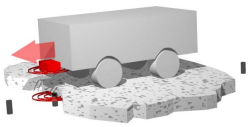
Positioning and Ident. Antenna 1.5-dim.

HG 98850-B

Positioning- and Identification Antenna for Outdoor-Application

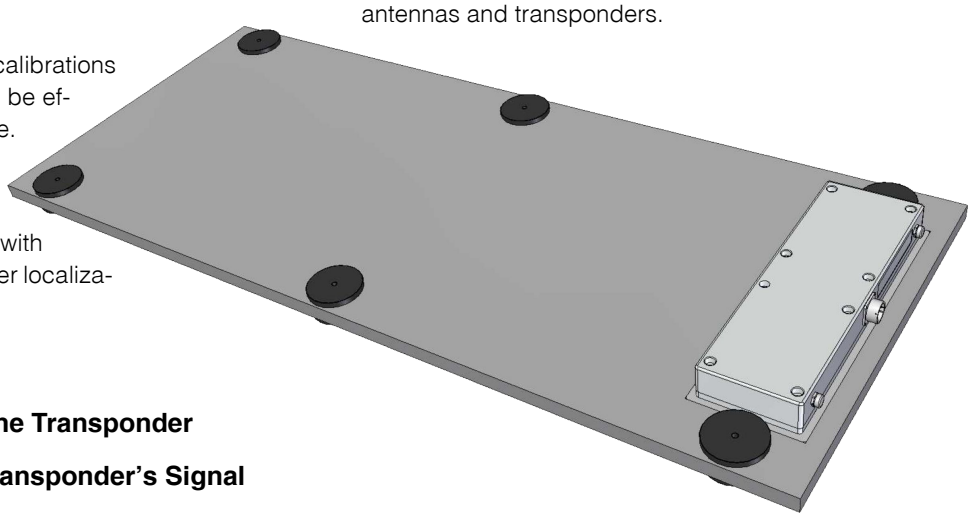


Antenna HG 98850 is especially designed for positioning and/or track guidance of vehicles in outdoor environment, as all electronic components are sealed resp. varnished and are designed for an extended temperature range.

All important settings, calibrations and software updates can be effected via a serial interface.

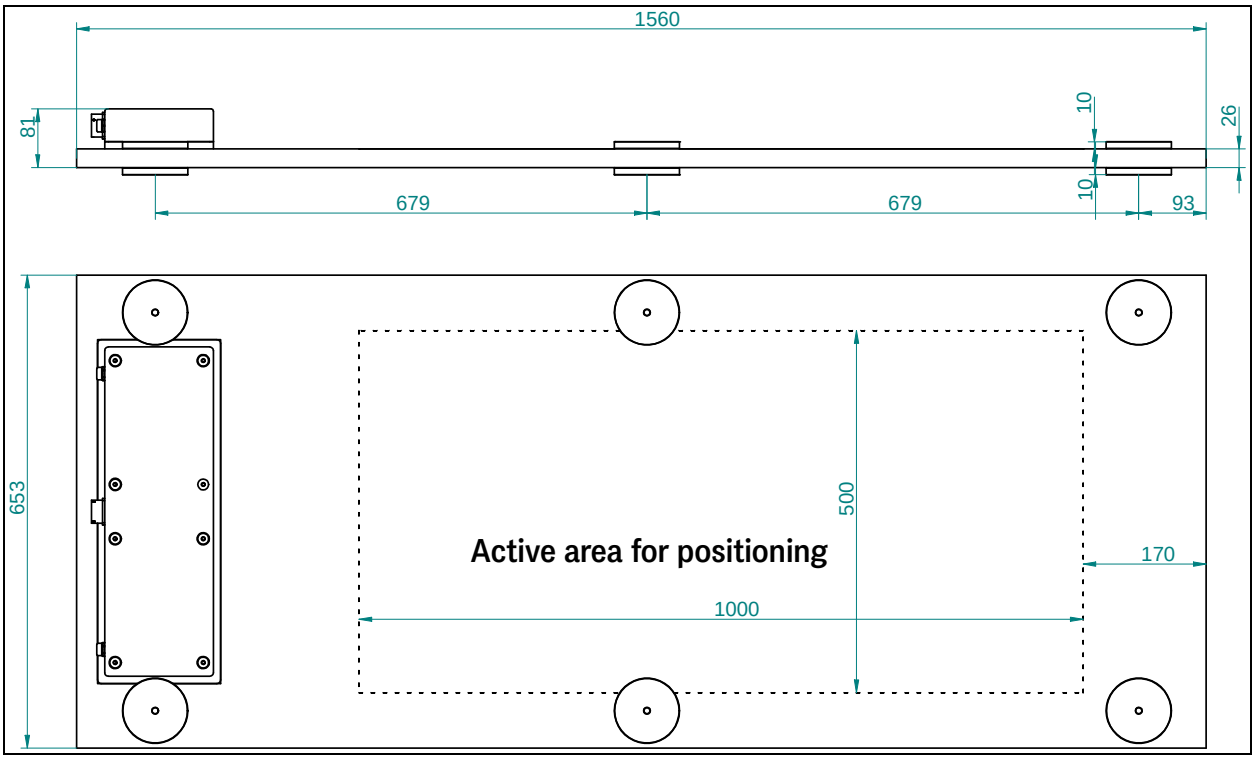
HG 98850 uses a new antenna concept which has a broad operating range with a regular, linear transponder localization.

User specific system information can be configured into the output data. This additional information may be stored in a visualization system and enables statements regarding the condition and availability of antennas and transponders.



System Tasks

- **Energy Supply of the Transponder**
- **Reception of the Transponder's Signal**
- **Determination of the Transponder Code**
- **Output of the Transponder Code, Positioning Impulse (in direction of travel) and displacement y (rectangular to direction of travel)**



GÖTTING

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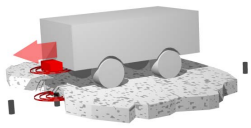
Functional Description



When the antenna crosses a transponder, the transponder is supplied by a 128 kHz energy field and transmits its code number back to the reading antenna at half frequency.

The relative transponder position rectangular to the direction of travel is measured. From this relative position it is not possible to derive a world coordinate system without further effort due to the fact, that the transponder field is rotationally symmetrical to the longitudinal axis of the transponder. The internal interpreter decodes the transponder code. Each exceeding of the coordinate axes in direction of travel generates a positioning impulse with adjustable duration.

Due to the measuring principle different signal strengths of transponders and altitude variations of the antenna have hardly any influence on the output signal.

Using a cable of max. 10 meter (RS 232) length,100 meter (RS 422) resp. CAN bus, the antenna is connected with the vehicle electronics. The serial output may be chosen as 3964R or as a transparent protocol and is adjustable between 19200 or 38400 baud.

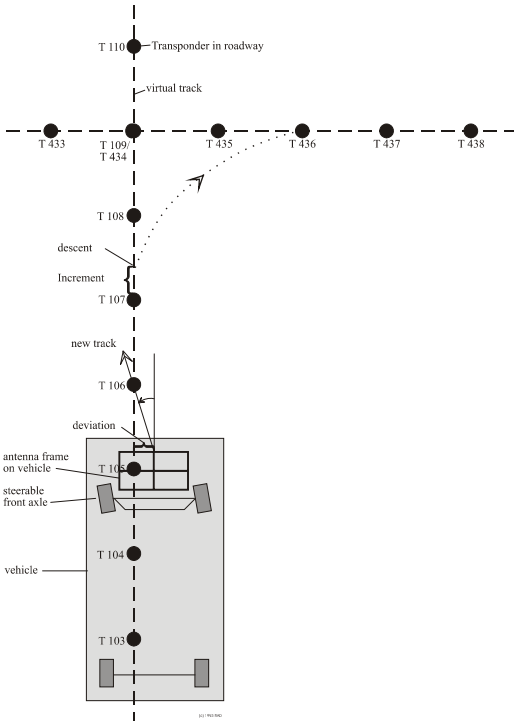
Optional it is possible to use the parallel interface HG 06150 which outputs the transponder code parallel and transmits the distance from the center axis as a voltage in the range of ±10 V to a PLC (24 V/DC)

Different parameters of the antenna, such as current consumption and supply voltage, etc. will be measured further on and are added to the serial output protocol on demand.

Application example

The sketch shows a vehicle with an antenna frame for track guiding. Using the transponder (T105) the deviation from the intended track is determined. An external computer is now able to evaluate the new course in such a way, that the virtual track is reached again as quickly as possible (the external computer is not included in this system). Incremental encoders (or steering potentiometers) enable to alter the course as desired.

Due to a previously entered descent (T107 + incremental value) it is therefore possible to turn on to a new track. The vehicle corrects itself again at the next transponder (T436). The distances between the transponders are to be determined according to the conditions.



Technical Data

- **Housing dimensions**	**1560 x 653 x 46 without /81 with electronics [mm] (L x W x H)**
- **Weight**	**approx. 30 kg**
- **Effective antenna surface**	**1000 x 500 mm**
- **Reading distance**	**150 to 250 mm; nominal reading distance: 200 mm**
- **Transponder**	**HG 70652 / HG 70653**
- **Position accuracy**	**static: typical ±10 mm**
	dynamical: 8 ms sampling and calculation time
- **Protection**	**IP 65**
- **Temperature range**	**0 to +50° C without heating,**
	-25 to +50° C with heating, warm-up time 0,5 h
- **Current supply**	**antenna: 24 V -15 % +50 %, ca. 1 A; heating: 24 V ±25 %, 2 A**
- **Connector**	**16-pin plug connector**
- **Interface**	**HG98850ZB: RS422 & CAN / HG 98850YB: RS232 & CAN**
	19200 resp. 38400 Bd., protocol 3964R or „transparent“,
	potentially separated
- **Positioning impulse**	**20 mA current source, potentially separated**
- **External parallel output (optional)**	**flange housing, data input RS422,**
	data outputs 16+2; 24 V, 20 mA; ±10 V, 10 mA

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