

# Transponder

HG 70660ZA

## Function

As the antenna passes over the transponder, it energizes the latter with an energy field of 13.56 MHz. The transponder returns its code through frequency modulation to the antenna. An additional coil generates the positioning pulse. The interpreter which is integrated within the antenna decodes the transponder code. A normal reading cycle, including all security checks, is approximately 1 ms.

The system's operability is guaranteed through fluid, gaseous as well as solid metal-free materials. However, if mounted directly on or within metal, the transponder's reading distance is influenced.

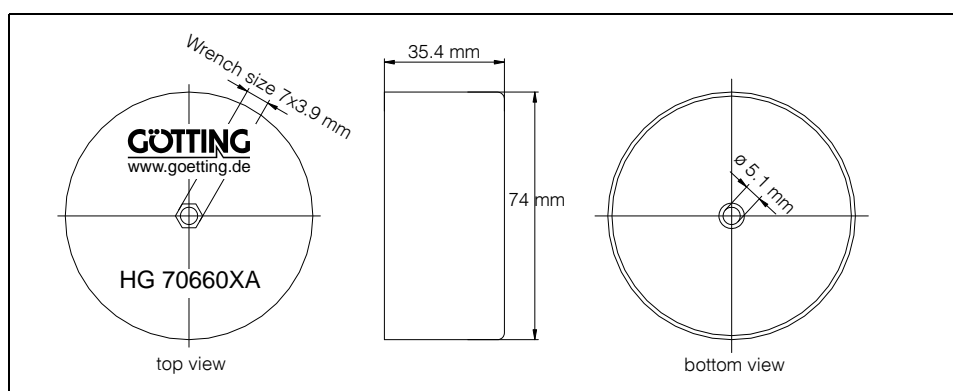
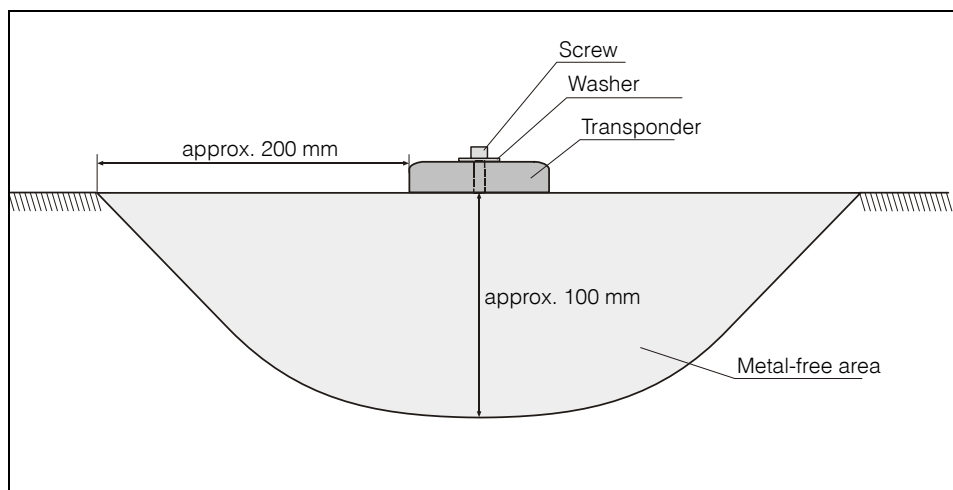
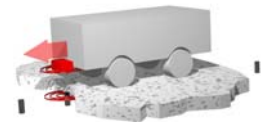
The Read-Write Transponders are equipped with an EEPROM in which the code is stored. The EEPROM may be rewritten up to more than 100,000 times. It has 32 bit available for user data.



## Mounting Instructions

The transponder has to be mounted on even ground using a metal screw and a washer. The maximum fastening torque is

not allowed to exceed 4 Nm. The diameter of the metal washer should not extend 18 mm.



# Transponder

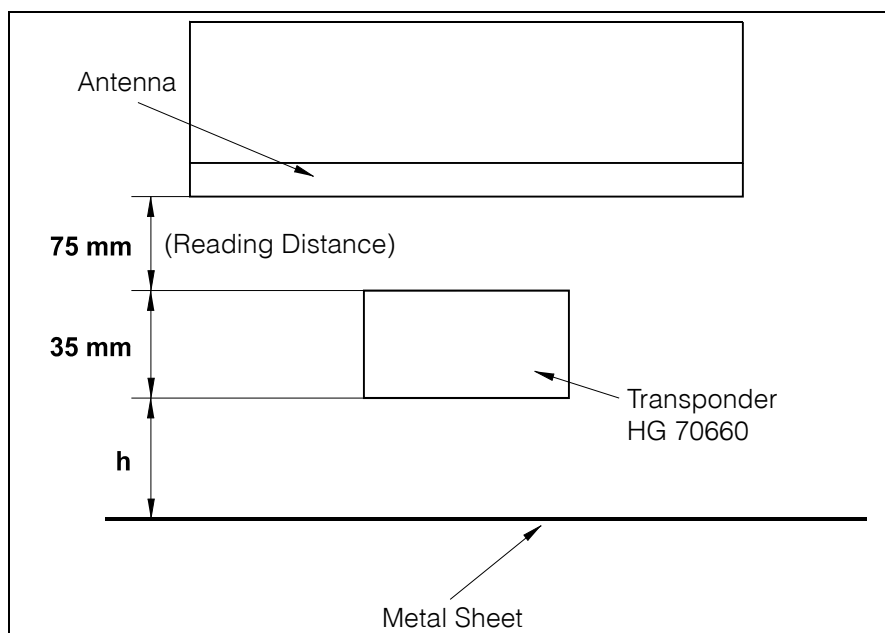
HG 70660ZA

## Dimensions and Specifications

The maximum reading distance for all transponders can only be achieved when the minimum distance to the metal surface is maintained.

It is recommended to maintain the minimum distance within the metal-free area (figure below). The impact on positioning accuracy and range also depends on the size and the distance of metal parts.

As a rule of thumb it can be said that if the metal-free area behind the transponder has to be at least of the same range as the reading distance between transponder and antenna. The reception of the transponder signal will be largely unattenuated (see table on right). It is essential, that the transponder **does not dip into the mesh/loop of steel reinforcement grids**. Single metal rods, on the other hand, hardly have any influence on the performance.



Height h (cm)	Signal
0	64 %
1	74 %
2	81 %
3	85 %
4	88 %
5	90 %
6	92 %
7	94 %
8	95 %
9	96 %
10	97 %
↓	↓
∞	100 %

## Technical Data

- Dimensions                     $\varnothing 73 \text{ mm} \times 35,4 \text{ mm}$  height ( $\pm 1 \text{ mm}$ )
- Weight                        200 g
- Material                        Polyamid housing with 30 % glassfibre and polyurethan mass
- Mechanical Pressure        max. 490 N/cm<sup>2</sup>
  
- Operating Temperature     -20 to +60° C
- Storage Temperature        -20 to +60° C
- Protection Class            IP 67
  
- Data                             32 Bit useful data in EEPROM
- Reading/writing distance    50... 10 mm
- Nominal reading/writing distance  
                                          Antenna HG 98780: 75 mm

