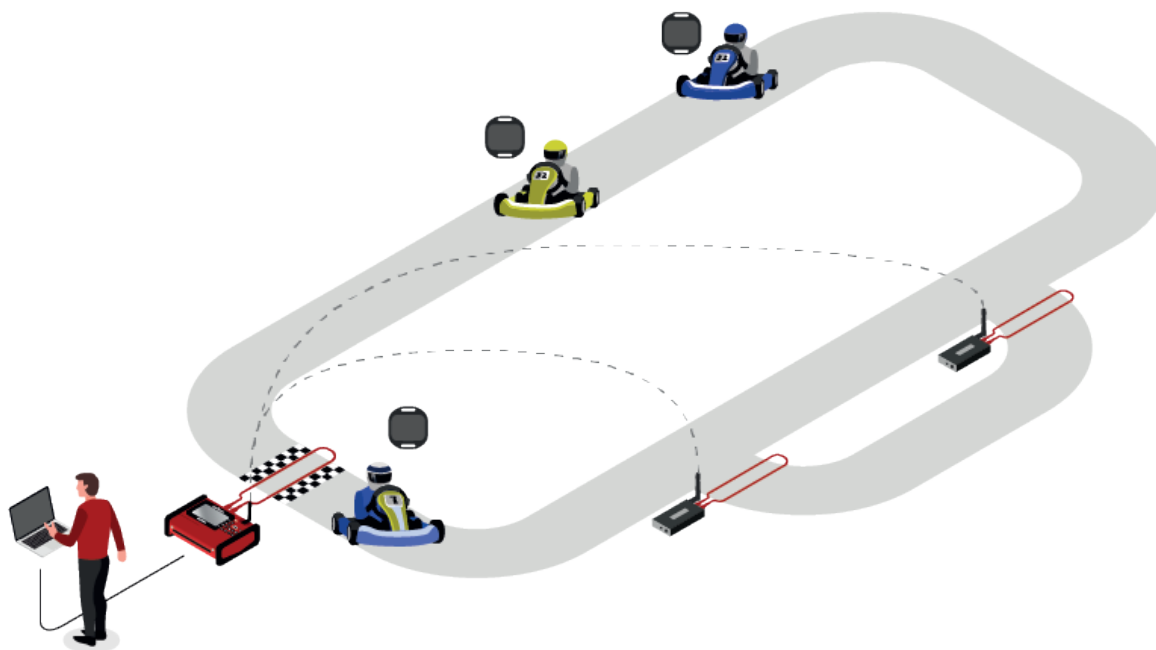




# *Driven by Precision*

RACE RESULT Karting Solution

RACE RESULT Timing Technology is the ideal solution for karting tracks and events of any size. Our timing systems seamlessly integrate with existing infrastructure, making installation quick and straightforward. Split timing points, in particular, require minimal effort to set up.



Our karting solution combines three key components, meticulously engineered for seamless operation and peak performance.

### **Ubidium Timing System**

The Ubidium Timing System is the core of your karting setup, seamlessly installed at the start/finish line. It connects directly to your computer or server, ensuring smooth data integration, and comes equipped with a loop cable.

### **MotorKart V3 Active Transponder**

Designed specifically for karting environments, including electric karts. The transponder combines robust resistance to electrical interference with precise, highly accurate live timing data. Its durable construction ensures reliable performance, even in demanding conditions, and it comes equipped with a convenient Chip Holder.

### **Loop Box for Sector and Split Times**

The Loop Box wirelessly connects to the Ubidium system, transmitting all passings at sector timing points in real time. This innovative solution eliminates the need for extensive cabling. Only the loop cable and power supply is required—making installation and operation more efficient.

## **UBIDIUM**

The cutting-edge timing system designed for superior performance and versatility. Boasts exceptional robustness, lightweight design, and highest accuracy. Data is transmitted in real-time through multiple options, including Ethernet, POE, USB-C or even an internal SIM. Up to 30 m timing point width possible!



## **MOTORKART V3 TRANSPONDER**

Optimized for avoiding electrical interferences at detection heights < 0.5m. Ensures highest reliability and a true accuracy of 0.004 s at 120 km/h max speed. No hidden costs such as subscription or activation fees. 3.5 years battery life guaranteed.

## **LOOP BOX**

At nearby timing points, detections are repeated wirelessly to the main system. In case of more remote timing split points at outdoor tracks, the Motorkart V3 Transponder can also save the passing times and then transmit them every time they loop back around at the start/finish line. Integrated battery for 12-20 h.



# Ubidium Specification

| General Specification |   |
|-----------------------|---|
| Weight                | ~4.1 kg with two batteries (each 450 g)<br>~3.2 kg without batteries  |
| Dimensions            | 312 x 251 x 140 mm<br>1 x 0.8 x 0.4 ft  |
| IP Rating             | Lid open: IP21<br>(objects > 4 mm, dropping water)<br>Lid closed: IP44<br>(objects > 1 mm, spray water from all sides)  |
| Temperature range     | -20 °C - 40 °C (50 °C in shade) /<br>-4 °F - 104 °F (122 °F in shade)   |
|                       | Power performance may be reduced above 25°C / in strong sunlight.<br>Heating Element keeps System above freezing point for battery charging when connected to sufficient power. |

| Active Timing Specification  |  |
|--|--|
| 2.4 GHz channel frequencies<br>main / backup<br>(worldwide compliance) | 1: 2.480 MHz / 2.405 MHz<br>2: 2.405 MHz / 2.470 MHz<br>3: 2.425 MHz / 2.465 MHz<br>4: 2.475 MHz / 2.440 MHz<br>5: 2.415 MHz / 2.445 MHz<br>6: 2.460 MHz / 2.430 MHz<br>7: 2.435 MHz / 2.455 MHz<br>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<br>Packet rate: 150 Hz<br>OOK-modulation, manchester encoded, 16 bit anti-false-wakeup pattern   |
| Loop dimension   | 5 m - 60 m cable length, >0.5 mm <sup>2</sup> , width 0.3 - 0.6 m<br>4 mm safety banana plugs  |

| Connectivity Specification                              |  |
|---|--|
| WiFi  | WiFi 802.11ac/a/b/g/n  |
| Bluetooth-Technology                                    | BT 2.1+EDR and BLE 5.2   |
| 4G / LTE / 3G / 2G Module<br>29 Band Worldwide Coverage | FDD: B1 / B2 / B3 / B4 / B5 / B7 / B8 / B12 / B13 / B18 / B19 / B20 / B26 / B28<br>TDD: B38 / B39 / B40 / B41<br>WCDMA: B1 / B2 / B4 / B5 / B8 / B6 / B19<br>GSM: B2 / B3 / B5 / B8<br>2FF standard / mini-size SIM Card<br>Antennas: Main Internal or External SMA, Diversity Internal only |
| GNSS receiver   | GPS/GLONASS/BeiDou/Galileo   |
| 3x LAN  | all 1 GBit/s   |
| Trigger   | Input or output, 3 - 12 V or Open Collector  |
| USB-A Connector   | USB 2.0, 5 V / 500 mA, Host Port   |
| USB-C Connector   | USB 2.0, 5 V / 900 mA, Dual-Role, Power Delivery IN  |
| UHF Transponder   | Gen2, can be programmed by system  |

| Power Connectors & Ratings |   |   |
|----------------------------|---|---|
|                            |   | Pmax  |
| AC connection              | 100 - 240 V / 47 - 60 Hz                  | 100 W   |
| DC In battery              | 11 - 16 V / 5 A<br>2 A on older systems   | 80 W  |
| DC Out                     | 11 - 16.8 V (fused 2.3 A)                 | 25 W (empty battery)<br>40 W (charged battery)  |
| USB-C PD In                | PD supply min. 15 W (9/15/20 V up to 3 A) | 60 W  |
| PoE-In                     | 802.3 bt / PoE++                          | up to 65 W                                      |
| PoE-Out (low power)        | 802.3 af / PoE                            | 15.4 W out<br>always active, battery supplied   |
| PoE-Out (high power)       | 802.3at / PoE+                            | 30 W Out<br>only active with AC or PoE++ supply |

## MotorKart V3 Transponder Specification

| Warranty* / Battery lifetime  |   |
|-------------------------------|---|
| Years                         | 3.5 years   |
| Passings                      | 300,000   |
| Tracking fast / slow          | 150 / 300 days  |
| Detection                     |   |
| Accuracy                      | 0.004 s   |
| Max. speed                    | 120km/h   |
| Resolution**                  | 0.001 s   |
| 2.4 GHz backup                | dual  |
| Exit passing precision        | 170 ms  |
| Reaction time                 | 125 ms  |
| Loop Antenna                  | 3D  |
| Prewarn                       | -   |
| Detection Height              | 0.5 m   |
| Tracking                      |   |
| Max. time between Track Boxes | 5 h   |
| Max. time between Loops       | 25 h  |
| Typical track ping range      | 50 m  |
| Activation                    | Management Box  |
| Adaptive track ping intervals | 1 s / 0.5 s   |
| Store Mode                    |   |
| Max. passings stored          | 128   |
| Max. store time               | 12 h  |
| Store Mode precision          | Temperature compensated<br>+- 10 ppm                                |
| Temperature                   | -25 °C - 70 °C  |
| Features                      |   |
| Extra transponder code        | ✓   |
| Adaptive noise avoidance      | -   |
| Key-value store               | ✓   |
| Deep sleep mode               | ✓   |
| General                       |   |
| Dimensions                    | 36 x 40 x 9 mm  |
| Weight                        | 16.8 g  |
| Temperature                   | -25 °C - 70 °C  |
| Shock Resistance              | >1,000 G  |
| Housing                       | IP69 TPE molded case sealed with PU compound 100 % salt water proof |
| Battery indicator             | battery status data in passing                                      |

## Loop Box Specification

| General  |  |
|--|--|
| Maximum repeat range   | Up to 900 m with direct line of sight  |
| Passings transmission  | Up to 40/second continuously   |
| Passing transmission delay   | 200 ms - compensated   |
| Internal data buffer   | 1,000 passings   |
| Safety & conditions  |  |
| Protection class with cable / antenna screwed on                             | IP52 - water resistant-<br>IP54 (usage with Bumper)  |
| Regulatory conformity  | CE, RoHS, FCC  |
| Temperature  | -30°C to 70°C  |
| Dimensions / weight  | 27 x 66 x 117 mm / 272 g   |
| 2.4 GHz RF & loop specification  |  |
| Transponder 2.4 GHz channel frequencies main / backup (worldwide compliance) | 1: 2.480 MHz / 2.405 MHz<br>2: 2.405 MHz / 2.470 MHz<br>3: 2.425 MHz / 2.465 MHz<br>4: 2.475 MHz / 2.440 MHz<br>5: 2.415 MHz / 2.445 MHz<br>6: 2.460 MHz / 2.430 MHz<br>7: 2.435 MHz / 2.455 MHz<br>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<br>data-packet = Loop ID + channel<br>packet rate: 150 Hz<br>OOK-modulation, manchester encoded,<br>16bit anti-false-wakeup pattern  |
| Loop length  | 5 m - 25 m, >0.5 mm <sup>2</sup><br>standard 4 mm banana plugs   |
| Internal data buffer   | 1,000 transponders   |
| Read range   |  |
| 25% Loop power   | 60 cm (2 ft)   |
| 100% Loop power  | 2 m (6 ft)   |
| Detection rate   | 100%   |
| Read rate  | > 250 chips/second burst for 4 seconds<br>> 50 chips/second continuously   |
| Power & battery  |  |
| AC power supply  | 110 V-230 V  |
| Loop Box V2  | 50-60 Hz (2 A fuse)  |
| Battery  | LiPo, 4,000 mAh, 3.7 V<br>12-20 h<br>depending on loop power   |

Please note: All data apply to the optimal configuration of the RACE RESULT hardware.  
More information about the setup can be found here in our Knowledge Base.

\* the value reached first is applied

\*\* when using Ubidium



**RACE RESULT** is the innovation leader in sports timing solutions. With more than 6,000,000 timed athletes per year and customers in 85 countries, we take great pride in earning the trust of our clients by consistently delivering the highest quality technology, unwavering reliability, and straightforward support.



## **Julia Bellamy**

*Chief Operating Officer RACE RESULT Americas*



## **Johnny Chandler**

*Technical Sales Manager*

We would be delighted to provide personal consultation on how to set up your perfect timing solution.

For any questions, please contact us at [info.usa@raceresult.com](mailto:info.usa@raceresult.com)

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