

INSTALLATION

# ID ANT.U290/290-EU

**Robust UHF Long Range Antenna 65° circular**



## Note

© Copyright by  
FEIG ELECTRONIC GmbH  
Lange Strasse 4  
D-35781 Weilburg (Germany)  
Tel.: +49 6471 3109-0  
<http://www.feig.de>  
[identification-support@feig.de](mailto:identification-support@feig.de)

With the edition of this document, all previous editions become void. Indications made in this manual may be changed without previous notice.

Copying of this document and giving it to others and the use or communication of the contents thereof are forbidden without express authority. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

Composition of the information in this document has been done to the best of our knowledge. FEIG ELECTRONIC GmbH does not guarantee the correctness and completeness of the details given in this manual and may not be held liable for damages ensuing from incorrect or incomplete information. Since, despite all our efforts, errors may not be completely avoided, we are always grateful for your useful tips.

The instructions given in this manual are based on advantageous boundary conditions. FEIG ELECTRONIC GmbH does not give any guarantee promise for perfect function in cross environments and does not give any guarantee for the functionality of the complete system which incorporates the subject of this document.

FEIG ELECTRONIC GmbH calls explicit attention that devices which are subject of this document are not designed with components and testing methods for a level of reliability suitable for use in or in connection with surgical implants or as critical components in any life support systems whose failure to perform can reasonably be expected to cause significant injury to human health. To avoid damage, injury or death the user or application designer must take reasonably prudent steps to protect against system failures.

FEIG ELECTRONIC GmbH assumes no responsibility for the use of any information contained in this document and makes no representation that they are free of patent infringement. FEIG ELECTRONIC GmbH does not convey any license under its patent rights nor the rights of others.

## Contents

<b>1</b>	<b>Safety Instructions</b>	<b>4</b>
<b>2</b>	<b>Performance Features of ID ANT.U290/290-EU</b>	<b>5</b>
<b>3</b>	<b>Installation</b>	<b>6</b>
<b>4</b>	<b>Accessories</b>	<b>8</b>
<b>5</b>	<b>VSWR</b>	<b>9</b>
<b>6</b>	<b>Beamwidth</b>	<b>10</b>
<b>7</b>	<b>Technical Data</b>	<b>11</b>

## 1 Safety Instructions

- ▶ The device may only be used for the intended purpose designed by the manufacturer.
- ▶ The manual must be read thoroughly and kept safe and accessible for all users.
- ▶ 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.
- ▶ Prevent children and unauthorized persons from accessing the device.
- ▶ Equipment is intended for use only in restricted access area.
- ▶ Special advice for carriers of cardiac pacemakers:  
Although this device doesn't exceed the valid limits for electromagnetic fields you should keep a minimum distance of 25 cm between the device or the antenna and your cardiac pacemaker.

## 2 Performance Features of ID ANT.U290/290-EU

The antenna ID ANT.U290/290-EU is a circular polarized antenna and can be used at operating frequencies in the UHF range from 865 MHz – 870 MHz.

Due to the circular polarization a reading of transponders is possible in random orientations.

The antenna is optimized for the UHF frequency band dedicated to RFID applications in Europe. In this frequency band the antenna offers best possible reading performance.

Description	Frequency	Order Number
ID ANT.U290/290-EU	865 MHz – 870 MHz	5236.000.00.00

Table 1: Ordering Information – Antenna

### 3 Installation

The ID ANT.U290/290-EU is designed to be mounted outdoors. Four holes for M5 screws are provided on the backside of the housing for mounting on a VESA bracket. The screws used should have a screw-in depth of maximum 8 mm (0.3"). For secondary protection the antenna can be secured by means of an eye bolt, that should be fixed with screw locking varnish, and e.g. a wire rope. The suitable accessory ID ANT.UEB-A can be purchased from FEIG ELECTRONIC.

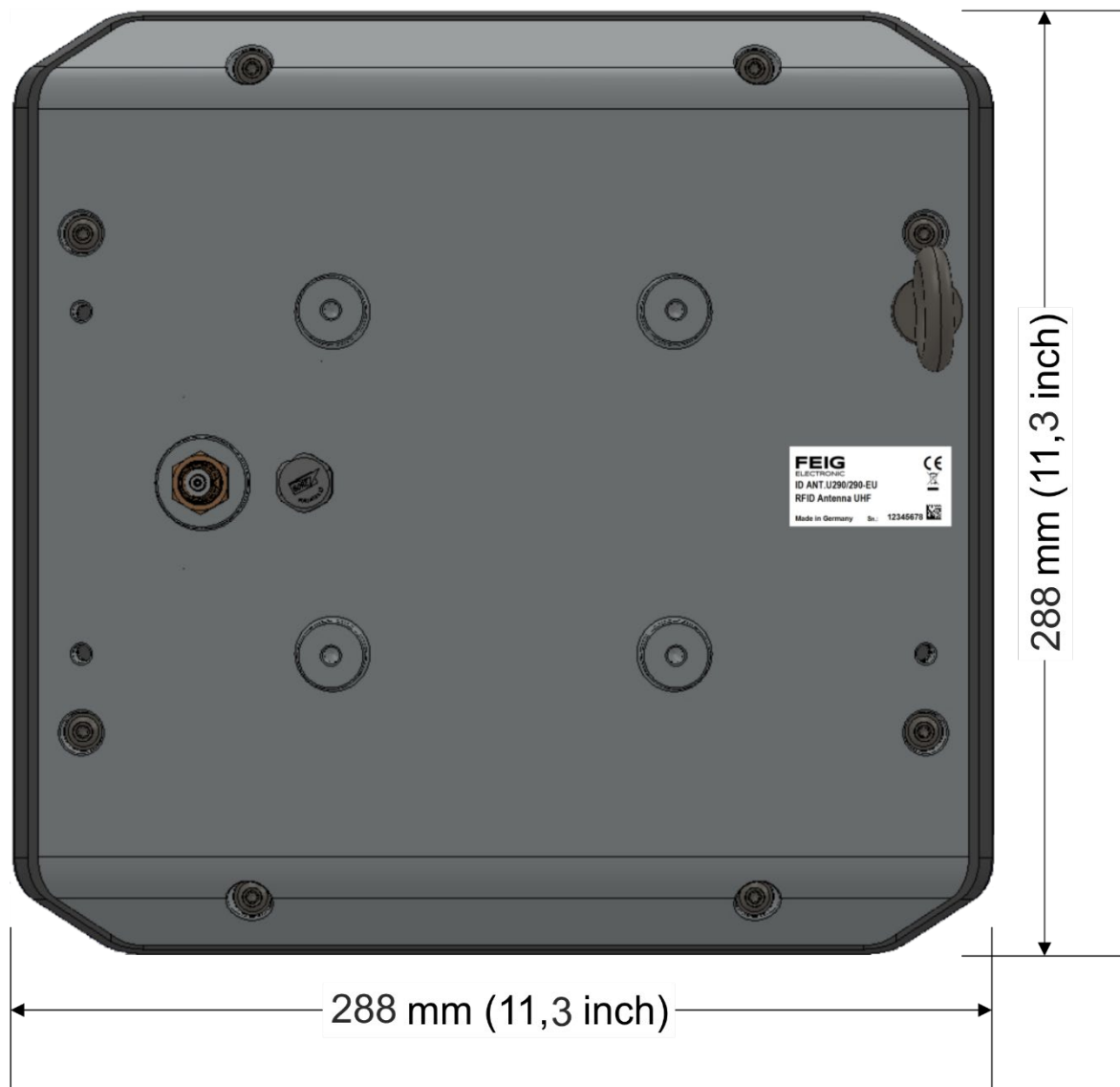


Fig. 1: Dimensional drawing – back view

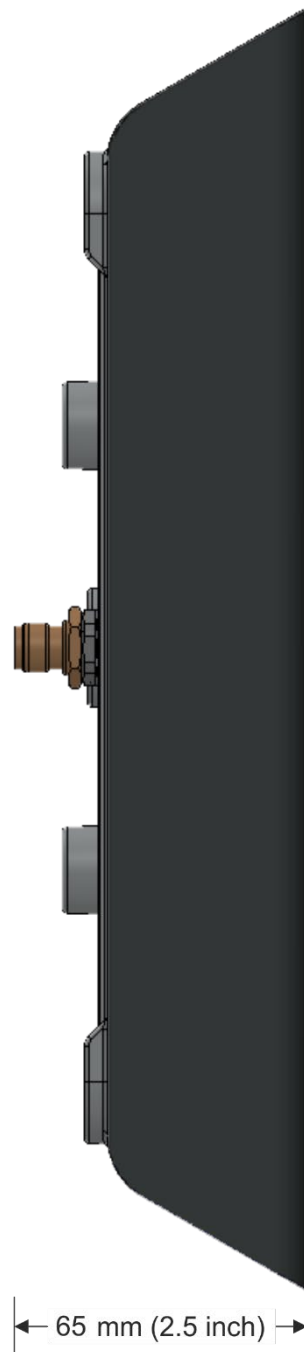


Fig. 2: Dimensional drawing - side view

**⚠ CAUTION:**

- *Do not exceed the bending radius of the connection cable (15 mm static, 30 mm dynamic) to prevent damage and a decrease of the antenna performance.*
- *To keep the full protection class and to prevent performance losses of the antenna it needs to be ensured that the screw plug is not damaged.*

## 4 Accessories

For the ID ANT.U290/290-EU following optional accessories are available:

Order Number	Article	Description
5241.001.00	ID ANT.C2-B	UHF Antenna Cable SMA/TNC 2 m
5241.002.00	ID ANT.C6-B	UHF Antenna Cable SMA/TNC 6 m
5243.001.00	ID ANT.C2-C	UHF Antenna Cable R-TNC/TNC 2 m
5243.002.00	ID ANT.C6-C	UHF Antenna Cable R-TNC/TNC 6 m
5335.000.00	ID ANT.C6-x	UHF Antenna Extension Cable TNC/TNC 6 m
5254.000.00	ID ANT.UEB-A Eye Bolt	M6 eye bolt for secondary protection, PU: 10 pieces

**NOTE:**

*The maximum tightening torque of the TNC jack is 0,45 Nm (4.0 lbf in).*



## 5 VSWR

The typical VSWR of the antenna ID ANT.U290/290-EU is  $< 1,25:1$ .

## 6 Beamwidth

The 3 dB beamwidth of the antenna is  $65^{\circ} \times 65^{\circ}$ .

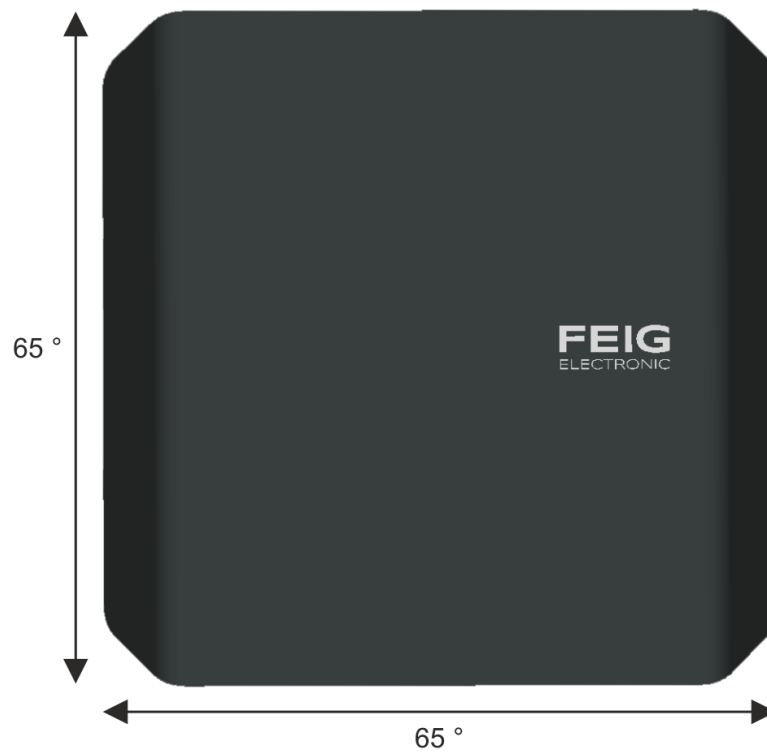


Fig. 3: 3 dB beamwidth

## 7 Technical Data

### Mechanical Data

Housing	Plastic (ASA-PC) Aluminum
Dimension (W x H x D)	288 mm x 288 mm x 65 mm (11.3" x 11.3" x 2.6")
Weight	1550 g
Mounting	VESA FDMI MIS-D 100 mm x 100 mm
Protection Class	IP 65
Colour	Anthracite Aluminum

### Electrical Data

Operating Frequency	865 MHz – 870 MHz
Antenna Gain	9,0 dBiC ( $\pm 0,5$ )
3 dB Beamwidth	
• E-Plane	65°
• H-Plane	65°
Polarization	Circular
VSWR	< 1,25:1
Antenna Connector	TNC socket (50 $\Omega$ )

### Environmental Conditions

Temperature Range	
• Operation	-25 °C to 55 °C
• Storage	-25 °C to 80 °C
Humidity	0 % to 95 % (non-condensing)
Vibration	EN 60068-2-6 10 Hz to 150 Hz: 0,075 mm / 1 g
Shock	EN 60068-2-27 Acceleration: 30 g

### Applicable Standards

Radio Regulation	
• Europe	EN 302 208
• USA	FCC 47 CFR Part 15
• Canada	IC RSS-GEN, RSS-210
• India	BIS IS 13252 Part 1
EMC	EN 301 489
Safety	
• Low Voltage	EN 62368
• Human Exposure	EN 50364
• Fire	EN 45545
Others	RoHS, WEEE