

LDM30

General-purpose RS-232 Line Drivers

DESCRIPTION

The LDM30 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 LDM30 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 57,600bps. 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 \pm 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.

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

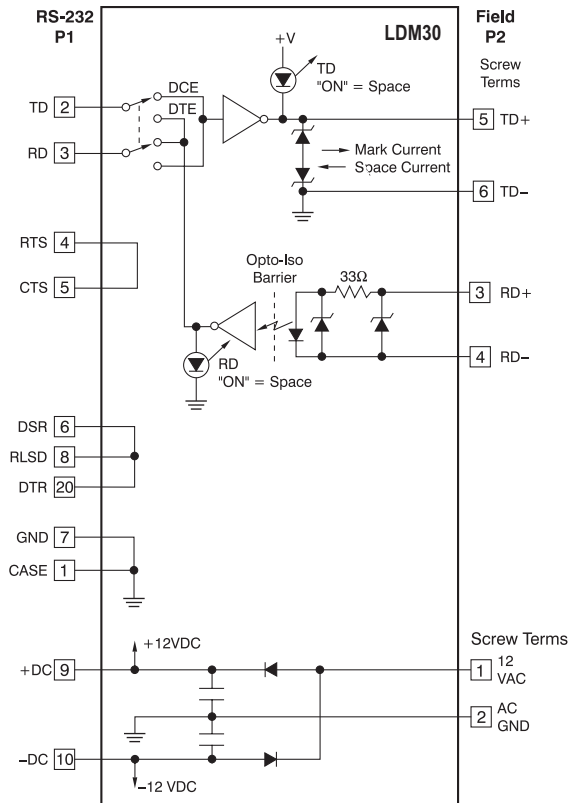
- DC to 57,600bps
- Optical Isolation
- Surge Protectors
- LED Diagnostic Indicators
- Operation to 3 Miles (5km) at 9600bps, 1 Mile (1.7km) at 19,200bps, 0.5 Miles (0.8km) at 57,600bps
- Four-wire Full-duplex, Two-wire Simplex
- Self-powered or Host-powered
- Selection of Connectors
- Wide Operating Temperature Range, 0 to +70°C
- CE Compliant
- Manufactured per RoHS III Directive 2015/863

BENEFITS

- Extends Communication Distances
- Protects Sensitive Communication Ports
- Wide Power Supply Range

APPLICATIONS

- Industrial Building Complex Communications
- Wired Networking
- Data Centers



LDM30 Block Diagram

RS-232 P1 Pin Descriptions			Field P2 Pin Description
Pin 1	CASE	Ground	Screw Terms
Pin 2	TD	[3] Transmit Data	Pin 1 12VAC
Pin 3	RD	[2] Receive Data	Pin 2 AC GND
Pin 4	RTS	[7] Req. To Send	Pin 3 RD+
Pin 5	CTS	[8] Clear To Send	Pin 4 RD-
Pin 6	DSR	[6] Data Set Ready	Pin 5 TD+
Pin 7	GND	[5] Signal Ground	Pin 6 TD-
Pin 8	RLSD	[1] Receive Line Signal Detect	RD+ = Receive Data +
Pin 9	+DC	Positive DC Supply Input	RD- = Receive Data -
Pin 10	-DC	Negative DC Supply Input	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 [].

Specifications Typical* at T_A = +25°C

Model	LDM30							
Bit Rate (bps)	0-57.6k							
bps vs Distance	57.6k	38.4k	19.2k	9.6k	4.8k	2.4k	1.2k-0	
Distance(miles)	0.5	0.75	1.0	3.0	5.0	7.0	12.0	
Distance(km)	0.8	1.21	1.6	4.8	8.1	11.3	19.3	
Common-Mode Isolation	Surge: 500Vp, 1 minute 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								
AC operation ⁽²⁾	12VAC at 92mA							
DC operation	±9VDC to ±15VDC, 35mA							
Environmental:								
Operating Temperature Range	0°C to +70°C							
Storage Temperature Range	-10°C to +85°C							
Relative Humidity	0 to 95% Noncondensing							
Dimensions (h)x(w)x(d)	3.6" x 2.1" x 1"							
	(91.4mm x 53.3mm x 25.4mm)							
Weight								
PT3	3.5 oz (100g) (max) 11.0 oz (312g) (max)							
MTTF ⁽³⁾	>150,000 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) 120VAC and 220VAC power transformers are available.

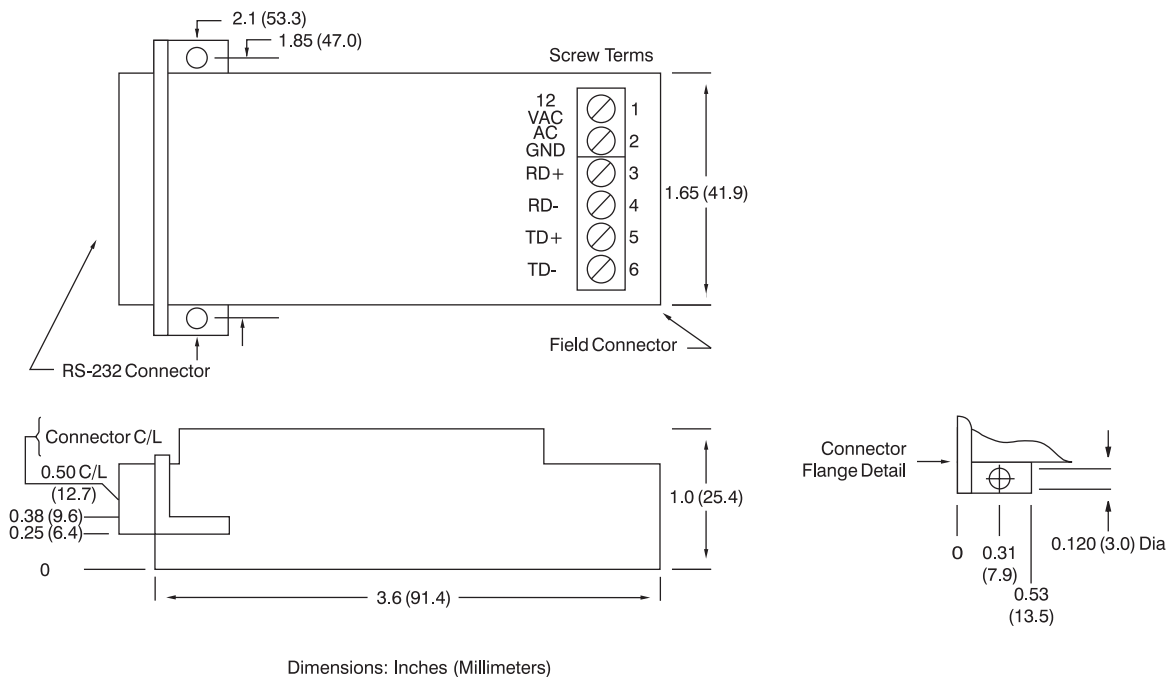
(3) Ground-benign environmental conditions (no salt atmosphere, <50°C ambient temperature).

Ordering Information

Model	Type	Power	Termination
LDM30-P*	Male	Host-Powered	Screw Termination
LDM30-S*	Female	Host-Powered	Screw Termination
LDM30-PT*	Male	U.S. Transformer	Screw Termination
LDM30-ST*	Female	U.S. Transformer	Screw Termination

*Last Time Buy

Model	Description
PT3	U.S. Style Wall Mount Transformer, 120VAC



Dimensions: Inches (Millimeters)

LDM30 Dimensions