PRO SERIES

NEXT GENERATION TIMING SYSTEMS

MICROGATE

MICROGATE

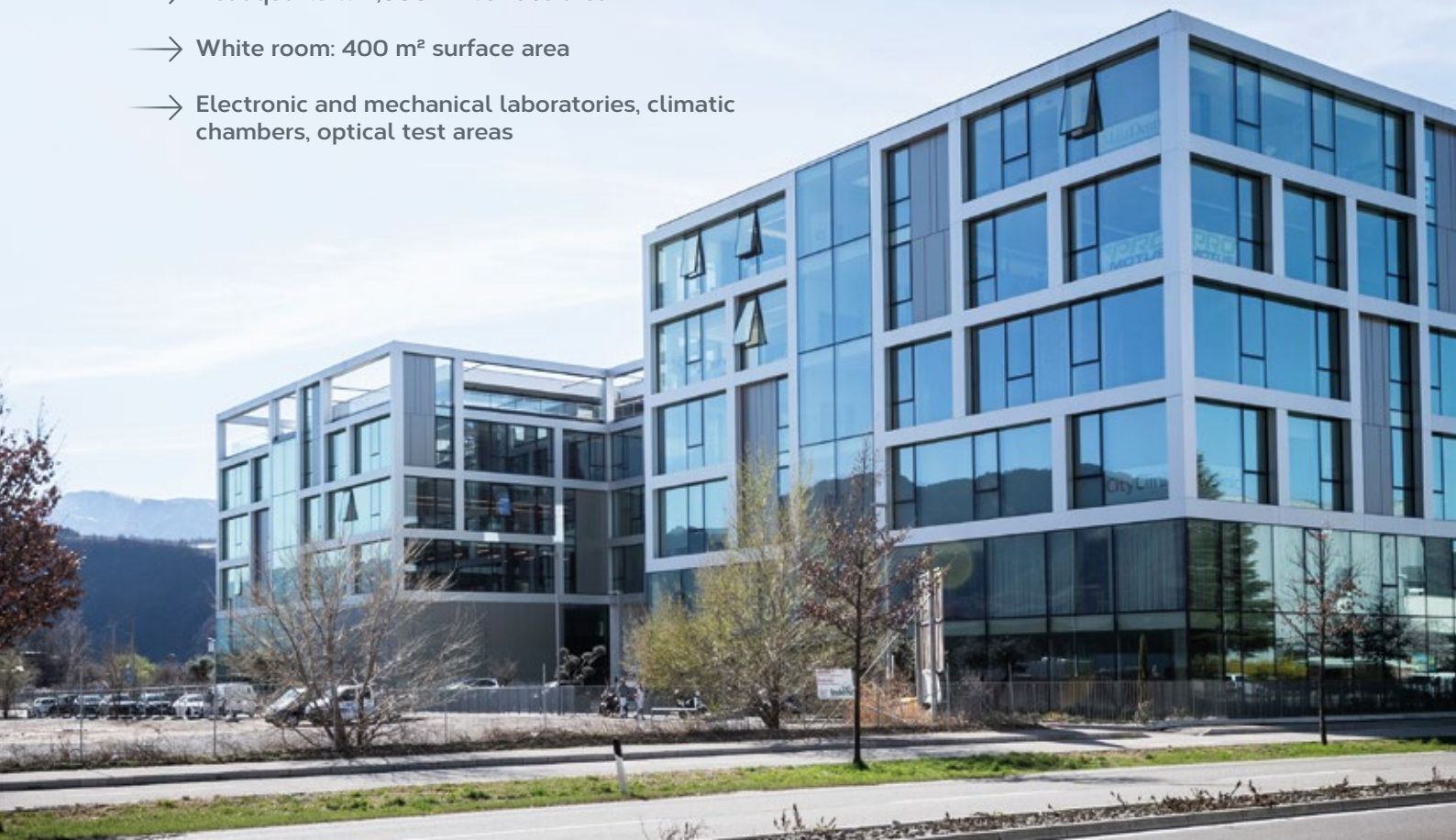
Microgate was born in Bolzano in 1989 out of an idea of brothers Vinicio and Roberto Biasi:

"Whatever you can do, or dream you can do.... begin it.
Boldness has genius, power and magic in it."
Goethe

With this approach, the company has grown in 4 sectors - Professional Timing, Training & Sport, Medical Rehab and Engineering - and exports its products to more than 40 countries worldwide.

It has a team of over 50 experienced professionals, 18 of whom are engineers (5 with a PhD), that takes care of the whole technological development process: from design to prototyping, through to final production and customer care. A production process whose quality has persuaded some of the world's significant companies in their fields – from sports to astronomy, as well as industry and the field of clinical rehabilitation – to choose Microgate as their partner.

- **Over 30 years of experience**
- **Complete production cycle from design to development, from engineering to marketing**
- **Headquarters: 11,000 m² surface area**
- **White room: 400 m² surface area**
- **Electronic and mechanical laboratories, climatic chambers, optical test areas**



PRO SERIES

NEXT GENERATION TIMING SYSTEMS

For us, time is a precious resource, not just a unit of measurement.
Since our inception, in 1989, we have designed modular, high-precision solutions suitable for all kinds of competitions, training and performance.

Thirty years ago, we revolutionized the timing market with the first portable radio communication system. Our continued investment in research and development and close cooperation with industry professionals has enabled us to build a new range of devices that take advantage of the latest and most innovative technologies.
Welcome to the new era of professional timekeeping!

User experience, reliability, accuracy, flexibility and connectivity are at the heart of the Pro Series.

REIPRO

REIPRO represents the next generation of high-performance timing devices. It's the first timing system with full digital connectivity - Ethernet, WiFi, Bluetooth - that delivers absolute accuracy to users. Customizable, flexible and stylish, it best meets the demands of professional timing. The completely redesigned user experience, large touchscreen and plug-and-play connection with external peripherals such as a monitor, keyboard and mouse make it easy and intuitive to use.

WEIGHT 2.2 kg

DIMENSIONS (WxHxD) 365 x 245 x 78 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

TIME MEASUREMENT UNITS selectable down to 1/10,000 of a second

TIME ACCURACY 1/50,000 of a second

RACE MEMORY 8 GB expandable to 128 GB

Hardware

PERFORMANCE Quad Core ARM9 CPU to manage the operating system and an FPGA dedicated only to Timing

DISPLAY large 7-inch colour TFT-LCD touch display, capacitive screen with auto-adaptive sensor for brightness

I/O TIMING 8 timing lines, 16 via radio, 80 via Linkpod, 3 serial lines, 3 analogue inputs, 6 Digital I/O

TIME BASE thermocompensated oscillator ±1 ppm with integrated GPS synchronization

CONNECTIVITY USB, WiFi, Bluetooth, Ethernet, HDMI, GPS

KEYBOARD with 49 physical keys and flexible protective membrane cover

PRINTER fast, quiet thermal printer. No moving parts, with print speeds of up to 8 lines per second; standard paper of 57mm

POWER SUPPLY lithium-ion battery with operating time > 8 hours

Software

A completely redesigned and simplified user experience that, in keeping with the logic of its predecessors, makes the most of the features of the large touchscreen and the technical characteristics of the timing system.
The operating system is based on a custom version of Linux that optimizes and ensures performance under all conditions. A new feature permits quickly and accurately intervening on events recorded during timing. The personal setup and configurations of the stopwatch and races can be saved to a USB stick and recorded on another device.

Predefined and optimized programs to handle different types of competitions:

- simplified program for training or short races
- management of races with single starts
- management of races with group starts
- specific program for managing horse-riding competitions in accordance with FEI regulations
- management of races in parallel
- management of swimming races showing the lanes and the progress of the race
- management of pursuit races such as skating and indoor cycling
- online PC function to provide all the pulses to the PC in real time using the stopwatch as a time base

The system is used on a large scale, in different types of events:

- Winter sports (skiing, Nordic skiing, snowboarding, sledding, skating)
- Swimming
- Equestrian sports (Horse Riding, Horse Racing, Western) and dog sports
- Athletics
- Indoor and outdoor cycling
- Roller skating
- Motorsports (historic cars, rallies)
- Canoeing

Datasheet on page 14

RTPRO

RTPRO combines more than 30 years of experience in the field of timing with the most cutting-edge technologies to create a new generation of high-performance timing devices.
RTPRO is a professional, portable stopwatch that combines innovative standards with the greatest accuracy. The large touchscreen, ease of use and different connection possibilities make it a unique device suitable for all application scenarios.

WEIGHT 750 g

DIMENSIONS (WxHxD) 109 x 262 x 66 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

TIME MEASUREMENT UNITS selectable down to 1/10,000 of a second

TIME ACCURACY 1/50,000 of a second

RACE MEMORY standard 8 GB expandable to 128 GB

Hardware

PERFORMANCE Dual Core Cortex-A7 CPU to manage the operating system and a Cortex-M4 Timing Unit

DISPLAY large 5-inch colour TFT-LCD touch display, capacitive screen with auto-adaptive sensor for brightness

I/O TIMING 4 timing lines, 16 via radio, 1 digital I/O

TIME BASE thermocompensated oscillator ±1 ppm with integrated GPS synchronization

CONNECTIVITY USB C, WiFi, Bluetooth, GPS, 2 serial lines (via USB-A sockets), Ethernet (via USB-A sockets)

KEYBOARD with 6 physical keys and flexible protective membrane cover

PRINTER fast, quiet thermal printer. No moving parts, with print speeds of up to 8 lines per second; standard paper of 57mm

POWER SUPPLY lithium-ion battery with operating time > 8 hours

Software

A completely redesigned and simplified user experience that, in keeping with the logic of its predecessors, makes the most of the features of the large touchscreen and the technical characteristics of the timing system.
The operating system is based on a custom version of Linux that optimizes and ensures performance under all conditions. A new feature permits quickly and accurately intervening on events recorded during timing. The personal setup and configurations of the stopwatch and races can be saved to a USB stick and recorded on another device.

Predefined and optimized programs to handle different types of competitions:

- simplified program for training or short races
- management of races with single starts
- management of races with group starts
- specific program for managing horse-riding competitions in accordance with FEI regulations
- management of races in parallel
- online PC function to provide all the pulses to the PC in real time using the stopwatch as a time base

The system is used on a large scale, in different types of events:

- Winter sports (Skiing, Nordic Skiing, Snowboarding, Sledding, Skating)
- Athletics
- Equestrian sports (Horse Riding, Horse Racing, Western) and dog sports
- Roller skating
- Cycling road race
- Canoeing
- Motorsports (historic cars, rallies)

Datasheet on page 16

HILINK

HILINK is the new Microgate radio transmission system. Using a transceiver module, it incorporates both transmitter (EncRadio) and receiver (DecRadio) functionality. The compact size, extended temperature range and the temperature-compensated time base of ±1 ppm make it the ideal instrument for the radio transmission of timing pulses in all operating situations.
HILINK also has a GPS module for synchronizing the time base with the satellite signal which, by using one of its external lines, can turn it into a synchronizer.

WEIGHT 298 g

DIMENSIONS (WxHxD) 66 x 125 x 35 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

TIME MEASUREMENT UNIT SELECTABLE down to 1/10,000 sec.

TIME ACCURACY 1/50,000 of a second

Hardware

DISPLAY 2-inch colour TFT-LCD touch display, capacitive screen with auto-adaptive sensor for brightness

TIME BASE thermocompensated oscillator ±1 ppm with integrated GPS synchronization

CONNECTIVITY

- Bluetooth LE, Radio 433Mhz
- radio transmission with 69 channels with 2 power versions of 10 mW and 500 mW
- integration with HISMART Tag for Smart Identification

KEYBOARD with 4 physical keys and flexible protective membrane cover

POWER SUPPLY lithium-ion battery with operating time > 8 hours

Software

Simple, out-of-the-box user interface, which permits configuring HILINK according to specific needs

Datasheet on page 18

HICLOCK

HICLOCK is the first system to integrate start clock and full-colour display board functionality to display times.
Consisting of a 48x16 matrix of colour LEDs, in start clock mode it displays both the time of day and the specific semaphore information for each discipline. Featuring a time base with a thermocompensated oscillator ±1 ppm at an extended temperature range and GPS synchronization with a high-gain antenna, it can be used either in standalone mode or managed by the Pro Series range of stopwatches. Bluetooth and WiFi connectivity enables wireless communication with Microgate stopwatches and apps.
The display board mode makes it a versatile instrument for viewing a time running on the Pro Series range of chronometers.

WEIGHT 3.42 kg

DIMENSIONS (WxHxD) 480 x 160 x 125 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

TIME ACCURACY 1/50,000 of a second

Hardware

DISPLAY 2.8" configuration display with capacitive screen

TIME BASE thermocompensated oscillator ±1 ppm with GPS synchronization and an integrated high-gain GPS antenna

CONNECTIVITY USB, Ethernet, Bluetooth and WiFi, two input and two output lines

Software

Simple, at-a-glance user interface that permits choosing the viewing and sequence repetition times in an easy and intuitive way.

Datasheet on page 20

HISMART

HISMART is a very lightweight sensor designed for automatic recognition of athletes. It uses the Bluetooth LE Fast Authentication protocol to send your identifier to the various devices along the route. The entire Pro Series range and our timing apps can "see it" and use it to identify passing. The HISMART sensor can be used as a lap counter or to prevent recording false pulses.

WEIGHT 17 g

DIMENSIONS (WxHxD) 42 x 42 x 14 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

CONNECTIVITY Bluetooth LE

LITHIUM-ION BATTERY WITH OPERATING TIME > 8 hours

CONFIGURABLE SENSING RANGE from a few centimetres to 60 metres

HISTART

HISTART is the new starting gate that guarantees the utmost precision in all conditions. The absence of electromechanical contacts and the robust mechanical construction, free of parts subject to wear, guarantee long life and stability of performance over time, even in the most demanding applications. An innovative coupling system makes assembly quick and easy, ensuring maximum efficiency, especially during training sessions.

WEIGHT 270 g

DIMENSIONS (WxHxD) 149 x 85 x 51 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

ELECTRICALLY INDEPENDENT DOUBLE CONTACT

ACTUATION FORCE ADJUSTMENT

POSSIBILITY TO BE CONFIGURED for automatic pointer return (e.g. for automatic timing systems)

Datasheet on page 22

HISENS

HISENS is the world's first lens-free photocell, developed thanks to the know-how and technology from the field of Telescopes. This technical solution has significantly increased its optical range (up to 30 metres) and improved its efficiency.

In addition to the basic functionality of a classic photocell (used with a reflector or in dual mode with a range of up to 90m), HISENS introduces the idea of a new generation sensor.

Its extended temperature range, thermocompensated time base of ±1 ppm, GPS module for synchronizing the time base with the satellite signal and Bluetooth connectivity make it an ideal device for integration with the HILINK and HISMART systems and the Pro Series stopwatches.

The version with built-in radio transmission (power of 10mW) then integrates both transmitter functionality (EncRadio) and receiver functionality (DecRadio) using a transceiver module and allows it to be used with the HILINK systems using up to 69 frequencies.

WEIGHT 515 g

DIMENSIONS (WxHxD) 128 x 118 x 56 mm

OPERATING TEMPERATURE RANGE -20°C +60°C

TIME ACCURACY 1/50,000 of a second

Hardware

TIME BASE thermocompensated oscillator ±1 ppm with integrated GPS synchronization

CONNECTIVITY Bluetooth LE, frequency 433MHz

RADIO TRANSMISSION with 69 channels and radio transmission power of 10mW

INTERACTION with HiSmart Tag for Smart Identification

LITHIUM-ION BATTERY WITH OPERATING TIME > 8 hours

Datasheet on page 23

MICROGATE – HITIMING APP

HITIMING, the new Microgate app, has been designed to share timing session data in real time with coaches, athletes and other roles, through a free data sharing service.

Once initiated, the primary user of the app can share the timing session identification code with guest users ("Guest"). Those who installed it on their device receive a message or email with the session identification code ("Session ID") and can activate the app in "guest" mode. They will then receive the remote session data in real time. When the primary user closes the session, all active sessions on the devices in "guest" mode will also be closed, which will then be available in the local archive.

Sharing results
The results of each session can be sent from the archive, as an Excel spreadsheet, via a message and attached to an email.

HITIMING

Download on the App Store

GET IT ON Google Play

REIPRO

GENERAL

Weight	2.2 kg
Dimensions	365 x 245 x 78 mm (78mm max, 30mm min)
Operating temperature	-20°/+60°C

TIMING

Time measurement unit	Selectable 1s - 1/10s - 1/100s - 1/1000s; -1/10000s • selectable m/s - km/h - Mph - knots
Measurement resolution	20 x 10-6s (1/50000 s)
Time base	19.2MHz VCTCXO oscillator, stability ±1 ppm from +30° to +85° C (first-year ageing ±1ppm)
Accuracy	±0.0864 s/day for temperatures from +25° to +70°C

POWER SUPPLY

Power supply	External DC power supply 12-28V; Internal Li-ion batteries
Battery recharging	Built-in smart recharging device
Uptime	> 8 ore
Power ON/OFF	From the keyboard, with dedicated key

USER INTERFACE

Keyboard	49-key keyboard, covered with a protective waterproof membrane
Display	High-brightness colour TFT graphical display, visual area 152 x 91 mm (7.0"), resolution 800 x 480 pixels, excellent/ good visibility in sunlight, capacitive touchscreen, manual adjustment via software of the brightness or automatic adjustment with built-in light sensor
Printer	Thermal printer - Various fonts available - Speed: approx. 8 lines/s - Uses thermal paper
Processing unit	Architecture based on two processors – General CPU and Timing Unit: General CPU (based on SOM, System on Module) - Quad Core Arm9 @800MHz Timing Unit (based on FPGA) - NIOS II/e 32bit RISC processor

CONNECTIONS

Supply	1 x Amphenol socket - Connection for external power supply unit
Timing Inputs	1 x Amphenol socket - Start, stop, lap and auxiliary signal inputs 4 x Ø4 mm sockets - Start, stop, lap and auxiliary signal inputs
Analogue I/O	1 x Amphenol socket - 3 x 0-5V analogue inputs for connecting temperature, humidity and wind speed sensors - 1 x 0-5V digital I/O for connecting/driving external devices
Digital I/O	1 x Amphenol socket - 5 x 0-5V digital I/Os for connecting/driving external devices
Serial	3 x Amphenol socket - RS232/485 serial inputs/outputs for connecting to PC, display boards, REI2 NET, LinkGate... (serial interfaces completely isolated from the timer power supply)
Radio	2 x five-pole sockets - Connection to Microgate LinkGate radio transmission system
Linkpod	1 x Amphenol socket - Connection to LinkPod system (up to 80 auxiliary inputs completely isolated from the timer power supply)
Host USB	4 x USB A ports - USB 2.0 connection to "Device" devices
Device USB	1 x USB B port - USB 2.0 connection to "Host" devices
Ethernet	2 x Ethernet ports - 10/100/1000 Mbps Ethernet connection
HDMI	1 x HDMI port - Connection to devices with an HDMI input
Audio	1 x 3.5mm stereo jack - Amplified audio output for direct connection to headphones/headsets
WiFi+BT	1 x Integrated WIFI/BT + Antenna module - WiFi: 802.11 a/b/g/n - Bluetooth: 4.0 + BLE
GNSS	1 x Integrated GNSS + Antenna module - Simultaneous reception of GPS/QZSS, GLONASS, BeiDou. - Automatic switching from internal antenna to external active GPS antenna 1 x SMA socket - Connection to external active GPS antenna (optional)

RTPRO

GENERAL

Weight	750 g
Dimensions	109 x 262 x 66 mm (109mm max/91mm min x 262 x 66mm max/34mm min)
Operating temperature	-20°/+60°C

TIMING

Time measurement unit	Selectable 1s - 1/10s - 1/100s - 1/1000s; -1/10000s • selectable m/s - km/h - Mph - knots
Measurement resolution	20 x 10-6s (1/50000s)
Time base	19.2 MHz VCTCXO oscillator, stability ±1 ppm from +30° to +85°C (first-year ageing ±1ppm)
Accuracy	±0.0864 s/day for temperatures from +25° to +60°C

POWER SUPPLY

Power supply	External DC USB PD power supply 20V 1.5A; Internal Li-ion batteries
Battery recharging	Built-in smart recharging device
Uptime	> 8 ore
Power ON/OFF	From the keyboard, with Microgate key

USER INTERFACE

Keyboard	6-key keyboard, covered with a protective waterproof membrane
Display	High-brightness colour TFT graphical display, visual area 62 x 110 mm (5.0"), resolution 480 x 854 pixels, excellent/good visibility in sunlight, capacitive touchscreen, manual adjustment via software of the brightness or automatic adjustment with built-in light sensor
Printer	Thermal printer - Various fonts available - Speed: approx. 8 lines/s - Uses thermal paper
Processing unit	Architecture based on two processors – General CPU and Timing Unit: General CPU - Dual 1 GHz Cortex-A7 Timing Unit - 200 MHz Cortex-M4

CONNECTIONS

Supply **USB Device**	1 x USB C port - Connection for external power supply unit - USB 2.0 connection to "Host" devices
Timing Inputs	2 x Ø4 mm sockets - Start and stop inputs
Digital I/O	1 x M5 socket - Lap and auxiliary signal inputs - 1 x 0-5V digital I/O for connecting/driving external devices
Radio	1 x five-pole sockets - Connection to Microgate radio transmission system
Host USB	2 x USB A ports - USB 2.0 connection to "Device" devices
WiFi+BT	1 x Integrated WIFI/BT + Antenna module - WiFi: 802.11 a/b/g/n - Bluetooth: 4.2 + BLE
GNSS	1 x Integrated GNSS + Antenna module - Simultaneous reception of GPS, Galileo, GLONASS, BeiDou.

HILINK

GENERAL

Weight	298 g
Dimensions	66 x 125 x 35 mm
Operating temperature	-20°/+60°C

TIMING

Measurement resolution	20 x 10-6s (1/50000s)
Time base	24.0 MHz VCTCXO oscillator, stability ±1 ppm from -30° to +85°C (first-year ageing ±1ppm)
Accuracy	±0.0864 s/day for temperatures from -20° to +60°C

POWER SUPPLY

Power supply	External power supply 5VDC 1.0A; Internal Li-Ion battery
Battery recharging	Built-in smart recharging device - Charging via USB C
Uptime	> 8 ore
Power ON/OFF	From the keyboard, with Microgate key

USER INTERFACE

Keyboard	4-key keyboard, covered with a protective waterproof membrane
Display	High-brightness colour TFT graphical display, visual area 31 x 41 mm (2.0"), resolution 240 x 320 pixels, excellent/good visibility in sunlight, capacitive touchscreen, manual adjustment via software of the brightness or automatic adjustment with built-in light sensor
Processing unit	Architecture based on a processor - 200 MHz MIPS32

CONNECTIONS

Power supply **Device USB**	1 x USB C port - Connection for external power supply unit - USB 2.0 connection to "Host" devices
Input/output timing	1 x Ø 4 mm socket (Green) - Input: Start, Lap1..Lap14, Stop - Output: Synchronization 1 x Ø 4 mm socket (Red) - Input: Start, Lap1..Lap14, Stop
Serial	1 x five-pole sockets - Input/output: Serial RS232 for connection to stop-watch, PC, scoreboard..
Radio	1 x Integrated UHF module - UHF narrow band multi-channel transceiver 434 MHz - Radio frequency: 433,075 MHz to 434,775 MHz - Radio transmission power: 10mW - Transmitter type: PLL synthesizer - Receiver type: Double superheterodyne - Modulation: FSK; redundant code with check on correct information and self-correction - Form of communication: Half duplex - Number of channels: 69 (with frequency steps between channels of 25 kHz) - Pulse transmission accuracy: ±0.4 ms - Radio transmission range: approximately 2 km 1 x TNC port - Connection to external UHF antenna
BT	1 x Integrated BT + Antenna module - Bluetooth: 5.1 BLE
GNSS	1 x Integrated GNSS + Antenna module - Simultaneous reception of GPS, Galileo, GLONASS, BeiDou

HICLOCK

GENERAL

Weight	3422 g
Dimensions	480 x 160 x 125 mm
Operating temperature	-20°/+60°C

TIMING

Time measurement unit	Selectable between 1s - 1/10s - 1/100s - 1/1000s; -1/10000s
Measurement resolution	20 x 10-6s (1/50000s)
Time base	19.2 MHz VCTCXO oscillator, stability ±1 ppm from +30° to +85°C (first-year ageing ±1ppm)
Accuracy	±0.0864 s/day for temperatures from +20° to +60°C

POWER SUPPLY

Power supply	External DC power supply 12-28V; Internal Li-ion batteries
Battery recharging	Built-in smart recharging device
Uptime	> 8 ore

USER INTERFACE

Button	Power ON/OFF button
Matrix	High-brightness colour LED, resolution 48 x 16 LED excellent/good visibility in sunlight, manual adjustment via software of brightness or automatic adjustment with built-in light sensor
Display	High-brightness colour TFT graphical display, visual area 59 x 45 mm (2.8"), resolution 320 x 240 pixels, excellent/good visibility in sunlight, capacitive touchscreen, manual adjustment via software of brightness
Processing unit	Architecture based on two processors – General CPU and Timing Unit: General CPU - Dual 1 GHz Cortex-A7 Timing Unit - 200 MHz Cortex-M4
Audio	Integrated mono audio amplifier + speaker

CONNECTIONS

Supply	1 x Amphenol socket - Connection for external power supply unit
Input/output timing	2 x Ø 4 mm Sockets (Green) - Timing inputs 2 x Ø 4 mm Sockets (Blue) - Timing outputs
Host USB	2 x USB A ports - USB 2.0 connection to "Device" devices
Device USB	1 x USB B port - USB 2.0 connection to "Host" devices
Ethernet	1 x Ethernet ports - 10/100/1000 Mbps Ethernet connection
WiFi+BT	1 x Integrated WIFI/BT + Antenna module - WiFi: 802.11 ac/a/b/g/n - Bluetooth: 4.2/BLE
GNSS	1 x Integrated GNSS + active antenna module - Simultaneous reception of GPS, Galileo, GLONASS, BeiDou

HISMART

GENERAL

Weight	17 g
Dimensions	42 x 42 x 14 mm
Operating temperature	-20°/+60°C

POWER SUPPLY

Power supply	External power supply USB 5VDC 0.2A; Internal Li-Po battery
Battery recharging	Built-in smart recharging device - Charging via USB C - Qi wireless charging (WPC v1.2)
Uptime	> 8 ore
Power ON/OFF	From the keyboard, with Microgate key

USER INTERFACE

Keyboard	1-key keyboard, covered with a protective waterproof membrane
Processing unit	Architecture based on a processor - 64 MHz ARM Cortex-M4 32-bit

CONNECTIONS

Power supply **Device USB**	1 x USB C port - Connection for external power supply unit - USB 2.0 connection to "Host" devices
BT	1 x Integrated BT + Antenna module - Bluetooth: 5.1 BLE
Inertial sensor	1 x Integrated 9-axis inertial sensor - Accelerometer resolution: ±2G - ±16G (XYZ) - Gyroscope resolution: ±125°/s - ±2000°/s (XYZ) - Magnetometer resolution: ±1150 T (XY), ±2500 T (Z)

HISENS

GENERAL

Weight	515 g
Dimensions	128 x 118 x 56 mm
Operating temperature	-20°/+60°C

TIMING

Measurement resolution	20 x 10-6s (1/50000s)
Time base	24.0 MHz VCTCXO oscillator, stability ±1 ppm from +30° to +85°C (first-year ageing ±1ppm)
Accuracy	±0.0864 s/day for temperatures from +20° to +60°C

OPTICS

Minimum resolution	0.1 ms
Delay in relation to the event	1 ms
Optical range	30 m

POWER SUPPLY

Power supply	External power supply 5VDC 1.0A; Internal Li-Ion battery
Battery recharging	Built-in smart recharging device - Charging via USB C
Uptime	> 8 ore
Power ON/OFF	From the keyboard, with Microgate key

USER INTERFACE

Keyboard	1-key keyboard, covered with a protective waterproof membrane
Processing unit	Architecture based on a processor - 200 MHz MIPS32

CONNECTIONS

Power supply **Device USB**	1 x USB C port - Connection for external power supply unit - USB 2.0 connection to "Host" devices
Output timing	1 x Ø 4 mm socket (Green) - Opto-isolated output
Radio	1 x Integrated UHF module - UHF narrow band multi-channel transceiver 434 MHz - Radio frequency: 433,075 MHz to 434,775 MHz - Radio transmission power: 10mW - Transmitter type: PLL synthesizer - Receiver type: Double superheterodyne - Modulation: FSK; redundant code with check on correct information and self-correction - Form of communication: Half duplex - Number of channels: 69 (with frequency steps between channels of 25 kHz) - Pulse transmission accuracy: ±0.4 ms - Radio transmission range: approximately 2 km 1 x TNC port - Connection to external UHF antenna
BT	1 x Integrated BT + Antenna module - Bluetooth: 5.1 BLE
GNSS	1 x Integrated GNSS + Antenna module - Simultaneous reception of GPS, Galileo, GLONASS, BeiDou

International sporting events with Microgate timing systems

- **Tour de France, Tour de Suisse, Giro d'Italia, European Championships in Munich** and other cycling events
- **Dakar Rally, World Rally Raid championship, Targa Florio** and other motorsport events
- **European and Italian outdoor and indoor Athletics Championships, European Cross Country Championships** and other athletics events
- **Winter World Masters Games, Ski Cross European Cup and FIS, National Winter Games of the People's Republic of China** and other winter sports events
- **FEI** (International Federation for Equestrian Sports) **World Cup** in Verona – Italy, **Attelage World Cup** in France and other equestrian events
- **Lake Lanier Canoe Kayak World Championship** in the United States and other canoeing events
- **Saudi Games - Camel Competition, Camel Race Nejran Season, Crown Prince Camel Festival** and all major camel races in the Gulf,
- **UAE Falcon Federation Falconary Cup, Emirates Falcon League, President Cup Falcon Competition** and all the major falcon competitions in the Gulf.

Homologated

Trusted by

Contact your
specialized consultant:
https://timing.microgate.it/en

High-performance timing systems
Made in Italy, since 1989.

For us, time is a precious resource, not just a unit of measurement. Since our inception, we have been focusing on designing modular, high-precision solutions suitable for all kinds of competitions, training and sports performance.

timing.microgate.it/en

MICROGATE