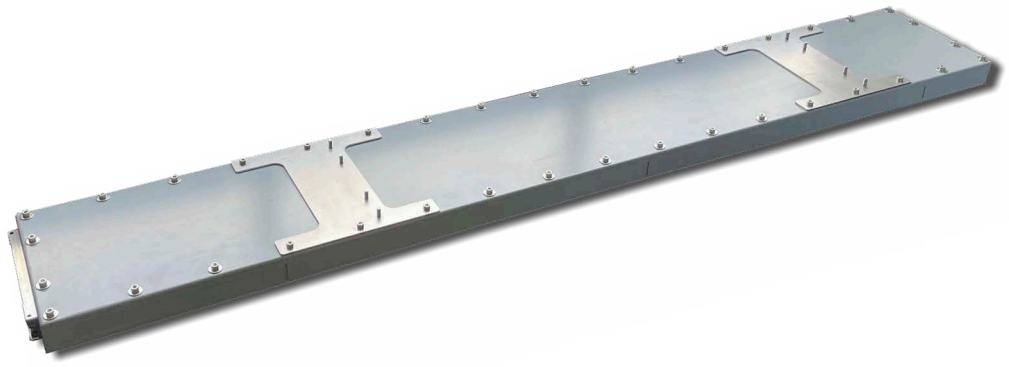
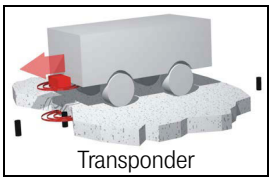
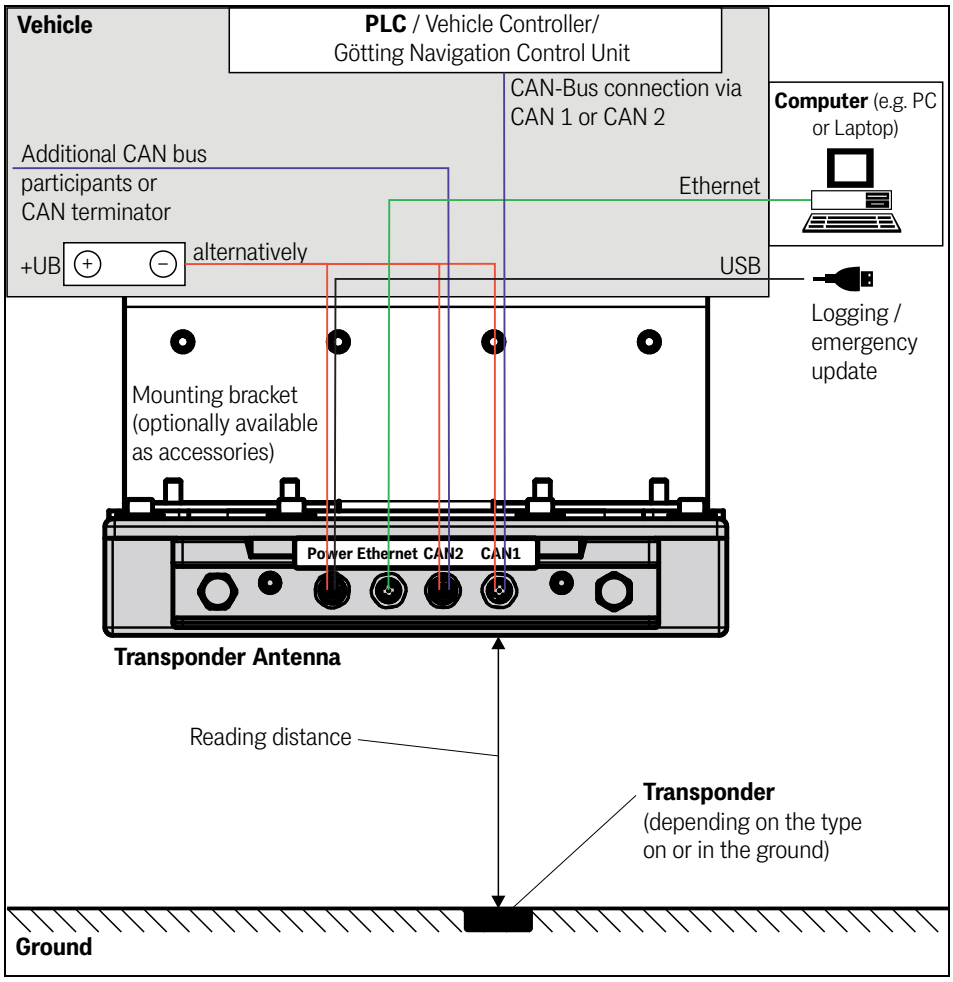
Data Sheet





Functional Description



The transponder antenna HG G-98870 determines the longitudinal position of a vehicle or crane by continuously detection of passive transponders installed on or in the ground (depending on the type) under the antenna.

When a transponder is crossed, the antenna induces a supply voltage into the transponder and receives the unique transponder code in response. At the same time, the position of the transponder relative to the center of the antenna field is measured.

Using the transponder position data stored in the antenna processor (transponder list), the absolute longitudinal position of the antenna is determined and output via CAN bus.

Main Features

- Transponder antenna for continuous position measurement on e.g. RMGs
- Outdoor use, IP67
- For use with passive transponders (128/64 kHz)
- Internal transponder list
- Continuous position output (always at least 1 transponder and max. 2 transponders in the detection range)
- Output of absolute position in X-direction (direction of travel)
- Output: CAN/Ethernet
- Reading distance: 130 to 210 mm (depending on transponder)
- High accuracy
- High crossing speed
- Visualization of operating status by LEDs

Götting Product IDs (order codes)

HG G-98870ZA

- Production series (no functional relevance)
- Functional Model / Version
- Identification Number / Type
- G: Device | K: Component | S: System | W: Software
- HG: Götting | HW: Resale

Date: 09.06.2022 | Revision 01 / English | Author(s): RAD / GW
Product page: http://goetting-agv.com/components/98870

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Mounting Notes

- The antenna is designed for a reading distance of 130 to 210 mm above the transponders
- A maximum of two transponders may be in the sensor's detection range at the same time
- Distance between transponders: 1,000 to 1,500 mm
- Suitable mounting brackets can be ordered from Götting if required, see picture on the right and table "Complementary products" below
- Metal-free area around the antenna:
  - 50 mm distance from the side to metal
  - 100 mm distance from the underside
  - No closed conductor loops above, below or around the antenna within 400 mm
  - No metal plates above or around the antenna within 400 mm

CAN interface

Not isolated, terminator not integrated, Full CAN according to ISO/DIS 11898, standard frames, identifier and data rate configurable, telegram identifier compatible with CANopen®

Configuration via Ethernet

- Configuration of sensor and interface parameters.
- Adjustment of detection thresholds (transponder threshold)
- Mounting settings
- Transmitter coil adjustment
- Transponder list

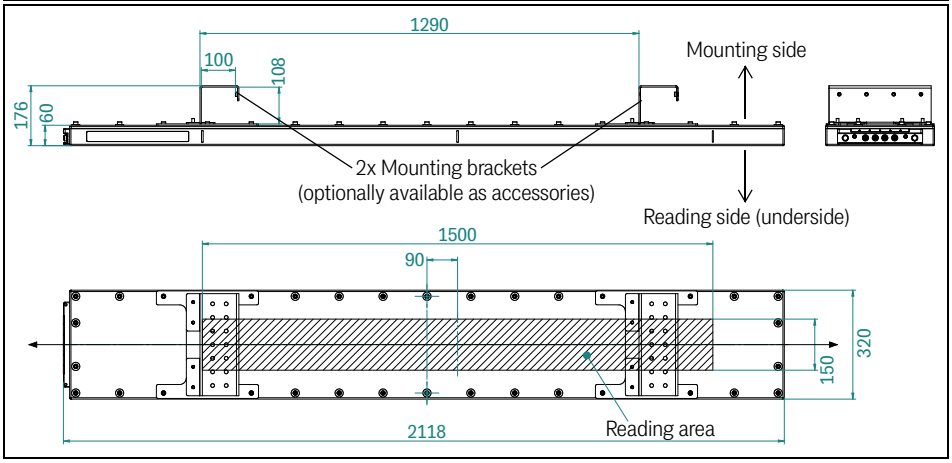
Factory settings

- IP: 10.10.10.10
- transponder threshold = 400
- CAN: CANOpen ID Format: on, Node ID: 0x45, CAN baud rate: 250kByte, CAN output rate: 10ms
- Mounting: direction: normal; offset = 0
- Adjustment transmitter coil: 3
- No transponder list

Complementary products

Art. No. 100465	1x Mounting Bracket
HW CAB00001	ST1: Cable PUR, 5 m, M12 elbow socket, open end
HW CAB00064	ST3: CAN bus cable, 10 m, with shielding, M12 socket straight, open end
HW CON00055	ST4: CAN Terminator, M12 plug, 5 pin, A coded
HG G-70633ZB	Glass Transponder
HG G-70652ZC	Puck Transponder
HG G-70653ZA	Puck Transponder
HG G-70654ZB	Marking Nail Transponder (very robust)
HG G-81840ZA	Transponder programming device
HG G-73650ZD	Control Unit

Casing and Dimensions



Pin Allocations (all connectors M12)

	ST1 Power	ST2 Ethernet	ST3 CAN 2	ST4 CAN 1
Pin	5 pin, A coded, male	4 pin, D coded, female	5 pin, A coded, male	5 pin, A coded, female
1	+UB	TX+	Shield	Shield
2	GND	RX+	+UB	+UB
3	D+ (USB)	TX-	CAN_GND	CAN_GND
4	D- (USB)	RX-	CAN_H	CAN_H
5	GND (data & supply)		CAN_L	CAN_L

Technical Data

Dimensions	approx. 2118 x 320 x 70 mm (L x B x H) Height with optional mounting brackets: 176 mm
Casing	GRP (Durostone® UPM 203) and stainless steel
Weight	– Antenna approx. 42,5 kg – Mounting brackets 2.5 kg each
Reading area	1500 x 150 mm
Reading distance	130 to 210 mm (with Transponder HG G-70652ZB)
Nominal reading distance	170 mm (with Transponder HG G-70652ZB)
Accuracy	– ≤ 2 mm at nominal reading distance – ≤ 4 mm at min.-max. distance at the edges of the reading range
Voltage supply	18 to 36 V, nominal voltage supply 24 V
Current consumption	approx. 410 mA @ 24 V
Temperature ranges	Operation -20° C to +50° C / Storage -20° C to +70° C
Mechanical load capacity	5 g 11 ms / 2 g 10 to 55 Hz
Protection class	IP 67
Relative humidity	95 % at 25° C (without condensation)
Frequency	128/64 kHz
Transponder	– Minimum distance between two Transponders: 1,000 mm – Maximum distance between two Transponders: 1,500 mm – Maximum length of the transponder list in the device: 8,000 Transponders
Decoding	8 ms
Processing time / cycle	1 ms
Output rate	≥ 1 ms adjustable
Max. crossing speed	12 m/s (with up to 4 ms delay time)
Outputs	4 LEDs
Connectors	– 3x M12 connector 5-pin A-coded: Power (male) | CAN 2 (male) | CAN 1 (female) – 1x M12 connector 4-pin D-coded: Ethernet (female)
Interfaces	– USB: Log file output and emergency update – CAN: See box on the left side – Ethernet: Configuration via web interface over web browser

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