DATAFORTH[®]

LDM70 Fully Isolated RS-232 Line Drivers

Description

The LDM70 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 aluminum enclosure small enough to mount on the back panel of VDT units, saving valuable desk and floor space.

The LDM70 series is designed for full duplex, asynchronous operation over two DC-continuity, non-loaded, twisted-wire pairs. Through special high-speed optically coupled circuits, they may communicate at data rates up to 57,600 bits per second. A handshake operation is implemented over the same two-wire pairs. A self-powered model and a host-powered model are available. The self-powered unit uses 12VAC from a wall-mounted transformer, while the host-powered unit takes ±DC power from pins 9 and 10 of the RS-232 connector. 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. In addition, LEDs indicate valid carrier detect and data terminal ready.

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

- DC to 57,600bps
- Complete Isolation with Optical Couplers and Power DC-to-DC Converter
- Data Terminal Ready, Carrier Detect Handshake
 without Extra Wires
- Surge Protectors
- Four LED Diagnostic Indicators
- Operation to 3 Miles (5km) at 9600bps, 1 Mile (1.7km) at 19,200bps, 0.5 Miles (0.8km) at 57,600bps
- Four-Wire Full Duplex, Two-Wire Simplex
- Self-Powered or Host-Powered
- Selection of Connectors
- Wide Operating Temperature Range, 0 to +70°C
- CE Compliant

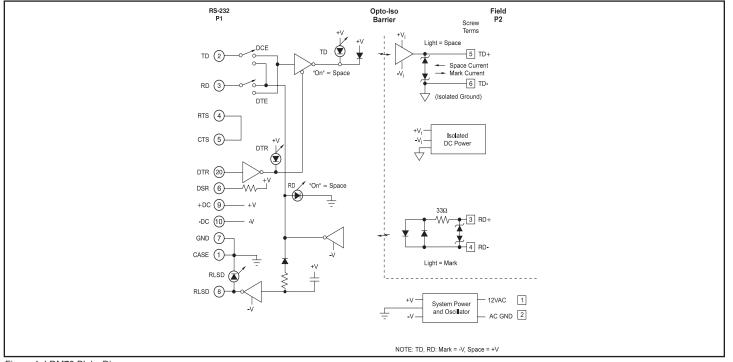


Figure 1: LDM70 Blok Diagram

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For information call 800-444-7644

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Specifications Typical* at T_A = +25°C

	A			
Model	LDM70			
Bit Rate (bps) bps vs Distance Distance(miles) Distance(km)	0-57.6k 57.6k 38.4k 19.2k 9.6k 4.8k 2.4k 1.2k-0 0.5 0.75 1.0 3.0 5.0 7.0 12.0 0.8 1.21 1.6 4.8 8.1 12.9 19.3			
Common Mode Isolation Differential Mode Surge Protection (3 devices)	Surge: 1500Vp, 1 min. Continuous: 1000Vrms ANSI/IEEE C37.90.1			
Modes	Asynchronous 4-wire duplex, 2-wire simplex			
Channel Lines ⁽¹⁾ Control Lines ⁽¹⁾	TD, RD DTR, RLSD			
Power AC operation ⁽²⁾ DC operation	12VAC at 120mA ±9VDC to ±15VDC, 45mA			
Environmental: Operating Temperature Range Storage Temperature Range Relative Humidity	0°C to +70°C -40°C to +85°C 0 to 95% Noncondensing			
Dimensions	5.7" x 2.1" x 1" (144.8mm x 53.3mm x 25.4mm)			
Weight PT3 and PT3E	5.5 oz (156g) max 11.0 oz (312g) max			
MTTF ⁽³⁾	≯ 00,000 hrs			
NOTEO				

NOTES

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

(1) TD = Transmit Data, RD = Receive Data, DTR = Data Terminal Ready, RLSD = Received Line Signal Detect.

(2) 120VAC and 220VAC power transformers are available.

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

Ordering Information

Model	Туре	Power		Termination
LDM70-P LDM70-S LDM70-PT LDM70-ST LDM70-PE LDM70-SE	Male Female Male Female Male Female	Host-powered Host-powered U.S. transform U.S. transform European trar European trar	l ner ner nsformer	Screw termination Screw termination Screw termination Screw termination Screw termination Screw termination
Model	Descrip	tion		
PT3 PT3E	U.S. style wall mount transformer, 120VAC			
RS-232 P1 Pir	Descriptions		Field P2	Pin Description
Pin 1 CASE Pin 2 TD Pin 3 RD Pin 4 RTS Pin 5 CTS Pin 6 DSR Pin 7 GND Pin 8 RLSD Pin 9 +DC Pin 10 -DC Pin 20 DTR	Positive DC	a d ady ady e Signal Detect Supply Input C Supply Input	RD- = TD+ =	2VAC .C GND D+ D- D-

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

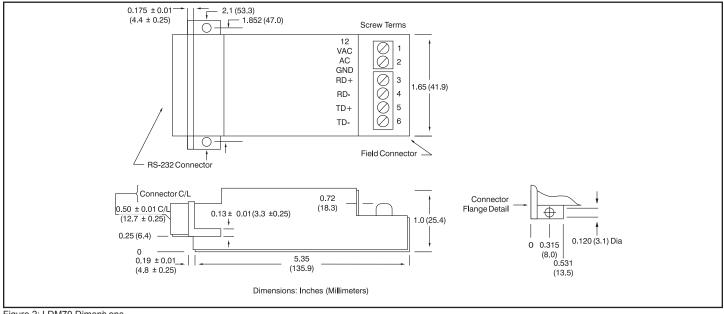


Figure 2: LDM70 Dimensions

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