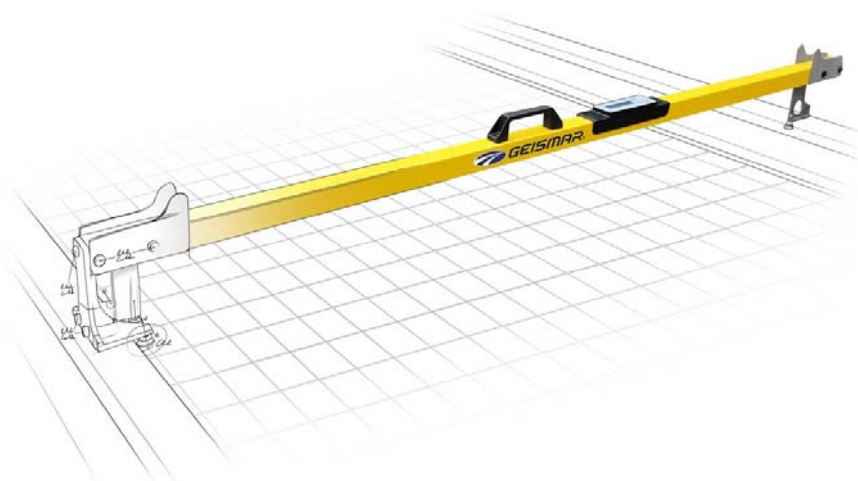


DIGITAL TRACK GAUGE FOR GEOMETRY MEASURING

Model GARNET (article number N05890)



The **Digital Track Gauge for Geometry Measuring** model **Garnet** is an instrument designed to measure the following track geometry parameters: **gauge, cant, twist, gap between rail and check-rail, gap between check rails and groove width.**

It is a very simple to use instrument by a single operator, **thanks to the intelligent interface which recognizes which measurement is being made according to which sensor is moved.**

1. DESCRIPTION AND OPERATION

The Digital Track Gauge model Garnet is a portable instrument, easily positioned on track to be tested, and uses completely digital technology. It benefits particularly from Geismar's long experience in the field of portable track inspection systems. Robust, it is capable of working in variable weather conditions on site. Lastly, it is self-contained and does not need any other device to work, except for the battery charger.

The parameters which can be measured are the following:

- Gauge;
- Cant/cross-level (positive or negative value, without the need to turn around the gauge);
- Twist (on a base chosen by the operator);
- Groove width and/or switch blade opening (on same side of dedicated sensor);



- Running-rail to opposite Check-rail distance (on both sides without the need to turn around the gauge);
- Check-rail to Check-rail distance.

The Garnet is a totally digital instrument including a microcontroller. Data is collected by the system and displayed on a high visibility backlit LCD screen. Two buttons control the functions of the instrument which is designed to provide data integrity and reliability of use.

Gauge	1436.4 $\frac{m}{m}$
Cant	/152.1 $\frac{m}{m}$

■ □ -- ■ □	1436.4 $\frac{m}{m}$
Cant	/152.1 $\frac{m}{m}$

The Digital Track Gauge may be used on track with a live third rail, which can be left at voltage when measuring. The Garnet has a very high insulating capacity, providing the operator with maximum safety. It also maintains the isolation between rails or between rails and check-rails (no bare metallic part is longer than 20 cm).

Groove	76.3 $\frac{m}{m}$
□ ■ -- □ ■	/1400.1 $\frac{m}{m}$

Groove	76.4 $\frac{m}{m}$
□ ■ -- ■ □	/1372.1 $\frac{m}{m}$

2. TECHNICAL DATA

2.1. Track gauge

- Number of channels: 3
- Gauge: 1 067 mm (*others on request*)
- Display of measured parameters:..... Gauge, cant/cross-level, running rail/check-rail, distance between check rails, groove width
- Display of calculated parameters: Twist
- Status indications:
 - Battery level: Charge bar on display, message if charge less than 25%
 - Temperature: User prompt calibration if temperature different of more than 10 degrees from reference temperature
- Display's size: 66 x 16 mm (16 x 2 characters)
- Measuring point (*shouldered thrust*): 11-14 mm (*below the top of the rail – others values on request*)
- Check-rail clearance: 80 mm (*height between top of rail and top of check-rail*)

- Linear measuring method: Potentiometric
- Angular measuring method: Digital inclinometer
- Voltage of electric third rail: > 1,000 V (*for safety conditions*)
- Operating temperature: From 0°C to +45°C (*rain resistant*)
- Storage temperature: From -10°C to +50°C
- Number of languages: 13
- Batteries:
 - Type: Rechargeable, Nickel-metal hydride (NiMH)
 - Autonomy lifetime: 200 hours (*nominal without backlight*)
 - Recharging time: 15 hours for a complete charge
- Dimensions:
 - Length: ≈ 1,300 mm
 - Width: ≈ 80 mm
 - Height: ≈ 175 mm
- Mass: ≈ 3 kg

2.2. Measuring characteristics (metric)

Parameters	Measuring range (mm)	Accuracy (mm)	Resolution (mm)
Track gauge	-50/+50	± 1.0	0.1
Cross level	-150/+150	± 1.0	0.1
Twist	0/+400	± 1.5	0.1
Groove width	+25/+125	± 1.0	0.1
Gap running-rail/check rail	-170/+25	± 1.0	0.1
Gap check-rail/check rail	-185/+10	± 1.0	0.1

Metric or Imperial measurements are available.

3. ACCESSORIES AND OPTIONS (at extra price)

3.1. Carrying bag

Picture on the right.

Article number N06082.



3.2. External battery pack

The Garnet can be fitted for an additional (external) battery pack to be supplied which will extend the operational life of the Garnet Gauge. A rechargeable NiMH or non-rechargeable Alkaline battery pack can be supplied, but must be defined at placement of order.

3.3. Measuring thrusts

In such a case the article number of the track gauge will change accordingly.

3.3.1. Shouldered thrusts 13-16 mm

3.3.2. Cylindrical thrusts 0-9 mm

3.3.3. Cylindrical thrusts 0-14 mm

The technical specification of the equipment of the present offer strictly conforms to the Commercial/Financial quotation. The technical characteristics, including the conformity to the standards mentioned, the components, dimensions and access diagrams would have, prior to starting of execution and manufacturing of the equipment, to be approved by the customer as "conforming to the particular specification and various track loading gauge(s)" of the network(s) on which the equipment to be delivered is to be operated.

All modifications and/or eventual technical alteration arising after the date of the offer could result to a review of the commercial offer.

We reserve the right to modify any equipment specification of the present offer to take into account the latest technical improvements and working conditions at the date of manufacturing.

In case of any discrepancy between our offer and the attached documentation, the technical specification of our offer should be taken into consideration. Photographs may include options.

Masses and dimensions may vary $\pm 5\%$.