



# 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 °C 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.

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:  <b>4G / LTE:</b> FDD, TDD <b>3G / UMTS:</b> WCDMA, HSUPA, DC-HSDPA <b>2G / GSM:</b> GPRS, EDGE
	<b>LTE FDD:</b> B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 <b>LTE TDD:</b> B38/B39/B40/B41 <b>UMTS:</b> B1/B2/B4/B5/B6/B8/B19 <b>GSM:</b> 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

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 3A	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

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

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

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

Battery & Runtime			
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

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 <sup>2</sup> , width 0.3 - 0.6 m 4 mm safety banana plugs

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