Annex acc. to FCC Title 47 CFR Part 15
relating to
Feig Electronic GmbH
MRU102

Annex no. 5
User Manual
Functional Description

Title 47 - Telecommunication
Part 15 - Radio Frequency Devices
Subpart C – Intentional Radiators
ANSI C63.4-2014
ANSI C63.10-2013

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User Manual / Functional Description of the test equipment (EUT)

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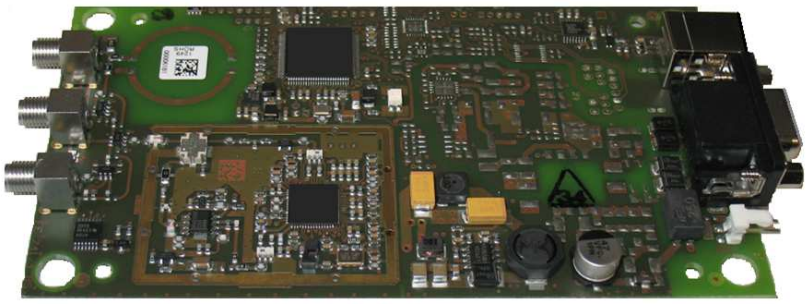
IDENTIFICATION

INSTALLATION MANUAL

ID ISC.MRMU102-A / ID ISC.MRMU102-POE

UHF Mid Range Reader Module



Note

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

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.

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Content

1 Safety Instructions

- 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.
- Before touching the device, the power supply must always be interrupted. Make sure that the device is without voltage by measuring. The fading of an operation control (LED) is no indicator for an interrupted power supply or the device being out of voltage!
- Special advice for wearers 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 and your cardiac pacemaker and not stay in the immediate proximity of the device’s antenna for any length of time.

2 Performance Features of the Reader

The reader modules ID ISC.MRMU102-A and ID ISC.MRMU102-POE are designed for reading of passive data carriers, so-called „Smart Labels“ at an operating frequency in the UHF band between 860 MHz and 960 MHz. Transponders according to EPC Class1 Gen2 are supported. Optional an Upgrade Code for the reading of ISO 18000-6-C transponders is available.

For Host communication ID ISC.MRMU102-A provides an asynchronous RS232 interface and an USB interface. ID ISC.MRMU102-POE is equipped with an Ethernet interface.

The reader module are equipped with 3 SMA connectors for conduction of external antennas (ANT1 – ANT3). Additional an integrated antenna (ANT4) is available. The reader is designed for use in applications with small tag populations. Depending on the type of external antenna and the used transponder read ranges of up to 4 m are possible. The integrated antenna is able to communicate with nearfield as well as farfield transponders. Read ranges of up to 40 cm in combination with a farfield transponder can be realized. Nearfield transponders can be read up to 5 cm.

2.1 Available Reader Types

The following reader types are available:

Table 1: Available Reader Types

Model	Description	Order Number
ID ISC.MRMU102-A	Module version with asynchronous RS232- and USB- Interface, 3 x SMA connectors for external antennas , 50Ohm 1 x integrated antenna	3779.000.00
ID ISC.MRMU102-POE	Module version with Ethernet- Interface, Power over Ethernet 3 x SMA connectors for external antennas , 50Ohm 1 x integrated antenna	4493.000.00
ID ISC.MRU102-A	Housed version with asynchronous RS232- Interface, 3 x SMA connectors for external antennas , 50Ohm 1 x integrated antenna	4495.000.00
ID ISC.MRU102-POE	Housed version with Ethernet- Interface, Power over Ethernet 3 x SMA connectors for external antennas , 50Ohm 1 x integrated antenna	4492.000.00
ID ISC.MRU102-USB	Housed version with USB- Interface, 3 x SMA connectors for external antennas , 50Ohm 1 x integrated antenna	4494.000.00
ID ISC.MRU102-POE-LED	Housed version with Ethernet- Interface, Power over Ethernet 1 x integrated antenna 3 x optical and 1 x acoustic signaler	3888.000.00

3 Assembly and Wiring

The reader has been designed for mounting in other equipment.

NOTE:
Before any installation the intended position of the reader should be tested for its suitability.

3.1 Viewing and Dimensions

3.1.1 Viewing and Dimensions ID ISC.MRMU102-A

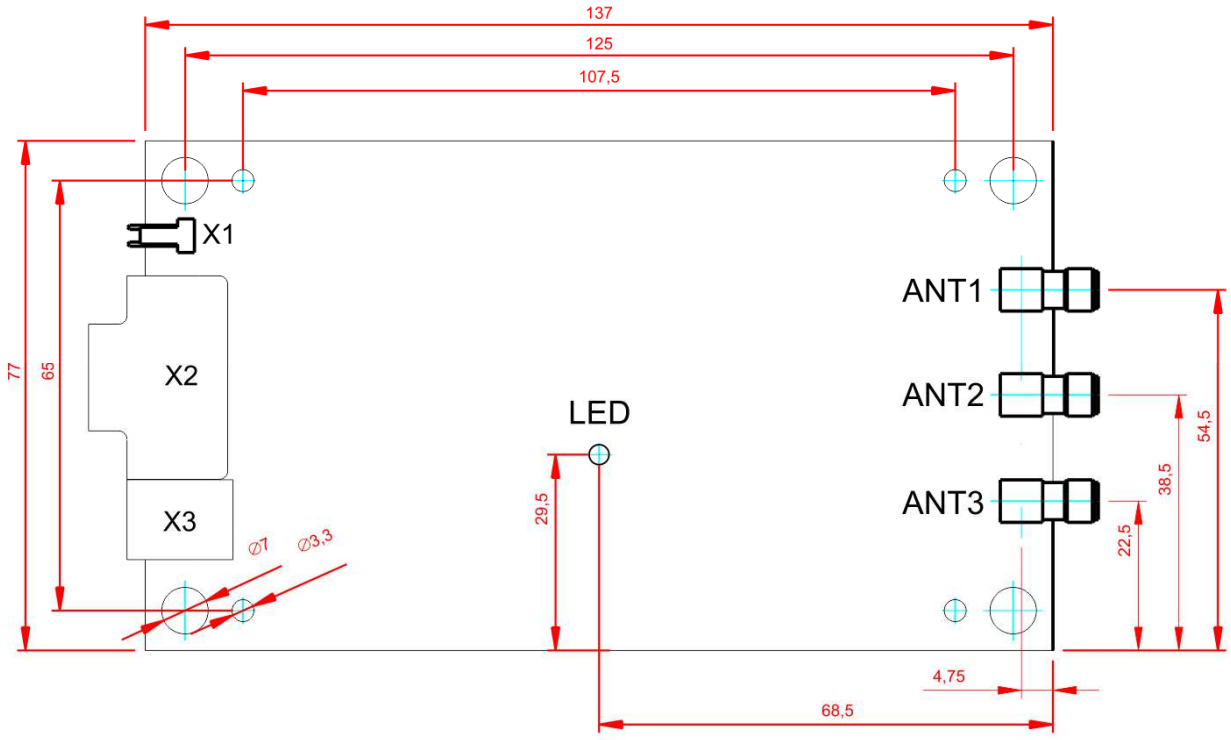


Figure 1: Dimensions ID ISC.MRMU102-A (all dimensions are in mm)

3.1.2 Viewing and Dimensions ID ISC.MRMU102-POE

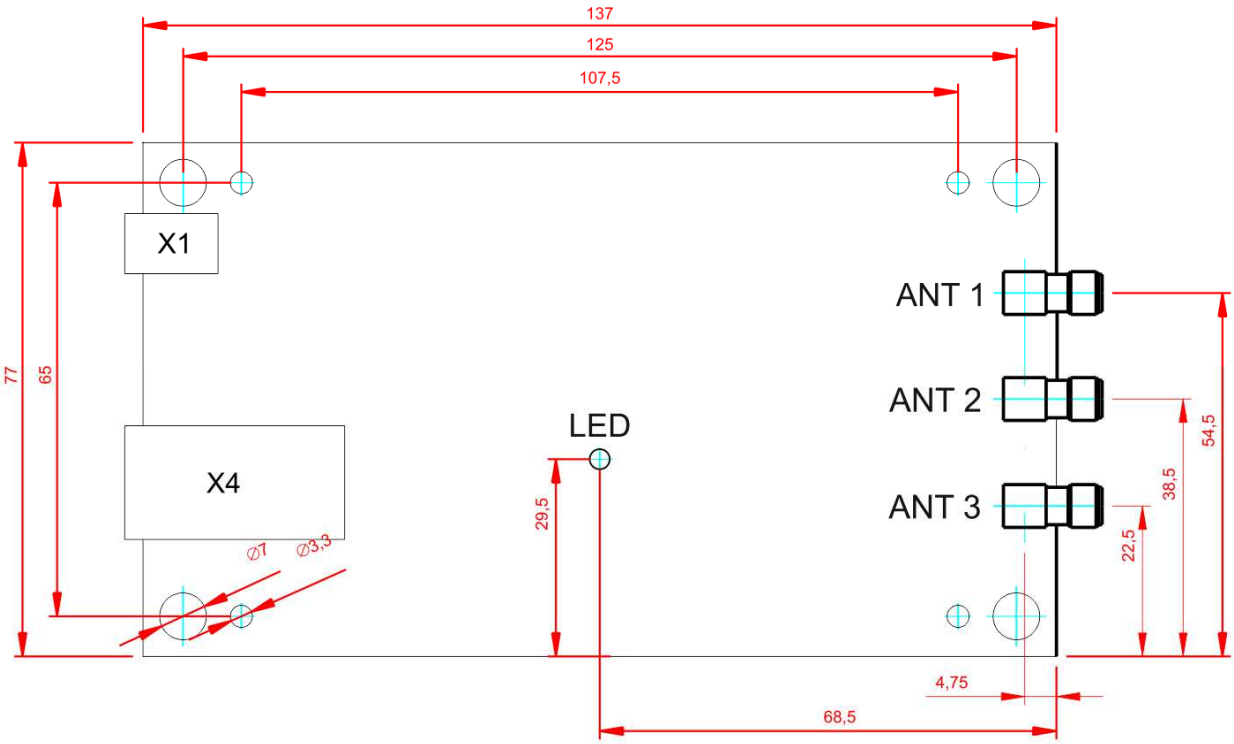


Figure 2: Dimensions ID ISC.MRMU102-POE (all dimensions in mm)

4 Connections

4.1 Connections ID ISC.MRMU102-A

The module version of the reader is equipped with an asynchronous RS232 Interface (X2) and a USB Interface (X3). The Table below shows which connector can be used for the different interface cable.

Table 2: Connectors

Connector	Description
ANT 1-3	External Antenna ANT 1 - 3
ANT 4	Internal Antenna ANT 4
X1	Power Supply via Connector X1
X2	RS232 Interface on Connector X2
X3	USB Interface on Connector X3

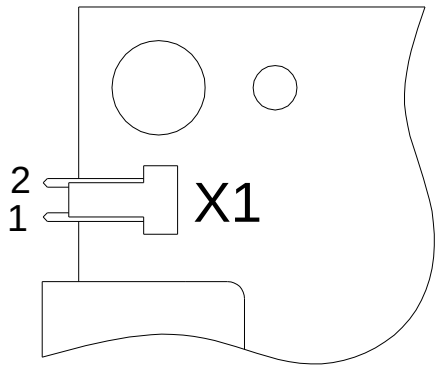
4.1.1 Power Supply via Connector X1

The reader has to be supplied by a limited power supply according EN 62368-1 Chapter Q.1, or with a NEC Class 2/LPS certified power supply. The external wiring for the power supply must be compliant with

- IEC 60332-2-1 and IEC 60332-2-2 for Wire Cross Section < 0.5 mm2

- IEC 60332-1-2 and IEC 60332-1-3 for Wire Cross Section > 0.5 mm2

Connect the 12 V DC to 24 V DC supply voltage to socket X1 on the circuit board.



1 VCC

2 GND

Figure 3: Pin connection of the power supply - Connector X1

For connection of the power supply a special DC-Connector from the manufacturer Molex is required. The necessary components of the DC-Connector are listed in

Table 3***.***

Table 3: Components of the required DC-Connector

Component	***Manufacturer***	***Article ID of Manufacturer***
Housing	***Molex***	22-01-3027
Crimp Contact	***Molex***	08-50-0114

CAUTION:

- ***Each reader has to be supplied by a separate external power supply.***
- ***Reversing the polarity of the supply voltage may destroy the device.***

4.1.2 RS232 Interface on Connector X2

For the connection of the asynchronous interface RS232 the reader provides a 9-pin D-Subminiature female connector.

Table 4: Connection assignment of the connector X2

X2	**Interface**
2	TxD
3	RxD
5	GND
7	GND
1;4;6;8;9	n.c.

For this reader a serial cable is available.

Table 5: Serial Data Cable

Feig Part No.	**Description**
1690.000.00	ID CAB.RS-A

Interface parameter can be configured via software protocol (e.g. ISOStart). Further information can be found in the System Manual H10410-Xe-ID-B.pdf of the reader.

4.1.3 USB Interface on Connector X3

There is a USB-socket X3 on board for the connection of the USB-Interface. The pinout is standardized. The data rate is reduced to 12 Mbit (USB full speed). A standard USB-cable can be used.

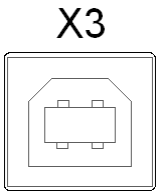


Figure 4: USB interface for host communication

NOTE:

- ***The length of the USB-cable can be a max. of 5 meter. It isn't allowed to use longer cables!***
- ***The reader must be powered with a external power supply even if it is connected to a "high powered port".***

4.2 Connections ID ISC.MRMU102-POE

The module version of the reader is equipped with an Ethernet Interface (X4). For transponder communication up to 3 external antennas can be connected. In addition an integrated antenna is available. The Table below shows which connector can be used for the different interface cable.

Table 6: Connectors

Connector	Description
ANT 1-3	External Antenna ANT 1 - 3
ANT 4	Internal Antenna ANT 4
X1	Power Supply via Connector X1
X4	Ethernet-Interface on Connector X4 (10/100Tbase)

4.2.1 Power Supply

The UHF reader module ID ISC.MRMU102-POE can either be supplied with an external DC voltage of 12 V DC to 24 V DC via connector X1 or via Power over Ethernet.

4.2.1.1 Power Supply via Connector X1

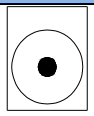
The reader has to be supplied by a limited power supply according EN 62368-1 Chapter Q.1, or with a NEC Class 2/LPS certified power supply.

The external wiring for the power supply must be compliant with

- IEC 60332-2-1 and IEC 60332-2-2 for Wire Cross Section < 0.5 mm2
- IEC 60332-1-2 and IEC 60332-1-3 for Wire Cross Section > 0.5 mm2

Connect the 12 V DC to 24 V DC supply voltage to socket X1 on the circuit board.

Table 7: Connecting the supply voltage

Terminal	Name	Description	X 1
X1 / inside	Vcc	Vcc – supply voltage (+)	
X1 / outside	GND	Ground – supply voltage (-)	

4.2.1.2 Power Supply via Power over Ethernet (PoE)

Optional the reader (only MRU102-PoE) can be powered via the LAN connector on X4 with the use of a PoE „Power over Ethernet“ power supply according to IEEE802.3af*, Class2 (6,49 Watt). The DC supply can be achieved via the free pin’s 4,5 and 7,8 (Midspan-Power). Also a “Phantom Powering” (Inline-Power) via the signal pin’s 1,2,3,and 6 is possible.

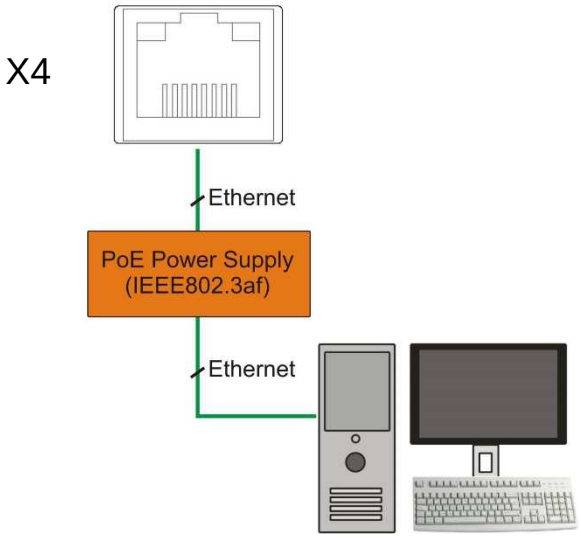


Figure 5: LAN and PoE connection

NOTE:

The reader has to be supplied by a limited power supply according EN 62368-1 Chapter Q.1, or with a NEC Class 2/LPS certified power supply.

It must be ensured that the reader is supplied with 42,5 V DC (48 V DC – cable losses) at least.

The maximum cable distance for Ethernet is 100m.

It is recommended to use a shielded twisted pair STP CAT5 cable.

* For detailed technical information regarding the 802.3af standard, please refer to the most recent edition of the corresponding IEEE specification.

PoE - power supply recommendations:

Table 8: Recommended PoE Power Supply

Article No.	Name	Description
3842.000.00	ID NET.PoEI13W-A	Power over Ethernet Supply 100-240V AC (Continental European Plug), Output: 48V DC/⎓; 0,5A

4.2.2 Ethernet-Interface on Connector X4 (10/100Tbase)

The Reader has an integrated 10 / 100 base-T network port for an RJ-45. Connection is made on X4 and has an automatic “Crossover Detection” according to the 100BASE-T Standard.

With structured cabling CAT 5 cables should be used. This ensures a reliable operation at 10 Mbps or 100 Mbps.

The prerequisite for using TCP/IP protocol is that each device has a unique address on the network. All Readers have a factory set IP address. Interface parameter can be configured via software protocol (e.g. ISOStart).

Table 9: Standard factory configuration of the Ethernet connection

Network	Address
IP-Address	192.168.10.10
Subnet-Mask	255.255.0.0
Port	10001
DHCP	OFF

NOTE:

The reader provides a DHCP able TCP/IP interface.

It is recommended to use a shielded twisted pair STP CAT5 cable.

4.3 Antenna Terminals

4.3.1 External Antenna ANT 1 - 3

Three SMA sockets are provided on the circuit board for connecting of the external antennas.

The maximum tightening torque for the SMA socket is 0.45 Nm.

CAUTION:
Higher tightening torque will damage the connector.

Table 10: Connecting an external antenna

Terminal	Description
ANT 1-3	Connecting the external antenna (input impedance 50Ω)

NOTE:
When connecting an antenna, ensure that it does not exceed the permissible limits prescribed by the national regulations for radio frequency devices.

4.3.2 Internal Antenna ANT 4

Additionally the reader is equipped with an internal antenna (ANT4). The internal antenna supports far field transponders as well as near field transponders. The internal antenna is located in the bottom left corner of the housing and is marked with an antenna symbol. The maximum read range of the antenna in combination with a far field transponder is approx. 40 cm. In combination with a near field transponder the maximum read range is approx. 5 cm.

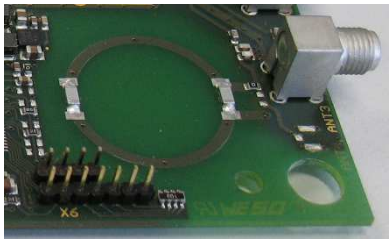


Figure 6: Position of the internal antenna

5 Control and Display Elements

5.1 LED

The Reader's LED can be configured through software.

The following Table 11: Default Configuration of the LEDs shows the default setting.

Table 11: Default Configuration of the LEDs

Abbreviation	Description
LED green	"RUN " - Turns on when the Reader is ready
LED red	„LABEL“ - Turns on when a transponder is detected. - Flashes if RF-Warning (red – green alternating with 8Hz) (Temperature alarm, short circuit on antenna output)

6 Approvals

6.1 Declaration of Conformity (CE)

Hereby FEIG ELECTRONIC GmbH declares that the radio equipment type ID ISC.MRMU102 is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:
https://www.feig.de/en/service/eu-declarations-of-conformity/

CE

6.2 USA (FCC) and Canada (IC)

Product name:	**ID ISC.MRMU102-A** **ID ISC.MRMU102-POE**
Reader name:	**ID ISC.MRMU102-A** **ID ISC.MRMU102-POE**
FCC ID: **IC:**	**PJMMRU102A** **6633A-MRU102A**
Notice for USA and Canada	This device complies with Part 15 of the FCC Rules and with RSS-210 of Industry Canada. Operation is subject to the following two conditions. (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Unauthorized modifications may void the authority granted under Federal communications Commission Rules permitting the operation of this device. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warning: Changes or modification made to this equipment not expressly approved by FEIG ELECTRONIC GmbH may void the FCC authorization to operate this equipment.

6.2.1 Label Information Reader Module

The following information must be placed at the outer side of the housing in which the reader is mounted.

Contains FCC ID PJMMRU102A

Contains IC: 6633A-MRU102A

6.2.2 Installation with FCC / IC Approval

FCC-/IC-NOTICE: To comply with FCC Part 15 Rules in the United States / with IC Radio Standards in Canada, the system must be professionally installed to ensure compliance with the Part 15 certification / IC certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States / Canada.

6.2.3 USA (FCC) and Canada (IC) approved antennas

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with maximum permission gain and required antenna impedance for each antenna type indicated. Antenna types, not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device

Le présent émetteur radio (identifier le dispositif par son numéro de certification ou son numéro de modèle s'il fait partie du matériel de catégorie I) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne 'énoncé ci-dessus et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur

Following antennas are approved by FCC according FCC Part 15 and IC Canada according RS210

- ID ISC.ANT.U170/170 –FCC (4.0 dBic)
- ID ISC.ANT.U270/270-FCC (9.0 dBic)
- ID ISC.ANT.U600/270-FCC (10,5 dBic)
- ID ISC.ANT.U290/290-FCC (9.0 dBic)
- ID ISC.ANT.U580/290-FCC (11.0 dBic)
- Integrated antenna (- 7dBic)

7 Technical Data

Mechanical Data	
Weight	60 g
Dimensions (W x H x D)	137 mm x 77 mm x 17 mm
Electrical Data	
Power supply • MRMU102-A • MRMU102-POE	 12 V DC to 24 V DC 12 V DC to 24 V DC Power over Ethernet (POE)
Power consumption	max. 7 W
Antenna Connection	3 x SMA female(50Ω) 1 x integrated Antenna (ANT4)
Operating frequency	860 MHz to 960 MHz
RF transmitting power	max. 500 mW ± 1,5 dB
Interfaces • MRMU102-A • MRMU102-POE	 RS232 USB (12 bit) Ethernet
Functional Properties	
Protocol Modes	ISO Host Mode (Advanced Protocol Frame) Scan Mode (MRMU102-A) Buffered Read Mode Notification Mode (MRMU102-POE)
Supported Transponder	• EPC Class 1 Generation 2 • ISO 18000-6-C (Upgrade Code required)
Indicator	1 x LED (multicolor – red / green)
Further Features	Anti-collision RSSI Temperature Monitoring*
Ambient Conditions	
Temperature range **Operation** **Storage**	 -25 °C to +55 °C -25 °C to +85 °C
Humidity	5% - 95% (non-condensing)
Ambient Conditions	
RF Approval **Europe** **USA** **Canada**	 EN 302 208 FCC 47 CFR Part 15 IC RSS-Gen, RSS-210
EMC	EN 301 489
Vibration	EN 60068-2-6 10 Hz to 150 Hz : 0,075 mm / 1 g
Shock	EN 60068-2-27 Acceleration: 30 g

* Caution: Overheating of the device may result in performance losses. It is recommended to activate the RF of the reader only if there is a transponder in the detection range of an antenna.

8 ANHANG

8.1 ANNEX A - Accessories

The following accessories are available for the Reader.

Table 12: Accessories

Article No.	Part No.	Description
1686.000.00	ID CAB.USB-A	USB-cable 2,5m
1690.000.00	ID CAB.RS-A	Serial data cable
1688.002.00	ID NET.12V-B-EU	Power Supply 95 - 265V AC Input Voltage, (Continental European Plug), with angular DC Plug ***2,5mm*5,5mm*** Output: 12 V DC/⎓; 700mA Ambient Operating Temperature: 0°C to +40°C
3886.000.00	ID NET.12V-B-GB	Power Supply 95 - 265V AC Input Voltage, (GB/UK Plug), with angular DC Plug ***2,5mm*5,5mm*** Output: 12 V DC/⎓; 700mA Ambient Operating Temperature: 0°C to +40°C
3887.000.00	ID NET.12V-B-US	Power Supply 95 - 265V AC Input Voltage, (US Plug), with angular DC Plug ***2,5mm*5,5mm*** Output: 12 V DC/⎓; 700mA Ambient Operating Temperature: 0°C to +40°C
3842.000.00	ID NET.PoEI13W-A	Power over Ethernet Supply 100-240V AC (Continental European Plug), Output: 48V DC/⎓; 0,5A
EU: 3198.000.00 FCC: 3685.000.00	ID ISC.ANT.U600/270 UHF Antenna	powerful UHF Antenna with 3dB beamwidth of 30° x 65°
EU: 3199.000.00 FCC: 3686.000.00	ID ISC.ANT.U270/270 UHF Antenna	powerful UHF Antenna with 3dB beamwidth of 65° x 65°
EU: 5238.000.00 FCC: 5238.000.10	ID ANT.U580/290 UHF Antenna	Powerful robust UHF Antenna with 3dB beamwidth of 30° x 65°
EU: 5236.000.00 FCC: 5236.000.10	ID ANT.U290/290 UHF Antenna	Powerful robust UHF Antenna with 3dB beamwidth of 65° x 65°
EU: 3200.000.00 FCC: 3687.000.00	ID ISC.ANT.U170/170 UHF Antenna	Flat, compact UHF Antenna with 3dB beamwidth of 85° x 85°
3308.000.00	ID ISC.ANT.U600/270-MS Mounting Set Antenna UHF	Pole mounting set for antenna ID ISC.ANT.U600/270, diameter up to 60 mm
3309.000.00	ID ISC.ANT.U270/270-MS Mounting Set Antenna UHF	Pole mounting set for antenna ID ISC.ANT.U270/270, diameter up to 60 mm
3310.000.00	ID ISC.ANT.U170/170-MS Mounting Set Antenna UHF	Pole mounting set for antenna ID ISC.ANT.U170/170, diameter up to 60 mm
5255.000.00	ID MS.VESA100-A Mounting Set	Mast and wall mounting set with VESA100 receptacle for pipe diameters of 1" - 3" (approx. 2.5 cm to 7.6 cm) for antennas ID ANT.U580/290 and ID ANT.U290/290
1654.002.00	ID ISC.ANT.C2-A UHF Antenna Cable 2m	Antenna cable, length: 2 m
1654.003.00	ID ISC.ANT.C6-A UHF Antenna Cable 6m	Antenna cable, length: 6 m

5241.001.00	ID ANT.C2-B Antenna Cable 2m	UHF Antenna Cable SMA/TNC 2 m for antennas ID ANT.U580/290 and ID ANT.U290/290
5241.002.00	ID ANT.C6-B Antenna Cable 6m	UHF Antenna Cable SMA/TNC 6 m for antennas ID ANT.U580/290 and ID ANT.U290/290

FEIG ELECTRONIC

ID ANT.U290/290 / ID ANT.U580/290

Robust UHF RFID Antennas

- Circular polarization for optimized reading performance
- IP65 for outdoor applications
- Robust and high-quality design
- TNC connectors
- VESA connection
- Secondary safety (optional)
- ID ANT.U580/290: 30° beam width, particularly suitable for vehicle identification and Free Flow Tolling systems

Circular polarized allrounder

The UHF antennas from FEIG ELECTRONIC are characterized by their high performance and precise tuning for the various UHF operating frequencies. Separate versions are available for the European frequency band in the range from 865 MHz to 868 MHz as well as for the FCC band from 902 MHz to 928 MHz.

The circular polarization of the antennas allows an identification of transponders in different orientations.
Thus, for example, a 3-dimensional identification of transponders can be realized in a gate application by intelligent alignment of the antennas.

Modern and robust

With the combination of elegant design and high protection class IP65 the antennas can be used for both, indoor applications and outdoor applications.
Each antenna convinces by individual properties, so for each kind of application a suitable antenna is available.
The development of customized antennas is possible on demand.

UHF Long Range Antennas for various applications

UHF RAIN antennas from FEIG ELECTRONIC offer greatest possible variability with elegant design and robust appearance.

Product details	UHF Antennas	
	ID ANT.U290/290	**ID ANT.U580/290**
Dimensions	288 mm x 288 mm x 65 mm*	576 mm x 288 mm x 80 mm*
Housing	PC / Aluminium	
Colour	RAL 7015 / Aluminium	
Weight	1550 g	3850 g
Protection class	IP65	
Gain	approx. 9 dBic	approx. 11 dBic
3 dB beam width	65° x 65°	30° x 65°
Polarization	circular	
Antenna connection	TNC socket (50 Ohm)	
Temperature range Operation Storage	 -25° C up to 55° C -25° C up to 80° C	

* Tolerances ± 0,5 mm

Suitable to be used with the following FEIG UHF Readers:

UHF Compact Reader
ID LRU500i
ID MAX.U500i

Readers need cable type C

UHF Long Range Reader
ID ISC.LRU1002
ID ISC.LRU3x00
ID MAX.LRU1002

Readers need cable type B

UHF Mid Range Reader
ID ISC.MRU102
UHF Mid Range Reader Module
ID ISC.MRMU102

Readers need cable type B

Accessories:

Antenna cable, 2m
Type B: SMA/TNC
Type C: TNC/R-TNC

Antenna cable, 6m
Type B: SMA/TNC
Type C: TNC/R-TNC

VESA mounting bracket

Stand of information: January 2019.

FEIG ELECTRONIC

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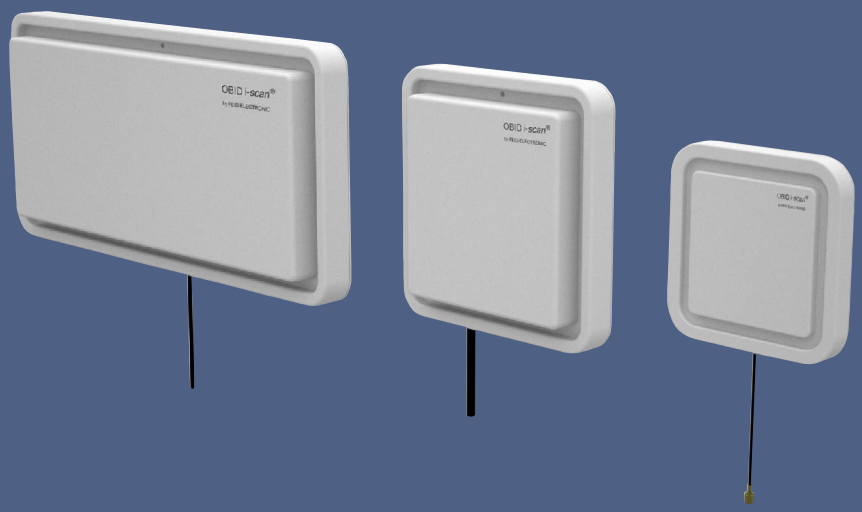
UHF RFID Antennas
ID ISC.ANT.U170/170 / U270/270 / U600/270



SPECIAL FEATURES

- Circular Polarization for optimized reading performance
- Available for EU and FCC Frequencies
- IP 65 for outdoor applications
- Unique design
- Usable with all available UHF readers
- ID ISC.ANT.U600/270:
  30° Beam width, particularly suitable for Gate Applications
- ID ISC.ANT.U170/170:
  very small and light shape

DESCRIPTION

The antennas of the OBID i-*scan*® UHF series are specially designed for use in the different UHF frequency bands. A separate version is available for the European frequency band in the range from 865 MHz to 868 MHz as well as for the FCC frequency band from 902 MHz to 928 MHz

The circular polarization of the antenna allows an identification of transponders in different orientation. E.g. an intelligent alignment of the antennas within a gate allows a 3-dimensional identification of transponders.

With the combination of exclusive design and high protection class IP65 the antenna can be used for indoor applications as well as outdoor applications.

Each Antenna convinces with its individual properties. For nearly each kind of application a suitable antenna is available.

The development of customized antennas is possible on demand.

ORDER DESCRIPTION

Antennas with an operating frequency from 865 MHz to 868 MHz:

- ID ISC.ANT.U170/170-EU
- ID ISC.ANT.U270/270-EU
- ID ISC.ANT.U600/270-EU

Antennas with an operating frequency from 902 MHz to 928 MHz:

- ID ISC.ANT.U170/170-FCC
- ID ISC.ANT.U270/270-FCC
- ID ISC.ANT.U600/270-FCC

AVAILABLE ACCESSORIES

Antenna cables:
- ID ISC.ANT.C2-A
- ID ISC.ANT.C6-A

Mounting sets:
- ID ISC.ANT.U170/170-MS
- ID ISC.ANT.U270/270-MS
- ID ISC.ANT.U600/270-MS

	ID ISC.ANT.U170/170	ID ISC.ANT.U270/270	ID ISC.ANT.U600/270
Dimensions *	170 x 170 x 26.5 mm³	270 x 270 x 57 mm³	590 x 270 x 57 mm³
Housing	ASA-ABS	ASA-ABS	ASA-ABS
Colour	White	White	White
Weight	270 g	1.210 g	2.200 g
Protection class	IP65	IP65	IP65
Gain	approx. 4 dBic	approx. 9 dBic	approx. 11 dBic
3 dB beam width	85° x 85°	65° x 65°	30° x 65°
Polarization	circular	circular	circular
Antenna connection	SMA socket (50 Ohm)	SMA socket (50 Ohm)	SMA socket (50 Ohm)
Temperature range Operation Storage	 - 25 °C up to 55 °C - 25 °C up to 80 °C	 - 25 °C up to 55 °C - 25 °C up to 80 °C	 - 25 °C up to 55 °C - 25 °C up to 80 °C

Antennas are compatible with any current UHF reader system.

* Tolerances ± 0.5 mm

FEIG ELECTRONIC reserves the right to change specification without notice at any time.
State of information: April 2015.

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