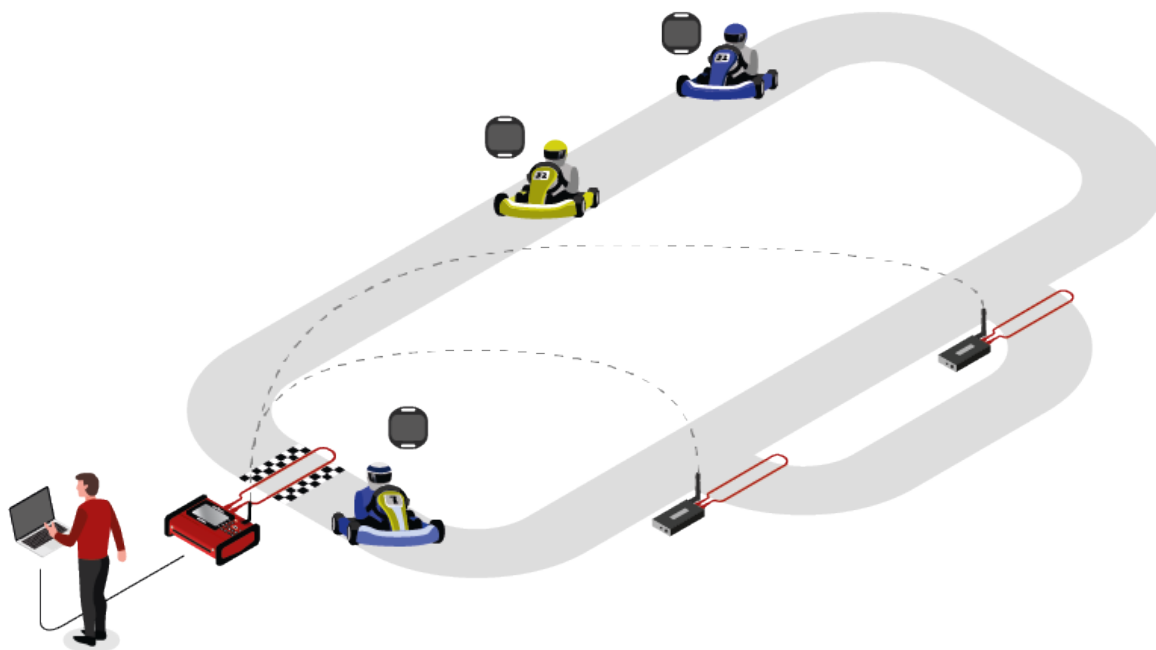




# *Driven by Precision*

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) ~3.2 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.

Active Timing Specification	
2.4 GHz channel frequencies main / backup (worldwide compliance)	1: 2.480 MHz / 2.410MHz 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 m - 60 m cable length, >0.5 mm <sup>2</sup> , width 0.3 - 0.6 m 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 29 Band Worldwide Coverage	FDD: B1 / B2 / B3 / B4 / B5 / B7 / B8 / B12 / B13 / B18 / B19 / B20 / B26 / B28 TDD: B38 / B39 / B40 / B41 WCDMA: B1 / B2 / B4 / B5 / B8 / B6 / B19 GSM: B2 / B3 / B5 / B8 2FF standard / mini-size SIM Card 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 2 A on older systems	80 W
DC Out	11 - 16.8 V (fused 2.3 A)	25 W (empty battery) 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 always active, battery supplied
PoE-Out (high power)	802.3at / PoE+	30 W Out 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 +- 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- 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 / 2.410 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 data-packet = Loop ID + channel packet rate: 150 Hz OOK-modulation, manchester encoded, 16bit anti-false-wakeup pattern
Loop length	5 m - 25 m, >0.5 mm <sup>2</sup> 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 > 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 12-20 h 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.



## Dirk Baumgärtner

*Technical Account and Sales Manager*

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

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

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