



RALLYMETRIE



# RALLYMASTER COMPETITION

Assembly and operating instructions

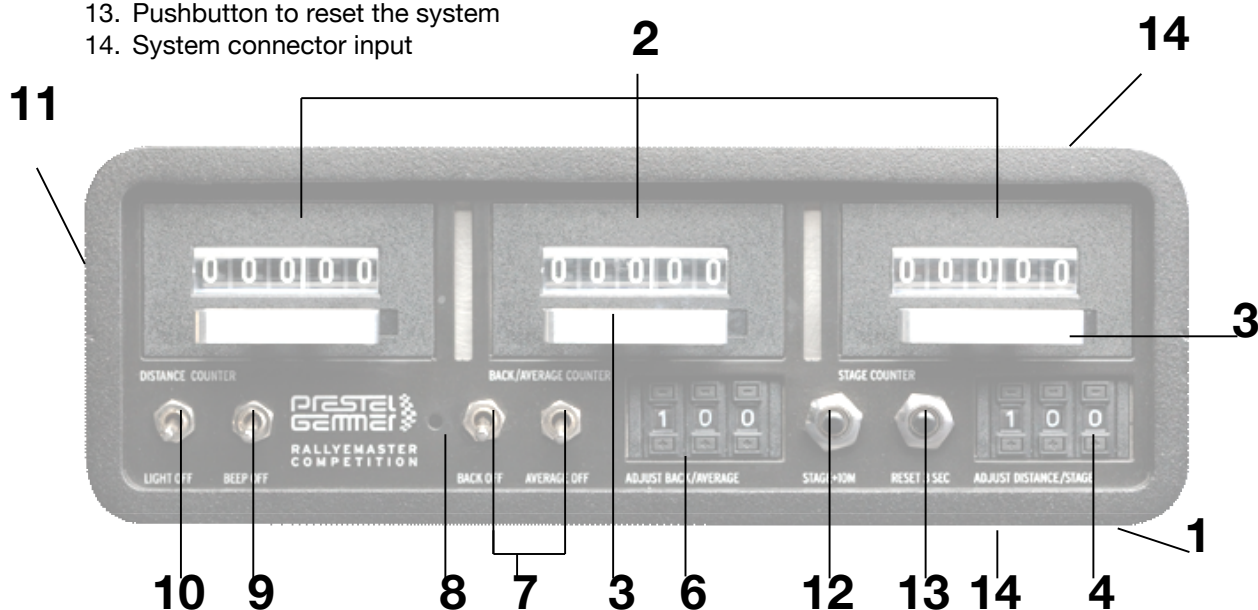
Congratulations on your purchase of a high-quality product from PRESTEL+GEMMER. The RALLYE**MASTER** COMPETITION is an electromechanical distance counter with extremely precise roller counters. It measures the distance covered with an accuracy of 10m (1m). The device is internationally approved for historic events!

### The technical data of your RALLYE**MASTER** COMPETITION:

Dimensions: W/H/D 195/67/90 mm (only housing, without switches)  
 Operating voltage: 12-14 volts  
 Upstream installation: 1 ampere fuse  
 Minus: connected to earth

### The operating elements of your RALLYE**MASTER** COMPETITION:

1. ON/OFF switch
2. Roller counters 1+2, for whole and partial distance
3. Mechanical pushbutton to set the counter to zero
4. Coding switch to calibrate counters 1+2 at the same time
5. Roller counter 3, for down counting or average counting
6. Coding switch to calibrate counter 3
7. Changeover switch to stop counters 1+2, to start counter 3 (down counting) or for the separate usage of counter 3 for average calculation
8. Loudspeakers for 100 m beep
9. Switch for 100 m beep
10. Switch for night lighting
11. Connection of an average computer possible with a cable set (accessories)
12. Pushbutton to manipulate the "Stage" device in steps of 10 m +
13. Pushbutton to reset the system
14. System connector input



### **Cable assignment of your RALLYEMASTER COMPETITION:**

Red	Positive pole 12-14 volts with 1A fuse
Black	Earth vehicle
Brown	Positive pole sensor 5 volts
Green/Yellow	Earth sensor
Blue	Signal sensor

### ***Please note:***

As standard, the RALLYEMASTER COMPETITION distance counter is delivered without a sensor. In general, only sensors with an operating voltage of 5V are to be connected. **When using the VDO sensor**, a 3 kOhm resistor must be connected between the blue and the brown cable of the RallyeMaster.

If you connect another sensor afterwards, it might be possible that this resistor has to be removed! For this purpose, please observe the connection details of the respective sensor manufacturer.

### **Sensors that can be used:**

For your RALLYEMASTER COMPETITION, different sensors / pulse generators with two or three connection cables can be used:

- speedometer cable sensors
- wheel sensors
- cardan shaft sensors.

### **Assembling your RALLYEMASTER COMPETITION:**

Fasten your RALLYEMASTER COMPETITION in such a way that the passenger and the driver can clearly see the device.

Please make sure that the assembly is carried out in such a manner that the device does not cause any additional risk of injury in the event of an accident! The M4 threaded bushings at the top of the device are used to assemble the distance counter. **Please do not use any screws with a thread length of more than 15 mm!**

### **Assembling the VDO sensor:**

Connect Blue/Red to Blue RALLYEMASTER COMPETITION (signal sensor).  
Connect Brown to Green/Yellow RALLYEMASTER COMPETITION (earth sensor)  
Connect Black to Brown RALLYEMASTER COMPETITION (positive pole Sensor)

### Testing / setting your RALLYEMASTER COMPETITION:

1. Set the ON/OFF switch to "ON".
2. Set the two coding switches to "100".
3. Slowly move the vehicle for several metres. (The counters must start to run!)
4. Set the counters to "0".
5. Press the pushbutton "13" (reset) once for at least 3 seconds (until the signal sound can be heard) in order to delete any pulses stored, if any, from the electronics.
6. Drive a specified measuring distance (at best 1,000 m, comparison with navigation device or reference distance of the rally organiser) with a constant speed of max. 50 km/h.
7. Note down the value shown on the counter after the measuring distance has been completed and enter this value in the coding switch "4".

Thus, your RALLYEMASTER COMPETITION is calibrated on counters 1+2.

If your RALLYEMASTER COMPETITION is used in several vehicles, repeat this procedure for each vehicle and note down the respectively set value.

If a measuring distance is available at an event, you can exactly calibrate your RALLYEMASTER COMPETITION to the reference measuring device of the rally organiser by applying this procedure!

### Down counting:

If you use counter 3 for down counting, you must enter the same value in the coding switch 2 as in coding switch 1 and set the selector switch to "Back".

(Counters 1+2 stop, counter 3 starts to run. If counter 3 displays the same value as counter 2 during the return journey, you have reached the last turning – provided you drove the same route.)

### Average monitoring with the RALLYEMASTER COMPETITION using counter 3:

As an alternative, counter 3 can be used for parallel average monitoring. For this purpose, please proceed as follows:  
Setpoint (value of the coding switch after the reference calibration) multiplied by the required average speed divided by 36. The counter value shown is then displayed in seconds.

**Example:**  $113 \times 42 \text{ km/h} : 36 = 131.8 > 132$  is the correct new setpoint!

If you are now shown the same values by the **RALLYEMASTER COMPETITION** and a stopwatch during the journey, you are exactly on the required average. The third counter of the **RALLYEMASTER COMPETITION**, however, cannot be used as a distance counter during this average counting.

Please note that the “Average” and “Back” functions are never switched on at the same time. In this switch position, the system would not measure correctly, since it would receive two different pulses at the same time!

#### **Average monitoring using the RALLYEMASTER COMPETITION and an average computer:**

The **RALLYEMASTER COMPETITION** can also be used to monitor the average.

Using an optionally available cable set, an average computer can be connected. The automatic synchronisation of data can thus be carried out precisely. The average computer must be equipped with 10 m signal processing and an operating voltage of 12 V.

#### ***Please note:***

The connected average computer interacts with counter 3 (counter in the centre); here, calibration in steps of 10 m each must be performed (as described above).

If you use the “Back” function with the sound signal, the 100 m signal sounds despite the standing devices!

#### **Manual average monitoring:**

In addition, the **RALLYEMASTER COMPETITION** is equipped with a connectible 100 m beep for manual average monitoring (switch 9).

Have your **RALLYEMASTER COMPETITION** always switched on during a special stage (SS). Switching off the device empties the system memory after a certain wait and thus the pulses previously brought in! Therefore, resetting the counters when starting a new SS is optimal in order to ensure the highest possible measuring precision.

If you have any questions about your new **RALLYEMASTER COMPETITION**, please do not hesitate to contact your specialist dealer or our technical service.



PRESTEL+GEMMER offer you many additional products for historic rally and racing time measurement as well as passenger boards and accessories. Learn more about our product range at

[www.prestel-gemmer.de](http://www.prestel-gemmer.de).

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