

RUFUS

CL



UD

DATASHEET



Step into the future of race timing with the **CloudBox**, a cutting-edge device engineered to revolutionize the way you time and monitor race events. Whether you're organizing a marathon, triathlon, or any other competitive event, the **CloudBox** offers a seamless, efficient, and reliable timing solution that adapts to your specific needs.

The **CloudBox** is compatible with virtually any UHF RFID reader making it ideal for both low-density checkpoints and high-traffic finish lines. Remotely manage your devices, monitor battery life, GPS position, and more with ease. Integrated with RUFUS software, including **RUFUS Cloud**, the **CloudBox** is more than just a timing device—it's a complete, cloud-focused solution that will elevate your race events to the next level, offering unparalleled flexibility, reliability, and value.

Benefits

Optimize Your Performance

Adjust the UHF reader to your needs as a timer. Use low-cost readers for less dense checkpoints and save money.

Remote Control, Anytime, Anywhere

Monitor the status of your devices with ease—check battery levels, temperature, GPS location, and more. Start, stop, or shut down your devices remotely from any location.

Powerful Compatible Software

*Seamlessly integrated with **RUFUS Cloud** and **RUFUS Race Manager** software. Our comprehensive software suite also allows you to develop your custom applications.*

Long-lasting Battery Life

Enjoy more than 12 hours of continuous use on a single charge, with a quick recharge time of just 4 hours.



Key Features

Seamless Cloud integration

Finally, a cloud solution that's easy to use! Simply bind your device and you're ready to go.

Built-in 4G & GPS

Ensure your devices stay online and accurately located at all times.

Fast and Easy Smartphone Control

Connect to the access point and manage your device effortlessly by navigating to cloudbox.local.

Integrated WiFi Modem & Access Point

Connect to local networks to gain Internet access and share it with connected clients.

USB and Ethernet Ports for Data Extraction

*Access your **CloudBox** via web, WiFi, or Ethernet. For quick file backups, simply plug in a USB drive.*

Built-in Real-Time Clock

Keep your devices synchronized with NTP or GPS time-syncing.

Configurable Network Parameters

Easily configure network settings to integrate with your local area network.



Firmware Updates via Internet

Automatically receive and install new firmware releases as soon as they become available.

Use Cases

RUFUS provides a fully customizable UHF solution for all your timing needs. Whether you choose to use our antennas and chips or opt for any other UHF antenna or chip, the **CloudBox** adapts seamlessly.

With the right reader, antenna and chip configuration, the **CloudBox** enables you to time a wide range of events, including:

- Road Race - Trail Running - Marathon - Cycling - Mountain Bike - Triathlon - Open Waters - Motocross/Enduro - Karting - Fitness Race - Mud/Obstacle Run - Riding





Specifications

Environmental Specifications	
Protection	IP52
Regulatory	FCC, RoHS
Relative Humidity	5% ~ 95% (no condensation)
Operating Temperature	-20°C ~ +60°C
Storage Temperature	-40°C ~ +80°C

Physical Characteristics	
Weight	5,5 Kg (without reader)
Dimensions	36 x 26 x 20 cm

Power & Battery	
Input	100/240VAC 50-60Hz 1.5A max
Battery Capacity	24V, 12V and 9V hardware versions. Depending on reader requirements (UN3481)
Charging Time	4 Hours





Battery Life	<p>Battery life in continuous chip reading and cloud sending: ~12 hours</p> <p><i>Battery life can be shortened by various factors, including low temperatures, the number of battery charge cycles, the density of runners, and the rate at which data is uploaded.</i></p> <p><i>Avoid temperature extremes when using or storing.</i></p>
--------------	--

Ports & Characteristics	
CPU	Quad Core 1.2GHz Broadcom BCM2837 64bit CPU 1GB RAM
Memory	32GB Flash
Real-time clock (RTC)	± 20 parts per million (ppm). Approximately ± 1.73 seconds per day. <i>Frequent synchronization with an NTP server makes the ppm drift virtually insignificant.</i>
Access Point	802.11b/g/n - AP - Integrated PCB antenna For smartphone status, control & timing
WiFi	802.11b/g/n - Wifi - Internal antenna For connecting to external networks
SIM Card Slot	2FF - Mini SIM (25 x 15 x 0,76 mm)
Ethernet Port	RJ45 connector Neutrik NE8FDP IP65 TCP socket connection for status, control & timing
USB Port	USB 2.0 connector Neutrik NAUSB-W For backup files quick extraction
Charging Port	Standard IEC-320 C-14
Buttons Control	Power button with safe-turn-on Start/stop timing sessions button
LEDs	Power and start/stop leds for status information
Buzzer	Frequency: 2.9kHz - Acoustic level: 95dB For passing signaling
UHF Reader Compartment	Reader power output cable Reader data input ethernet cable





	Double floor for easy reader installation
UHF Readers Compatibility	Zebra FX9600, Motorola FX9500, Impinj R420, Impinj R220, Chainway UR4 (12V), IDT 88 (9V) <i>Don't see your model? Ask!</i>
UHF Antenna Compatibility	Compatible with any UHF antenna 902MHz – 928MHz, 865MHz – 868MHz
Others	Strong handle for carry Vertical or horizontal positions

Firmware Features	
Reader Agnostic	Compatible with main RFID readers from the industry. Zebra, Impinj, and more
Cloud Fully Compatible	Just bind your CloudBox with RUFUS Cloud and manage everything remotely
Timing and Scoring Software	RUFUS Race Manager & RUFUS Cloud seamless compatibility
Intuitive user interface	Fast and easy control from your smartphone
Multiple Clients	Connect multiple clients simultaneously via ethernet or wifi to control the CloudBox or to listen to timing session data
Rewind Function	For retrieving past passings information
Time-Syncing	Manual, NTP and GPS
Complete Passing Information	EPC, timestamp, seen count, antenna and rssi (<i>if available by the reader</i>) plus latitude and longitude (<i>when using GPS antenna</i>)
Networks	Network address configurable Access point password configurable
Alarms	Low battery and high temperature alarms
Firmware	Updatable via Internet
Chip reading compatibility	Available in closed (<i>reads only RUFUS chips</i>) or open (<i>reads any chip</i>) formats UHF EPC Class 1 Gen 2 (ISO18000-6C) with EPC of 96-BITS





Cloud Features	
Easy to bind	You can do it all from your smartphone
IoT	Know the status information from all your CloudBox in real time Start and stop timing sessions, and shutdown your CloudBox remotely
Live Timing	Receive passings from all your CloudBox devices in real-time. As long as the system has connectivity, it will continuously connect and transmit information to the Cloud.
GPS location	Never lose track of your CloudBox position
Race simulation ready	Feature soon available in the Events App using the CloudBox GPS location information

Cellular & GPS	
GNSS Receiver	GPS/Beidou/GLONASS/GALILEO/QZSS
Cellular Protocols	LTE CAT-4 4G / 3G / 2G Support, Global Band
LTE Bands	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28/ B66 LTE-TDD: B34/B38/B39/B40/B41
Data Rate	LTE Cat-4: Up To 50Mbps (Uplink) / Up To 150Mbps (Downlink) 3G (HSPA+): Up To 5.76Mbps (Uplink) / Up To 42Mbps (Downlink)
SIM Card Slot	2FF - Mini SIM (25 x 15 x 0,76 mm) Supports 1.8V/3V SIM card
Antenna Connectors	LTE main antenna + GNSS antenna

RUN YOUR RACES ON RUFUS

