DCP35

DIN-rail Signal-powered RS-232 Line Drivers

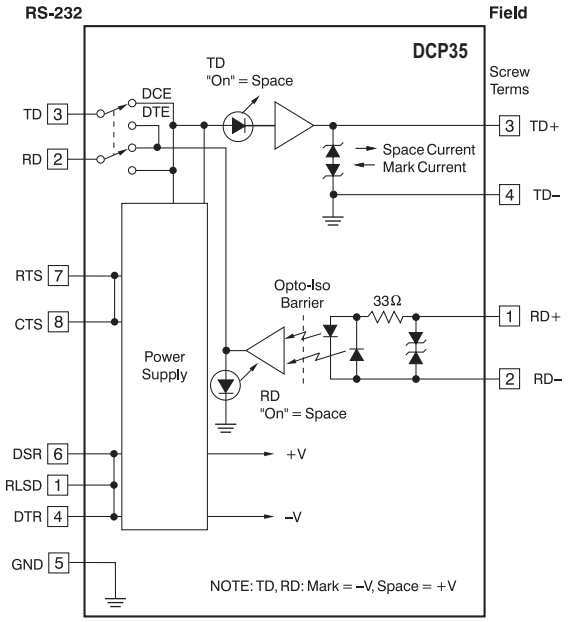
DESCRIPTION

The DCP35 series of products is designed to allow RS-232 devices to be inter-connected over distances sufficient to cover any industrial or institutional complex of buildings. These line drivers feature a DIN-rail mountable enclosure for application to a junction box, a panel, a relay rack, the sides of computer equipment, or anywhere a DIN-rail can be mounted.

The DCP35 series does not require a power supply for operation. The use of low-power circuits and a sensitive optically isolated receiver allows the devices to derive all necessary power from the RS-232 data and control signals. They are designed for full-duplex, asynchronous operation over two, DC-continuous, non-loaded, twisted-wire pairs. Two-wire simplex operation may be accomplished over one twisted-wire pair. 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 DCE (Data Communication Equipment) to DTE (Data Terminal Equipment) switch which reverses pins 2 and 3 of the RS-232 connector. For installation and system 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 9-pin connector. Field connection is made through pluggable solderless screw terminals.



DCP35 Block Diagram

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
- 19.2kbps to 0.5 Mile (0.8km), 9.6kbps to 2.0 Miles (3.2km), 1.2kbps to 7.0 Miles (11.3km)
- Four-wire Full-duplex, Two-wire Simplex
- Pluggable Solderless Screw Terminal Field Connections
- Null Modem Switch
- CE Compliant
- Manufactured per RoHS III Directive 2015/863

BENEFITS

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

APPLICATIONS

- Industrial Data Communication
- Factory Automation and Control
- Building Automation

RS-232 Pin Descriptions				Field Pin Descriptions		
Pin 1	RLSD	[8]	Receive Line Signal Detect	Screw Terms		
Pin 2	RD	[3]	Receive Data	Pin 1	RD+	Receive Data +
Pin 3	TD	[2]	Transmit Data	Pin 2	RD–	Receive Data –
Pin 4	DTR	[20]	Data Terminal Ready	Pin 3	TD+	Transmit Data +
Pin 5	SG	[7]	Signal Ground	Pin 4	TD–	Transmit Data –
Pin 6	DSR	[6]	Data Set Ready			
Pin 7	RTS	[4]	Request To Send			
Pin 8	CTS	[5]	Clear To Send			

Pin Numbers Given are for the 9-pin Connector with the 25-pin Equivalent in [ ].

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Specifications

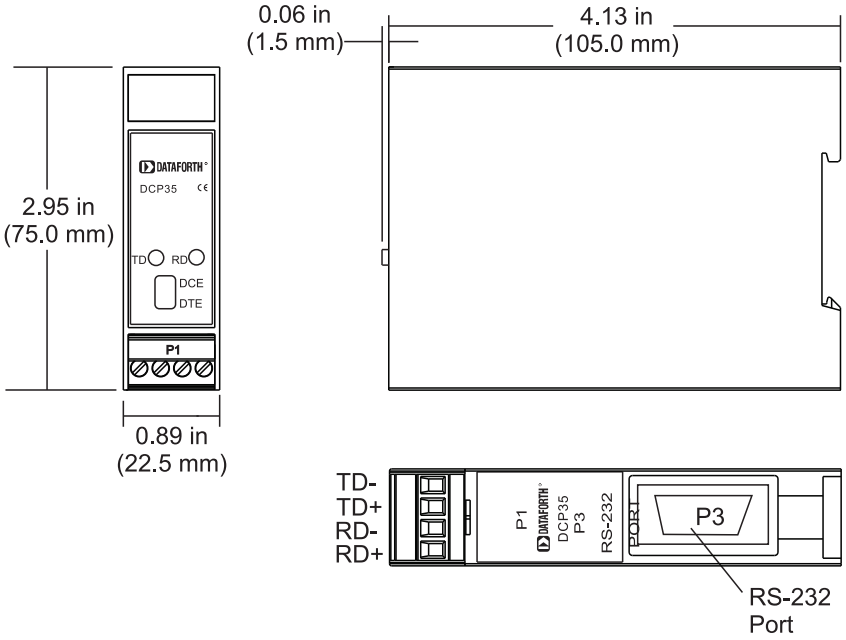
Typical* at T_A = +25°C

Model	DCP35
Bit Rate (bps) bps vs Distance Distance (miles) Distance (km)	0-19.2kbps 19.2k 9.6k 4.8k 2.4k 1.2k-0 0.5 2.0 3.0 5.0 7.0 0.8 3.2 4.8 8.1 11.3
Common-mode Isolation Differential-mode Surge Protection (3 devices)	Surge: 500Vp, 1 min. Continuous: 300Vrms ANSI/IEEE C37.90.1
Modes	Asynchronous 4-wire Full-duplex, 2-wire Simplex
Channel Lines(1) Control Lines(1)	TD, RD RTS, CTS, DTR, DSR, RLSD(DCD)
Null Modem Switch	1 (Reverses RS-232 Pins 2 and 3)
Power RS-232 Data RS-232 Control Signals	RS-232 Data and Control Signals ±5V to ±15V, 3.0mA to 10.0mA ±6V to ±15V, 3.0mA to 10.0mA
Environmental: Operating Temperature Range Storage Temperature Range Relative Humidity	 0°C to +70°C –10°C to +85°C 0 to 95% Noncondensing
Dimensions (h)x(w)x(d)	4.2" x 3.3" x 0.89" (107mm x 84mm x 22.5mm)
Weight	4.2 oz (119g)
MTTF(2)	>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 (DCD = Data Carrier Detect).
(2) Ground-benign environmental conditions (no salt atmosphere, <50°C ambient temperature).

Ordering Information

Model	9-pin Connector	Termination
DCP35-P	1-ch Male	Screw Terminals
DCP35-S	1-ch Female	Screw Terminals



DCP35 Dimensions

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