



UBIDIUM

The Next Generation

Ubidium is the most advanced sports timing system available, offering unmatched precision and connectivity in a compact, durable design. Its robust features include hot-swappable batteries for extended operation in any environment.

Features

- Active and passive timing in one device
- Dual battery slots for autonomous operation
- Weatherproof design with a flap to protect connector
- 6.2" display, readable under all conditions
- Connectivity options: GPS, 4G, WiFi, PoE, USB-C, internal/external SIM
- UHF Ground Antenna (up to 23 m width) with single-plug connection



| General | |
|-------------------|---|
| Weight | ~4.2 kg with two batteries (each 450 g) ~3.3 kg without batteries |
| Dimensions | 312 x 251 x 140 mm 1 x 0.8 x 0.4 ft |
| IP Rating | Lid open: IP21 (objects > 4 mm, dropping water) Lid closed: IP44 (objects > 1 mm, spray water from all sides) |
| Temperature range | -20 °C – 40 °C (50 °F in shade) / -4 °F – 104 °F (122 °F in shade) Power performance may be reduced above 25 °C / in strong sunlight. Heating Element keeps System above freezing point for battery charging when connected to sufficient power. |

| Power Connectors & Ratings - Input | | |
|------------------------------------|---|---|
| Connector | Voltage Range and Maximum Current | Maximum Power and Protocol |
| AC port | 100 – 240 V / 47 – 60 Hz 1.8 A | 100 W |
| DC Port Pin 1, 2 | Battery Mode: 11 – 16 V Photovoltaic Mode: 11 – 21 V 5 A | 100 W See manual for battery and photovoltaic mode |
| USB-C | 9 – 20 V 3 A | 60 W USB Power Delivery capable USB-C supply with at least 9 V |
| LAN1 PoE++ In | 42.5 – 57.0 V max 692 mA per Pin | 51 W 802.3bt Type 3 Class 6 |

| Power Connectors & Ratings - Output | | |
|-------------------------------------|-----------------------------------|--|
| Connector | Voltage Range and Maximum Current | Maximum Power and Protocol |
| DC port Pin 2, 3 | 11 – 16.8 V max 2.3 A (fused) | 25 – 40 W depending on Battery SOC |
| USB-C | 5 V 500 mA | 2.5 W |
| USB-A | 5 V 500 mA | 2.5 W |
| LAN2 PoE Out | 44.0 – 57.0 V 350 mA | 802.3af Type 1 Class 3 15.4 W out, always active, battery supplied |
| LAN3 PoE+ Out | 50.0 – 57.0 V 600 mA | 802.3at Type 2 Class 4 30W out, only active with AC or PoE++ supply |

| Battery & Runtime | | | |
|---|-----------|-------------|-------------------|
| 1–2 x Inspired Energy NH2054RR34 94–98 Wh Lithium Ion Smart Battery Runtime and Power Consumption is heavily depending on the number of seen tags/reads, but can be expected to be at least: | | | |
| Operational Mode * | 1 battery | 2 batteries | Power consumption |
| Battery life active (50% loop power) | 13.4 h | 26.9 h | 7 W |
| Battery life passive (4.6 m antenna / 6 segments) | 6.7 h | 13.4 h | 14 W |
| Battery life passive (7.7 m antenna / 8 segments) | 4.7 h | 9.4 h | 20 W |
| Battery life passive (15.4 m antenna / 16 segments) | 2.8 h | 5.7 h | 33 W |
| Battery life passive (23 m antenna / 30 segments) | 2 h | 4 h | 47 W |
| Standby (4G, no mat or loop connected) | 15.7 h | 31.3 h | 6 W |

* not charging, mobile data and 4G active, no Ethernet

| Connectivity | |
|-------------------------------|--|
| Bluetooth® Smart Ready Module | BT 2.1 + EDR and BLE 5.2 internal Antenna |
| LTE Cat 4 Module: | Worldwide LTE, UMTS/HSPA+ and GSM/GPRS/EDGE band coverage: 4G / LTE: FDD, TDD 3G / UMTS: WCDMA, HSUPA, DC-HSDPA 2G / GSM: GPRS, EDGE LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE TDD: B38/B39/B40/B41 UMTS: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8 Antennas: Main Internal or External SMA, Diversity Internal only |
| SIM Cards | internal SIM Card or (software selectable) external 2FF Mini SIM Card slot |
| Mobile Data Antennas | Main: Internal or External SMA, software selectable Diversity: Internal Only |
| GNSS receiver | GPS, GLONASS, BeiDou, Galileo and QZSS for Location and Time Synchronisation |
| Wireless LAN | WiFi 5 802.11ac/a/b/g/n 2,4 GHz and 5 GHz internal Antenna |
| LAN / Ethernet | 3x 1000BASE-T, internally switched, PoE see above |
| USB-A Connector | USB2.0, Host Port |
| USB-C Connector | USB2.0, Data Dual-Role Port, Power Delivery Sink |

| Timing - TimeBase | |
|-------------------|--|
| Operational Mode | Oscillator, maximum clock drift |
| Standby | TCXO 32.768 kHz 3 ppm ±259 ms/day |
| Timing standalone | VCTCXO 12.8 MHz 0.28 ppm ±24 ms/day |
| GPS locked | no measureable drift |

| Timing - Trigger | |
|------------------|--|
| Trigger | Input and Output combined |
| Input Mode | Open Collector Output on Triggering Device, 5 V out (tolerates up to 24 V) |
| Output Mode | Open Collector Output, max. 24 V 50 mA |
| Resolution | 1 ms |

| Passive Timing (UHF) |
|--------------------------------|
| - see Ubidium Ground Antenna - |

| Active Timing | |
|--|--|
| 2.4 GHz channel frequencies main / backup (worldwide compliance) | 1: 2.480 MHz / 2.410 MHz 2: 2.405 MHz / 2.470 MHz 3: 2.425 MHz / 2.465 MHz 4: 2.475 MHz / 2.440 MHz 5: 2.415 MHz / 2.445 MHz 6: 2.460 MHz / 2.430 MHz 7: 2.435 MHz / 2.455 MHz 8: 2.450 MHz / 2.420 MHz |
| 2.4 GHz TX power | 17 dBm |
| 2.4 GHz Antenna | 3 dBi Gain |
| Loop frequency & data | 125 kHz Packet rate: 150 Hz OOK-modulation, manchester encoded, 16 bit anti-false-wakeup pattern |
| Loop dimension | 5 – 60 m cable length, > 0.5 mm ² , width 0.3 – 0.6 m 4 mm safety banana plugs |

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