

FISCHER

KEYSTONE™ 4



fischer
CONNECTORS
Part of Conexivity Group

TACTICAL HUB
USER GUIDE

EASY CONNECTIVITY & EFFICIENT DATA & POWER MANAGEMENT FOR SOLDIER-WORN DIGITAL EQUIPMENT

- Up to 100 W of power
- USB 2.0 data protocol
- Connects to all Nett Warrior / NATO STANAG 4695 and 4851 standard components



For full information,
please visit our website:
fischerconnectors.com



Technical specifications

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Electrical architecture

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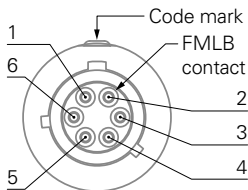
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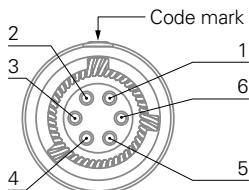
Technical specifications

CONNECTOR INTERFACE

Connector front view



Plug



Receptacle

Pin	Power ports (plugs)	PAN/EUD ports (receptacles)
1	VBATT: [10-20] V DC 5 A max Power supply input	VBATT: [10-20] V DC 5 A max Power supply output
2	Ground	Ground
3	5 V DC IN*	5 V DC OUT**
4	USB+ / SMBus Data	USB+
5	USB- / SMBus Clock	USB-
6	NC	CC line***

*Only on RADIO/BATT port

**EUD port: INPUT/OUTPUT

***EUD port only

ELECTRICAL

EUD / HOST	VBATT output power	Unregulated VBATT [10-20] V DC, up to 5 A
	USB power	Power delivery, Charge up to 1.5 A
PAN 1/2/3	VBATT output power	Unregulated VBATT [10-20] V DC, up to 5 A
	USB output power	Regulated 5 V DC, up to 2 A per port
BATT	VBATT input power	Unregulated VBATT [10-20] V DC, up to 5 A
RADIO/BATT	VBATT input power	Unregulated VBATT [10-20] V DC, up to 5 A
	USB input power	5 V DC power supply from radio
Communication protocol	EUD, PANs	USB 2.0
	BATT, RADIO/BATT	USB 2.0 and SMBus versions 1.0/1.1 compatible
Fault mode protection	Over current, over voltage, back-power	

ENVIRONMENTAL*

Temperature	Storage	-40 °C to +60 °C
	Operating	-32 °C to +55 °C
Altitude	Storage	Up to +12,192 m
	Operating	Up to +9,754 m
	Rapid decompression	From +2,438 m to +12,192 m
Sealing	IP68 2m/24h	
Shock	40 G, 11 ms	
Vibration	7.7 Grms, 1 h per axis	
Weather condition	Solar radiation, salt atmosphere, sand and dust, rain and water, fungus	
EMI/EMC	CE101, CE102, CS101, CS114, CS115, CS116, RE101, RE102, RS101, RS103, CS118 Level IV (ESD)	

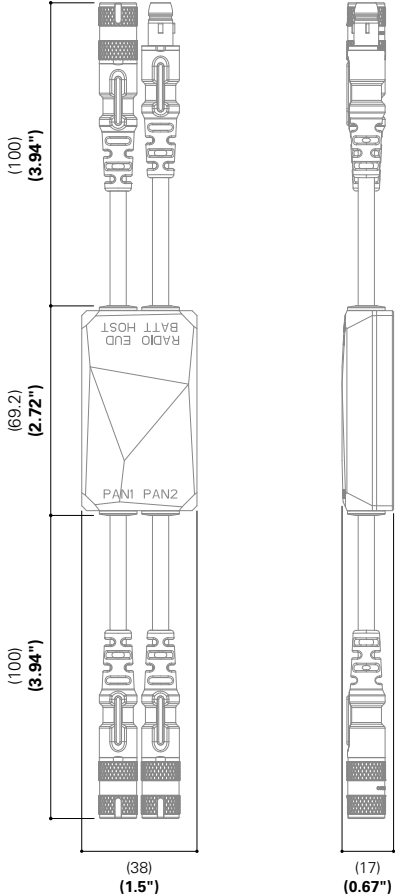
*Validations performed per MIL-STD-810G and MIL-STD-461G

MATERIAL AND MECHANICAL

Housing material	Aluminum
Weight	125 g (4.2 oz)
Pull force – pigtail cables	>100 lbs. (>450 N)

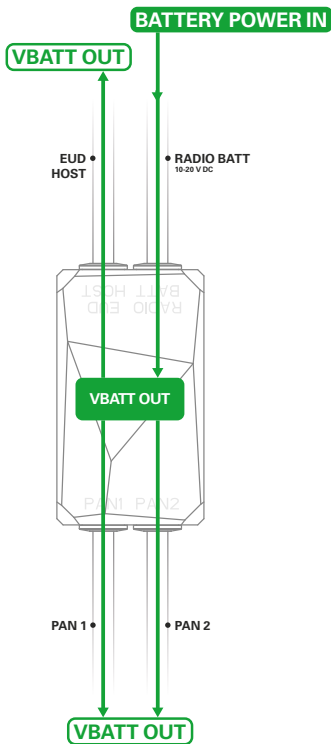
DIMENSIONS

in millimeters / in inches



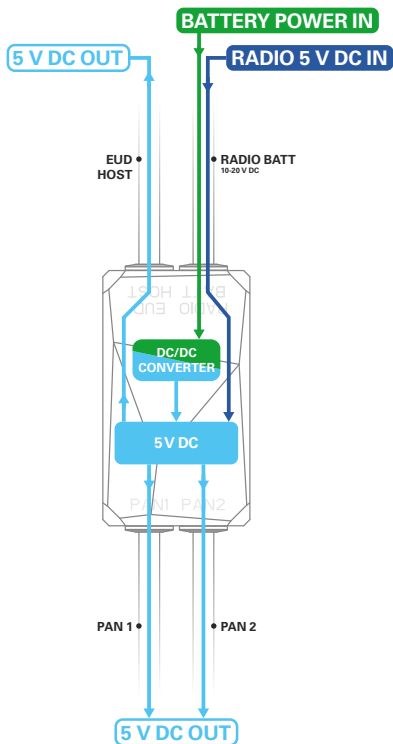
Electrical architecture

VBATT POWER DISTRIBUTION



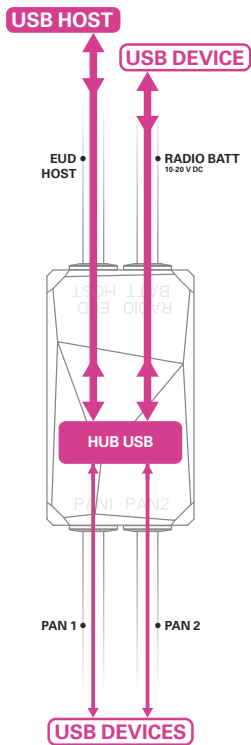
- Wide range of batteries supported
- Unregulated VBATT distribution [10-20] V DC
- Electrical fail-safe mechanism on all ports

5 V DC POWER DISTRIBUTION



- Regulated 5 V Bus
- USB-C power delivery on EUD port
- Radio 5 V DC power IN functionality on RADIO/BATT port

DATA DISTRIBUTION



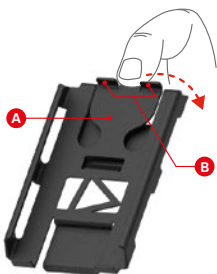
- EUD/HOST USB HUB upstream port
- PANs and RADIO/BATT USB downstream ports

Operating instructions

MOLLE MOUNT

Keystone 4 can be mounted on MOLLE using dedicated metal mounting clips.

To mount or dismount Keystone 4 onto the MOLLE clips:



1. Press down on flexible tab **A** to disengage retaining catches **B**



2. Slide Keystone 4 along the grooves located on both sides.

WARNING

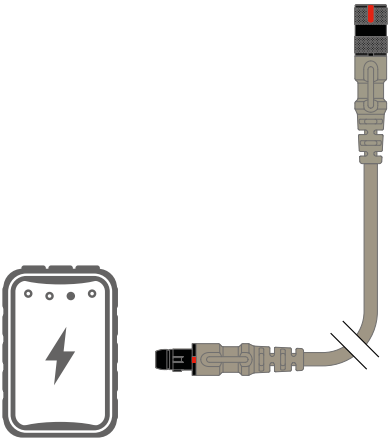
Ensure retaining catches are in position for proper hub retention



POWERING KEYSTONE 4

The KEYSTONE 4 can be powered by a 10 to 20 V DC power source on the RADIO/BATT port.

The Nett Warrior compatible extension cable can be used to connect directly to a Nett Warrior style battery or to a battery adapter.

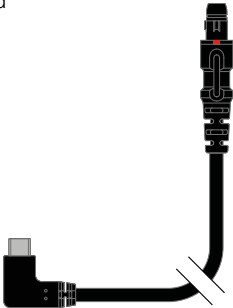


ENABLING DATA FLOW

To establish the data flow within the HUB, a host device must be connected to the EUD/HOST port.

Connect the End User Device (EUD) to the Fischer Nett Warrior compatible USB-C adapter cable.

With the Fischer EUD cable, devices with an USB-C interface can leverage the KEYSTONE 6's built-in power delivery and be charged.



NOTE: EUD cables with integrated Power Delivery functionality are not compatible with KEYSTONE 6.

LIMITATIONS OF USE

1. This product and its accessories must be used for its intended purpose only. Failing to do so (or failing to comply) will void the warranty.
2. Do not use in an explosive atmosphere.
3. Unused (or unmated) pigtails should be fastened to the vest and should not be left loose.
4. Fischer Connectors SA is not responsible for any changes or modifications not expressly approved by Fischer Connectors SA for compliance. Such modifications could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: 2BBS9-HBK04

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



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550317 – Version 1.1 – 08.2024
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