

LDM35

Signal Powered RS-232 Line Drivers



Description

The LDM35 series of products is designed to allow video display terminals (VDTs) and other RS-232 devices to be connected over distances sufficient to cover any industrial or institutional complex of buildings. These line drivers feature a rugged enclosure small enough to mount on the back panel of VDT units, saving valuable desk and floor space.

The LDM35 series does not require a power supply for operation. The use of low power circuits and a sensitive optical receiver allows the devices to derive all necessary power from the RS-232 data and control signal. They are designed for full-duplex, asynchronous operation over two, DC-continuity, non-loaded, twisted-wire pairs. Two-wire simplex operation may be accomplished over two wires. The line driver circuits — and, consequently, the host device — are protected from electrical transients due to lightning strikes or operation of heavy industrial equipment.

Each device features a convenient Data-Communication Equipment (DCE) to Data-Terminal Equipment (DTE) switch which reverses pins 2 and 3 of the RS-232 connector. For installation and troubleshooting, each unit has diagnostic Light-Emitting Diodes (LEDs) on the transmit and receive lines.

The RS-232 connector may be ordered as a male or female 25-pin connector. Field connection is made through a modern, solderless, screw-termination assembly.

Features

- Signal-powered: No Power Source Required
- Optical Isolation: Breaks Ground Loops
- Heavy Duty Surge Protectors: Prevents Lightning Damage
- LED Diagnostic Indicators: Simplifies Installation and System Troubleshooting
- Operation to 2 Miles (3.3km) at 9600bps, 0.5 Miles (0.8km) at 19,200bps, 7 Miles (11.7km) at 1200bps
- Four-Wire Full Duplex, Two-Wire Simplex
- Selection of Connectors
- Wide Operating Temperature Range, 0°C to +70°C
- Null Modem Switch
- CE Compliant

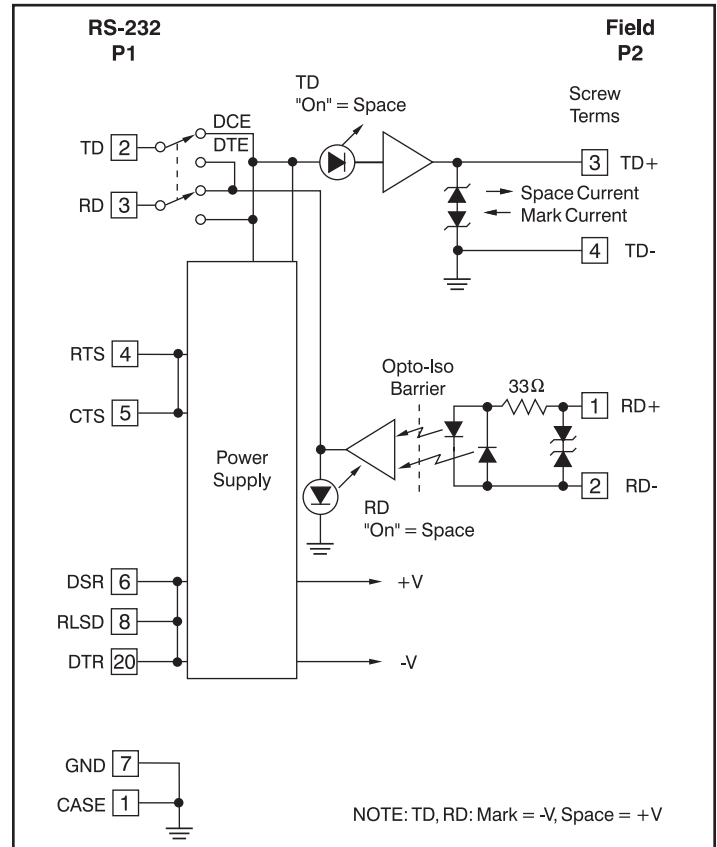


Figure 1: LDM35 Blot Diagram

Specifications Typical* at T_A = +25°C

Model	LDM35				
Bit Rate (bps)	0-19.2k				
bps vs Distance	19.2k	9.6k	4.8k	2.4k	1.2k-0
Distance(miles)	0.5	2.0	3.0	5.0	7.0
Distance(km)	0.8	3.2	4.8	8.1	11.3
Common Mode Isolation	Surge: 500Vp, 1min. Continuous: 300Vrms				
Differential Mode Surge Protection (3 devices)	ANSI/IEEE C37.90.1				
Modes	Asynchronous 4-wire full-duplex, 2-wire simplex				
Channel Lines ⁽¹⁾	TD, RD				
Control Lines ⁽¹⁾	RTS, CTS, DTR, DSR, RLSD				
Power	RS-232 data and control signals				
RS-232 Data	±5V to ±15V, 3.0mA to 10.0mA				
RS-232 Control Signals	±6V to ±15V, 3.0mA to 10.0mA				
Environmental:					
Operating Temperature Range	0°C to +70°C				
Storage Temperature Range	-10°C to +85°C				
Relative Humidity	0 to 95% Noncondensing				
Dimensions	3.6" x 2.1" x 1" (91.4mm x 53.3mm x 25.4mm)				
Weight	3.2 oz (91g) max				
MTTF ⁽²⁾	‡ 50,000 hrs				

NOTES:

*Contact factory or your local Dataforth sales office for maximum values.

(1) TD = Transmit Data, RD = Receive Data, RTS = Request To Send, CTS = Clear To Send, DTR = Data Terminal Ready, DSR = Data Set Ready, RLSD = Received Line Signal Detect.

(2) Ground-benign environmental conditions (no salt atmosphere, <50°C ambient temperature).

Ordering Information

Model	25-Pin Connector	Termination
LDM35-P	Male	Screw terminals
LDM35-S	Female	Screw terminals

RS-232 P1 Pin Descriptions		Field P2 Pin Description
Pin 1	CASE Ground	Screw Terms
Pin 2	TD [3] Transmit Data	Pin 1 RD+
Pin 3	RD [2] Receive Data	Pin 2 RD-
Pin 4	RTS [7] Req. To Send	Pin 3 TD+
Pin 5	CTS [8] Clear To Send	Pin 4 TD-
Pin 6	DSR [6] Data Set Ready	RD+ = Receive Data +
Pin 7	GND [5] Signal Ground	RD- = Receive Data -
Pin 8	RLSD [1] Receive Line Signal Detect	TD+ = Transmit Data +
Pin 20	DTR [4] Data Terminal Ready	TD- = Transmit Data -

Pin numbers given are for the 25-pin connector with the 9-pin equivalent in [].

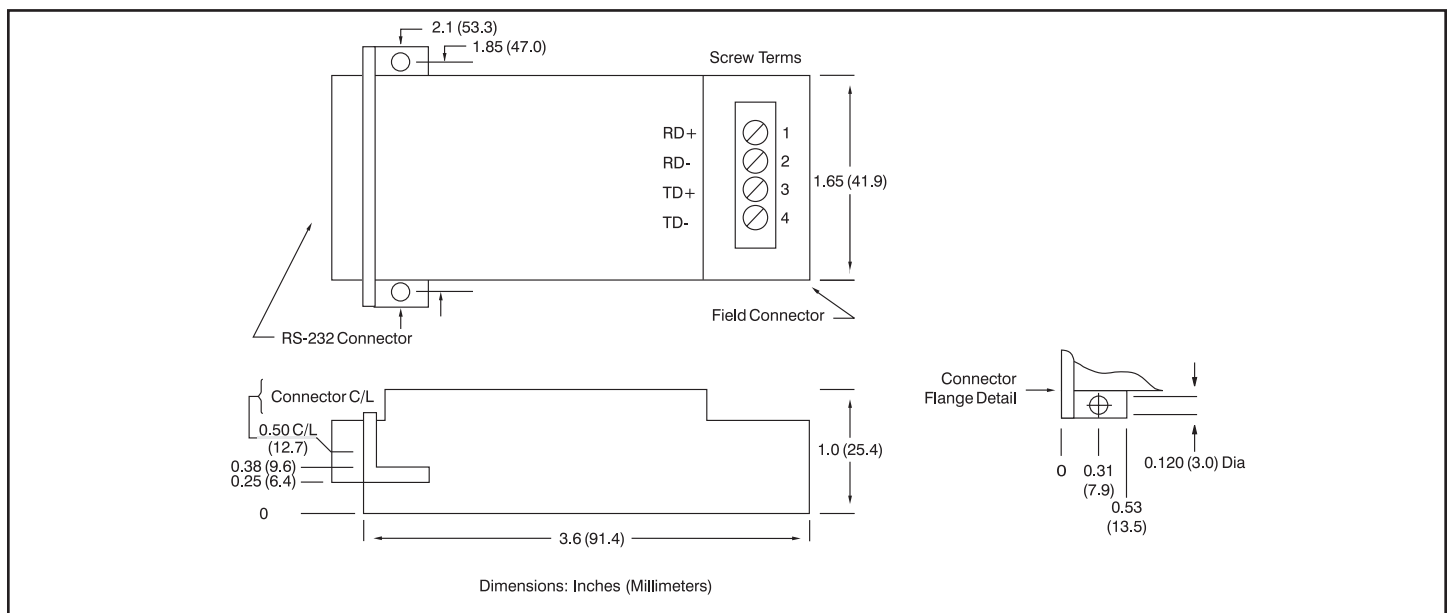


Figure 2: LDM35 Dimensions