

ULI-414LIB
 ULI-414LI
 ULI-414I
 ULI-417I
 ULI-414CI
 ULI-417CI
 ULI-414H
 ULI-417H

BB-USBHUB40EM
 BB-UH104
 BB-UHR204
 BB-UHR207
 BB-UHR304
 BB-UHR307
 BB-USH204-B
 BB-USH207-B

Industrial USB 2.0 & 3.2 Gen 1 Hubs



Features (model dependent)

- Expand one USB port to 4 or 7 USB ports
- USB 2.0 & USB 3.2 Gen 1
- ESD protection
- High retention USB connectors grip cables tight
- Wide operating temperature (USB 2.0 hubs)
- USB host port power or external PSU power
- Metal or plastic enclosures – desk, DIN rail mount
- 4 kV isolation between upstream & downstream ports (models ULI-414CI, ULI-417CI)
- Compact, OEM open bare-board hub (model ULI-414LIB)



Introduction

These Advantech USB 2.0 and 3.2 Gen 1 hubs are more robust than office-grade hubs. Isolation and ESD protections are ideal for electrically harsh environments. “High Retention” USB connectors hold standard USB cables tight – requiring up to 1.54 kg (3.4 lb) force to disconnect them. Model ULI-414LIB is suitable for OEM applications where space is limited and/or external packaging is not required. ULI-414H and ULI-417H feature SuperSpeed USB 3.2 Gen 1 with data rates up to 5 Gbps.

Specifications

USB Technology

Model #:	Upstream Port:	Downstream Ports:	Data Rate, each port:	Standards:	
ULI-414LIB*	(1) High retention, Type B female	(4) High retention, Type A female	1.5, 12, 480 Mbps	2.0, 1.1 (backward compatible)	
ULI-414LI		(4) High retention, Type A female			
ULI-414I		(7) High retention, Type A female			
ULI-417I		(4) High retention, Type A female	12 Mbps** +		
ULI-414CI		(7) High retention, Type A female			
ULI-417CI		(1) Type B	(4) Type A		Up to 5 Gbps
ULI-414H†		(7) Type A	SuperSpeed 3.2 Gen 1 (2.0, 1.1 backward compatible)		
ULI-417H†					

* When installed, ULI-414LIB appears as an unbranded USB hub.
 ** Isolation limits speed to 12 Mbps. (ULI, 414CI, ULI417CI)
 + Multi-transaction translator, 1 per port. (ULI, 414CI, ULI417CI)
 † Supports xHCI USB controller. (ULI-414H, ULI-417H)

Isolation & ESD Protections

Model #:	Isolation:	ESD Protection:	Surge Protection:
ULI-414LIB	4 kV	15 kV air, 8kV contact	± 0.5 kV DC ports, ± 1 kV signal ports
ULI-414LI			
ULI-414I			
ULI-417I			
ULI-414CI			
ULI-417CI			
ULI-414H			
ULI-417H			

Environmental

Model #:	Operating Temperature:	Storage Temperature:	Relative Humidity:
ULI-414LIB	-40 to +80 °C	-40 to +85 °C	0 to +95%, non-condensing
ULI-414LI			
ULI-414I			
ULI-417I	-40 to +80 °C (0 to +40 °C using wall plug PSU)	-20 to +50 °C	0 to +85%, non-condensing
ULI-414CI			
ULI-417CI	0 to +50 °C		
ULI-414H			
ULI-417H			

Power

Model #:	Source:	Input Voltage:	Connection:	Consumption:	Downstream, per port:
ULI-414LIB	USB port†	5 Vdc	–	2.5 W, max.	100 mA
ULI-414LI			–		
ULI-414I	USB port† OR external PSU	UBS port: 5 Vdc External PSU: 10-30 Vdc	Terminal Block	16 W	500 mA
ULI-417I			External PSU: 10-30 Vdc	3 pos., 5.08 mm spacing, 28-12 AWG, solid wire) OR Barrel Jack (locking, threaded, 5.5mm, center positive)	
ULI-414CI	16 W				
ULI-417CI	30 W				
ULI-414H‡	External PSU (required, not included)	External PSU: 9-30 Vdc	3-pin terminal block OR threaded barrel DC power jack	30 W	2.4 A‡
ULI-417H‡				45 W	

† Check device to ensure USB bus power is adequate. If more power is required, Advantech offers external powered hubs.
 ‡ Each downstream port supports up to 2.4A to a maximum of 27W (ULI-414H, BB-USH204-B) or 42W (ULI-417H, BB-USH207-B) total.

Mechanical

Model #:	Enclosure:	Mounting:	Dimensions, mm:	Weight, gm:	USB Cable:
ULI-414LIB	Open board	OEM	34 x 60 x 17	22.7	Not included†
ULI-414LI	IP30 Plastic	Panel #	65 x 61 x 27§	49.9	
ULI-414I	IP30 metal (LEDs for Power, Port Ready)	Desk, DIN rail, panel #	168.2 x 86.3 x 35.1§	64.0	Included, 1.8m
ULI-417I			233.2 x 119.4 x 35.1§		
ULI-414CI			168.2 x 86.3 x 35.1§		
ULI-417CI			233.2 x 119.4 x 35.1§		
ULI-414H	Industrial grade, metal	DIN rail, panel	138.8 x 68.5 x 25	600	Included, 2.0 m
ULI-417H				620	

‡ Mounting kit included.
 § Enclosure with brackets.
 † A standard USB cable is required to connect to PC.

Meantime Between Failures (MTBF)

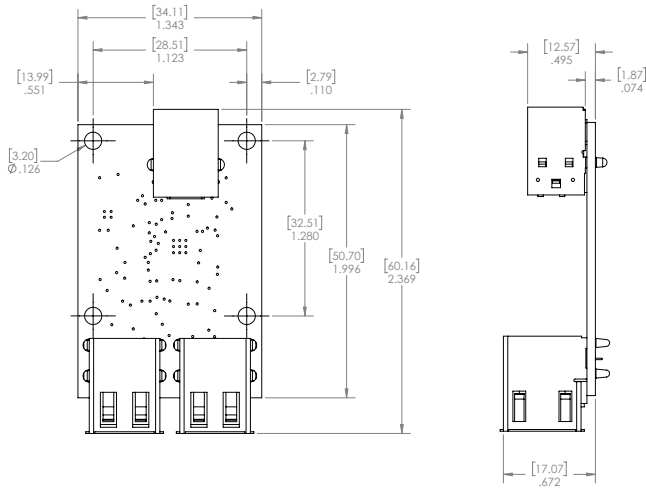
- Calculation Method: MIL217F Parts Count Reliability Prediction

Model #:	Hours:	Model #:	Hours:
ULI-414LIB	552747	ULI-414CI	143330
ULI-414LI		ULI-417CI	151173
ULI-414I	190999	ULI-414H	275611
ULI-417I	211773	ULI-417H	182880

ULI-414LIB	BB-USBHUB40EM
ULI-414LI	BB-UH104
ULI-414I	BB-UHR204
ULI-417I	BB-UHR207
ULI-414CI	BB-UHR304
ULI-417CI	BB-UHR307
ULI-414H	BB-USH204-B
ULI-417H	BB-USH207-B

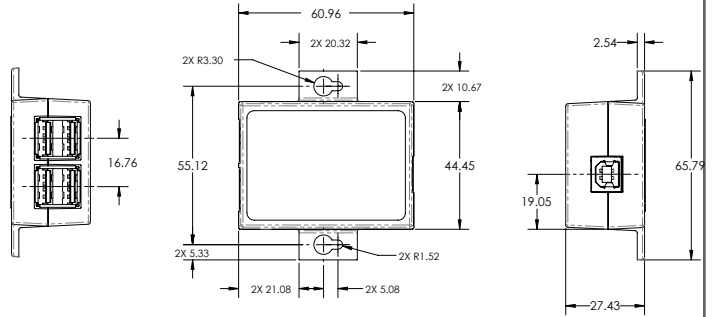
Dimensions - ULI-414LIB

Unit = mm / in



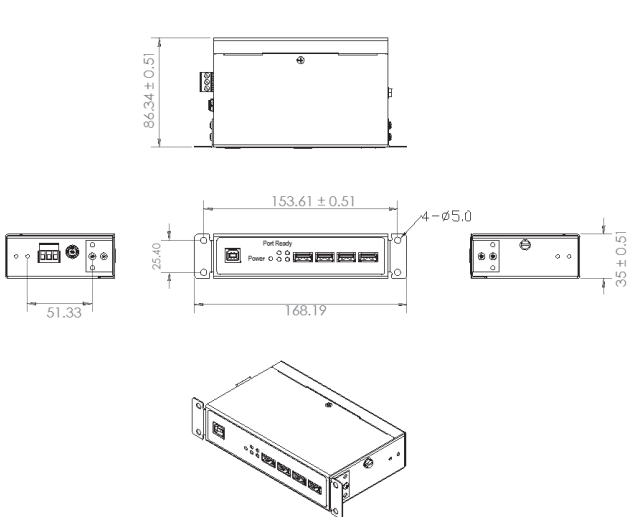
Dimensions - ULI-414LI

Unit = mm



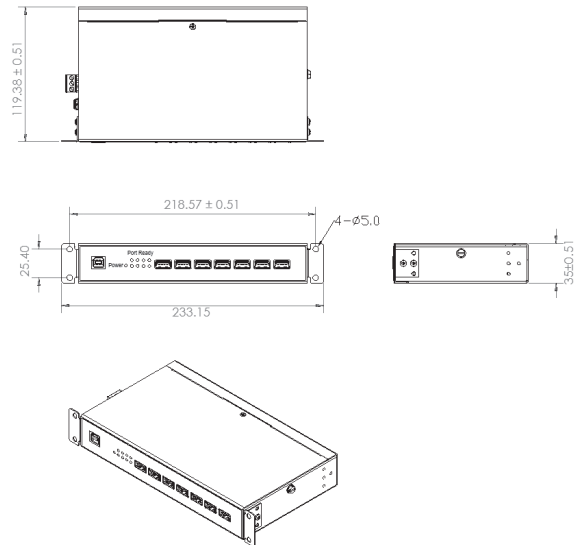
Dimensions - ULI-414I, ULI-414CI

Unit = mm



Dimensions - ULI-417I, ULI-417CI

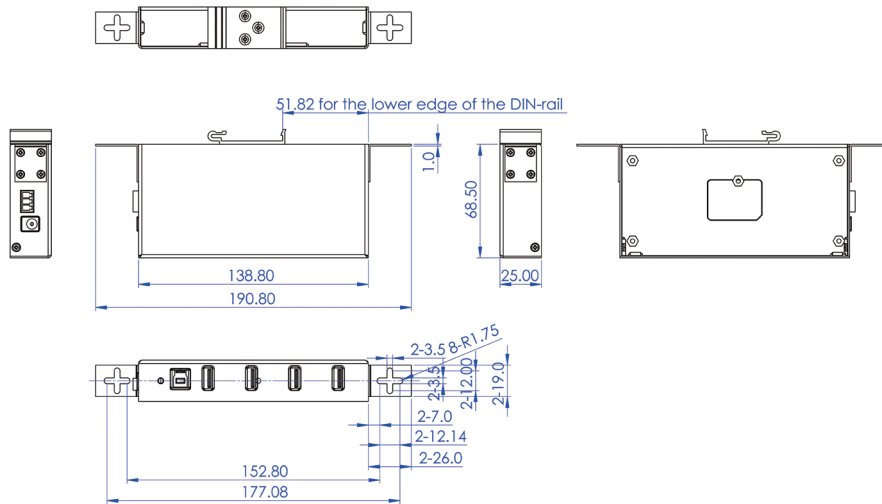
Unit = mm



ULI-414LIB	BB-USBHUB40EM
ULI-414LI	BB-UH104
ULI-414I	BB-UHR204
ULI-417I	BB-UHR207
ULI-414CI	BB-UHR304
ULI-417CI	BB-UHR307
ULI-414H	BB-USH204-B
ULI-417H	BB-USH207-B

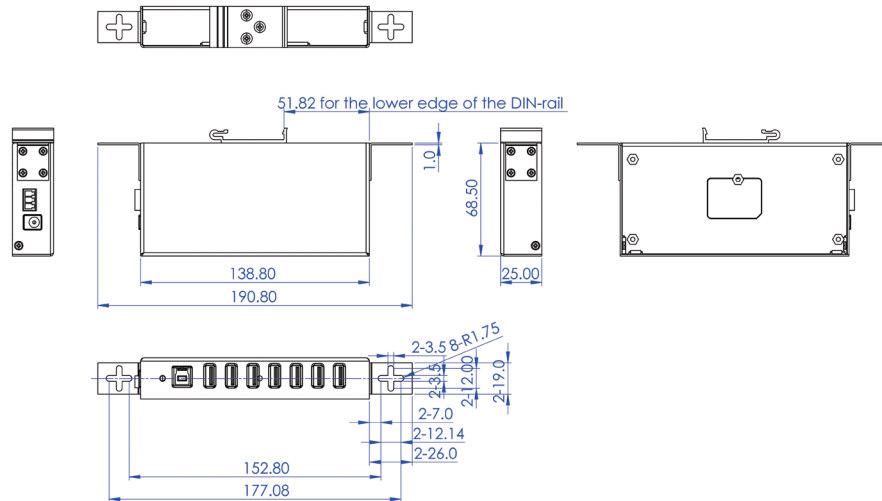
Dimensions - ULI-414H

Unit = mm



Dimensions - ULI-417H

Unit = mm



Ordering Information

Model Number	Part Number to Order	Description
ULI-414LIB	BB-USBHUB40EM	Industrial USB 2.0 Hub, 4-port, OEM open board module, High retention USB ports, USB port power. <i>(USB cable required.)</i>
ULI-414LI	BB-UH104	Industrial USB 2.0 Hub, 4-port, High retention USB, USB port power. <i>(USB cable required. Mounting kit included.)</i>
ULI-414I	BB-UHR204	Industrial USB 2.0 Hub, 4-port, High retention USB, USB or PSU power. <i>(1.8m USB cable & mounting kit included; PSU sold separately.)</i>
ULI-417I	BB-UHR207	Industrial USB 2.0 Hub, 7-port, High retention USB, External power. <i>(1.8m USB cable & mounting kit included; PSU sold separately.)</i>
ULI-414CI	BB-UHR304	Industrial USB 2.0 Hub, 4-port, High retention USB, 2KV Isolation, External power. <i>(1.8m USB cable & mounting kit included; PSU sold separately.)</i>
ULI-417CI	BB-UHR307	Industrial USB 2.0 Hub, 7-port, High retention USB, 2KV Isolation, External power. <i>(1.8m USB cable & mounting kit included; PSU sold separately.)</i>
ULI-414H	BB-USH204-B	Industrial USB 3.2 Gen 1 Hub, 4-port, External power. <i>(2m USB cable included; PSU sold separately.)</i>
ULI-417H	BB-USH207-B	Industrial USB 3.2 Gen 1 Hub, 7-port, External power. <i>(2m USB cable included; PSU sold separately.)</i>

ULI-410 Series Selection Guide

Industrial USB 2.0 and 3.2 Gen 1 Hubs



Common Features

- Expand one USB port to 4 or 7 USB ports
- USB 2.0 & USB 3.2 Gen 1
- ESD protection
- Wide operating temperature (USB 2.0 hubs)
- USB host port power or external PSU power
- Metal or plastic enclosures – desk, DIN rail mount
- 4 kV isolation between upstream & downstream ports (models ULI-414CI, ULI-417CI)
- Compact, OEM open bare-board hub (model ULI-414LIB)

Industrial USB 2.0 & 3.2 Gen 1 Hubs Comparison Table

Model Number	ULI-414LIB	ULI-414LI	ULI-414I	ULI-417I	ULI-414CI	ULI-417CI	ULI-414H	ULI-417H				
Part Number to Order	BB-USBHUB40EM	BB-UH104	BB-UHR204	BB-UHR207	BB-UHR304	BB-UHR307	BB-USH204-B	BB-USH207-B				
Description	USB 2.0/1.1, OEM Open Board Module	USB 2.0/1.1 Hub, 4-port Miniature	USB 2.0/1.1 Hubs, 4-port UL C1/D2 & 7-port		USB 2.0/1.1 Hubs, 4-port UL C1/D2 & 7-port Isolated		USB 3.2 Gen 1 SuperSpeed Hubs, 4-port & 7-port					
Upstream Port	1											
Upstream Connector	USB Type B female, high-retention						USB Type B					
Downstream Port/s	4		7		4		7					
Downstream Connector	USB Type A female						USB Type A					
Data Rate, max.	1.5, 12, 480 Mbps		480 Mbps		12 Mbps		5 Gbps					
USB Standards	2.0, 1.1 (backwards compatible)						3.2 Gen 1, 2.0, 1.1 (backwards compatible)					
LED Indicators	–		Power, Port Ready				Power					
ESD Protection	15 kV air, 8 kV contact											
Surge Protection	±0.5 kV dc ports, ±1 kV signal ports											
Isolation, Optical	–				4 kV		–					
Operating Temperature	-40 to +80 °C						0 to +50 °C					
Power Source	USB port		USB port or external PSU		External PSU							
Power Input	5 Vdc		USB port: 5 Vdc External PSU: 10-30 Vdc		10-30 Vdc		9-30 Vdc					
Power Connector Options	–		Terminal block (3-position, 5.08mm spacing, 28-12 AWG, solid wire) OR barrel jack (locking, threaded, 5.5 mm, center positive)				3-pin terminal block OR threaded barrel DC power jack					
Downstream Power	100 mA		500 mA				2.4A ¹					
Enclosure	Open board	IP30 plastic	IP30 metal				Industrial-grade metal					
Mounting Installation	OEM	In-line	Desk, DIN rail					DIN rail, Desk, Wall				
Dimensions, mm	34 x 60 x 17	65 x 61 x 27 (with brackets)	168.2 x 86.3 x 35.1 (with brackets)	233.2 x 119.4 x 35.1 (with brackets)	168.2 x 86.3 x 35.1 (with brackets)	233.2 x 119.4 x 35.1 (with brackets)	138.8 x 68.5 x 25					
MTBF (MIL217F), hours	552747		190999		211773		143330	151173	275611	182880		
Regulatory / Approvals / Certifications	FCC, CE, ROHS, REACH, WEEE											
	EN 55032: 2015 + A1: 2020 EN 55035: 2017 + A11: 2020 EN IEC 61000-6-4: 2019 EN IEC 61000-6-2: 2019 EN 55011: 2016 + A2: 2021 EN 61000-4-2: 2009 EN 61000-4-8: 2010 EN IEC 61000-4-3: 2020 EN 61000-4-4: 2012 EN 61000-4-5: 2014 + A1: 2017 EN 61000-4-6: 2014 + AC: 2015		EN 55032 EN 55024		EN 55032 EN 55035 EN 61000-6-4 EN 61000-6-2 EN 55011 EN 61000-4-2 EN 61000-4-8 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6		EN 55032 EN 55024		EN 55032 EN 55035 EN 61000-6-4 EN 61000-6-2 EN 55011 EN 61000-4-2 EN 61000-4-8 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6		EN 55032: 2015 + A1: 2020 EN 55035: 2017 + A11: 2020 EN IEC 61000-6-4: 2019 EN IEC 61000-6-2: 2019 EN 55011: 2016 + A2: 2021 EN 61000-4-2: 2009 EN 61000-4-8: 2010 EN IEC 61000-4-3: 2020 EN 61000-4-4: 2012 EN 61000-4-5: 2014 + A1: 2017 EN 61000-4-6: 2014 + AC: 2015	
	–		UL C1/D2* (ULI-414I & ULI-417I)		KCC		UL C1/D2* (ULI-414CI & ULI-417CI)		KCC		–	
EN 61000-6-1 – Generic Immunity Standard for Residential, Commercial & Light-industrial Environments			EN 61000-6-1 – Generic Immunity Standard for Residential, Commercial & Light-industrial Environments				EN 61000-6-3 +A1 (B) – Generic Emissions Standard for Residential, Commercial & Light-industrial Environments		IEC 60068-2-31:2008 IEC 60068-2-2:2007 IEC 60068-2-1:2007 IEC 60068-2-27:2008 IEC 60068-2-64:2008+A1:2019			

1. *UL C1/D2 #E337172

2. † Each downstream port supports up to 2.4A to a maximum of 27W (ULI-414H, BB-USH204-B) or 42W (ULI-417H, BB-USH207-B) total.