CRISARTECH

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CATALOGUE CLASSIC

06/2025

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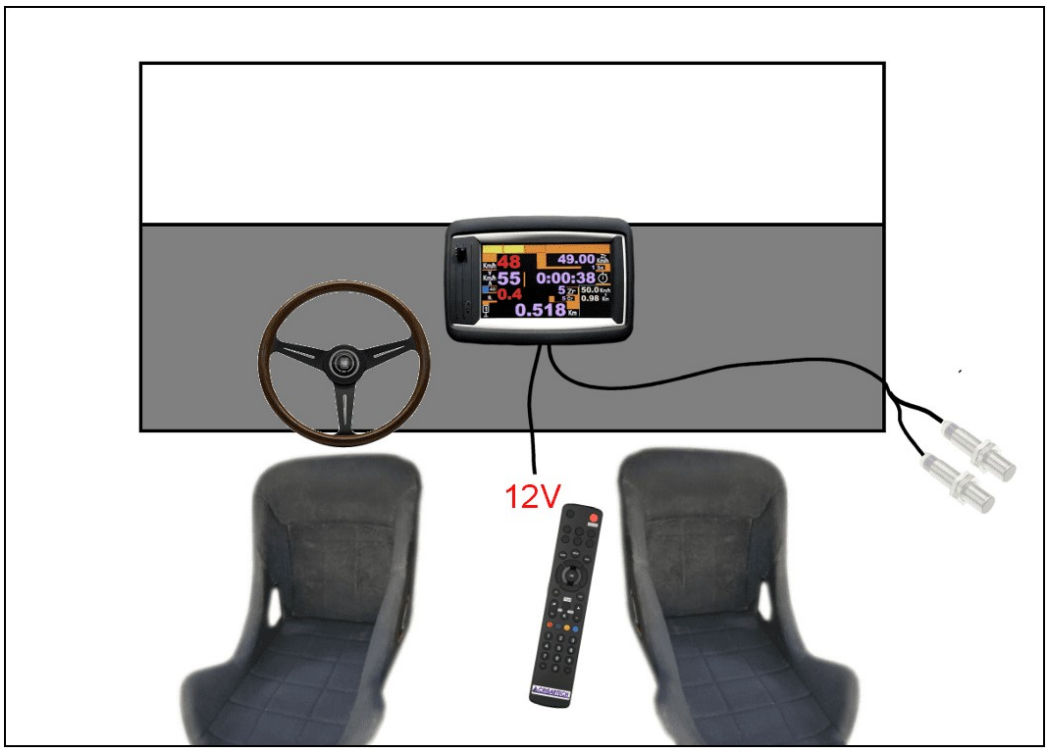
Configurations

Here are some examples of configurations, among all the possibilities:

Configurations are available for **sale** or **rent**. Indicative rental rate for 1 month: 25% of selling price + 50 €

1. HRR Starter pack

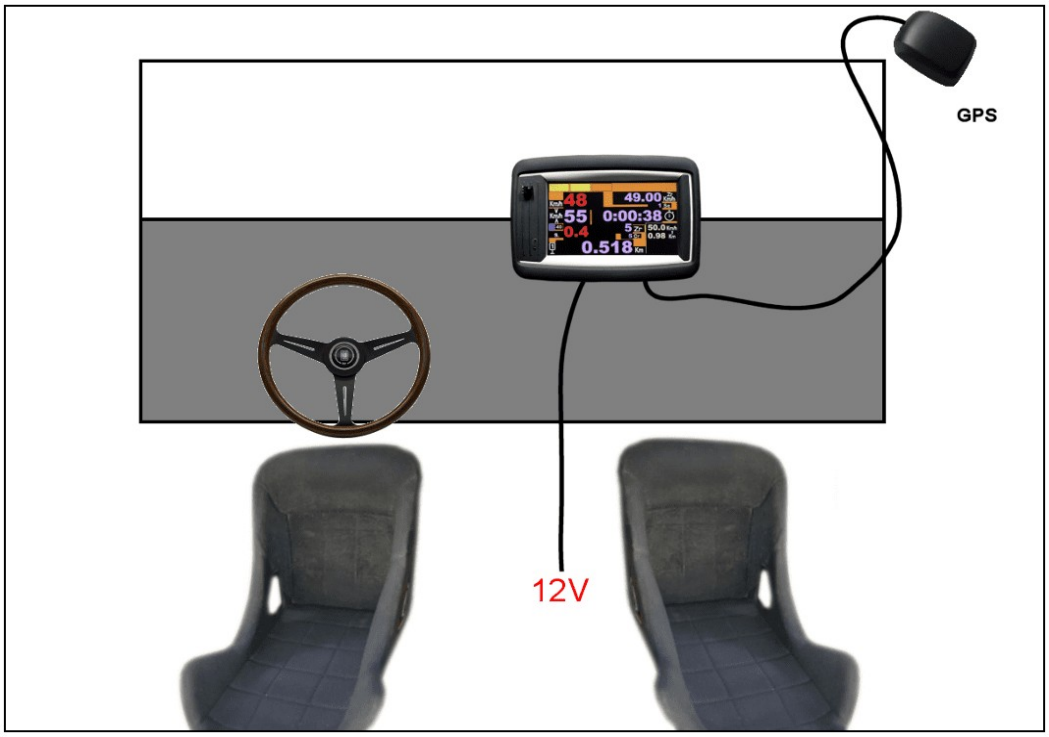
This is the minimum configuration recommended for Historic Regularity Rallies (on open roads without reconnaissance): the timer is shared, fixed on the dashboard, and the buzzer helps the driver to regulate. The remote control allows the co-driver to easily readjust distances. Existing sensors are kept.



Price: RR412 + IR remote control + 12V harness + 2 sensor harnesses: **1 100.50€ incl. VAT**

2. HSRR Starter pack

This is the minimum configuration recommended for Historic Sporting Regularity Rallies (on closed roads, with reconnaissance): the timer is shared, the buzzer helps the driver to regulate. Distances are measured and automatically corrected by GPS (based on reconnaissance carried out with an OBDII-compatible vehicle, wheel sensors or files purchased from CRISARTECH). Wheel sensors are not required during the race.



Price: RR412 + external GPS + GPS correction + 12V harness: **1 339.50 € INCL. VAT**

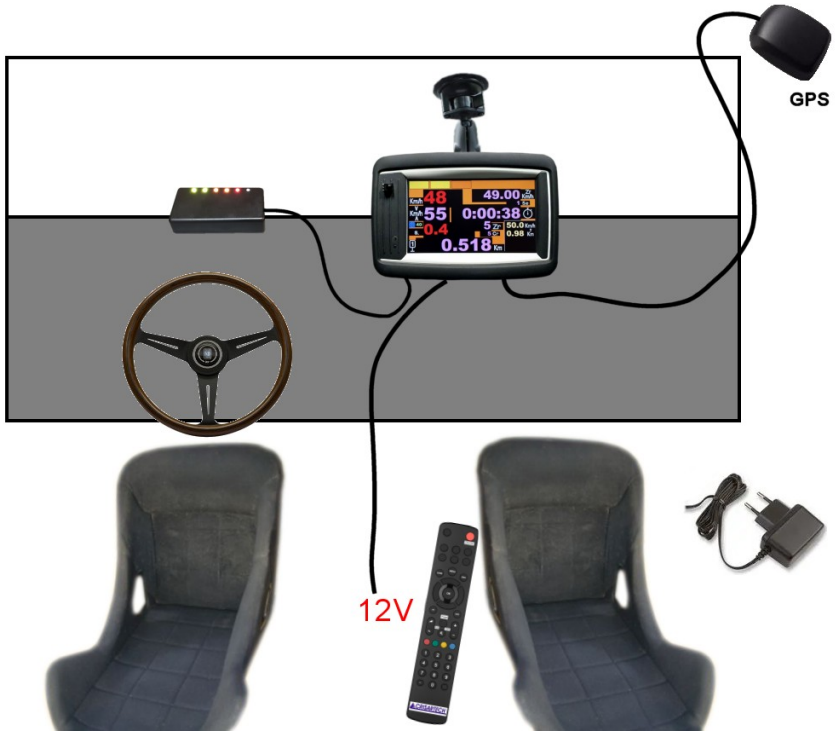
3. HRR Comfort VHR

The timer is positioned on the co-pilot's side. The pilot has a color screen to take part in navigation, and the buzzer helps him to regulate. The GPS receiver synchronizes the time automatically and can take over from faulty sensors.

Price: RR412 + RP380 + external GPS + wired remote control + 12V harness + 2 sensor harnesses + 2 sensors + 2 suction cup holders + 220V power supply: **2 049.50 € INCL. VAT**

4. HSRR Comfort pack

The timer is positioned on the co-driver's side. The driver has LEDs on the windscreen and a buzzer to regulate without taking his eyes off the road. The co-driver has a remote control for easy operation of timer while driving. Distances are measured and automatically recalculated by GPS (based on reconnaissance with an OBDII-compatible vehicle, wheel sensors or files purchased from CRISARTECH). Wheel sensors are not required during the race.



Price: RR412 + external GPS + GPS correction + Led6 HUD + IR remote control + 12V harness + suction cup holder + 220V power supply: **1 736.50€ INCL. VAT**

5. Complete configuration pack

Complete configuration (or almost, as accessories can still be added), for all types of regularity rally: the timer is on the co-driver's side. The driver has a buzzer to help him regulate, a color display and LEDs.

Price: RR412 + RP380 + multi-socket + external GPS + GPS correction + 6 Leds HUD + wired remote control + harnesses (power supply, sensors) + 2 suction cups holders + 220V power supply + 2 sensors + transport case: **2 653.50 € INCL. VAT**

Non-contractual prices, may vary according to supply.

The above configurations are examples only.
Compose your own configuration by calling us for a customized quote.

Devices and accessories

1) Measurement and display instruments

1.1. RR412 Tripmaster / Timer / Chrono

Click here for a detailed product presentation

The RR412 Tripmaster / Timer / Chrono is equipped with a 4"3 TFT color touch screen.

It integrates an interface for sensors and accessories, including:

- An infrared receiver for infrared remote control + connector for wired remote control. These remote controls feature numbered keys (for easy distance corrections) and keys for an optimal user interface (arrows, Menu, Exit, Page, etc.),
- A buzzer to guide the driver precisely (accelerate/slow down),
- A master switch (also controls power supply to accessories such as pilot display or LED module and speed sensor),
- A USB port for updates and file exchange via a simple USB key.

This interface, equipped with automotive-grade connectors, allows direct connection of the following optional accessories:

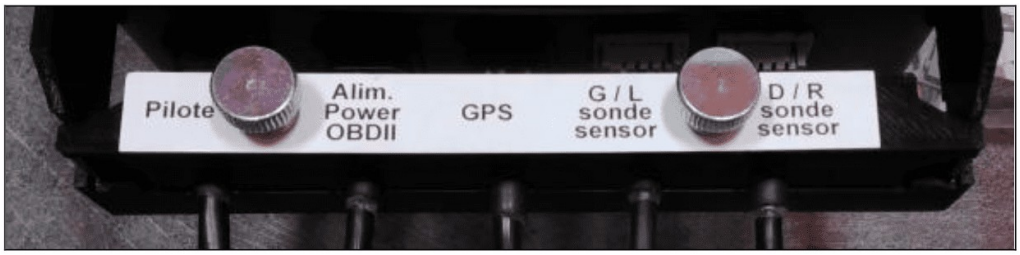
- Two sensors on wheels, directly compatible with 3-wire positive impulse sensors and most 2-wire sensors on the market,
- GPS receiver,
- A module with 6 multicolored leds displayed head-up on the windscreen (HUD),
- A large external color display for the driver (same size as this one).

The RR412 always comes with a **harness fitted with an OBDII connector**, enabling it to be connected to a modern car (after 2007 or so) for training and reconnaissance.

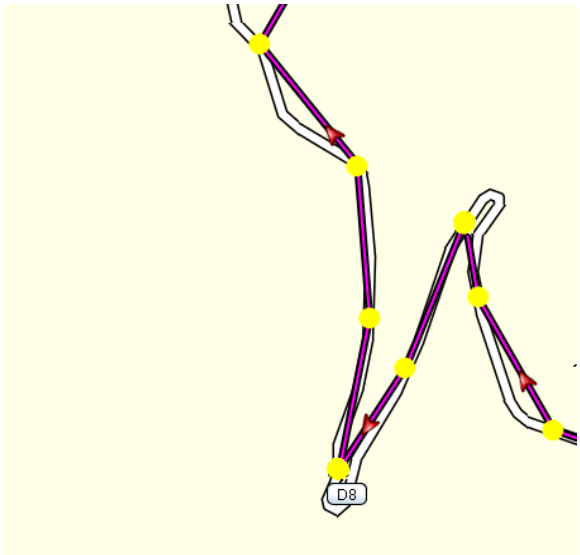
For historic vehicles, separate harnesses for power supply and wheel sensors must be ordered in addition.

It uses CAN bus technology (a transmission network developed by Bosch for dialogue between automotive ECUs) to secure data transmission with accessories.

The RR412 also comes with a **cable clamp** to secure all wires to the underside of the Timer:



1.2. GPS automatic correction software option



***Developed by CRISARTECH**, this **innovative** function*
has proved its worth in the historic Monte Carlo and Tour de Corse rallies.

This software option enables automatic GPS correction of distances during the race, based on correction points taken during reconnaissance. **Accuracy around 2 meters.**

Normalization consists of matching measured distances with the organisation's distances (road-book). This can be done:

- as distances are measured, in each box of the road-book,
- after the reconnaissance on a computer with a spreadsheet,
- **after the reconnaissance, directly on the device**. A graph shows the differences between the distances measured and the organizer's distances, so that any incorrectly measured points can be detected and ignored.

Note: this option requires a 10 Hz precision GPS receiver sold separately (see § 3.1. below).

Click here for a video presentation of the automatic correction system.

1.3. Software option for countdown for "Italian tubes"

This option adds a countdown timer with a synchronization beep every second to help the driver pass a tube or other marker with precise timing. The number of beeps can be configured.

Between two reference points, before entering the final approach phase with these synchronization beeps, guidance is the same as for classic regularity (indication 'faster' or 'slower' with bar graph and buzzer).

When passing over the marker, the copilot validates the time of passage to eliminate any discrepancies and continue to the next marker with the correct timing.

The accuracy is to within a tenth of a second.

1.4. Infrared remote control

The infrared remote control with digits makes it quick and easy to enter average distances/ speeds, or set-up distances, for example. Color-coded control pad and function keys make it easy to navigate the interface and configure the timer.

Click here for a video presentation of the remote control.

1.5. Wired remote control

This remote control is identical to the previous one, but offers greater operational reliability:

- no need to point it to the timer,
- no batteries, so no more stress about power (especially in winter),
- no signal interference from proximity sensors in some modern phones or cars,
- no risk of accidental tampering with your device by another competitor,
- easier to retrieve if it falls under the seat.

1.6. Interface for wired remote control

By adding an interface in the form of a box that plugs into your RR410 or RR420, you can connect this new remote control to your device. It connects to the connector for the pilot display and includes a socket to connect the pilot display or the new LED6 module.

It has a buzzer that ‘echoes’ when the remote control buttons are pressed. This buzzer is also activated when the display asks you to drive faster or slower.

The following options are available:

- an ‘audio’ output to send the sound signal to a compatible rally intercom,
- an input for a button box or pedal (now not recommended).

Please contact us if you are interested.

1.7. Pilot display RP380

Click here for a detailed product presentation

The **RP380** pilot display features a 4"3 TFT color screen. It acts as a repeater, displaying essential pilot data in easy-to-read characters (color and high contrast).

This display is recommended for open-road rallies involving navigation. It allows the pilot to "take part" in the navigation, as he has access to the distance in a very legible way. If the co-pilot types in the distance to the next note in the road-book as the race progresses, the pilot has a clearly displayed decreasing distance, so he doesn't have to keep asking for it.
The pilot can take a look at the decreasing distance to avoid the big navigation trap: turning too soon.

1.8. Pilot display for redundant system

A second **RR412** can be used as a "pilot display". This provides **a redundant system**. In the event of failure of the co-pilot's timer, the pilot's timer can take over in a matter of seconds.

When data about the regularity zone is entered into the timer, it is automatically sent to the pilot timer/display, which stores it in case it needs to take over. If a backup GPS receiver is connected, then at the moment of switchover, the receiver is already working (it's "hot").

This configuration requires a special harness, described below.

1.9. 6 multicolored leds HUD module

This remote module with **6 multicolored LEDs** (equivalent to more than 18 LEDs) is used for a "heads-up display" on the windshield **(HUD)**.
It is recommended for sport rallies on closed roads. There is no navigation, and the pilot must focus on the road as much as possible. The advance/delay indication is displayed by reflection on the windscreen, and is the only indication needed by the driver in this exercise. The device calculates the speed at which the pilot should drive to make up for lost time after a turn and indicates to accelerate. Then, **he instructs him to brake before catching up**, which greatly reduces the “yo-yo effect”. The commands are simple and clear, allowing the pilot to concentrate on driving. He doesn't need to think about when to brake to avoid getting ahead.

Two LED modules can be connected simultaneously. One module displays the advance, the other the delay. Contact us for this specific configuration.

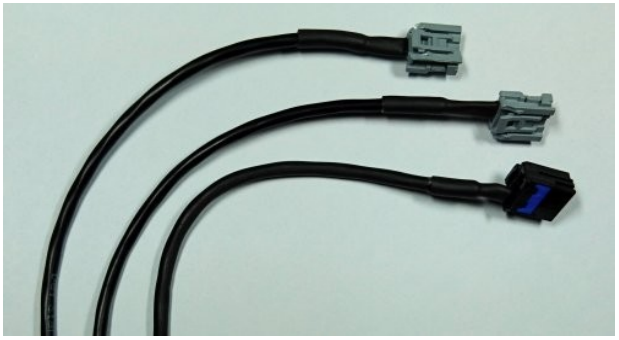
For 1/10th second accuracy without taking your eyes off the road!

Click here for a video presentation of the LED head-up display module

Note: the new led module is plugged into the timer unit in place of the pilot display. If you wish to connect the new led module **and** the pilot display at the same time, you will need to add a multi-socket (*§ 2.5. of this catalog*).

2) Wiring and power supply

2.1. Ready-to-plug wiring harnesses for historic vehicles



3 harnesses types available, **sold separately**:

- 12V power supply harness with connector, mounted and sheathed,
- 2 or 3-wire sensor harness for right or left wheel with sheathed connector, 0.5m,
- 2 or 3-wire sensor harness for right or left wheel with sheathed connector, 2m.

2.2. Harness to use an RR412 as pilot display

Harness used in configurations with redundant displays, as described above, i.e. an RR412 timer used as a pilot display.

Note: RR410 can also be used as redundant pilot displays, provided they have one of the latest versions of the interface board software. Please contact us if necessary.

2.3. 220V power supply

220V power supply for training in your armchair (the timer has a "speed simulation" mode), or for data input at the hotel before the race.

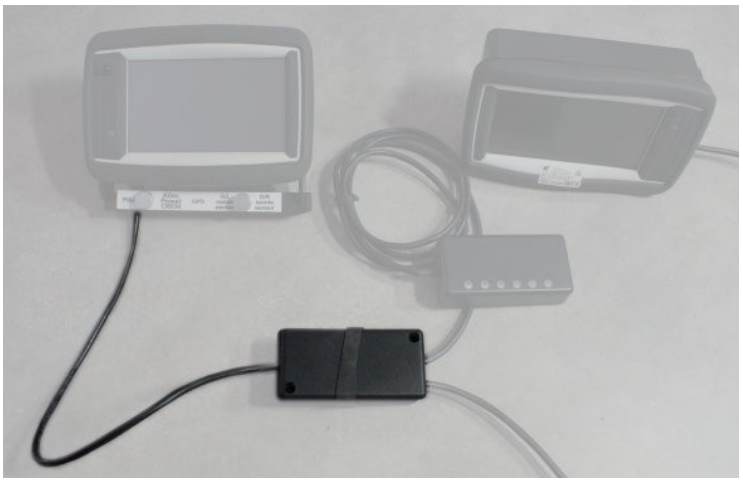
This power supply is not designed to power the RP380 pilot display in addition to the timer.

2.4. Cigarette lighter harness

This cigarette-lighter socket can replace the 12V power supply needed for the timer, for quick and occasional installation.

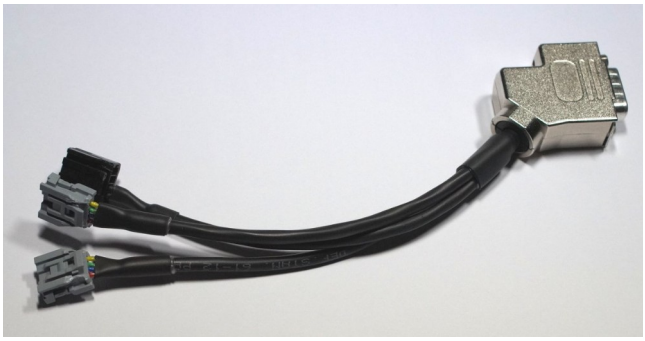
Warning: when racing, we strongly advise against using a cigarette-lighter harness because of the risk of accidental disconnection.

2.5. Multi-socket for pilot display + 6 led module



Multi-socket to connect simultaneously pilot display and new 6-LED module to RR410/412/420.

2.6. Blunik adapter harness



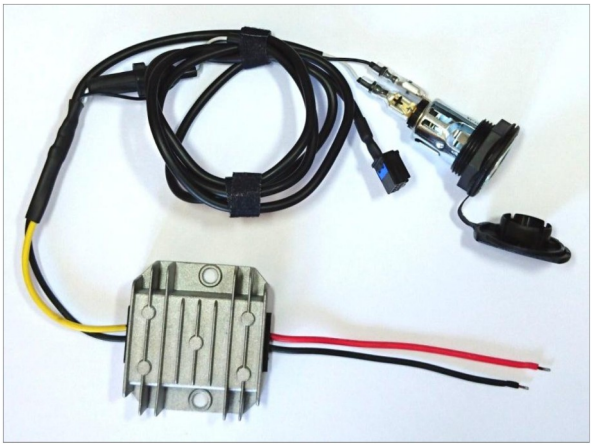
This harness allows you to quickly connect a tripmaster in place of a Blunik device for tests, demonstrations, small rallies, etc.

Warning: **this harness is not recommended for major rallies**, as it uses the Blunik connector, which is not automotive-grade. What's more, both wheel sensors are powered by a single wire. As a result, in the event of a short-circuit in one sensor, the second will also fail (with direct connection of the sensors to our devices, each sensor has its own protected power supply).

2.7. Y-power harness for Tripy

To share the timer power supply with a Tripy device. With connector requested by Tripy to power the geolocation/chrono system.

2.8. Power converter for 6V car, with cigarette lighter socket



This converter provides a **12V power supply** for:

- tripmaster and its accessories,
- wheel sensors,
- cigarette lighter socket for recharging phone, GPS, etc. Maximum 2A. Protected by fuse to prevent overloading the plug and switching off the timer.

Note: *The timer can no longer detect low voltage car battery alerts.*

3) Sensors and detection devices

3.1. Waterproof precision 10 Hz GPS receiver

One of the advantages of our Tripmaster / Cadencer / Chrono is that it can take advantage of a precision 10 Hz GPS receiver to:

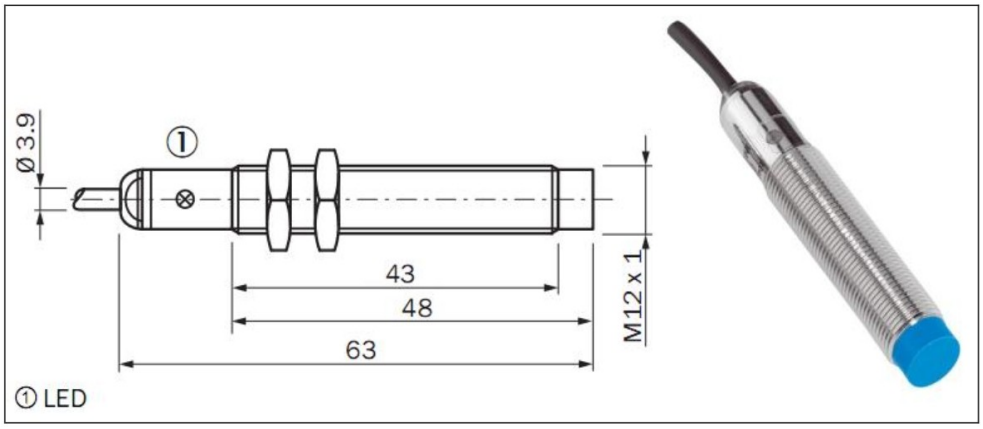
- Synchronize time to official time within 2 hundredths of a second. Can be set to "UTC" or to an organizer's clock, with remarkable precision.
- Measure distances accurately (outside dense forest and tunnels). It can take over from faulty wheel sensors (with no loss of distance when switching), or replace wheel sensors altogether if the co-pilot has frequent correction points.
- Automatically correct distances (see this option in catalog § 1.2.). In this case, wheel sensors are no longer required.

The waterproof external GPS receiver is separate from the unit, so it can be placed on the roof for optimum reception. The receiver is fitted with a cable approx. 3 m long

All our precision GPS receivers can **simultaneously receive 3 of the 4 main satellites constellations**, as selected by the user:

- GPS (USA)
- Beidou (China)
- GLONASS (Russia)
- Galileo (Europe)

3.2. Inductive wheel speed sensor

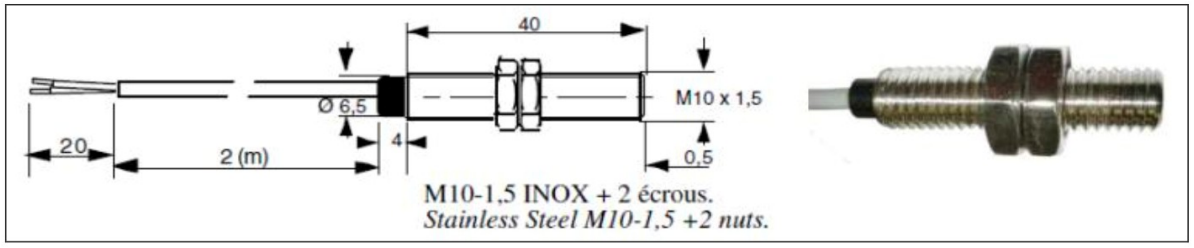


3-wires type sensor, targets screw heads or any other ferromagnetic "target" up **to 8mm** (2 times more sensitive than standard sensors)**.**

Cable length: 5 m.

Lights up when it detects the "target". Protected against reverse connection and short circuits.

3.3. Magnetic wheel speed sensor



2-wires sensor, ILS technology (polarity-free), stainless steel body, requires **a minimum of** 1 magnet, 2 being better and 4 being optimal.

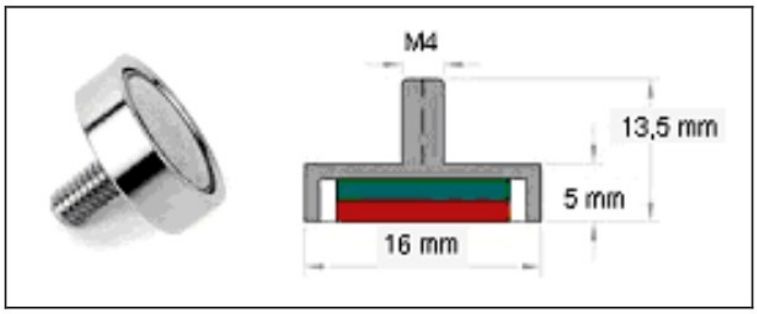
Cable length: 2 m.

Not protected against short-circuit.

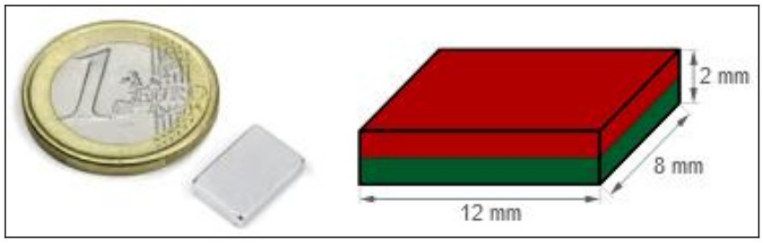
3.4. Neodymium magnet

Very powerful and compact magnet, available in three versions:

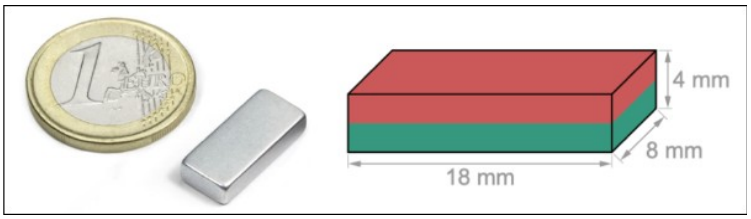
- **In stainless steel pot**, with M4 stud, approx. 12 mm air gap, with above sensor.



- **Glue-on model**, approx. 10 mm air gap with above sensor. **(12x8x2 mm)**

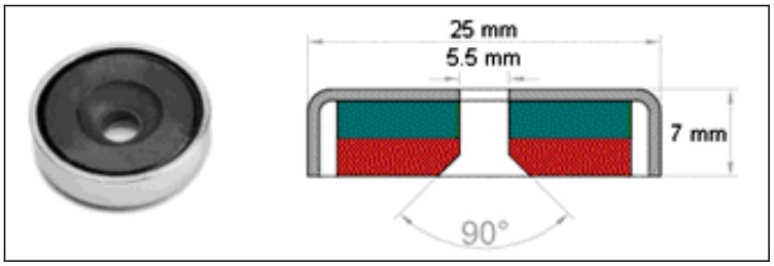


- **Glue-on model, approx. 12 mm air gap with above sensor. (18x8x4 mm)**



<u>Caution</u>: max. temperature 80°C

3.5. Ferrit magnet



Powerful magnet, approx. 12 mm air gap, with above sensor.

<u>Caution</u>: max. temperature 250°C

4) Mounting and support

4.1. RAM suction cup holder + 1” ball

Fast, reliable installation thanks to the power of the suction pad.

4.2. RAM 1” mounting ball

RAM 1" mounting ball

Ball attached to the rear of a RR412 or RP380

Non-contractual photo: diamond, round or square base depending on availability.

Several possible uses:

- Screwed to the dashboard, the ball can be used without the suction cup. The device is used with a suction cup during reconnaissance or training, then with this support during the race, screwed into the race car.
- Screwed behind the timer and RP380 (supplied with screws).

4.3. RAM aluminium arms (3 lenghts)

Available in 3 different lenghts (ball to ball):

Short arm (4.45 cm) Advised for pilot display	**Standard arm** (7.62 cm) Advised for timer	**Long** arm (13.20 cm)
		

4.4. RAM roll bar support

Allows the unit to be attached to the car's roll bar, model may vary according to availability.

Examples of possible configurations:

- Rigid suction cup mount with double ball joint and standard aluminium arm for RR412.

- Rigid suction cup holder with double ball joint and short aluminum arm for RP380

5) Protection and storage

5.1. Protective cover for RR410/412 or RP380

Protects the screen during transport and hides it when needed.

5.2. Transport case

To store/transport :

- RR410/412/420 (without protective cover),
- RP380 (without protective cover),
- two suction cup holders,
- remote control,
- Various accessories (OBDII harness, GPS receiver, Led6 HUD module, etc.).

Shockproof, waterproof, can be secured with a padlock.
Dimensions: 336 x 300 x 148 mm
Weight: 1.6 kg empty

Rates

Ref.	Designation	Customer Price without tax	Customer Price with French tax	Qty	Total
11112	RR412 "classic" tripmaster / timer for regularity rallies with OBD harness	858.33 €	1 030.00 €		
15210	Option: distance auto-correction by GPS (GPS receiver not included)	120.83 €	145.00 €		
15230	Option: countdown for italian tubes	79.17 €	95.00 €		
42100	IR remote control with digits	35.00 €	42.00 €		
42210	Wired remote control "classic" with digits	58.33 €	70.00 €		
45110	Interface for wired remote control "classic"	91.67 €	110.00 €		
13110	RP380 "classic" pilot display (TFT colour 4.3")	395.83 €	475.00 €		
14110	6 multicolored leds HUD module	216.67 €	260.00 €		
21110	12V power harness for VH "classic" (with assembled and sheathed connector)	7.92 €	9.50 €		
22111	2 or 3 wires wheel sensor harness "classic" (with assembled, sheathed connect.) 0.5 m	7.92 €	9.50 €		
22113	2 or 3 wires wheel sensor harness "classic" (with assembled, sheathed connect.) 2 m	10.00 €	12.00 €		
23120	Harness to use "classic" RR410/412 as pilot display	15.83 €	19.00 €		
33100	220V power to use outside of vehicle	21.67 €	26.00 €		
32100	Cigarette lighter harness	28.33 €	34.00 €		
21400	Multi socket for pilot display + 6 leds module simultaneous use on RR4xx	37.50 €	45.00 €		
24200	Blunik adapter harness	70.83 €	85.00 €		
21300	"Y" harness for Tripy power supply	27.50 €	33.00 €		
31110	Power converter for 6V car with protected 12V-2A cigarette lighter socket	66.67 €	80.00 €		
41100	Waterproof precision 10 Hz GPS receiver "classic"	129.17 €	155.00 €		
43100	Inductive wheel speed sensor (without connector, aim for the screw heads...)	53.33 €	64.00 €		
43200	Magnetic wheel speed sensor (without connector, needs at least one magnet)	35.00 €	42.00 €		
44210	Neodym magnet in 16 mm diam. pot with M4	4.17 €	5.00 €		
44220	Neodym magnet to stick - 12 x 8 x 2 mm	1.67 €	2.00 €		
44230	Neodym magnet to stick - 18 x 8 x 4 mm	2.50 €	3.00 €		
44110	25 mm diam. ferit magnet (high temp.) with fixing hole	4.17 €	5.00 €		
53100	RAM suction cup + 1" ball plate	25.00 €	30.00 €		
53210	RAM 1" ball plate to screw behind display (with screws)	11.67 €	14.00 €		
52100	RAM short arm 4.45 cm	20.00 €	24.00 €		
52200	RAM medium arm 7.62 cm	20.83 €	25.00 €		
52300	RAM long arm 13.2 cm	29.17 €	35.00 €		
53300	RAM 1" ball roll bar support	37.50 €	45.00 €		
53220	RAM 1" ball plate to screw on board (without screws)	10.00 €	12.00 €		
61100	Protective cover for RR410/412 or RP380	37.50 €	45.00 €		
62100	Reinforced, waterproof transport case	128.33 €	154.00 €		
	TOTAL				

Order form to be completed and sent to CRISARTECH **with your full contact details (telephone number, email address, billing and delivery address) to**:
order@crisartech.com