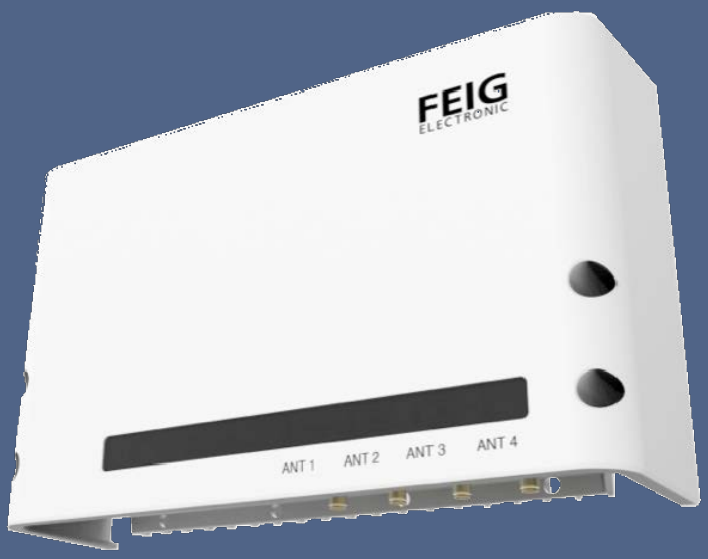
# UHF Long Range Reader
# ID ISC.LRU1002




## SPECIAL FEATURES

- Robust metal housing for use in industrial environment
- 2 Watt Output Power
- High Receive Sensitivity
- 4 Antenna ports (internal Multiplexer), support of external UHF Multiplexer ID ISC.ANT.UMUX
- 6 Inputs / Outputs
- Output of RSSI values and phase angle
- Full support of new transponder chips with encryption (NXP UCODE DNA)
- Secure Key Storage (Secure Element)
- Support of EPC Low Level Reader Protocol (LLRP) with Software Library
- Optimum price performance ratio

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## Description

The UHF Long Range Reader ID ISC.LRU1002 is a high performance Long Range Reader that can be used in different kind of applications. The reader convinces with an excellent price performance ratio and is characterized by the following features:

- High receiver sensitivity cares for an enlarged and at the same time homogeneous tag detection range
- Possible secure read range of up to 12 m (40 ft) *
- Constant high receive sensitivity and high read range also in disturbed environments and applications with a large number of readers operating at the same time
- Support of Transponders according to EPC Class1 Gen2 and ISO 18000-6-C
- Allows the realization of secure UHF systems by full support of new transponder chips according to EPC Class1 Gen2 V2 specification and ISO 29167 (e.g. NXP UCODE DNA)
- Secure storage of application keys in a secure memory (Secure Element)
- Support of EPCglobal™ Low Level Reader Protocol with special software library
- Readout of RSSI data and phase angle of identified transponders (e.g. for localization of transponders)
- Various configuration options for software and hardware
- Support of 4 hardware interface ports: Ethernet, RS232, USB and Wiegand
- Reader protection against fault conditions like antenna shortcut, antenna mismatching and electrostatic discharge
- Robust aluminum die case housing for usage in rough and industrial environments
- Increase of enclosure rating to IP 64 due to optional available connector sealing cap for the connector block
- Quick installation due to easy access to interfaces and antenna ports
- 2 Inputs, 2 outputs and 2 relay outputs suit industrial needs and allow control of external components and signalization of different events
- Antenna Port Indication: Display of active antennas (green), read events (blue) and possible antenna mismatching (red) via 4 separate LED´s

* The maximum Read Range is depending on the used antenna, the antenna cable, the used transponder and environmental conditions.

## Typical Application

- Automatic Vehicle Identification (AVI)
- Road Tolling
- Logistics
- Forklifts
- Industry
- Automotive
- Traffic Monitoring
- Traffic Management Systems
- Parking Slot Management
- Laundry Services
- Waste Management

Note:
FEIG ELECTRONIC reserves the right to change specification without notice at any time.
Stand of information: December 2016

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## Technical Data

### Mechanical Data

| | |
|---|---|
| Housing | Aluminum, powder coated |
| Dimensions | 260 mm x 157 mm x 65 mm<br>(10,23 x 6,18 x 2,56 inch) |
| Weight | 1.800 g |
| Protection Class | IP 53,<br>IP 64 (with protection cap)* |
| Color | RAL9003 Signal white |

### Electrical Data

| | |
|---|---|
| Power Supply | 24 V DC (± 20 %) |
| Power Consumption | max. 24 VA** |
| Operating Frequencies | |
| - Version EU: | 865 MHz to 868 MHz |
| - Version FCC: | 902 MHz to 928 MHz |
| Output Power | 100 mW to max. 2 W<br>configurable in steps of 100 mW |
| Antenna Connector | 4 x SMA-Female (50 Ohm),<br>integrated Multiplexer,<br>support of external Multiplexer<br>ID ISC.ANT.UMUX |
| RF-Diagnosis | RF-channel monitoring,<br>Antenna SWR control,<br>internal overheating control |
| Outputs | |
| - 2 Optocoupler | max. 24 V DC / 20 mA |
| - 2 Relays | max. 24 V DC / 1 A switching<br>current, 2 A permanent current |
| Inputs | |
| - 2 Optocoupler | max. 24 V DC / 20 mA |
| Interfaces | RS232,<br>Ethernet,<br>USB (On-The-Go),<br>Wiegand (Scan Mode Interface) |
| Protocol-Modes | ISO Host Mode,<br>Scan Mode (HID),<br>Notification Mode,<br>Buffered Read Mode |

### Features

| | |
|---|---|
| Supported transponder types | EPC Class1 Gen2<br>EPC Class1 Gen2 V2<br>ISO 18000-6-C (Upgrade Code) |
| Indicator | 16 LEDs for diagnosis of reader operation and antenna status |
| Other Features | Anti-Collision,<br>Output of RSSI values and phase angle,<br>Battery assisted Real Time Clock<br>Supports encrypted transponder communication,<br>Secure Key Storage,<br>„Config Cloning“ function |

### Environmental Conditions

| | |
|---|---|
| Temperature | |
| - Operation | -25 °C to 55 °C |
| - Storage | -25 °C to 85 °C |
| Humidity | 5 % to 95 % (non-condensing) |
| Vibration | EN 60068-2-6<br>10 Hz to 150 Hz: 0,075 mm / 1 g |
| Shock | EN 60068-2-27<br>Acceleration: 30 g |

### Applicable Standards

| | |
|---|---|
| Radio Regulation | |
| - Europe | EN 302 208 |
| - USA | FCC 47 CFR Part 15 |
| - Canada | IC RSS-GEN, RSS-210 |
| EMC | EN 301 489 |
| Safety | |
| - Low Voltage | EN 60950 |
| - Human Exposure | EN 50364 |

* Optionally a connector sealing cap is available which covers the connectors, offers a pull relief for the connected cables and guarantees enclosure rate IP 64.

** not including power consumption due to external Multiplexer

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