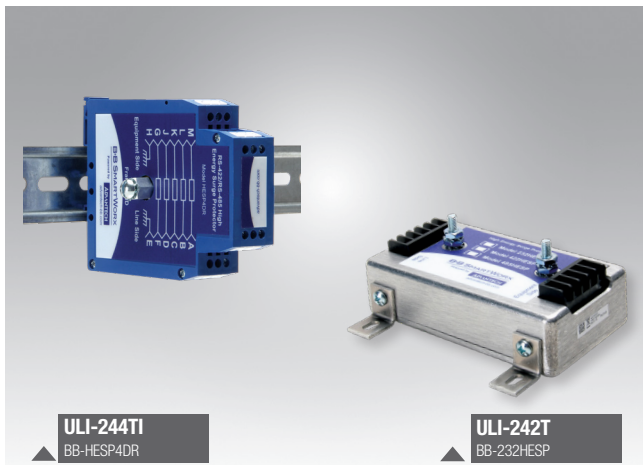


**ULI-242T**  
**ULI-244TI**  
**ULI-244T**  
**ULI-246T**

**BB-232HESP**  
**BB-HESP4DR**  
**BB-422HESP**  
**BB-485HESP**

## 3-Stage RS-232/422/485 Serial Surge Suppressors



### Features

- Three stages of protection on every data line:
  - 1) Gas discharge tube
  - 2) Series resistor
  - 3) Transient voltage suppressor
- Protected signal ground connection
- Rugged terminal block connections
- Dedicated chassis ground lugs



### Introduction

These three-stage surge suppressors protect against lightning strikes and other voltage disturbances with three stages of protection for each line: a gas discharge tube followed by a series resistor and finally a Transient Voltage Suppressor (TVS). The devices are housed in rugged cases with a protected signal ground connection and dedicated chassis ground lugs. In order to work properly, it is important to have a good connection between the #10 screws and a solid earth ground.

### Specifications

#### Serial Interface

Model:	Line Connectors:	Equipment Connectors:	Interfaces:
ULI-242T	Terminal blocks	Terminal blocks	RS-232
ULI-244TI			RS-422, RS-485
ULI-244T			
ULI-246T			

#### Isolation & Surge Suppression

Model:	Clamping Voltage - Stage 1:	Series Resistance - Stage 2:	Clamping Voltage - Stage 3:	Clamping Time:	Lines Protected:
ULI-242T*	72 Vdc, min. 108 Vdc, max.	2.7 Ohms	14.3 Vdc, min. 15.8 Vdc, max.	< 5 x 10 <sup>9</sup> seconds	5
ULI-244TI#			6.45 Vdc, min. 7.14 Vdc, max.		
ULI-244T*					
ULI-246T*					3

\*2 terminal posts and 2 metal mounting brackets provide a good ground connection.  
 #1 terminal post provides a good ground connection.

#### Mechanical

Model:	Enclosure:	Dimensions, mm:	Mounting:	Weight, gm
ULI-242T	Metal	114 x 84 x 46	Panel	190
ULI-244TI	Plastic	35.5 x 78.8 x 105.3	DIN rail	114
ULI-244T	Metal	114 x 84 x 46	Panel	190
ULI-246T				

#### Environmental

Model:	Operating Temperature:	Storage Temperature:	Operating Humidity:
ULI-242T	0 to +70 °C	-40 to +85 °C	0 to 95%, non-condensing
ULI-244TI	-40 to +80 °C		
ULI-244T	0 to +70 °C		
ULI-246T			

#### Mean Time Between Failures (MTBF)

- Calculation Method MIL217F Parts Count Reliability Prediction

Model:	Hours:
ULI-242T	7522077
ULI-244TI	862813
ULI-244T	6976322
ULI-246T	4664831

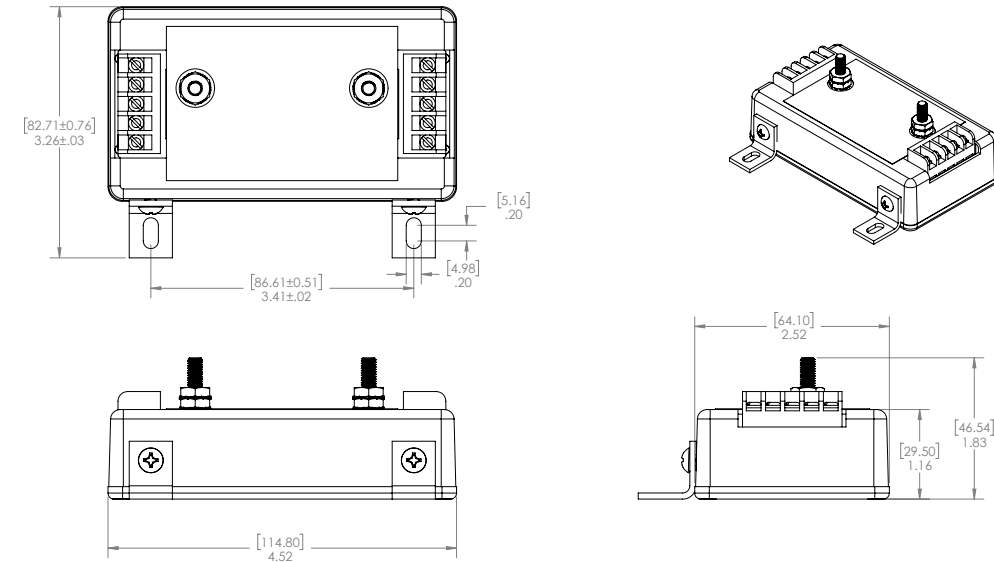
#### Regulatory / Approvals / Certifications

- FCC, CE (all models)

Model:	CE Standards	CE Directives
ULI-242T	2014/30/EU – Electromagnetic Compatibility Directive	EMC: EN 55032 Class B – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements
ULI-244TI	2011/65/EU – amended by (EU) 2015/863 Reduction of Hazardous Substance Directive (RoHS)	EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement
ULI-244T		
ULI-246T	2012/19/EU – Waste Electrical and Electronic Equipment (WEEE)	

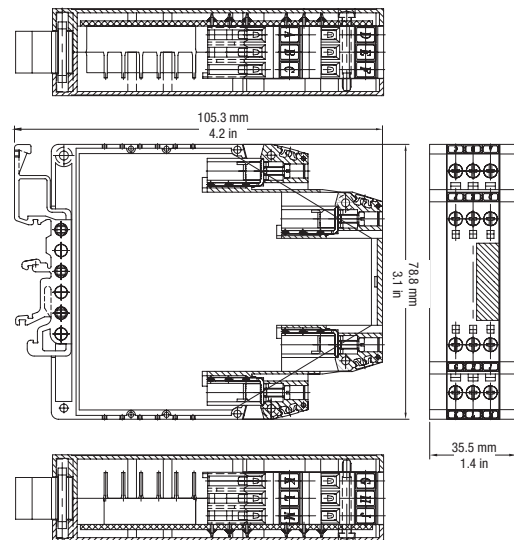
## Dimensions - ULI-242T, ULI-244TI, ULI-246T

Unit = mm



## Dimensions - ULI-244TI

Unit = mm



## Ordering Information

Model	Part Number to Order	Description
ULI-242T	BB-232HESP	3-stage RS-232 Surge Suppressor, 5 Protected Lines, Panel Mount.
ULI-244TI	BB-HESP4DR	3-stage RS-422/485 Surge Suppressor, 5 Protected Lines, Wide Temperature, DIN Rail Mount.
ULI-244T	BB-422HESP	3-stage RS-422/485 Surge Suppressor, 5 Protected Lines, Panel Mount.
ULI-246T	BB-485HESP	3-stage RS-485 Surge Suppressor, 3 Protected Lines, Panel Mount.

# ULI-240 Series Selection Guide

## 3-Stage RS-232/422/485 Serial Surge Suppressors



### Common Features

- Three stages of protection on every data line:
  - 1) Gas discharge tube
  - 2) Series resistor
  - 3) Transient voltage suppressor
- Protected signal ground connection
- Rugged terminal block connections
- Dedicated chassis ground lugs

### Surge Suppressor Comparison Table

Model Number	ULI-242T	ULI-244T	ULI-244TI	ULI-246T
Part Number to Order	BB-232HESP	BB-422HESP	BB-HESP4DR	BB-485HESP
Description	<b>3-Stage Surge Suppressors</b>			
Key Features	Rugged Metal Case, Panel Mount		DIN Rail Mount, Plastic Case, Wide Operating Temperature	Rugged Metal Case, Panel Mount
Serial Protocol	RS-232	RS-422/485		RS-485
Serial Line Connectors	Terminal blocks			
Equipment Line Connectors	Terminal blocks			
Stage 1: Clamping Voltage	72 to 108 Vdc (min./max.)			
Stage 2: Series Resistance	2.7 Ohms			
Stage 3: Clamping Voltage	14.3 - 15.8 Vdc (min./max.)	6.45 - 7.14 Vdc (min./max.)		
Clamping Time	Less than 5 x 10 <sup>9</sup> seconds			
Lines Protected	5			3
Enclosure	Metal		Plastic	Metal
Dimensions, mm	114 x 84 x 46		35.5 x 78.8 x 105.3	114 x 84 x 46
Mounting Installation	Panel		DIN rail	Panel
Operating Temperature	0 to +70 °C		-40 to +80 °C	0 to +70 °C
MTBF (MIL217F), hours	7522077	6976322	862813	4664831
Regulatory/Approvals/ Certifications	FCC, CE, ECD, RoHS, WEEE 2014/30/EU – Electromagnetic Compatibility Directive 2011/65/EU – amended by (EU) 2015/863 Reduction of Hazardous Substance Directive (RoHS) 2012/19/EU --Waste Electrical and Electronic Equipment (WEEE) EN 55032 Class B – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement			

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