# ULI-227D5
# ULI-227D3

**BB-232LPTTL**
**BB-232LPTTL33**

## Port-powered RS-232 to TTL Converters




## Features

- Convert RS-232 to TTL (Transistor Transistor Logic)
- Baud rates: up to 115.2 kbps
- In-line installation
- RS-232 to 5V TTL or 3.3V TTL (model#s ULI-227D5 or ULI-227D3)
- Port-powered

## Introduction

Advantech ULI-227D5 and ULI-227D3 TTL/CMOS adapters convert two channels (TX and RX) in each direction (bi-directional) from RS-232 to TTL/CMOS signals and vice versa. Powered from RS-232 data and handshake lines. Use with micro-controllers, programmable logic controllers (PLCs) and other devices that support TTL.

## Specifications

### Serial Technology

| Model: | RS-232 Connector: | TTL Connector: | Current Loop Connector: | Data Rate, max: |
|---|---|---|---|---|
| ULI-227D5 | DB9 female | DB9 male | – | 115.2 kbps |
| ULI-227D3 | | | | |

### TTL Technology

| Model: | TTL Signals: | TTL Logic: | TTL Vdc Level: | Data Rate, max: |
|---|---|---|---|---|
| ULI-227D5 | (2) Input (2) Output Ground | CMOS* | 5 V | 115.2 kbps |
| ULI-227D3 | | | 3.3 V | |

*IMPORTANT: ***Only TTL/CMOS logic*** (0 to +5 Vdc for model# ULI-227D5 and 0 to +3.3 Vdc for model# ULI-227D3) can be used for the TTL/CMOS converter side. Maximum **sinking** current for one TTL/CMOS output is 3.2 mA. Maximum **source** current for one TTL/CMOS is 1 mA. Signal levels are inverted by converter.

### Power

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

| Model: | Source: | Connector: | Input Voltage: | Power Consumption: |
|---|---|---|---|---|
| ULI-227D5 | Port-power | – | – | <40 mA, max. |
| ULI-227D3 | | | | |

### Mechanical

| Model: | Enclosure: | Installation: | Dimensions, mm: | Weight, gm: |
|---|---|---|---|---|
| ULI-227D5 | Plastic | Inline | 52.9 x 33.3 x 17.4 | 36 |
| ULI-227D3 | | | | |

### Meantime Between Failures (MTBF)

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

| Model: | MTBF, hours: |
|---|---|
| ULI-227D5 | 5833353 |
| ULI-227D3 | 1674682 |

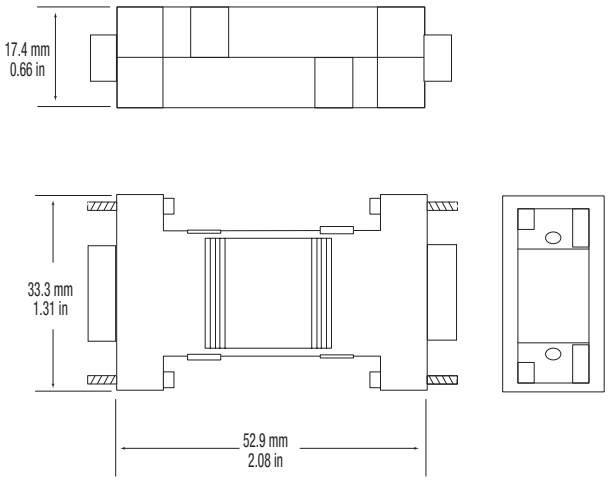
### Environmental

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


All product specifications are subject to change without notice.
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## Dimensions - ULI-227D5, ULI-227D3

Unit = mm / in

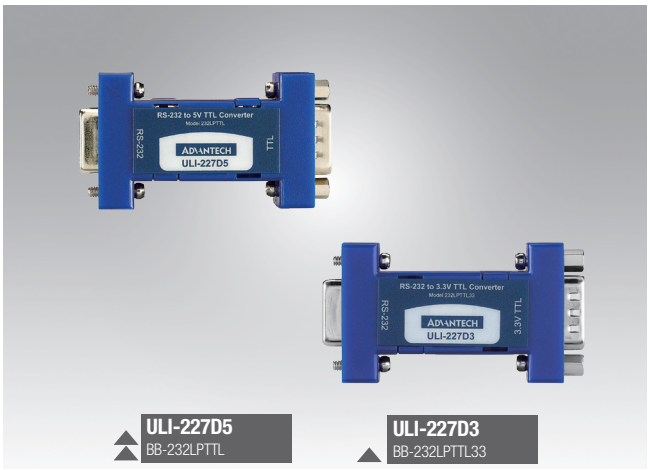



## Ordering Information

| Model | Part Number to Order | Description |
|---|---|---|
| **ULI-227D5** | BB-232LPTTL | RS-232 DB9F to 5V TTL DB9M Converter, 115.2kbps, Port-powered. |
| **ULI-227D3** | BB-232LPTTL33 | RS-232 DB9F to 3.3V TTL DB9M Converter, 115.2kbps, Port-powered. |

# ULI-227 Series Selection Guide

## Port-powered RS-232 to TTL Converters




**ULI-227D5**
BB-232LPTTL

**ULI-227D3**
BB-232LPTTL33

## Common Features

- Convert RS-232 to TTL (Transistor Transistor Logic)
- Baud rates: up to 115.2 kbps
- In-line installation
- RS-232 to 5V TTL or 3.3V TTL (model#s ULI-227D5 or ULI-227D3)
- Port-powered

## Port-powered TTL Converters Comparison Table

| Model Number | ULI-227D5 | ULI-227D3 |
|---|---|---|
| Part Number to Order | BB-232LPTTL | BB-232LPTTL33 |
| **Description** | **Port-powered, RS-232 to TTL Converters** | |
| **Key Features** | RS-232 to 5 Vdc TTL | RS-232 to 3.3 Vdc TTL |
| **Industrial Rating** | Light | |
| **RS-232 Connector** | DB9 female | |
| **Conversion Signal Type** | 5 Vdc TTL (CMOS logic) | 3.3 Vdc TTL (CMOS logic) |
| **Connector Type** | DB9 male | |
| **Data Rate, max.** | 115.2 kbps | |
| **Operating Temperature** | 0 to +70 °C | |
| **Power Source** | Port-power (RS-232 handshake lines) | |
| **Power Consumption, max.** | <40 mA | |
| **Enclosure** | Plastic | |
| **Mounting Installation** | In-line | |
| **Dimensions, mm** | 52.9 x 33.3 x 17.4 | |
| **MTBF (MIL217F), hours** | 5833353 | 1674682 |
| **Regulatory/Approvals/Certifications** | FCC, CE, RoHS, WEEE | |
| | EN 55011:2016+A2:2021 Class A Group 1<br>BS EN 55011:2016+A2:2021 Class A Group 1<br>CISPR 11:2015+AMD1:2016+AMD2:2019 Ed. 6.2 Class A Group 1<br>EN 55032:2015+A1:2020 Class A / BS EN 55032:2015+A1:2020 Class A<br>CISPR 32:2015+AMD1:2019 Class A<br>EN IEC 61000-6-4:2019 / BS EN IEC 61000-6-4:2019<br>EN 55035:2017+A11:2020 / BS EN 55035:2017+A11:2020<br>EN IEC 61000-6-2:2019 / BS EN IEC 61000-6-2:2019<br>EN 61000-4-2:2009 / EN IEC 61000-4-3:2020 / EN 61000-4-8:2010 | |


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