

The RetroSign GR3 & GR1 retroreflectometer features

RetroSign measures all types of retroreflective sheetings for road signs

The **point aperture geometry** specified by the American Society for Testing and Materials (ASTM) ensures accurate readings that replicate **real-world driving conditions** and correspond to laboratory measurements.

It also enables the user to determine whether a microprismatic sign sheeting material has been applied correctly. Aperture reducers make it possible for RetroSign retroreflectometers also to measure small letters and symbols on road signs.

The instruments operate with a reproducibility of +/- 5% and a repeatability of +/- 2%.

Due to the proprietary gradient index ultra hard coating (UHC) technology, available only from DELTA, the **sensor response** meets the ASTM 1709 requirements for combining the CIE eye response and CIE illuminant "A".

The photometric filter in the RetroSign is the most accurate, sensitive and durable filter in the world. When combined with the point aperture geometry, **laboratory precision readings for all colours and all types of retroreflective sheetings** is ensured.

RetroSign GR3 and GR1 have automatic stray light compensation so that daylight and other light sources will not affect the accuracy of the measurements.

RetroSign GR3 and GR1 can be fitted with built-in precision WAAS **GPS**. This makes it possible to determine exactly where any specific measurement has been carried out.

RetroSign GR1 and GR3 can also be fitted with **Bluetooth®** for wireless connectivity and an **RFID tag reader** – the robustness of RFID technology has effectively made it the solution of choice for ID tagging field assets.

The RetroSign GR3 and GR1 is designed to interface easily with both current and future ID tagging and asset management systems.

The internal memory **stores more than 250,000 readings**, which essentially means that these instruments never run out of memory. The **Road Sensor Control (RSC) software** supplied with the instrument, combined with the **USB interface**, makes it easy to download data and generate reports like Excel and to transfer locations to Google Earth. RetroSign instruments are light in weight and ergonomically designed for user comfort.

RetroSign instruments are **calibrated at DELTA's DANAK-accredited laboratory** and are traceable in accordance with standards issued down by PTB (Physikalisch-Technische Bundesanstalt, Germany) and NIST (National Institute of Standards and Technology, USA).

RetroSign instruments are available with an extension pole with a remote control for measuring particularly tall signs.

Contact and further information

For further information about RetroSign GR3 and GR1 retroreflectometers, please contact Market Manager Kjeld Aabye at +45 72 19 46 30 or e-mail: kaa@delta.dk

The RetroSign GR3 in brief:

features a unique triple geometry that makes it easy to undertake measurements of a range of observation angles at the same time. This provides the user with a significantly more comprehensive picture of the retroreflection from the road sign. See table to the right for geometries.

RetroSign GR3 complies with the following standards: EN 12899 and ASTM E 1709.



The RetroSign GR3 is available with the following geometries

RetroSign GR3 ASTM	Entrance angle	-4°
	Observation angle	0.2°, 0.5°, 1.0°
RetroSign GR3 CEN	Entrance angle	+5°
	Observation angle	0.33°, 0.5°, 1.0°

The RetroSign GR1 in brief:

measures the main observation angle stated in these standards, and is available with the geometries seen in the table to the right.

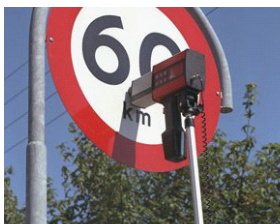
RetroSign GR1 complies with the following standards: EN 12899 and ASTM E 1709.



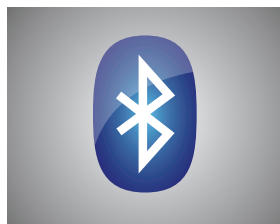
The RetroSign GR1 is available with the following geometries

RetroSign GR1 ASTM	Entrance angle	-4°
	Observation angle	0.2°
RetroSign GR1 CEN	Entrance angle	+5°
	Observation angle	0.33°
RetroSign GR1 SAFETY	Entrance angle	+5°
	Observation angle	0.2°

Add-ons



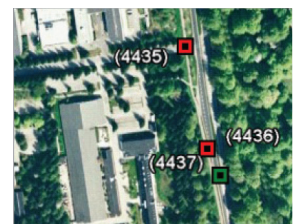
Extension pole



Bluetooth



RFID



GPS