# JLink 3G Family

JLink 3G is a family of devices designed for organizing a local network between different devices via WiFi, Ethernet, and Bluetooth, connecting to the Internet using 3.5G cellular digital communication services.

JLink 3G family provides a robust solution linking the field GNSS equipment to RTN, where no cell phone cover is available. JLink 3G devices may contain 1 W either UHF (406 to 470 MHz) or VHF (138-174 MHz), or ISM license free USA band (902-928 MHz) and European CEPT license free (868-870 MHz) radio transceiver. Marine Radiobeacon receiver (283.5 to 325 kHz) can be built-in into JLink 3G device.

JLink 3G can be configured and supported using web-interface through Internet, and this makes the setup mechanism simple and accessible from anywhere in the world.

# JLink 3G Family
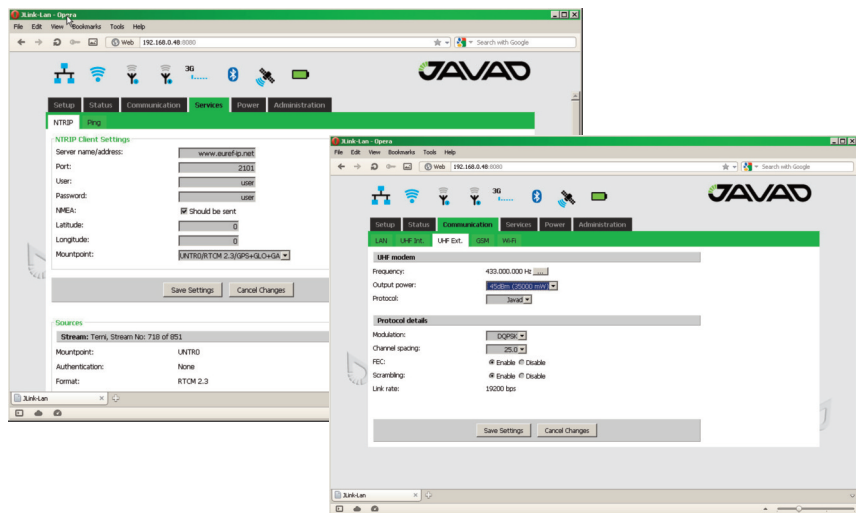


Web interface for communication, monitoring and setup JLink 3G devices from anywhere in the world.

## 3.5G Cellular Module

| | |
|---|---|
| Supported frequencies | GSM/GPRS/EDGE: 850, 900, 1800, 1900 MHz<br>UMTS/HSPA: 800/850, 900, AWS1700, 1900, 2100 MHz |
| Data | HSPA category 6 in uplink and up to category 14 in downlink<br>- Uplink up to 5.76 Mbps<br>- Downlink up to 21.0 Mbps<br>UMTS<br>- Uplink/Dowlink up to 384 kbps<br>EDGE<br>- Uplink up to 236.8 kbps<br>- Dowlink up to 296 kbps<br>GPRS<br>CSD |
| SIM card slot | One microSIM card can be used; user accessible, fully sealed |

## UHF/VHF Radio (optional)

| | |
|---|---|
| Frequency Range | 406-470 MHz/138-174 MHz |
| Channel Bandwidth | 25/20/12.5/6.25 kHz |
| Modulation | DBPSK/DQPSK/D8PSK/D16QAM/4FSK/GMSK |
| Transmitter Output Power | 1W (+30 dBm) |
| Communication Mode | Half duplex, simplex, repeater |

## ISM Radio (optional)

| | |
|---|---|
| Frequency Range | 902-928 MHz (USA)/<br>915-928 MHz (Australia)/ 8<br>68-870 MHz (EU) with 25/12.5 kHz CS |
| Modulation | GMSK |
| Data Rate of Radio Interface (USA/Australia) | 64000 bps |
| Data Rate Radio Interface (EU) | 9600 bps |
| Transmitter Output Power | 1W (+30 dBm) |
| Communication Mode | Half duplex, simplex, repeater |

## Beacon Receiver (optional)

| | |
|---|---|
| Frequency Range | 283.5- 325 kHz |
| User Data Rates | 50, 100, 200 bps (manual or Auto selection) |
| Sensitivity | 1.5 mV/m for 6 dB SNR (200 bps) |

## GPS Receiver

| | |
|---|---|
| Tracking Channels | GPS L1 |
| Signals Tracked | C/A Code |
| Cold / Warm Start | 42 / 30 seconds |
| Sensitivity for Reacquisition | - 161dBm |

# JLINK 3G FAMILY

## Communication Ports

Wi-Fi (IEEE 802.11 b,g,n,d,e,i)
Full-duplex 10BASE-T/100BASE-TX Ethernet port

Bluetooth V2.0+EDR Class 2
High Speed USB 2.0 configurable as Device or Host port
MicroSD card slot (fully sealed)
Serial port  configurable as RS232/RS422/RS485



Variant 1

## Environmental

| | |
|---|---|
| Enclosure | aluminum, IP67 |
| Color | Two-tone Gray / Green |
| Operating Temperature | -40˚ C to +70˚ C * |
| Storage Temperature | -40˚ C to +85˚ C ** |
| Humidity | 100% condensing |
| Weight | 468 g / 970 g |
| Power Supply Voltage | +5.5…36V without battery charging, 4Amax<br>+12…34V when the battery is charged, 3.6Amax |
| Battery (optional) | One embedded, 7.2V, 5850 mAh |

* The operating temperature of Li-Ion batteries is -20 ° C to+45° C

** The storage temperature range of Li-Ion batteries is -20 ° C to +60° C
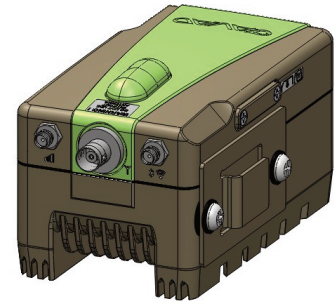


Variant 2

## Compliance:  FCC, Industry Canada, ETSI

## Pinout of JLink 3G power and communication port

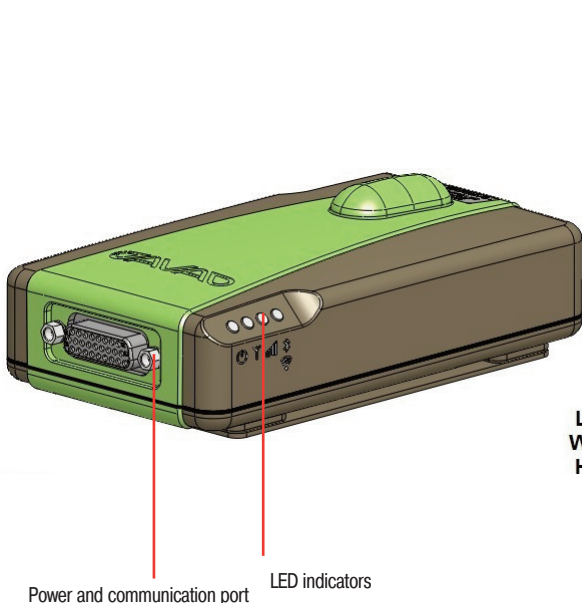| Pin # | Signal Name | I/O | Description |
|---|---|---|---|
| 1 | TX+/RTS_OUT | O | Transmit Data positive line (RS-422) /Request to Send (RS-232) |
| 2 | RX+/CTS_IN | I | Receive Data positive line (RS-422) /Clear to Send (RS-232) |
| 3 | DTR_OUT | O | Data Terminal Ready (RS-232) |
| 4 | USB0_DP | I/O | Data Positive line (USB) |
| 5 | USB0_DM | I/O | Data Negative line (USB) |
| 6 | ELED+ | O | LED line (LAN) |
| 7 | ETD+ | O | Transmit Data positive line (LAN) |
| 8 | ERD+ | I | Receive Data positive line (LAN) |
| 9 | PWR_IN | PWR | +5.5 to +36 VDC Power Input |
| 10 | TX-/TX_OUT | O | Transmit Data negative line (RS-422) / Transmit Data (RS-232) |
| 11 | RX-/RX_IN | I | Receive Data negative line (RS-422) /Receive Data (RS-232) |
| 12 | DSR_IN | I | Data Set Ready (RS-232) |
| 13 | DCD_OUT | O | Data Carrier Detect (RS-232) |
| 14 | USB0_VBUS | PWR | Power line (USB) |
| 15 | USB0_ID | I | USB0 ID line |
| 16 | ETD- | O | Transmit Data negative line (LAN) |
| 17 | ERD- | I | Receive Data negative line (LAN) |
| 18 | PWR_IN | PWR | +5.5 to +36 VDC Power Input |
| 19 | GND | PWR | Power Ground |
| 20 | GND | PWR | Power Ground |
| 21 | GND | PWR | Power Ground |
| 22 | RESERVE | - | Not used. Reserve |
| 23 | RESERVE | - | Not used. Reserve |
| 24 | RESERVE | - | Not used. Reserve |
| 25 | RESERVE | - | Not used. Reserve |
| 26 | PWR_IN | PWR | +5.5 to +36 VDC Power Input |
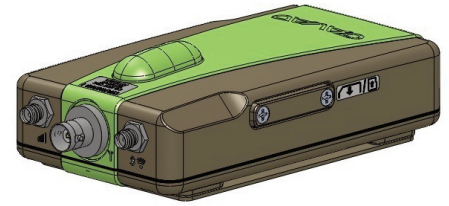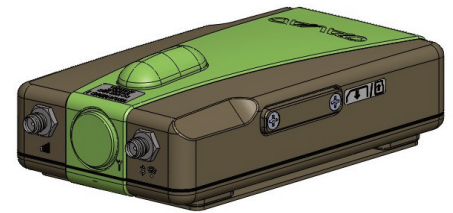


Variant 3
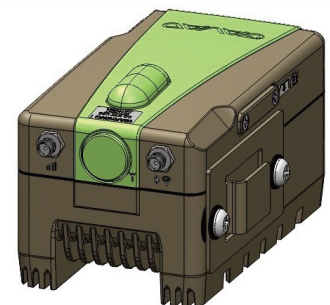


Variant 4

1 - UHF/VHF/ISM Transceiver / Beacon receiver, cellular module, GPS receiver, Bluetooth, WiFi, Ethernet, USB and Serial port.

2 - Variant 1 with battery.

3 - Cellular module, GPS receiver, Bluetooth, WiFi, Ethernet, USB and Serial port.
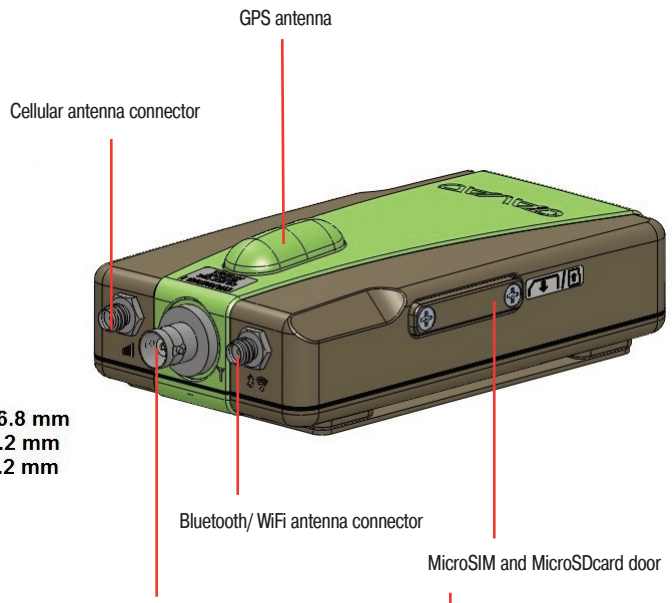
4 - Variant 3 with battery.

# JLINK 3G FAMILY

GPS antenna

Cellular antenna connector

**L = 146.8 mm**
**W = 76.2 mm**
**H = 48.2 mm**

Bluetooth/ WiFi antenna connector

MicroSIM and MicroSDcard door

Power and communication port

LED indicators

UHF/VHS/ISM antenna connector
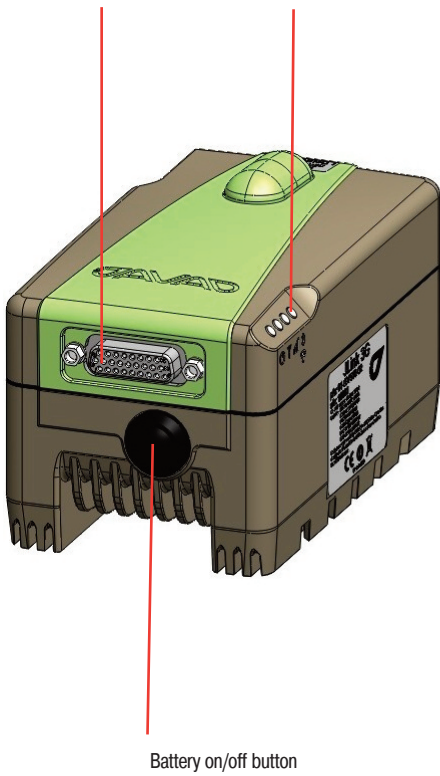
GPS antenna

**L = 145.3 mm**
**W = 82.9 mm**
**H = 78.2 mm**
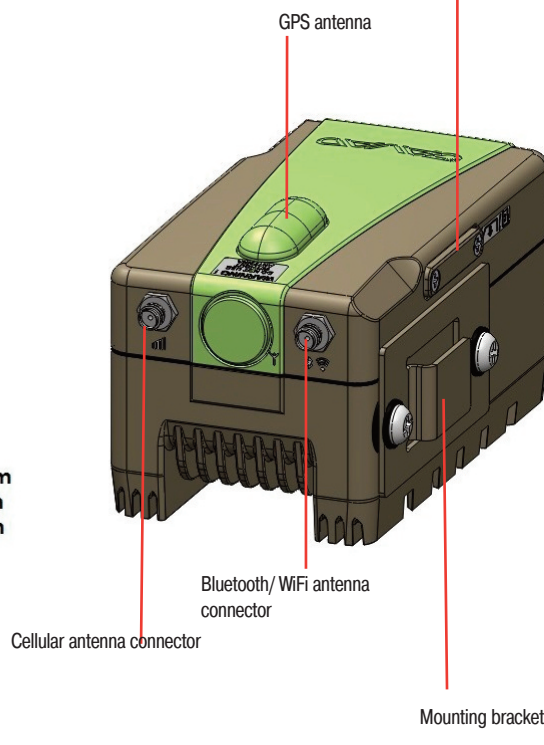
Bluetooth/ WiFi antenna connector

Cellular antenna connector

Battery on/off button

Mounting bracket

## JAVAD GNSS
## www.javad.com
Rev. 1.0 September 24, 2013