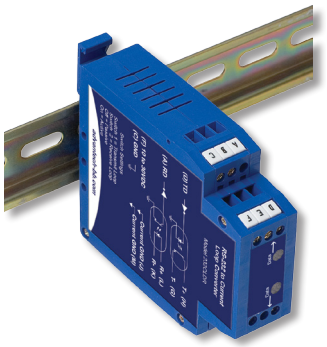
UL Rated, Isolated Current Loop Converter

Model BB-232CLDR

B+B SmartWorx
Powered by ADVANTECH
www.advantech-bb.com



PRODUCT FEATURES

- Converts RS-232 to 20mA current loop
- 2000V optical isolation protection from transients
- Data rate: up to 19.2 kbps
- Wide operating temperature: -40 to +80 °C
- DIN rail mount, IP20 enclosure (panel mount option)
- UL rated
- One Transmit, one Receive current loop (set as active or passive)
- Power supply required, not included, sold separately

Model BB-232CLDR is a DIN rail mountable RS-232 to current loop converter. It is wide temperature rated and UL Recognized for industrial applications. It has one optically isolated 20 mA transmit loop and one optically isolated receive loop. Each loop can be set to either “Active” or “Passive.” When set to “Active” an isolated 20 mA current is supplied for each loop (Transmit and Receive). A 10 to 30 VDC power supply (required, not included, sold separately) provides power to the converter and both current loops.

Model BB-232CLDR communicates at baud rates up to 19.2 kbps and can extend communications up to 600 meters (2,000 ft.). 2,000V optical isolation protects equipment from damaging ground loops and surges. Two LED’s indicate data flow. Connections are made on terminal blocks.

ORDERING INFORMATION

MODEL NUMBER	SERIAL CONNECTOR	CURRENT LOOP CONNECTOR	POWER SOURCE FOR SERIAL SIDE
BB-232CLDR	Terminal Block	Terminal Block	External Power Supply (required, sold separately)

ACCESSORIES - sold separately

BB-MDR-20-24 - DIN rail mount power supply 24VDC, 1.0 A output power

BB-DRPM25 - 35mm DIN rail to panel mount bracket, 25mm wide

Current Loop Explained

Current loop devices use Current On or Current Off to transmit binary digits. Current loop signals can often transmit over circuits that serial signals can’t traverse reliably, due to distance, marginal conductors and electrical noise.

Current loop converters from B+B SmartWorx interface RS-232 to the most common current loop ports – 20mA with open circuit voltages up to 30 V – at a maximum baud rate of 19.2 kbps. High speed optical isolators couple and isolate Transmit and Receive data. All B+B SmartWorx’ current loop converters have a Transmit (T+ and T-) loop and a Receive (R+ and R-) loop. Each loop may be operated as an active or passive loop. When the converter needs to provide the loop current, a 12 VDC power supply is required for the current loop side.

Contact B+B SmartWorx for information on modifications for higher loop currents and voltages.

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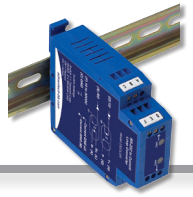

SPECIFICATIONS

RS-232 SERIAL	
Connector	Terminal Block
Signals	TD, RD, GND
CURRENT LOOP	
Signals	T+, T-, R+, R-, GND
Output Impendance	235 Ohms
Input Impendance	95 Ohms (Vdrop ± 1.86V with 20 mA applied)
Receiver	Low: <= 4.8 mA 4.8mA < invalid < 5.2 mA High: > 5.2 mA
Transmit	Vin = +10V ---> I out = 20.75 mA Vin = -10V ---> I out = 0.4 mA
Maximum Voltage Drop	2.2 Volts
ISOLATION	
Method	Optical
Rating	2000 V
POWER	
Connector	Terminal block
Voltage	10 to 30 VDC
Power Consumption	2.5 W
Source	External

TERMINAL BLOCKS	
Wire Size	24 to 14 AWG
Torque	4kgf-cm
LED INDICATORS	
2 Data LEDs (Red)	RS-232 & current loop flash when data is transmitted
ENCLOSURE	
Material	Plastic
IP Rating	IP20
Dimensions	2.5 x 7.9 x 9.5 cm (1.0 x 3.1 x 3.7 in)
Mounting	35 mm DIN (panel mount adapter available, sold separately)
MEANTIME BEFORE FAILURE (MTBF)	
MTBF	401834
MTBF Calculation Method	MIL 217F Parts Count Reliability Prediction
ENVIRONMENTAL	
Operating Temperature	-40 to +80 °C (-40 to +176 °F)
Storage Temperature	-40 to +85 °C (-40 to +185 °F)
Operating Humidity	0 to 95% Non-condensing
APPROVALS, DIRECTIVES, STANDARDS	
FCC, CE, UL508	
cULus Recognized, File E222870	

MECHANICAL

units = inches