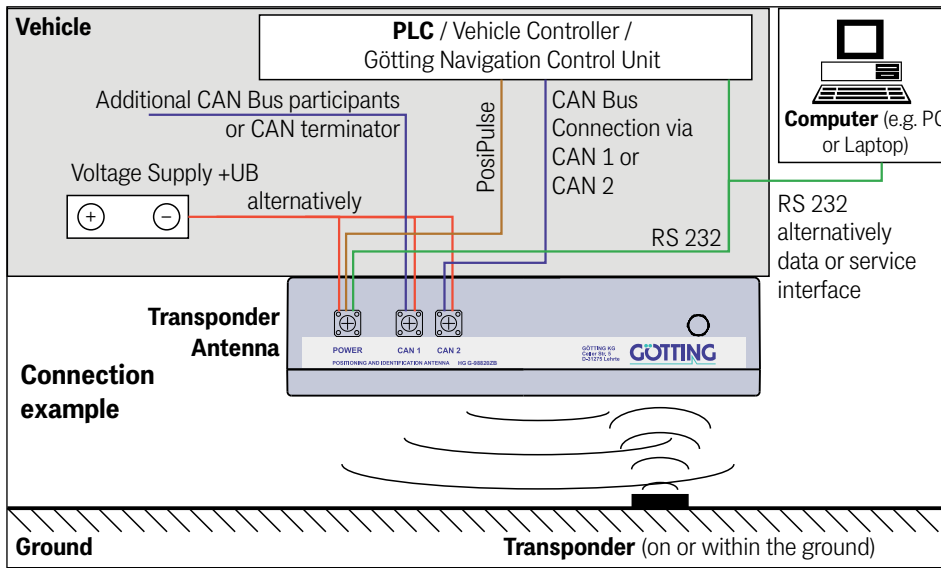


Transponder

1.5-dimensional Position Detection and Identification | CAN/CANopen®

Main Features

- Transponder Antenna for Automated Guided Vehicles (AGV)
- Indoor & Outdoor, IP 65
- Mounting side may be mounted directly on metal
- Reading distance 20 to 80 mm, nominal reading distance 30 to 40 mm
- Active range for positioning 250 mm x 110 mm
- Max. crossing speed 2 m/s
- Voltage supply 18 - 36 V, current consumption typically 370 mA @ 24 V, max. 1 A when programming transponders
- Connectors: 3 x M12 5-pin, A-coded
- CAN module according to CAN specification V2.0 Part B, Standard / Extended Frames or CANopen®
- PosiPulse when crossing the center axis in driving direction, 24 V 20 mA power source, not isolated
- Serial interface serves as service interface for configuration (also for updating the antenna software) or data interface (configurable telegram contents)
- Programming of transponders



The transponder antenna is used for localization and track guidance of Automated Guided Vehicles (AGVs) or cranes by means of tags on or within the ground (transponders). All settings or software updates important for operation can be carried out via a serial interface.

As soon as a transponder is in the antenna's reading area, it is supplied with power inductively without contact and then cyclically sends its code back to the antenna every eight milliseconds at half the antenna's transmission frequency.

The transponder is otherwise completely passive and does not require its own power supply or battery. Only one transponder at a time may be in the antenna's reading area.

The antenna supplies the transponder code, a uniform linear deviation transverse to the direction of travel, and in the direction of travel the information "In front of transponder", "Crossing" and "Behind transponder".

The measuring electronics for determining the code and position are integrated in the antenna. When the Y-axis is crossed (crossing at right angles to the direction of travel), a high-precision positioning pulse (PosiPulse) with adjustable duration is output. The PosiPulse is available both as a digital output and via the telegrams of the serial and CAN bus interfaces.

Mounting Guidelines

- The antenna can be mounted with its top side (mounting side) directly on metal.
- No closed electrically conductive loops within 300 mm around the antenna, especially in the area of the cover.
- No metal surfaces or metallic objects closer than 50 mm.
- No interfering signals in the frequency range 64 ±4 kHz because of clocked motors etc.
- Current-carrying lines must be far enough away from the antenna – depending on power and frequency – so that they do not influence reception (at least 150 mm).
- Transponder antennas with the same energy field frequency influence each other if they are mounted closer than 200 mm to each other.
- Reinforcements laid closely under the road surface can falsify the measured transponder position.

Settings via RS 232/CAN

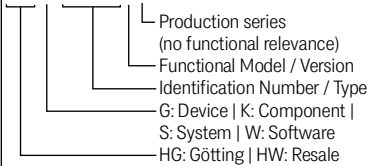
- Configuration of sensor and interface parameters (only via RS 232).
- Adjustment of detection thresholds to compensate for slight disturbances.
- Software update (only via RS 232).

Complementary Products

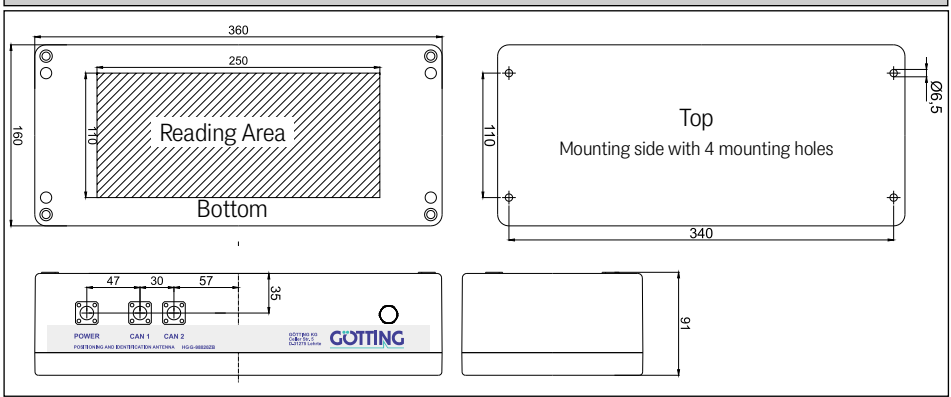
HW DEV00095	Disc Transponder
HW DEV00098	Disc Transponder
HG G-71325XA	Rod Transponder
HG G-81840ZA	Transponder Programming Device
HW CAB00001	Power: Cable PUR, 5 m, M12 elbow socket, open end
HW CON00055	CAN 1: CAN Terminator, M12 plug, 5 pin, A coded
HW CAB00064	CAN 2: CAN-Bus cable, 10 m, with shielding, M12 socket straight, open end

Götting Product IDs (order codes)

HG G-988820ZB



Dimensions / Mounting Holes



Pin Allocations, all connectors M12

	POWER	CAN1	CAN2
Pin	5 pin, A coded, male	5 pin, A coded, female	5 pin, A coded, male
1	+UB	Not connected	Not connected
2	PosiPulse output	+UB	+UB
3	TxD RS 232 data output	GND	GND
4	RxD RS 232 data input	CAN_H	CAN_H
5	GND	CAN_L	CAN_L

Technical Data

Work Safety	According to the German norm BGV B11 Area 1
Dimensions	360 mm x 160 mm x 91 mm (L x W x H)
Casing	Plastic
Weight	approx. 3.2 kg
Reading area	250 mm x 110 mm (W x H)
Reading distance	- 20 to 50 mm (with Transponder HW DEV00095/HW DEV00098) - 20 to 80 mm (with Transponder HG G-71325XA)
Nominal reading distance	30 to 40 mm
Voltage supply +UB	18 to 36 V, nominal voltage 24 V
Current consumption	- 370 mA @ 24 V - up to 1 A while programming Transponders
Temperature ranges	Operation & storage: -20° to +50° C
Protection class	IP 65
Signal processing time	8 ms
Max. crossing speed	2 m/s
Static positioning accuracy	±1 mm at a height of 40 mm
Connectors	3x M12 connector 5-Pin A-coded: Power (male) CAN 1 (female) CAN 2 (male)
Interfaces	- RS 232: Output with 19200, 38400 (standard) or 115200 Bd. The telegram content is configurable. Protocol "transparent" - PosiPulse: 24 V, 20 mA power source, not isolated - CAN: Not electrically isolated, terminating resistor not integrated, Full CAN - Basic CAN: According to ISO/DIS 11898, identifier, data rate, standard/extended frames; adjustable via serial interface - CANopen®: Device Profile DS 401, Node ID and data rate adjustable via serial interface or SDOs