

# ULI-223D BB-422PP9R

# ULI-223T BB-422PP9TB

## RS-422 Port-powered Converters



### Features

- Convert RS-232 TD and RD to balanced RS-422 signals
- Extend RS-232 data signals up to 1.2 km
- Baud rates up to 115.2 kbps
- RS-232/RS-422 bi-directional transmission
- Quick, easy in-line installation – suitable for field service
- Powered from RS-232 handshake lines - no power supply required



### Introduction

These port-powered converters change RS-232 TD and RD to balanced RS-422 signals extending communication distances up to 1.2 km. Port-powered from the RS-232 DTR and RTS handshake lines, no power supply is needed. At least one handshake line must be present, in either a positive or negative voltage state. No worry about software control of the handshake lines. If port power is not sufficient, model ULI-223T can be powered from an external PSU. Converters are configured to transmit both directions in an RS-232 and RS-422 system. RS-232 pinout connects directly to a computer's COM port or any other DTE device.

### Specifications

#### Serial Technology

- **RS-422 Operation** RS-422 4-wire
- **Termination** None

Model:	RS-232 Connector:	RS-422 Connector:	Data Rate, max:	Biasing Resistors:
ULI-223D	DB9 female	DB9 female	115.2 kbps	4.7k Ohms
ULI-223T		Terminal block		

#### Power

- **Port Power** RS-232 handshake lines

Model:	Source:	Connector:	Input Voltage:
ULI-223D	Port-power	–	–
ULI-223T	Port-power <i>OR</i> external PSU	Terminal block	External PSU option: 12 Vdc

#### Mechanical

Model:	Enclosure:	Installation:	Dimensions, mm:	Weight, gm:
ULI-223D	Plastic	In-line	61 x 33.3 x 17.4	45.3
ULI-223T			87.3 x 31.8 x 15.9	

#### Meantime Between Failures (MTBF)

- **Calculation Method** MIL217F Parts Count Reliability Prediction

Model:	MTBF, hours:
ULI-223D	2094328
ULI-223T	849670

#### Environmental

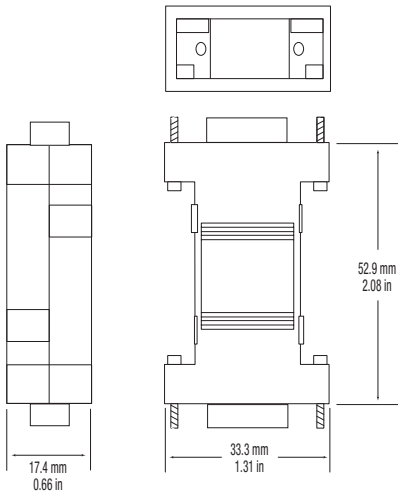
- **Operating Temperature** 0 to +70 °C
- **Storage Temperature** -40 to +85 °C
- **Operating Humidity** 95%, non-condensing

#### Regulatory/Approvals/Certifications

Model:	Approvals:	CE - Directives:	CE - Standards:
ULI-223D	FCC, CE	2014/30/EU – Electromagnetic Compatibility Directive	EN 55032 Class A – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements
ULI-223T		2011/65/EU amended by 2015/863/EU – Reduction of Hazardous Substances Directive (RoHS)	EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement
		2012/19/EU – Waste Electrical and Electronic Equipment (WEEE)	EN 61000-6-4 + A1 – Generic Emission Standard for Industrial Environments (Class A) EN 61000-6-2 – Generic Immunity Standard for Industrial Environments

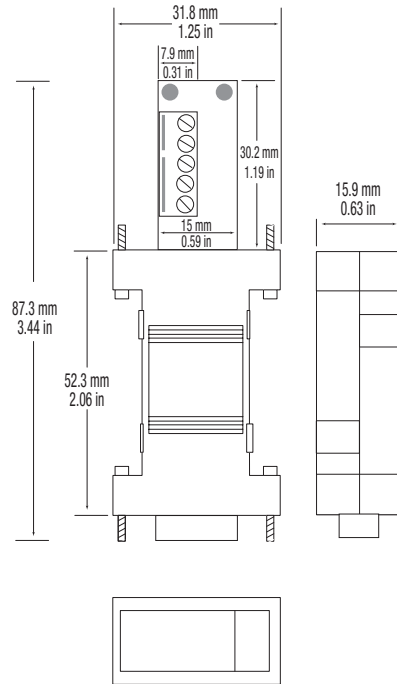
## Dimensions - ULI-223D

Unit = mm / in



## Dimensions - ULI-223T

Unit = mm / in



## Ordering Information

Model	Part Number to Order	Description
ULI-223D	BB-422PP9R	RS-422 Converter - RS-232 DB9F to RS-422 DB9F, Port-powered.
ULI-223T	BB-485PP9TB	RS-422 Converter - RS-232 DB9F to RS-422 TB, Port-powered. (Optional external PSD, sold separately.)