simpleRTK3B Compass

Includes:
– 1 simpleRTK3B Compass board
(UM982)

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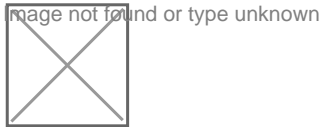
More info about the product!

simpleRTK3B Compass SKU is: AS-RTK3B-UM982-L125-NH-00

Get a discounted bulk price on this product for orders of 50 units or more. Contact us at info@ardusimple.com to get a quote.

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Description

simpleRTK3B Compass is a standalone board that allows to evaluate triple band RTK GNSS technology including centimeter level accurate position and sub degree heading. It's based on **Unicorecomm UM982** module and can be used standalone. Or connected with Arduino, Ardupilot / Pixhawk (JST connector), Raspberry Pi, Nvidia Jetson and STM32 Nucleo platforms, as a shield, to provide you up to 20 RTK positions and attitude (heading) every second.

This board is ideal for advanced projects where dual antenna mount is possible on the roof but user wants to know the position on vehicle's ground contact. Another interesting use case if for static or low speed heading (compass) calculation.
More details available in the Specification and Documentation tabs.
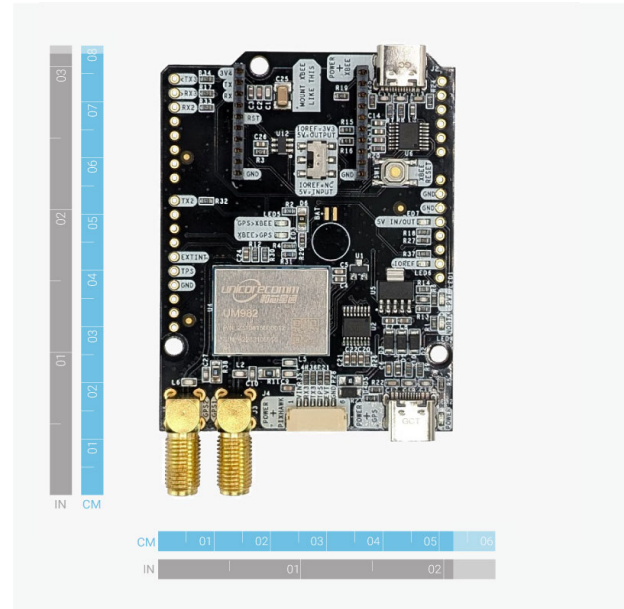
Good to know:
- This product is compatible but doesn't include a multiband GNSS antenna, of which 2 are necessary to use the product.
- The module will not give good performance with a standard GNSS antenna, requires a L1/L2/E5b antenna.
- This product can only be used as Rover.
- This board is recommended if you want to test **Unicorecomm Communications UM982** performance.
- Compatible with all Ardusimple XBee socket accessories (4G modem, MR/LR/XLR radios, Bluetooth, WiFi, Ethernet, Dataloggers, RS232)
- The onboard XBee socket can be used to expand functionality with Plugin accessories (MR/LR/XLR radios, Bluetooth, WiFi, Dataloggers, Ethernet, RS232, Canbus, L-Band, 4G/3G/2G).
- You can use the Shield for Second Plugin socket to connect 2 plugins at the same time.
- Compatible with Ardusimple plastic case

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Specifications

UM982 features

- Millimeter level precision:
    - <1cm with a base station up to 35km
    - <1cm with NTRIP up to 35km
    - <1.2m in standalone mode
    - <0.6m standalone with SBAS coverage
- Update rate
    - Default: 1Hz
    - With maximum performance: up to 20Hz
- Dual antenna
    - Heading accuracy: 0.14deg with 1 meter baseline
    - With maximum performance: up to 50Hz
- Multi band: L1, L2 and L5 support, 1408 hardware channels
- Multifrequency and Multiconstellation:
    - GPS: L1C/A L1PY L2C L2PY L5
    - GLONASS: L1CA L2CA L2P L3 CDMA
    - Galileo: E1 E5a E5b E5 E6 HAS
    - BeiDou: B1I B2I B3I
    - QZSS: L1C/A L2C L5
    - Navic: L5
    - SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM (L1)
- Start-up times:
    - Cold start: <35s
    - Warm start: <10s
    - Re-acquisition: 1s
- Protocols
    - Unicore Format
    - NMEA 0183
    - RTCM v3
- Base and Rover functionality
- Operating temperature Range: -40 to +85deg
- Certification: CE
- Documentation: RED, RoHS

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Image Gallery

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Pinout

TOP VIEW

Description Name

GPS TX3 IOREF level   TX3
GPS RX3 IOREF level   RX3
Xbee RX/GPS RX2 IOREF level   RX2

Xbee TX/GPS TX2 IOREF level   TX2

Event Input for timestamp 3.3V level   EXTINT
Inverted timepulse out 3.3V level   TPS
Ground   GND

Name   Description

GND   Must connect to GND
GND   Must connect to GND
5V_IN   4.5-5.5V optional input voltage
Can also be output via swithch

IOREF   1.8-5V, defines voltage of TX/RX
Can also be 3.3V output via switch

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Documentation

| User Guide | https://staging.ardusimple.com/user-guide-simplertk3b-compass/ |
| how to configure Unicore modules | https://staging.ardusimple.com/how-to-configure-unicore-um980-um981-um982/ |

simpleRTK3B Compass includes free basic technical support. Contact info@ardusimple.com for more information.

Data and descriptions in this document are subject to change without notice. Product photos and pictures are for illustration purposes only and may differ from the real product appearance.

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