

# GEDO CE 2.0 Profiler

Application for Track Measuring Trolley

**Trimble Railway Industry**

**Version 1.1**

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### Description of Profiler 2.0

The Profiler 2.0 is designed for the GEDO CE 2.0 trolley. It is used to measure distance and height offsets between the track and any object adjacent to the track. The profile measuring unit consists of a distance meter and an angle sensor. The laser pointer is used to aim at the objects. Offsets are calculated in the GEDO field software using the profiler distance and angle measurement in combination with the trolley sensor values. If you are using an absolute coordinate system for the trolley position during profiler measurement, it is also possible to compute absolute coordinates for the measured points.

The 5/8" adapter on the top can only be used in conjunction with the GEDO IMS system. The profiler height need to be included in the prism height and is set in the GEDO field software settings.



## Installation

### GEDO CE 2.0 Trolley Mount



The Profiler has to be mounted on the top of the main beam by the dove tail system. Use the screw to tighten and loosen the Profiler. An additional height adapter can be mounted between the GEDO Profiler and the trolley's dove tail system.

*Picture: dove tail system of GEDO CE 2.0*

### Power supply

Power for the Profiler is supplied by the Trolley. The Trimble S-series batteries are used for the trolley and its applications. Use Con2 to connect the Profiler to the Trolley.



*Picture: Trolley-Panel with connectors*

When the trolley is powered up, the green LED is illuminated. The Also Profiler has to be switched on. Power is off if red dot is on the left and on if it's on the right hand side. Check also LED (named with "Power") on laser unit for successful power supply of Profiler.

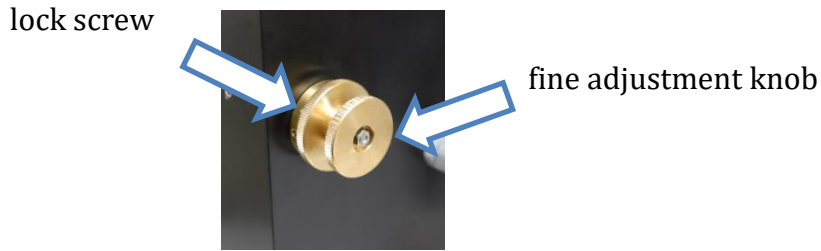
Turn off profiler unit if it is not in use. Please be aware that the battery life may be reduces if profiler is used frequently.

### Control unit

The GEDO Software can be used on the Trimble TSC2, Trimble TSC3 and the Trimble Tablet PC. Please consult the manual of GEDO field software to check if the Profiler 2.0 can be used. Further the user interface, configuration and installation relating to the application will be described there in detail.

The communication between the control unit and the trolley is provided by Bluetooth. Therefore small antenna has to be mounted on the profiler. Configure the Profiler Bluetooth on a COM-Port using either COM8 or COM9.

### Aim to Target



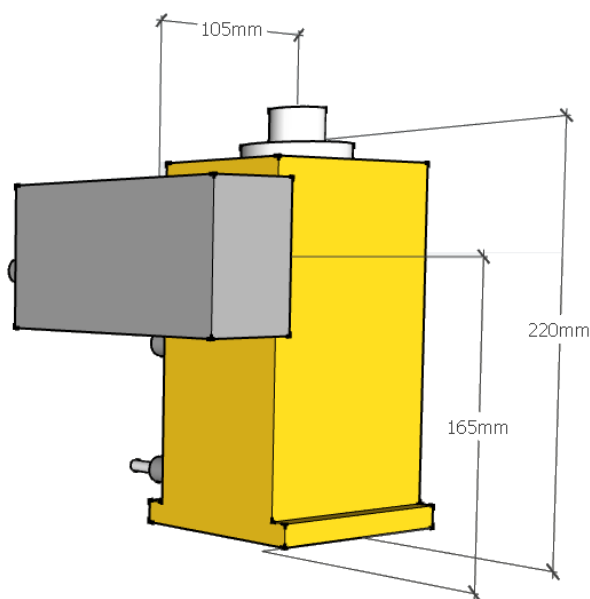
*Picture: Motion knob unit to turn the laser pointer*

The Profiler has a motion knob unit to aim the laser pointer to the target. Turn the lock screw counter clockwise to release the laser unit, then move laser unit roughly to target direction and fix this position by turning the lock screw clockwise. Afterwards use fine adjustment knob to aim the laser pointer to target.

Beware of the fine adjustment knob position prior to loosening the lock screw. The knob should be somewhere between maximum and minimum rotation range.

### Configuration

Profiler 2.0 can be used with each GEDO CE 2.0. But it is necessary to configure the internal trolley controller before the first connection between Trolley and Profiler. The values for the height, a distance offset and the chainage offset are fixed and will be stored inside the trolley. Use GedoConfigCE software to set the Profiler dimensions. Please consult the manual of GedoConfigCE for further details.



*Picture: Profiler Offsets*

### **Maintenance - Inspection and Calibration**

To ensure compliance to the specified accuracy, various checks und calibrations are necessary.

#### **User level**

Trolley inclination sensor and gauge sensor of trolley calibration has to be done as usual. For details see also manual of GEDO CE 2.0 and GEDO software.

After calibration of trolley sensor also the profiler has to be calibrated. Therefore a target next to the track has to be aimed at in two faces, where the trolley is turned though 180 degree after the first measurement. This has to be done on a regular basis but at least during first usage or when the hardware configuration has changed. Calibration will be stored directly on the Profiler. So it can be transferred to other trolleys without another calibration. Only offsets need to be configured with trolley.

#### **Service provider level**

Maintenance of profiler has to be done at least every year by an authorized service provider.

## Technical Data

### Weight

Profiler 2.0 (without prism) 3.5 kg

### Power supply

Battery Lithium Ionen Battery Trimble S-series  
via Lemo Series 1K 307 from GEDO CE 2.0

### Communication

Bluetooth Virtual COM-Port from Controller to Profiler and  
Trolley

### Accuracy

Distance measurement +/- 2 mm

Angle measurement +/- 0,03 gon

Relative 2D Point accuracy at 5 m < 10 mm

Absolute 2D Point accuracy at 5 m < 20 mm