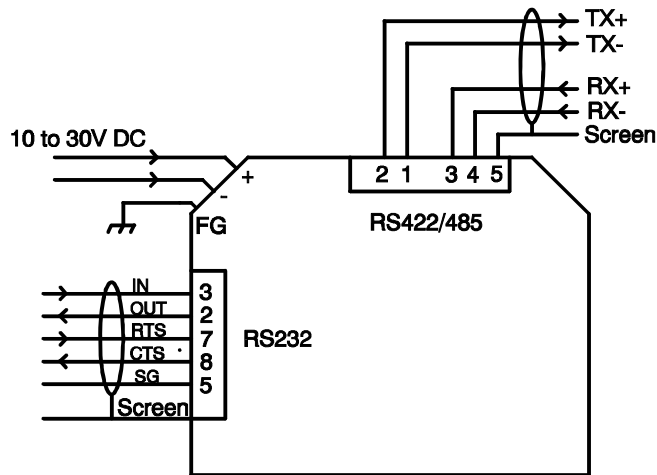
Dimensions:

90mm high X 80mm width X 25mm thick (ie rail width)

Wiring Diagrams



Model 2199-801



Model 2199-802

Link Jumper Connections

DEFAULT RS422 LINK SETTINGS



DEFAULT RS485 LINK SETTINGS



Note: The termination links must be fitted to 2199's at each end of the transmission cable. In RS485 mode the Termination links are required for correct operation.

Recommended cable Manufactures and cable types

- A./ Twin twisted pair for RS422 connection
 - MM Cables type B2002 CS
 - TYCAB AUSTRALIA type DPF4702

- B./ Single twisted pair for RS485 connection
 - MM Cables type B2001 CS
 - TYCAB AUSTRALIA type DPF2702

Connection Method

Connect the data cable as shown in the following sketches below.

To minimise noise pickup the data cable should be separated from Power cables by a distance of 300mm. If the data cable has to pass over Power cables this should be at right angles where possible. Avoid running the data cable for long distances in trunking carrying Power cables unless the above separation distance is made.

Limit the maximum data cable length to 1.2Km

Typical RS422 Connection using Model 2199-801

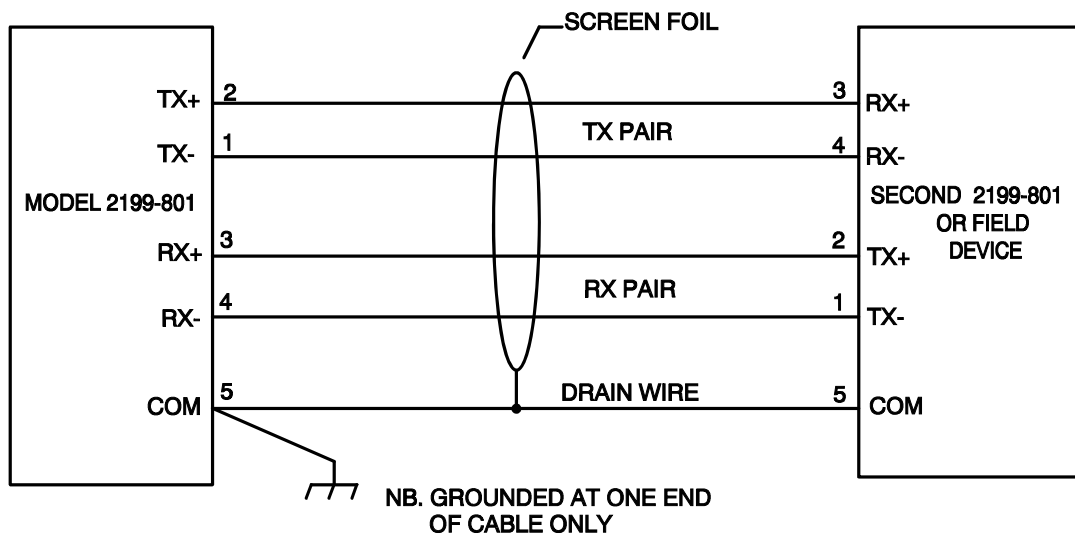


FIG 1. RS422 CONNECTION FOR MODEL 2199-801 (LINKS SET FOR RS422)

Typical RS485 Connection using Model 2199-801

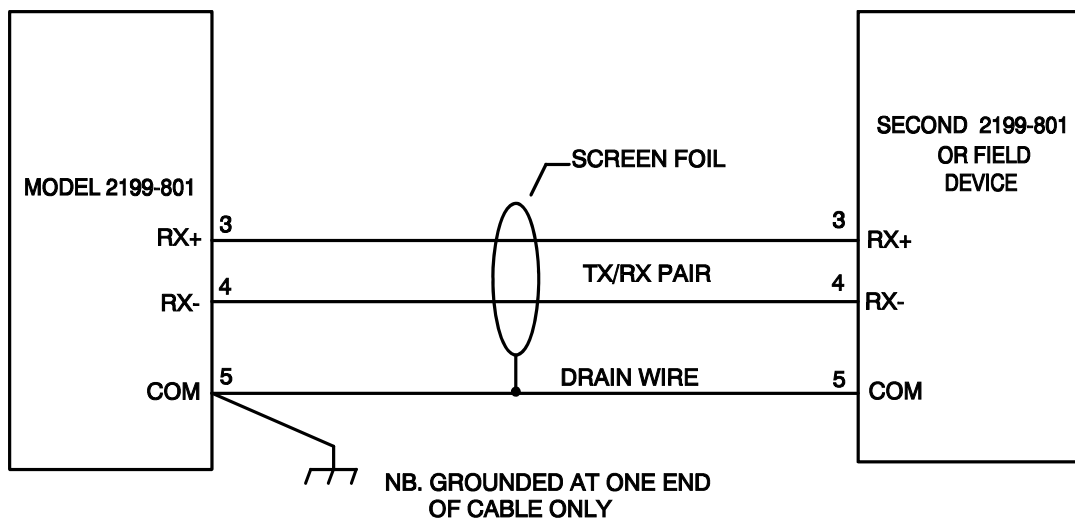


FIG 2. RS485 CONNECTION FOR MODEL 2199-801 (LINKS SET FOR RS485)

Typical Full Duplex Multidrop Connection using Model 2199-802

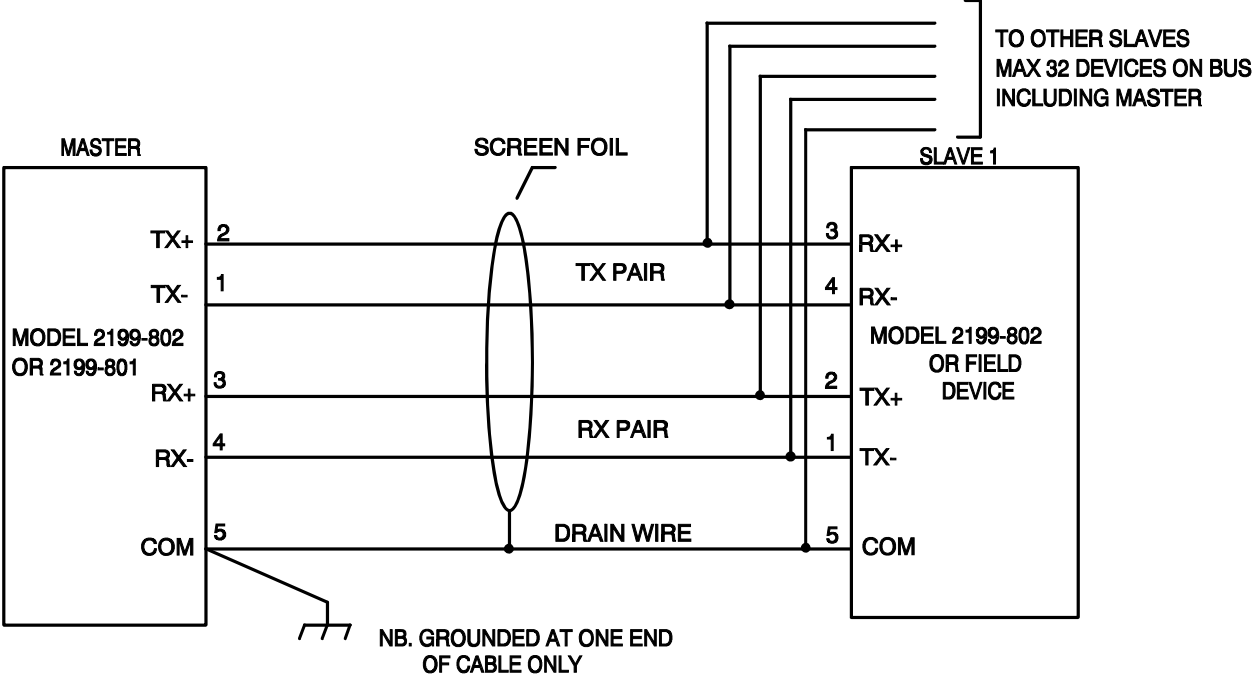


FIG 3. FULL DUPLEX 4 WIRE MULTIDROP CONNECTION USING MODEL 2199-802 (LINKS SET FOR RS422)
 SLAVES MUST USE RTS CONTROL TO ENABLE/DISABLE TRANSMITTERS

Typical Half Duplex Multidrop Connection using Model 2199-802

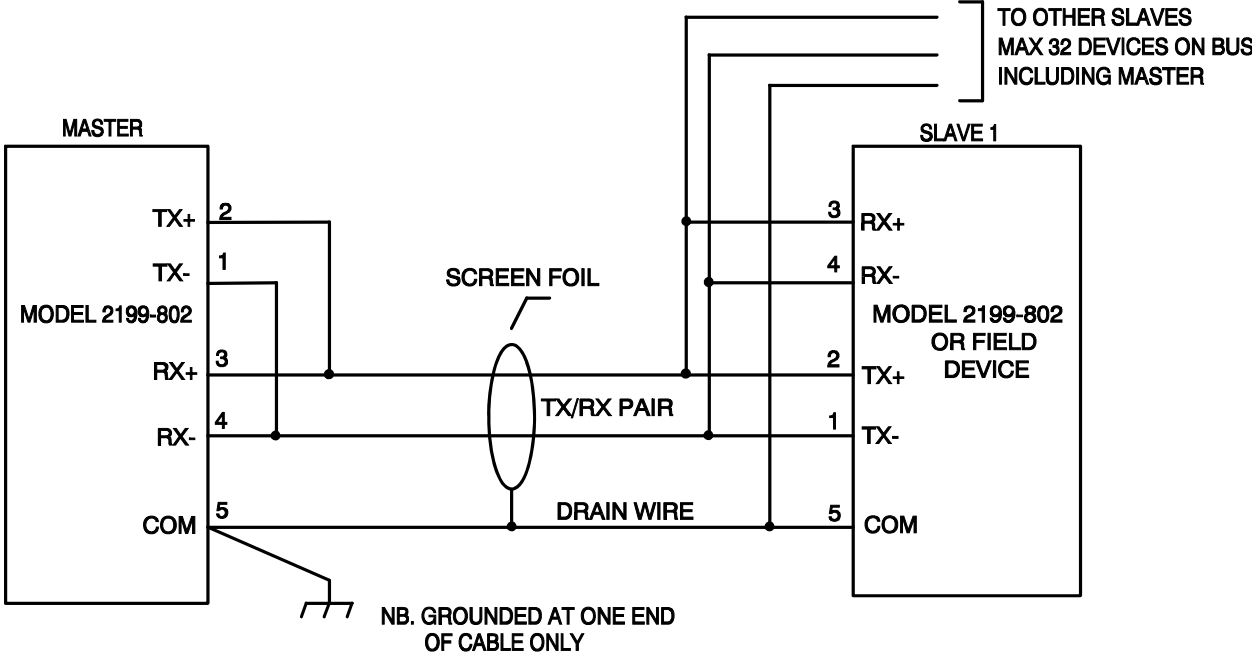


FIG 4. HALF DUPLEX 2 WIRE MULTIDROP CONNECTION USING MODEL 2199-802 (LINKS SET FOR RS422)
 MASTER AND SLAVES MUST USE RTS CONTROL TO ENABLE/DISABLE TRANSMITTERS