

## UHF Long Range Reader ID ISC.LRU3000 / ID ISC.LRU3500



### SPECIAL FEATURES

- Robust metal housing for use in industrial environments
- Read Range up to 16 m (53 ft)
- High detection rate
- 4 Watt Output Power (only LRU3500)
- Power over Ethernet (only LRU3500)
- USB-Port for connection of a WLAN-Stick or an external Memory Stick
- 5 Inputs and 5 Outputs suit industrial needs
- Linux Operating System for installation and operation of custom specific applications directly on the reader
- Full support of new transponder chips with encryption (NXP UCODE DNA)
- Output of RSSI Values



## Description

The UHF Long Range Readers ID ISC.LRU3000 and ID ISC.LRU3500 are the most powerful readers of the UHF product line. ID ISC.LRU3000 and ID ISC.LRU3500 are characterized by the following features:

- High receiver sensitivity cares for an enlarged and at the same time homogeneous tag detection range
- Constant high receive sensitivity, high read range and high reading speed for fast detection of large transponder populations 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 (ISO 18000-6-B possible on demand)
- 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)
- Support of EPCglobal™ Low Level Reader Protocol with special LLRP Library
- Readout of RSSI data e.g. for localization of identified transponders
- Various configuration options for software and hardware
- 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
- Full support for the UHF Multiplexer ID ISC.ANT.UMUX to be used in antenna systems with a maximum number of 2.048 antennas
- ACC (Application Connectivity Controller) with Linux operation system for installation of application software directly on the reader platform
- Hardware interface ports: Ethernet, RS232, RS485, USB and an USB-Host for WLAN dongle or memory stick; additionally the reader offers a Wiegand / Data-Clock interface to be used only in Scan Mode for data transmission from reader to host
- Antenna Port Indication: Display of active antennas (green), read events (blue) and possible antenna mismatching (red) via 4 separate LED's

## Versions

	<b>ID ISC.LRU3000</b>	<b>ID ISC.LRU3500</b>
Power Supply	24 V DC (± 5 %)	24 V DC (± 5 %) or Power over Ethernet (PoE)
Output Power	max. 2 W	max. 4 W max. 1 W with PoE
Read Range*	12 m (40 ft)	16 m (53 ft)
Applications	Standard-UHF-Applications with reading distances > 3 m  Low / middle tag population	For operation in particularly disturbed and metallic environments  High tag population
Radio Licence	EN 302 208, FCC 47 CFR Part 15, IC RSS-GEN und RSS-210	EN 302 208, FCC 47 CFR Part 15, IC RSS-GEN und RSS-210  Ready for upcoming Radio Regulations

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

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

## Technical Data

### Mechanical Data

Housing	Aluminum, powder coated
Dimensions	260 mm x 157 mm x 65 mm (10.23 x 6.18 x 2.56 inch)
Weight	2.000 g
Protection Class	IP 53, IP 64 (with protection cap)*
Color	RAL9003 Signal-White

### Electrical Data

Power Supply	24 V DC ( $\pm 10\%$ ) or Power over Ethernet (PoE)**
Power Consumption	max. 35 VA
Operating Frequencies	
- Version EU:	865 MHz to 868 MHz
- Version FCC:	902 MHz to 928 MHz
Output Power	
- LRU3000	300 mW to max. 2 W
- LRU3500	300 mW to max. 4 W 300 mW to max. 1 W (PoE)
Antenna Connector	4 x SMA-Female (50 Ohm); integrated Multiplexer
RF-Diagnosis	RF-channel monitoring Antenna SWR control internal overheating control
Outputs	
- 2 Optocoupler	max. 24 V DC / 30 mA
- 3 Relays	max. 24 V DC / 1 A switching current, 2 A permanent current
Inputs	
- 5 Optocoupler	5 V DC to 10 V DC / 20 mA max. 24 V DC / 20 mA with additional external series resistor
Interfaces	RS232, RS485, Ethernet, USB, USB-Host for WLAN-Stick or external Memory-Stick, Data-Clock***
Protocol-Modes	ISO Host Mode, Scan Mode, Notification Mode, Buffered Read Mode
Operating System	Linux (Kernel 3.0) (64 MB RAM, 256 MB FLASH)

### Features

Supported transponder types	EPC Class1 Gen2 ISO 18000-6-C (Upgrade Code) ISO 18000-6-B (on demand)
Signaler	16 LEDs for diagnosis of reader operation and antenna status
Supply Voltage on Antenna Outputs (only LRU3500)	24 V DC / 200 mA
Other Features	Anti-Collision Real Time Clock RSSI

### Environmental Conditions

Temperature	
- Operation	-25 °C to 55 °C
- Storage	-25 °C to 50 °C (PoE) -25 °C to 85 °C
Humidity	5 % 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
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.

\*\* PoE only with ID ISC.LRU3500

\*\*\* The reader offers a Wiegand / Data-Clock interface to be used only in Scan Mode for data transmission from reader to host.

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