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

Industrial USB 2.0 & 3.0 Hubs



Features (model dependent)

- Expand one USB port to 4 or 7 USB ports
- USB 2.0 & USB 3.0
- · 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, panel, DIN rail mount
- 4 kV isolation between upsteam & downsteam ports (models ULI-414CI, ULI-417CI)
- · Compact, OEM open bare-board hub (model ULI-414LIB)







Introduction

These Advantech USB 2.0 and 3.0 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 3.0 with data rates up to 5 Gbps and 900 mA downstream power to connected peripherals.

Specifications

USB Technology

			Data Rate,		
Model #:	Upstream Port:	Downstream Ports:	each port:	Standards:	
ULI-414LIB*		(4) High retention, Type A female			
ULI-414LI		(4) High retention,	1.5, 12, 480		
ULI-414I		Type A female	Mbps	2.0, 1.1 (backward compatible)	
ULI-417I	(1) High retention, Type B female	(7) High retention, Type A female			
ULI-414CI		(4) High retention, Type A female	10 Mb = ** +		
ULI-417CI		(7) High retention, Type A female	12 Mbps** +		
ULI-414H#	(1) Type B	(4) Type A	Up to 5 Gbps	SuperSpeed 3.0 (2.0, 1.1 backward	
ULI-417H#	(I) Type B	(7) Type A	oh io a gnha	compatible)	

[&]quot;When installed, ULI-414LIB appears as an unbranded USB hub.
"Isolation limits speed to 12 Mbps. (ULI, 414Cl, ULI417Cl)
+Multi-transaction translator, 1 per port, UUI, 414Cl, ULI417Cl)
Supports xHCl USB controller. (ULI-414H, ULI-417H)

Isolation & ESD Protections

Model #:	Optical Isolation:	ESD Protection:	Surge Protection:	
ULI-414LIB				
ULI-414LI				
ULI-414I	_	15 kV air, 8kV contact	± 0.5 kV DC ports,	
ULI-417I		13 KV dii, OKV CUIIIdCI	± 1 kV signal ports	
ULI-414CI	4 kV			
ULI-417CI	4 KV			
ULI-414H		8 kV air	600 W	
ULI-417H	_	U NV dll	UUU W	

Environmental

Model #:	Operating Temperature:	Storage Temperature:	Relative Humidity:	
ULI-414LIB				
ULI-414LI	40 + 00 00			
ULI-414I	-40 to +80 °C		0 to +95%,	
ULI-417I		-40 to +85 °C	non-condensing	
ULI-414CI	-40 to +80 °C			
ULI-417CI	(0 to +40 °C using wall plug PSU)			
ULI-414H	0 to +40 °C	-20 to +50 °C	0 to +85%,	
ULI-417H	0 10 +40 0	-20 to +30 °C	non-condensing	

Power

Model #:	Source:	Input Voltage:	Connection:	Consumption:	Downstream, per port:	
ULI-414LIB ULI-414LI	USB port†	5 Vdc		2.5 W, max.	100 mA	
ULI-414I	USB port† <i>OR</i> external PSU	UBS port: 5 Vdc External PSU: 10-30 Vdc	Terminal Block	16 W		
ULI-417I			(3 pos., 5.08 mm spacing, 28-12	30 W		
ULI-414CI		External PSU: 10-30 Vdc	AWG, solid wire) OR	16 W	500 mA	
ULI-417CI	External PSU (required, not included)	External Foo. 10-30 vuc	Barrel Jack (locking, threaded, 5.5mm, center positive)	30 W		
ULI-414H [‡]	iliciadea)	9-24 Vdc	3-pin terminal block OR	24 W		
ULI-417H [‡]		(redundant, TB input)	threaded barrel DC power jack	36 W	900 mA	

[†]Check device to ensure USB bus power is adequate. If more power is required, Advantech offers external powered hubs.

Mechanical

Model #:	Enclosure: Mounting:		Dimensions, mm:	Weight, gm:	USB Cable:
ULI-414LIB	Open board	OEM	34 x 60 x 17	22.7	Not included ¹
ULI-414LI	IP30 Plastic	Panel #	65 x 61 x 27§	49.9	Not included
ULI-414I			168.2 x 86.3 x 35.1§		Included, 1.8m
ULI-417I	IP30 metal	Desk, DIN rail,	233.2 x 119.4 x 35.1§	64.0	
ULI-414CI	(LEDs for Power, Port Ready)	panel #	168.2 x 86.3 x 35.1§		
ULI-417CI] "		233.2 x 119.4 x 35.1§		
ULI-414H	Industrial	DIN rail, panel	119.4 x218.6 x 35.0	600	Included, 2.0 m
ULI-417H	grade, metal	Diiv raii, pariei	119.4 XZ10.0 X 33.0	620	included, 2.0 III

[#] Mounting kit included.

Meantime Between Failures (MTBF)

 Calculation Method MIL217F Parts Count Reliability Prediction

			-
Model #:	Hours:	Model #:	Hours:
ULI-414LIB	552747	ULI-414CI	143330
ULI-414LI	332747	ULI-417CI	151173
ULI-414I	190999	ULI-414H	588858
ULI-417I	211773	ULI-417H	935103

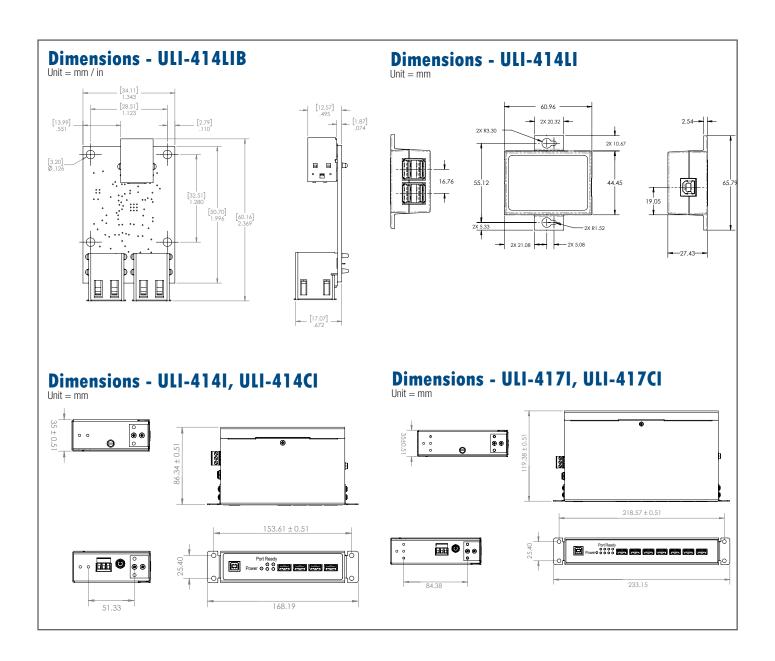
[§] Enclosure with brackets.

¶ A standard USB cable is required to connect to PC.

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

Regulatory/Approvals/Certifications

Model #:	Approvals:	CE Directives:	CE Standards:	Standards - other:
ULI-414LIB	FCC			EN 61000-6-1 — Generic Immunity Standard for Residential,
ULI-414LI	100		FMC:	Commercial and Light-industrial Environments
ULI-414I	FCC, UL C1/D2		EN 55032 Class B – Electromagnetic Compatibility of	
ULI-417I	FCC, KCC, UL C1/D2	2014/30/EU – Electromagnetic Compatibility	Multimedia Equipment – Emissions Requirements	EN 61000-6-1 — Generic Immunity Standard for Residential, Commercial and Light-industrial Environments
ULI-414CI	FCC, UL C1/D2	2011/65/EU amended by (EU) 2015/863 – Reduction of Hazardous Substances (RoHS)	EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement	EN 61000-6-3 +A1 — Generic Emissions Standard for Residential,
ULI-417CI	FCC, KCC, UL C1/D2	,		Commercial and Light-industrial Environments (Class B)
ULI-414H		- 2012/19/EU – Waste Electrical and Electronic Equipment (WEEE)	EMC: EN 55032 Class A – Electromagnetic Compatibility of Multimedia	
	FCC Class B, CE, KCC		Equipment – Emission Requirements	_
ULI-417H			EN 55024 – Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement	



 ULI-414LIB
 BB-USBHUB40EM

 ULI-414LI
 BB-UH104

 ULI-414I
 BB-UHR204

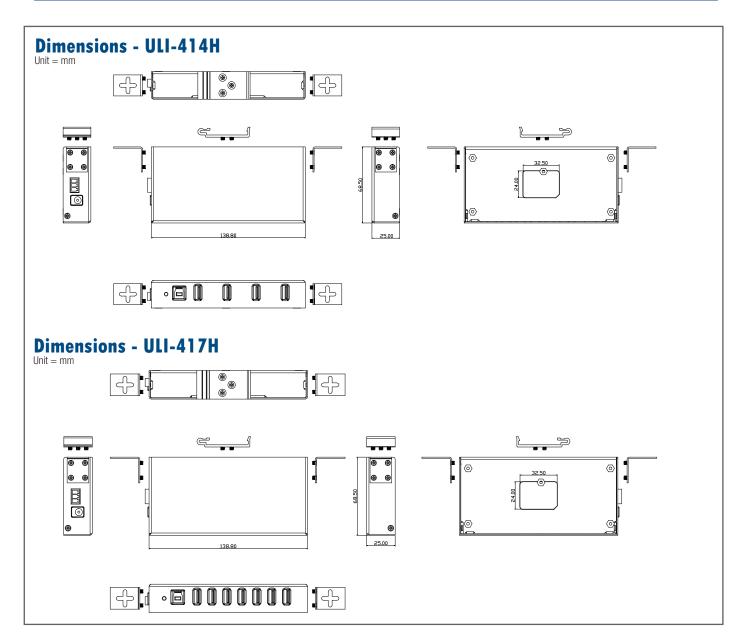
 ULI-417I
 BB-UHR207

 ULI-414CI
 BB-UHR304

 ULI-417CI
 BB-UHR307

 ULI-414H
 BB-USH204

 ULI-417H
 BB-USH207

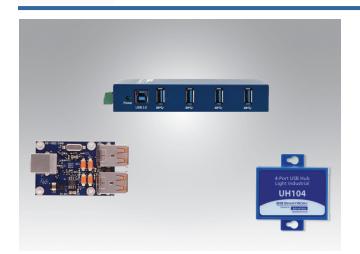


Ordering Information

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. (USB cable required.)
ULI-414LI	BB-UH104	Industrial USB 2.0 Hub, 4-port, High retention USB, USB port power. (USB cable required. Mounting kit included.)
ULI-414I	BB-UHR204	Industrial USB 2.0 Hub, 4-port, High retention USB, USB or PSU power. (1.8m USB cable & mounting kit included; PSU sold separately.)
ULI-417I	BB-UHR207	Industrial USB 2.0 Hub, 7-port, High retention USB, External power. (1.8m USB cable & mounting kit included; PSU sold separately.)
ULI-414CI	BB-UHR304	Industrial USB 2.0 Hub, 4-port, High retention USB, 2kV Isolation, External power. (1.8m USB cable & mounting kit included; PSU sold separately.)
ULI-417CI	BB-UHR307	Industrial USB 2.0 Hub, 7-port, High retention USB, 2kV Isolation, External power. (1.8m USB cable & mounting kit included; PSU sold separately.)
ULI-414H	BB-USH204	Industrial USB 3.0 Hub, 4-port, USB or PSU power. (2m USB cable included; PSU sold separately.)
ULI-417H	BB-USH207	Industrial USB 3.0 Hub, 7-port, External power. (2m USB cable included; PSU sold separately.)

ULI-410 Series Selection Guide

Industrial USB 2.0 and 3.0 Hubs



Common Features

- Expand one USB port to 4 or 7 USB ports
- USB 2.0 & USB 3.0
- ESD protection
- Wide operating temperature (USB 2.0 hubs)
- USB host port power or external PSU power
- Metal or plastic enclosures desk, panel, DIN rail mount
- 4 kV isolation between upsteam & downsteam ports (models ULI-414Cl, ULI-417Cl)
- Compact, OEM open bare-board hub (model ULI-414LIB)

Industrial USB 2.0 & 3.0 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	BB-USH207	
Description	USB 2.0/1.1, 0EM	USB 2.0/1.1 Hub,	USB 2.0/1.	1 Hubs,	USB 2.0/	1.1 Hubs,	USB 3.0 Supe	rSpeed Hubs,	
Description	Open Board Module	4-port Miniature	4-port UL C1/D	02 & 7-port	4-port UL C1/D2	& 7-port Isolated	4-port 8	& 7-port	
Upstream Port					1				
Upstream Connector			USB Type B female	e, high-retention			USB 1	уре В	
Downstream Port/s		4		7	4	7	4	7	
Downstream Connector			USB Type i	A female			USB T	ype A	
Data Rate, max.	1.5, 12, 480 Mbps		480 Mbps		12 N	1bps	5 G	-1	
USB Standards			2.0, 1.1 (backwa				3.0, 2.0, 1.1 (back	wards compatible)	
LED Indicators	_			Power, Po	ort Ready		Por		
ESD Protection			15 kV air, 8				8 k\		
Surge Protection			±0.5 kV dc ports, ±	±1 kV signal ports			600) W	
Isolation, Optical			-		41	kV	-	_	
Operating Temperature			-40 to +	-80 °C			0 to +	40 °C	
Power Source	USB	port	USB port or external PSU External PSU						
Power Input	5 V	dc	USB port: 5 Vdc External PSU: 10-30 Vdc		10-30 Vdc		9-24 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						
Downstream Power	100	mA	500 mA 900 mA		mA				
Enclosure	Open board	IP30 plastic		IP30	metal		Industrial-g	rade metal	
Mounting Installation	OEM	Panel		Desk, DIN			DIN rai	l, panel	
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)	(with brackets)	233.2 x 119.4 x 35.1 (with brackets)		68.5 x 25	
MTBF (MIL217F), hours	5527	747	190999	211773	143330	151173	588858	935103	
			2011/65/EU amende	2014/30/EU – Electro ed by (EU) 2015/863 –	magnetic Compatibility Reduction of Hazardous S and Electronic Equipment		FCC Cla	·	
Regulatory / Approvals / Certifications			ctromagnetic Compatibility o nology Equipment – Immunit				EN 55032 Class A – El Compatibility of Multim Emission Requirements EN 55024 – Informatio Equipment – Immunity Limits and Methods of	edia Equipment – n Technology Characteristics –	
	_		UL C1/D2* (ULI-414 & ULI-417)	KCC	UL C1/D2* (ULI-414CI & ULI-417CI)		KCC		
	EN 61000-6-1 — Generator Residential, Comme Environ	rcial & Light-industrial		Enviror) – Generic Emissions	for Residential, Commerci nments Standard for Residential, C nvironments	· ·		-	

