

## Installation

# ID ANT.U150/150



## NOTE

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## History of Documentation

Revision	Date	Description	Page / Chapter
0e	2023-11-27	Initial Version	

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## 1 Safety Instruction

- The device may only be used for the intended purpose designed by for the manufacturer.
- The operation manual should be conveniently kept available at all times for each user.
- Unauthorized changes and the use of spare parts and additional devices which have not been sold or recommended by the manufacturer may cause fire, electric shocks or injuries. Such unauthorized measures shall exclude any liability by the manufacturer.
- The liability-prescriptions of the manufacturer in the issue valid at the time of purchase are valid for the device. The manufacturer shall not be held legally responsible for inaccuracies, errors, or omissions in the manual or automatically set parameters for a device or for an incorrect application of a device.
- Repairs may only be executed by the manufacturer.  
Installation, operation, and maintenance procedures should only be carried out by qualified personnel.
- Use of the device and its installation must be in accordance with national legal requirements and local electrical codes .
- When working on devices the valid safety regulations must be observed.
- Please observe that some parts of the device may heat severely.
- For installation and dismantling you should wear suitable safety gloves, because parts of antenna housing could be sharp-edged.

## 2 Performance ID ANT.U150/150-EU / FCC

The innovative, smart design of the ID ANT.U150/150, which is equipped with an SMA connector, blends into most indoor environments, making it ideal for customer facing environments. The IP68 protection class also allows it to be used outdoors without any problems.

### 2.1 Performance Characteristics:

- Circular polarization for best possible performance
- Compact, flat and robust design
- IP68 for outdoor applications
- Reading ranges up to 4 m
- VESA connection (100 x 100 mm)
- Compliance: EU / UK / FCC

**FEIG ELECTRONIC offers the antenna for the European and North American market.**

#### ID ANT.U150/150-EU

- Circularly polarized antenna  
Transponders can be read in any orientation.
- Operating frequencies in the UHF range from **865 MHz-870 MHz**
- The antenna is optimized for the UHF frequency range for RFID applications in Europe and the UK.  
In this frequency range, the antenna offers the best possible reading performance.

#### ID ANT.U150/150-FCC

- Circularly polarized antenna  
Transponders can be read in any orientation.
- Operating frequencies in the UHF range from **902 MHz-928 MHz**
- The antenna is optimized for the UHF frequency range for RFID applications under FCC guidelines and all other regions using frequencies within the FCC frequency band.  
In this frequency range, the antenna offers the best possible reading performance.

### 3 Installation

Please read the instructions in this document carefully before starting the assembly.

- Only use tools for electrical engineering.

#### 3.1 Installation Options for the antenna

To mounting the antenna, there are four holes for the mounting screws.  
(e.g. M6 x 8 mm).

	Max. Torque	Installation Options
Bolts: E.g. M6 x 8 mm	4 Nm	Wood
		Plastic board
		Drywall
		Pole and Wall Mounting Set VESA100
SMA-socket	0,6 Nm	straight
		angled (90°)

**NOTE:**

- Do not use countersunk screws
- Do not place spring washers under the screw heads.
- Do not use impact wrenches
- In applications where vibrations occur fix the SMA connection additionally with e.g. Loctite 243.

Table 1: Fastening options

**NOTE:**

The holes of the antenna fit the Pole and Wall Mounting Set VESA100.



Figure 1: Drill hole + bolts (e.g. M6 x 8 mm)

### 3.2 Dimension of the antenna [mm]

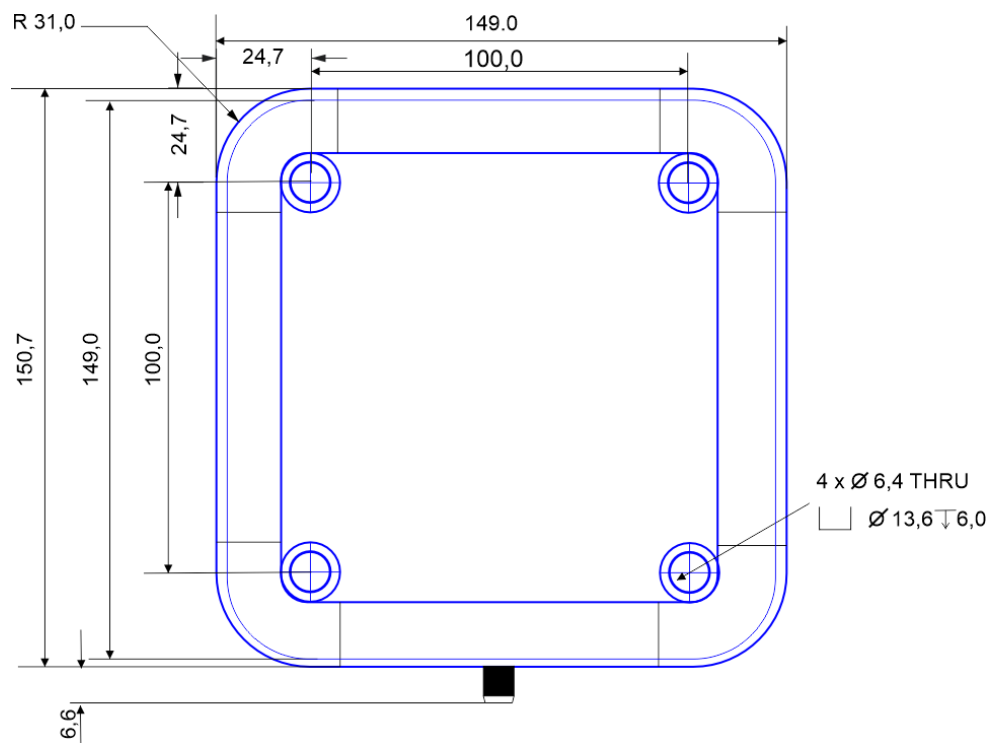


Figure 2: Dimension of the antenna [mm]



Figure 3: Backside of the antenna



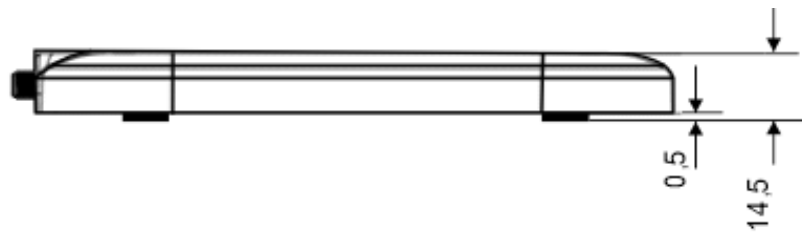


Figure 4: Side view of the antenna [mm]

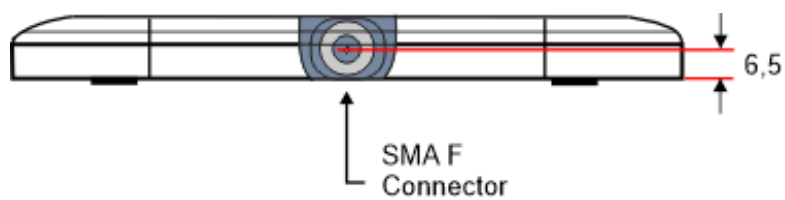


Figure 5: Front view of the antenna [mm]

3.3 Connector Protection Backplate

3.3.1 Dimension of Connector Protection Backplate [mm]

**Weight:**  
265 g

**Material:**  
Stainless Steel 1.4301

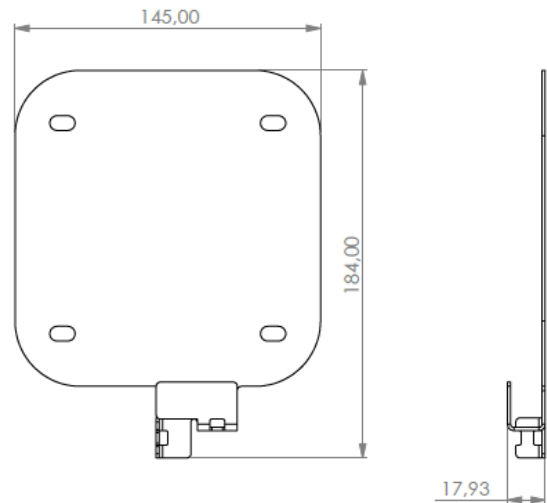


Figure 6: Dimension of the Connector Protection Backplate [mm]

If the antenna is exposed to a load on the connector or the cable, it is recommended to use the Connector Protection Backplate.

- This protects the connector from damage, especially when mounting on a bracket in free space.
- The Backplate can be used with a right angled or straight cable outlet.
- The antenna cable is fixed with a cable tie (red) according to the illustration below.

Straight	90° right angled
	

Figure 7: Mounting Connector Protection Backplate with a cable tie

Antenna slid over the Connector Protection Backplate and screwed to the base.

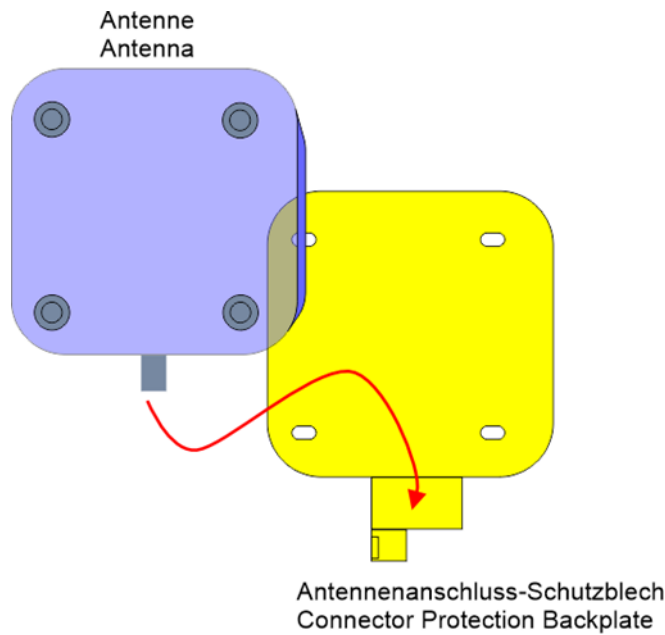


Figure 8: Antenna on Connector Protection Backplate

4 Accessory

Article	Description	Order-no.
ID ANT.C2-A	UHF Cable SMA / SMA 2 m	1654.002.00
ID ANT.C6-A	UHF Cable SMA / SMA 6 m	1654.003.00
ID MS.VESA100-A	Pole and Wall Mounting Set VESA100	5255.000.00
ID ANT.U150/150 Connector Protection Backplate		6832.000.00

Table 2: Accessory

NOTE:

The bending radius of the antenna cable must not be exceeded.  
This prevents damage and a reduction in antenna performance.

## 5 RF-Characteristics

### 5.1 Beamwidth

The 3 dB beamwidth of the antenna is  $105^\circ \times 105^\circ$ .



Figure 9: 3 dB beamwidth

### 5.2 Radiation Pattern

**NOTE:**

Both antenna diagrams are equally valid for the ID ANT.U150/150 **EU variant** and the ID ANT.U150/150 **FCC variant**.

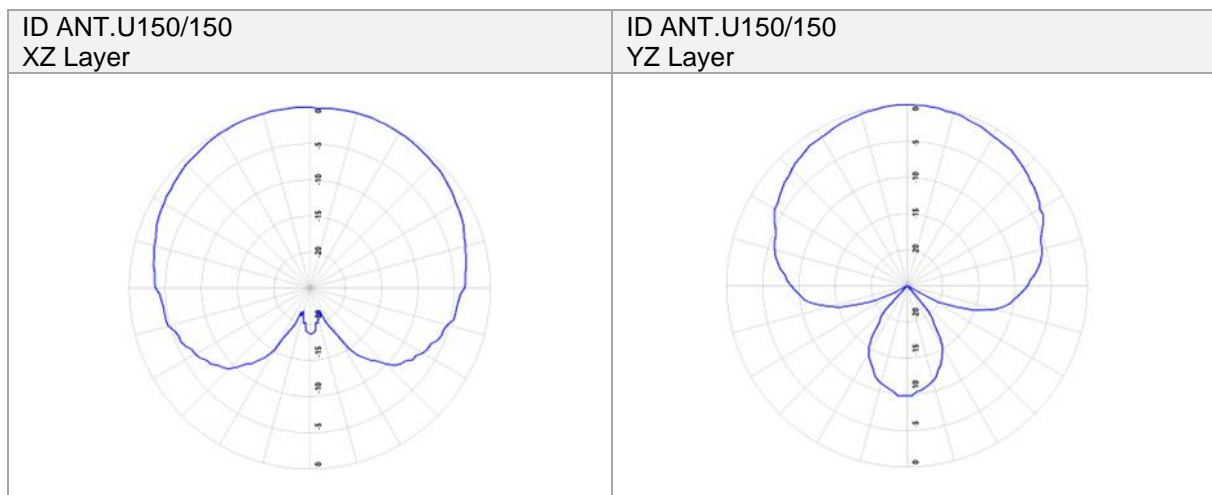


Figure 10: Antenna diagrams for EU and FCC

## 6 Technical Data

Mechanical Data	
Weight:	240 g
Dimension (W x H x D)	151 mm x 150 mm x 14.5 mm
Protection class:	IP68
Housing:	ABS, UV-stable and fire retardant
Color:	black
Electrical Data	
Antenna interface:	1 x SMA socket (50 $\Omega$ ) female
Gain:	ca. 5 dBic
3 dB Beamwidth:	105° x 105°
Polarization:	circular (RHCP)
Operating frequency:	
EU	865 MHz up to 868 MHz
FCC	902 MHz up to 928 MHz
VSWR	< 1,4:1
Environment	
Temperature range:	-30 °C - + 65 °C

Table 3: Technical Data

Document:	Installation ID ANT.U150/150
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