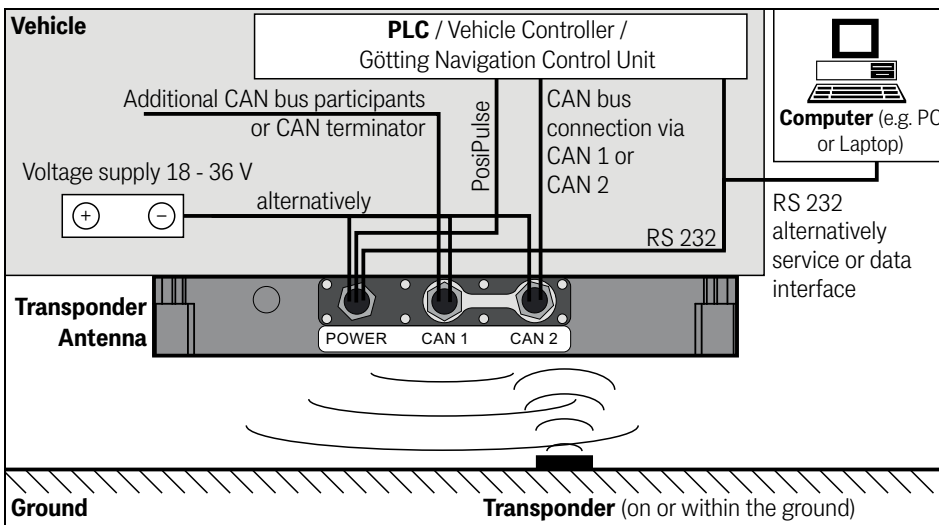


**2-dimensional Pos. and Identific. Antenna with CAN/CANopen®/soon Profinet®**



**Overview**

- Transponder antenna for Automated Guided Vehicles (AGV)
- Flat casing, sealed electronics
- Indoor & outdoor, IP 64
- Mounting directly on or flush with metal
- Reading distance 20 to 80 mm, nominal reading distance 50 mm
- Active area for positioning 200 mm x 200 mm
- Max. crossing speed 4 m/s
- Voltage supply 18 - 36 V, current consumption max. 1 A when programming transponders, typically 300 mA @ 24 V
- Connectors: 3 x M12 5 pin, A coded: 1x Power (incl. serial RS 232 + PosiPulse) / 2x CAN
- CAN module according to CAN specification V2.0 part B, standard / extended frames or CANopen®
- Profinet® in preparation
- PosiPulse when crossing the middle axis in direction of travel, 24 V 20 mA power source, not isolated, alternatively in the serial or CAN telegrams
- Serial interface either usable as service interface for the configuration (default, also for firmware updates) or data interface (telegram contents can be configured)
- Programming of Transponders

The antenna is used for the localization and track guidance of automated guided vehicles (AGV) or cranes. All settings, calibrations and software updates necessary for the operation of the antenna can be conducted via a serial interface or CAN/CANopen®.

As soon as a transponder is within the reading area of the antenna the antenna contactlessly induces energy into the transponder which in turn with this energy starts transmitting its code cyclically every 8 ms. Otherwise the transponder is totally passive and doesn't need an energy supply or battery of its own. At any given time there may only be at most one transponder within the reading area of the antenna.

The transponder field is rotation-symmetric, thus the orientation and bearing of the vehicle can not be calculated based on a single measurement. In order to calculate the orientation a series of transponders has to be read or a second antenna has to be used. With a second antenna it is also possible to calculate the orientation during standstill and to navigate omnidirectional vehicles.

The interpreter that determines the code and the position is integrated into the antenna. When the Y axis is crossed a high-precision positioning pulse is output with a configurable duration. The positioning pulse is available as a digital output as well as via the telegrams of the serial and CAN bus interfaces.

**Mounting Notes**

- The antenna is designed for a reading height of 20 to 80 mm above the transponder, nominal reading height is 50 mm.
- The antenna may be mounted with her 5 shielded sides directly onto or within metal.
- For mounting the antenna there are 4 M6 mounting screw threads and 8 slots for optional aligning pins integrated into the antenna casing.
- Avoid interferences by e.g. conductive material, conductor loops or reinforcements within the antenna's reading field or close to the transponders (also see transponder data sheets). Clocked engines and their power supply cables close to the antenna may also affect the operation.
- Observe a minimum distance of 200 mm between two transponder antennas.
- There may ever be at most one transponder within the antenna's reception range. Thus a minimum distance of 500 mm between the transponders has to be observed.

**Configurations**

- Configuration of antenna and interface parameters via RS 232
- Adjustment of detection thresholds for the compensation of light interferences
- De-/activation of an automatic calibration function (AutoTune)
- Programming of compatible R/W transponders with a new code

**CAN interface**

Not isolated, Terminator not integrated, Full CAN

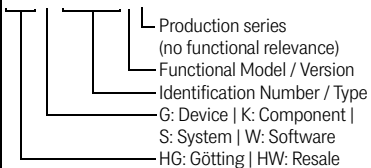
- CAN: According to ISO/DIS 11898 identifier, data rate, standard/extended frames; configurable via serial interface
- CANopen®: CANopen®, device profile DS 401 node ID and data rate configurable via ser. interface or SDOs

**Complementary products**

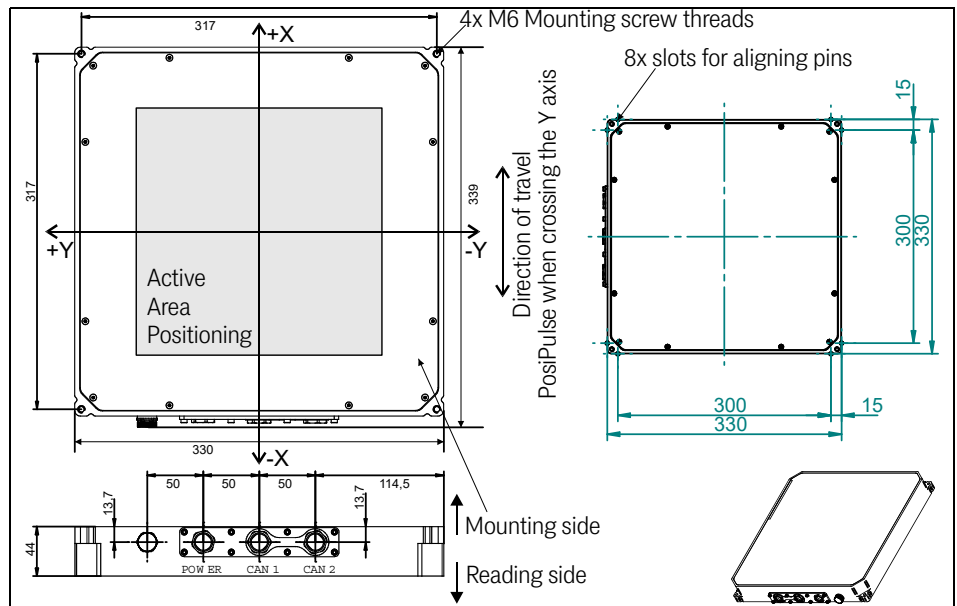
HW CAB00064	Connection cable
HW CON00055	CAN Terminator, M12 plug, 5 pin, A coded
HW DEV00095	Disc-Transponder R/W
HW DEV00098	Disc-Transponder R/W pre-programmed
HG G-71325XA	Bar-Transponder R/W
HG G-81840ZA	Transponder programming device
HG G-73650ZD	Control Unit

**Götting Product IDs (order codes)**

**HG G-98830YB**



**Casing Dimensions / Mounting**



**Pin Allocations (all connectors are A coded)**

Pin	POWER *)	CAN 1 ***)	CAN 2 *) ***)
1	+Ub	Not connected	Not connected
2	PosiPulse Output**)		+Ub (24 V)
3	RS232 Data TxD		GND (supply)
4	RS232 Data RxD		CAN_H
5	GND (supply)		CAN_L

\*) Interchanging the connectors POWER and CAN 2 can lead to damage of the device!

\*\*\*) Limited to 20 mA, not isolated

\*\*\*) The pins of CAN1/CAN2 are connected in parallel, i.e. there is no input or output. If the antennas are connected to the end of the bus a CAN bus terminator has to be installed.

**Technical Data**

Dimensions	approx. 339 x 330 x 44 mm (L x W x H)
Casing	Aluminum, potential-free
Weight	approx. 8 kg
Active antenna area	220 mm x 220 mm
Reading distance	20 to 80 mm bottom side antenna <-> transponder
Nominal reading distance	50 mm
Voltage supply	18 to 36 V, nominal voltage 24 V
Current consumption	approx. 300 mA @ 24 V, up to 1 A during programming of transponders
Temperature ranges	Operation 0° C to +50° C / storage -20° C to +60° C
Protection class	IP 64
Relative humidity	95 % at 25° C (without condensation)
Mechanical resilience	5 g 11 ms / 2 g 10 to 55 Hz
Signal processing time	8 ms
Max. crossing speed	4 m/s
Static positioning accuracy	1σ = 1 mm at nominal reading distance within an area of ± 90 mm around the antenna's center
Connectors	3x M12 connectors 5 pin A coded: Power (male)   CAN 1 (female)   CAN 2 (male)
Interfaces	<ul style="list-style-type: none"> <li>- RS 232: The output is carried out with 19200 resp. 38400 baud. The telegram content can be configured. Protocols 3964R, transparent or monitor only. Alternatively usable as service or data interface. Factory setting; Service interface (monitor only) at 38400 baud, 8 data bits, parity even</li> <li>- PosiPulse: 24 V 20 mA power source, not isolated</li> <li>- CAN: see box to the left</li> </ul>

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