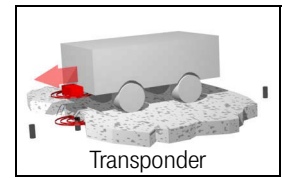
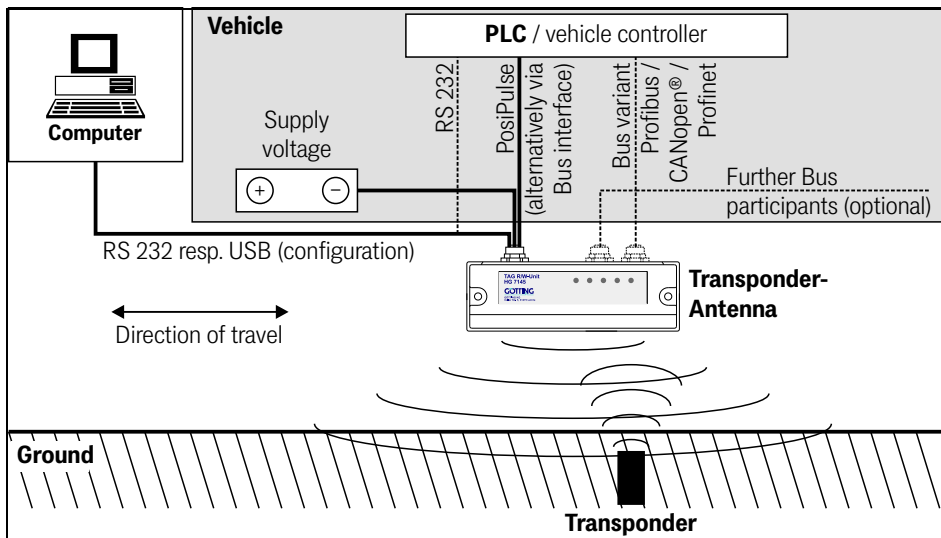




Photo: Variant  
HG G-71455ZA  
409 kHz, PROFINET® & USB



Variants HG G-71450 | HG G-71451 | HG G-71453 | HG G-71455I

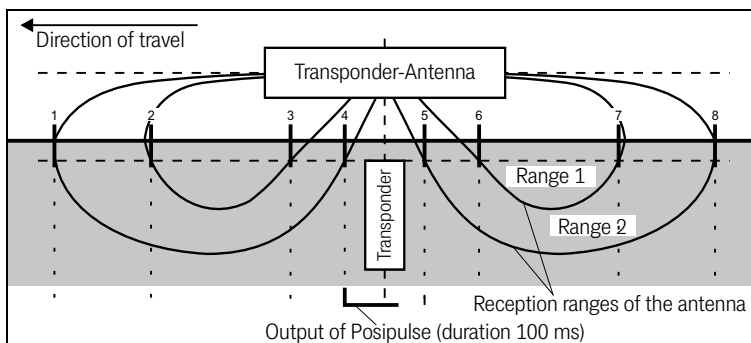


The transponder-antenna is used in identification systems with positioning. When a transponder enters reception range 2 the antenna outputs the transponder's code. When the transponder crosses the antenna center (see below) the positioning pulse is generated. This allows the detection of fixed positions.

As soon as a transponder is within the reading area the antenna wirelessly supplies it with inductive energy. The transponder uses

that energy to cyclically transmit its code at half the antenna's operating frequency. Otherwise the transponder is passive and doesn't need any power supply or battery. There may always be at most one transponder within the reading area of the antenna.

The antenna can program new codes into compatible read/write (R/W) transponders.



Overview

- Transponder-Antenna for the positioning of automated guided vehicles (AGV)
- Indoor, IP 65
- Reading distance 50 mm
- max. crossing speed (depending on variant and the functionality in use) 1.0 to 2.0 m/s
- Voltage supply +Ub (depending on the variant) 22 - 28 VDC or 18 - 36 VDC, current consumption typically 130 mA @ 24 VDC
- Operating frequency (depending on the variant): 409 kHz, 125 kHz
- Posipulse when crossing the center axis in direction of travel, +Ub, 20 mA current source, current limited, not electrically isolated
- Connectors (depending on the variant): Up to 3x M12
- Data interface (depending on the variant): RS 232 (serial), PROFIBUS®, CANopen®, PROFINET® (with integrated switch)
- Service interface for configuration and firmware update (depending on the variant): serial RS 232 or USB with USB virtual serial port driver
- Display operational state (depending on the variant): Up to 5 LEDs
- Transponder programming

Versions/Variants

Variant	Code	Frequency	Interface
HG G-71450	ZA	409 kHz	RS 232 (serial), ST1
	YA	125 kHz	ST1
HG G-71451	ZA	409 kHz	PROFIBUS® & RS232, ST1-3
	YA	125 kHz	ST1-3
HG G-71453	ZA	409 kHz	CAN-Bus & RS232, ST1-3
	YA	125 kHz	ST1-3
HG G-71455	ZA	409 kHz	PROFINET® & USB, ST1-3
	YA	125 kHz	ST1-3

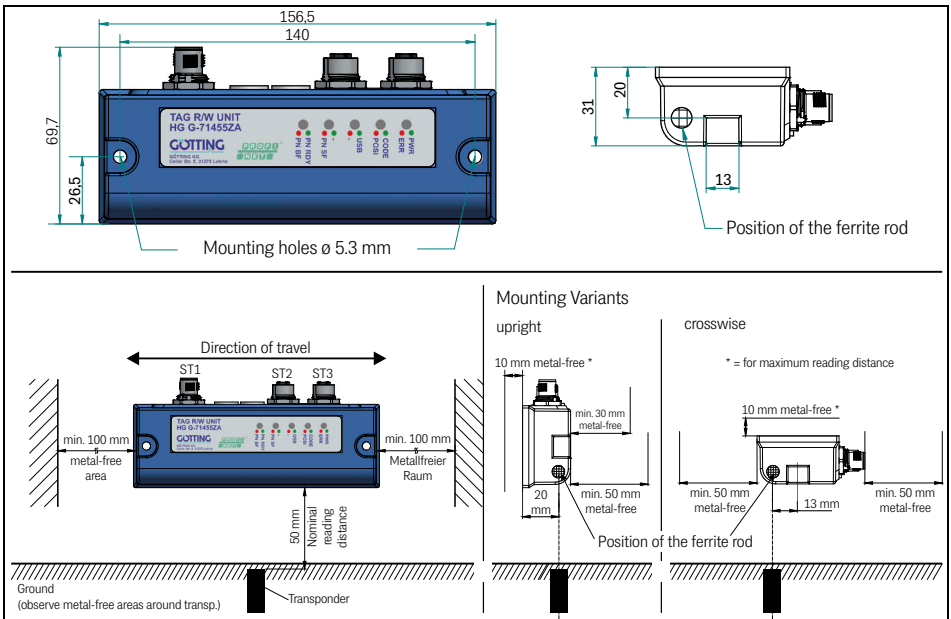
**Mounting Notes**

- The antenna has two bore holes for screws with which it can be mounted (see figure to the right).
- The antenna may be mounted upright or crosswise. The shielded back may not point towards the transponder.
- The antenna may be mounted directly onto metal with its back side.
- The nominal reading height is 50 mm above the transponder.
- When used in systems with inductive power transmission (only antenna variants with 409 kHz can be used here), a minimum lateral distance of 200 mm must be maintained from the wires of the energy line, the power electronics and the connecting lines of the pickups.
- 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 1500 mm between two transponder antennas.
- Between two transponders there has to be a minimum distance of 500 mm. There may ever be at most one transponder within the antenna's reception range.

**Additional Products / Accessories**

HW CAB00001	ST1: Cable PUR, 5 m, M12 elbow socket, open end
HW CAB00002	ST2: PROFIBUS® cable PUR, 5 m, M12 plug straight, open end
HW CON00003	ST2: PROFIBUS® terminator
HW CAB00003	ST3: PROFIBUS® cable PUR, 5 m, M12 socket straight, open end
HW CON00055	ST2: CAN-Bus Terminator
HW CAB00064	ST3: CAN-Bus cable, 10 m, with shielding, M12 socket straight, open end
HG G-71325YA	Transponder 409 kHz
HG G-71325ZA	Transponder 125 kHz
HW DEV00033	Disc Transponder 125 kHz
HW DEV00034	Disc Transponder 125 kHz pre-programmed
HG G-81840ZA	Transponder programming device
HG G-06150YA	Serial/parallel interface for HG G-71540-A
HG G-20960ZA	Connection box for HG G-71455-A

**Casing Dimensions / Mounting / metal-free Areas (Example: HG G-71455)**



**Pin assignments, all connectors M12**

Pin	ST1		ST2			ST3		
	71450/1/3	71455	71451	71453	71455	71451	71453	71455
1	+UB		Bus +5 V	n. c.	TX+	Bus +5 V	n. c.	TX+
2	PoisPulse out		Bus A	n. c.	RX+	Bus A	n. c.	RX+
3	TxD (RS232)	D+ (USB)	RTS	CAN_GND	TX-	RTS	CAN_GND	TX-
4	RxD (RS232)	D- (USB)	Bus B	CAN_H	RX-	Bus B	CAN_H	RX-
5	GND (Data & Supply)		Bus GND	CAN_L		Bus GND	CAN_L	

**Technical Data**

Dimensions	156,5 mm x max. 70 mm x 31 mm (W x H x D)												
Casing	Polycarbonate												
Weight	250 g												
Protection class	IP 64												
Nominal reading distance	50 mm with Transponders HG G-71325YA/ZA, HW DEV00033, HW DEV00034, HW DEV00131YA/WA												
Relative humidity	95 % @ 25° C (without condensation)												
Temperature ranges	Operation: 0° C to +50° C / Storage: -20° C to +70° C												
Supply voltage +Ub	HG G-71450/71451/71453: +22 VDC to +28 VDC												
Nominal voltage+ 24 VDC	HG G-71455: +18 VDC to +36 VDC												
Current consumption	130 mA @ 24 VDC												
Operating frequency	409 kHz / 125 kHz, see table variants on the front page												
Code length	16 Bit												
max. crossing speed @ nominal reading distance	<table border="1"> <tr> <td>HG G-71450</td> <td>@409 kHz</td> <td>@125 kHz</td> </tr> <tr> <td>HG G-71451</td> <td>• Code only: 2.0 m/s</td> <td>• Code only: 1.5 m/s</td> </tr> <tr> <td>HG G-71453</td> <td>• Code &amp; PosiPuls: 1.5 m/s</td> <td>• Code &amp; PosiPuls: 1.0 m/s</td> </tr> <tr> <td>HG G-71455</td> <td colspan="2">2.0 m/s</td> </tr> </table>	HG G-71450	@409 kHz	@125 kHz	HG G-71451	• Code only: 2.0 m/s	• Code only: 1.5 m/s	HG G-71453	• Code & PosiPuls: 1.5 m/s	• Code & PosiPuls: 1.0 m/s	HG G-71455	2.0 m/s	
HG G-71450	@409 kHz	@125 kHz											
HG G-71451	• Code only: 2.0 m/s	• Code only: 1.5 m/s											
HG G-71453	• Code & PosiPuls: 1.5 m/s	• Code & PosiPuls: 1.0 m/s											
HG G-71455	2.0 m/s												
Repeat accuracy	±2 mm @ 0,5 m/s, noise-free environment and nominal reading distance												
Digital output	PosiPuls: +Ub, 20 mA current source, current limited, not electrically isolated												
Connectors	Up to 3x M12 circular connectors, cables for several interfaces available as Götting accessories (see box „additional products“)												

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