

# simpleGNSS Timing



More info about the product!



simpleGNSS Timing SKU is: AS-GNSS-F10T-L1L5-NH-00

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

## Description

simpleGNSS Timing allows you to evaluate sub-meter dual band (L1/L5) GNSS positioning technology including secure nanosecond timing and RAW data. It's based on u-blox NEO-F10T module and can be used standalone. Or connected with Arduino, Ardupilot / Pixhawk (JST connector), Raspberry Pi, Nvidia, STM32 and ESP32 platforms, as a shield. It can provide up to 10 positions every second.

Thanks to its impedance controlled timepulse output with nanosecond accuracy, this board is ideal for accurately timestamping sensor data, or synchronizing different base stations in the same timescale. Get extra performance when inside operational area of SBAS by using the ionospheric corrections provided by the free service.

### Applications:

- Remote sensor time synchronization
- 5G Network synchronization
- System time synchronization
- Timestamping of external pulses

### Good to know:

- This product doesn't do RTK, but can be used for postprocessing PPK-RTK thanks to its RAW data output.
- This product is compatible but doesn't include multiband GNSS antenna, which is necessary to use the product.
- The module will not give good performance with any GNSS antenna, for optimum performance we recommend our Budget Survey Tripleband or ANN-MB1 antenna.
- This board is recommended if you want to test u-blox NEO-F10T performance.
- The board has a SMA connector for GNSS antenna input, and a second SMA connector for a high output drive (24mA) timepulse.
- This product is a lower cost alternative to NEO-M8T, ZED-F9T or RCB-F9T board.

### Includes:

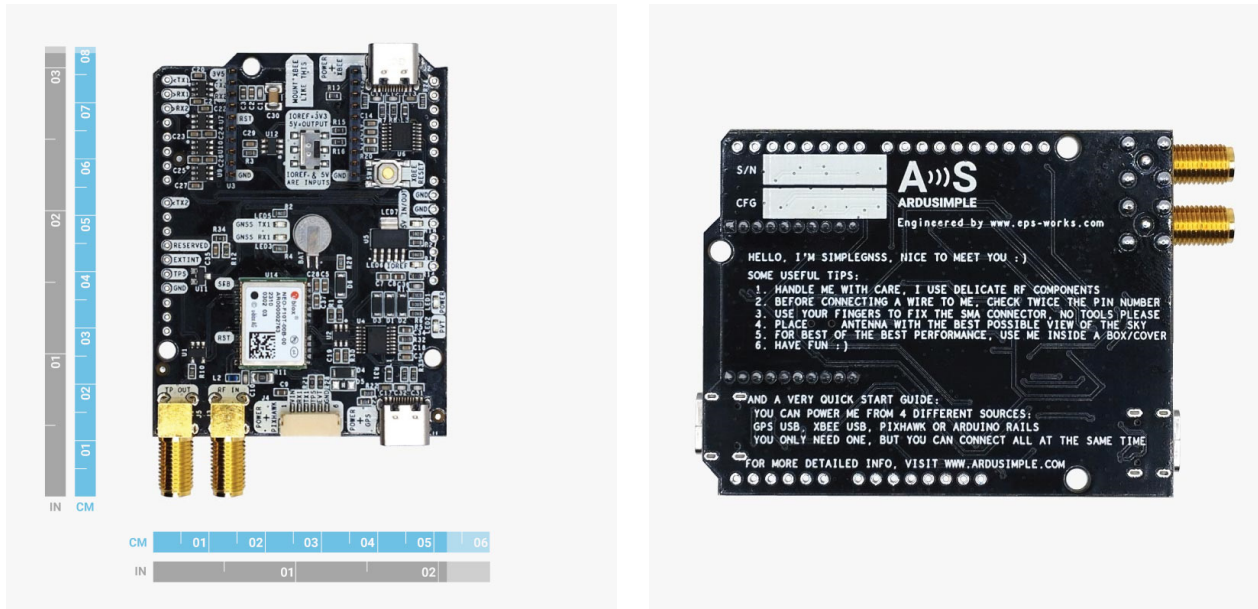
- 1 simpleGNSS Timing board (NEO-F10T)

## Specifications

### NEO-F10T features

- Sub meter level precision
  - <1.5m in standalone mode
  - <0.9m standalone with SBAS coverage
- Update rate
  - Default: 1Hz
  - With maximum performance: up to 8Hz
  - With reduced performance: up to 10Hz
- Multi band: L1, L5 support
- Multifrequency and Multiconstellation:
  - GPS: L1C/A L5
  - Galileo: E1-B/C E5a
  - BeiDou: B1C B2I
  - NavIC: SPS-L5
  - QZSS: L1Sb
  - SBAS: WAAS, EGNOS, MSAS, GAGAN and SouthPan
- Start-up times:
  - First position fix: 27 seconds (cold), 2 seconds (hot)
- RAW data output in UBX format
- Timepulse:
  - Accuracy: 10ns
  - Accuracy (jitter removed): 5ns
  - Jitter: +-8ns
  - Frequency: from 0.25Hz to 10MHz (default 1Hz)
- Operating temperature Range: -40 to +85 deg C
- Documentation: RED, RoHS, UKCA

## Image Gallery



# Pinout

**TOP VIEW**

Description	Name	Description
GPS TX1 3.3V level	TX1	
GPS RX1 2.7V - 3.6V level	RX1	
XBee RX 2.7V - 3.6V level	RX2	
XBee TX 3.3V level	TX2	
Don't connect	DNC	
Input for timestamp 3.3V level	EXTINT	
Timepulse out 3.3V level	TPS	
Ground	<b>GND</b>	
		<b>GND</b> Must connect to GND
		<b>GND</b> Must connect to GND
		<b>5V_IN</b> 4.5-5.5V optional input voltage Can also be output via switch
		<b>IOREF</b> N/C when set as input Can be 3.3V output via switch

simpleGNSS Timing includes free basic technical support. Contact [info@ardusimple.com](mailto: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.