

ID LRU4000X

## UHF LONG RANGE READER FOR INDUSTRIAL APPLICATIONS

- Robust housing with M12 connectors
- Designed for applications in harsh environments (indoor & outdoor) (IP65/IP67)
- 2 Watt Output Power
- 4 Antenna Ports (internal Multiplexer)
- 2 Inputs / 4 Outputs
- Edge Computing Device
- Extended Conformity for Rail Applications



### Industrial UHF Long Range Reader for Various Applications

With a reading range of more than 10 m, 4 antenna connections and 4 circular connectors several long range applications in industrial and railway environment can be realized.

#### Railway applications

The LRU4000X meets the relevant requirements for use in railway applications and is particularly suitable for use on-board. These include, for example, reading position markers, updating passenger information systems or selective door opening.

#### Applications in industry and logistics

For applications in harsh environment the reader offers robust M12 connectors and is therefore the first choice for use with machines, in forklift trucks or conveyor systems.

#### Various mounting options

The reader can be mounted directly on a flat surface, via a VESA on a post, via an adapter on a DIN rail or plastic insulation plate on a vehicle chassis (e.g. carriage or locomotive bodies) - you have the choice!

### Features:

- > High receiver sensitivity cares for an enlarged and at the same time homogeneous tag detection range
- > Support of Transponders according to EPC Class1 Gen2 and ISO 18000-63
- > Allows the realization of secure UHF systems by full support of transponder chips according to EPC Class1 Gen2 specification and ISO 29167 (e. g. NXP UCODE DNA)
- > Secure storage of application keys in a secure memory (Secure Element)
- > 2 Inputs, 2 Outputs and 2 Relay Outputs suit industrial needs and allow control of external components and signalization of different events
- > Edge-Computing Platform with Linux OS for installation and operation of custom specific applications directly on the reader
- > Different software applications available e.g. for EPCglobal™ LLRP support
- > Reader protection against fault conditions like antenna shortcut, antenna mismatching and electrostatic discharge

# UHF LONG RANGE READER FOR VARIOUS APPLICATIONS

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## Technical data

### Dimensions (w x h x d)

Without Connectors approx. 225 mm x 140 mm x 55 mm

With Connectors approx. 225 mm x 175 mm x 55 mm

**Weight** approx. 1200 g

**Housing** Aluminium housing, plastic cover

**Color** Aluminium, anthracite (cover)

**Protection Class** IP65, IP67

**Power Supply** 12 V – 24 V DC  $\pm$  40 %, Power-over Ethernet (PoE+)

**Power Consumption** max. 18 W

**Output Power** 100 mW to max. 2 W configurable in steps of 100 mW

**Antenna Connector** 4 x R-TNC-Jack (50 Ohm), integrated Multiplexer, support of external Multiplexer  
ID ANT.UMUX

**RF Diagnosis** RF-channel monitoring, Antenna SWR control, internal overheating control

**Connections** I/O M12 A-coded (8-pin), RS485 / Relay M12 A-coded (8-pin),  
Ethernet M12 D-coded, Power Supply M12 A-coded (4-pin)

### Outputs

2 Optocoupler max. 24 V DC / 20 mA

2 Relays max. 24 V DC / 1 A switching current, 2 A permanent current

### Inputs

2 Optocoupler max. 24 V DC / 20 mA

**Interfaces** RS485, Ethernet (IPv4/IPv6), USB (On-the-Go)

**Computing Platform (Linux OS)** ARM single Cortex-A7 800 MHz + Cortex-M4 (RFID), 1 GB Flash, 512 MB RAM

**Reader Modes** Host Mode, Buffered Read Mode, Notification Mode

**Supported Transponders** EPC Class1 Gen2, ISO 18000-63, ISO/IEC 29167

**Indicator** Highly visible status display (green/red/blue; customizable indication)

**Others** Anti-Collision, Output of RSSI values and phase angle, Battery assisted Real-Time-Clock,  
Secure Key Storage, "Config Cloning" function, Action-on-EPC, Web-Interface

### Temperature Range

Operation -25 °C – +55 °C (extended temperature range -40 °C – +70 °C on request)

Storage -25 °C – +85 °C (extended temperature range -40 °C – +85 °C on request)

**Relative Air Humidity** 5 % up to 95 % (non-condensing)

**Vibration** EN 60068-2-6 10 Hz up to 150 Hz: 0.075 mm / 1 g

## Versions

EU 865 MHz to 868 MHz

FCC 902 MHz to 928 MHz

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## Standard Conformity

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### Radio License

Europe, UK	EN 302 208
USA	FCC 47 CFR Part 15
Canada	IC RSS-247
EMC	EN 301 489
Safety & Health	EN 62368-1, EN 50364
Cyber Security	EN 18031-1

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## Railway (Rolling Stock / Rail Environment)

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Isolation, Power Supply	EN 50 155
EMC	EN 50 121-3-2, EN 50 121-4
Vibration, Shock	EN 61 373 Cat 1B
Fire Protection	EN 45 545-2
Wet Heat (cyclic)	EN 50 155, EN 60 068-2-30
Salt Mist	EN 50 155

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ID LRU4000X, Front view



ID LRU4000X, antenna connections



ID LRU4000X, Connectors for VCC, interfaces, I/Os



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