# Heavy Industrial RS-232 to RS-422/485 Isolated Converter

Model BB-485DRCI-PH





### PRODUCT FEATURES

- Converts RS-232 data signals to RS-422/RS-485
- 2kV 3-way Isolation (input/output/power)
- Data rate: 1.2 to 115.2 kbps
- Wide Operating Temperature: -40 to +85 °C
- Rugged IP30 Metal Panel Mount Case
- UL C1/D2, NEMA TS2 (IEEE-61850-3, IEEE-1613)
- 10-48 VDC Power (external power supply required, sold separately)

Model BB-485DRCI-PH is a premium heavy industrial RS-232 to RS-422/485 isolated converter. Designed for rugged industrial environments, it has been put through some of the most exacting compliance tests in the industry. Meeting the requirements of IEC 61850-3 and IEEE 1613, it is suitable for installation in electrical substations. These specifications are more stringent than the NEMA TS1/TS2 requirements for transportation applications. Powerful isolation on both data ports protects your equipment and data from damaging ground loops and surges. Additional isolation on the power supply circuits adds a third degree of protection. An external power supply is required (not included, sold separately).

Packaged in a rugged IP30 metal case, it converts unbalanced, full or halfduplex RS-232 signals to balanced RS-422/485 signals. Featuring Automatic Send Data Control circuitry, it does not require special software control of handshake signals in RS-485 mode. Bit-wise enabled circuitry automatically detects the data rate without setting a DIP switch.

#### **ORDERING INFORMATION**

MODEL NUMBER	DESCRIPTION	
BB-485DRCI-PH	Heavy Industrial RS-232 to RS-422/485 Isolated Converter	
	·	
ACCESSORIES – sold separately		
BB-MDR-40-24 – Power Supply, 24VDC, 1.7 A output power, DIN Rail Mount		
BB-TBKT1 – Replacement Terminal Block - 2-position, 5.08mm, 8A, 30		
BB-TBKT2 – Replacement Terminal Block - 5-position, 5.08mm, 8A, 30		

All product specifications are subject to change without notice. BB-485DRCI-PH\_1019ds



# Heavy Industrial RS-232 to RS-422/485 Isolated Converter

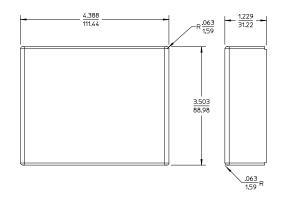
Model BB-485DRCI-PH

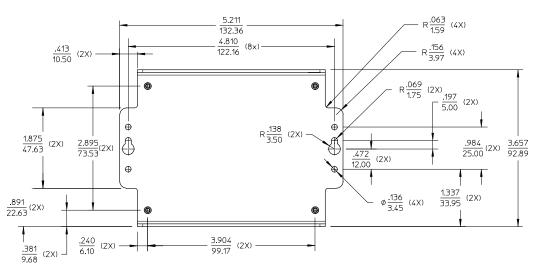


## SPECIFICATIONS

SERIAL TECHNOLOGY			
RS-232	TD, RD, GND		
RS-422	TDA(-), TDB(+), RDA(-), RDB(+)		
RS-485 4-Wire	TDA(-), TDB(+), RDA(-), RDB(+)		
RS-485 2-Wire	Data A(-), Data B(+)		
RS-232 Connector	DB9 Female (DCE)		
RS-422/485 Connector	5-position, removable terminal block		
Data Rate	1.2 to 115.2 Kbps		
Isolation	2 kV RMS, 1 minute		
Surge Protection	600W peak power dissipation.		
	Clamping time <1 picosecond		
Industrial Bus	Modbus ASCII / RTU		
Bias	Built-in, switchable 1.2KΩ XMT/RCV		
Termination	Built-in, switchable 120Ω		
POWER			
Source	External power source required (not included, sold separately)		
Power Connector	2-position removable terminal block		
Input Voltage	10 to 48 VDC (56 VDC, maximum)		
Power Consumption	0.5 W typical (1.9 W with termination)		
TERMINAL BLOCKS	TERMINAL BLOCKS		
Wire Size Accepted	28 to 12 AWG, copper wire only.		
Pitch	5.08 mm		
Insulation Resistance	≥500 MΩ @ 500 VDC		
Maximum Torque	5 Kg / cm		

INDICATORS		
Power	Red LED	
TD / RD (Each Port)	Green LED	
MECHANICAL		
Dimensions	132.4 x 92.9 x 33.0 mm (5.2 x 3.7 x 1.3 in)	
Enclosure	IP30 Metal, Panel Mount	
Weight	208.65 gm (0.46 lb)	
MEANTIME BETWEEN FAILURES (MTBF)		
MTBF	163611 Hours	
MTBF Calc. Method	Parts Count Reliability Prediction	
ENVIRONMENTAL		
Operating Temperature	-40 to +85 °C (-40 to +176 °F)	
Storage Temperature	-40 to +85 °C (-40 to +176 °F)	
Operating Humidity	0 to 95%, non-condensing	
REGULATORY		
Approvals	FCC, CE, NEMA TS2 UL C1/D2 (IEC 61850-3, IEEE 1613)	
CE - Directives	2004/108/EC – Electromagnetic Compatibility Directive 2011/65/EU – Reduction of Hazardous Substances Directive (RoHS2)	
CE - Approvals	ÈN 55011 + AC – Information Technology Equipment – Class A RF Emissions EN 61000-6-2 – Generic Immunity Standard for (Heavy) Industrial Environments	







orders@advantech-bb.com Headquarters: 707 Dayton Rd, PO Box 1040 Ottawa, IL 61350 USA (815)433-5100 or (800)346-3119/Toll Free Fax (815)433-5104 eSales@advantech-bb.com European Office: Westlink Commercial Pk, Oranmore Co. Galway Ireland +353 91 792444 Fax +353 91 792445