# RFID read/write device

# IUT-F190-B40-2V1D-FR2-03

- Flexible UHF read/write device with medium detection range
- Ready-made PLC function blocks designed for quick and easy system integration
- Compact and robust housing for harsh industrial environments
- Switchable antenna polarization guarantees reliable tag detection and enhances process flow
- LED status indicator for bus communication and read/write station
- Network loop through by means of integrated 2 port switch
- Multi-tag reading increases productivity

UHF RFID read/write device, China

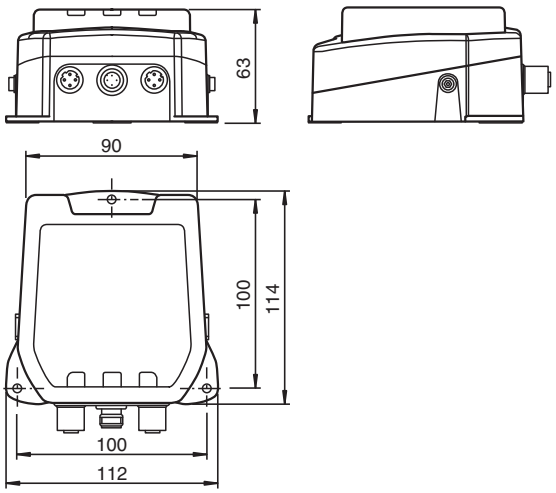
## Function

The compact read/write device IUT-F190-B40-2VD1-* operates in the UHF frequency range and is optimized for industrial use over medium distances. The device writes and reads passive transponders according to EPC Gen2 (ISO/IEC 18000-63). The read/write device complies with the respective local radio regulations.
Extensive possibilities for data filtering are supported. The read/write device has an ethernet interface and is connected via an M12 connector.
The user can monitor the status of the read/write device using the integrated LEDs.
The read/write device has a typical detection range of about 2 m, which is determined by the transponder used and can be adjusted by setting the transmission power. Further influencing factors are the mounting or installation for the specific application and the surrounding materials, especially metal. The separately specified read and write distances for the respective transponders have been determined in a test laboratory under ideal conditions. For the actual read and write distances under real conditions, the combination read/write device and transponder must be tested in the desired application.

## Application

This product is a wireless device and may be operated only in the country for which a transmission license exists. Information regarding transmission licenses can be found on the datasheet for the product. If a product is released to a customer in a country for which there is no transmission license, the product may be operated only in the country for which a transmission license exists.
If a product does not correspond to the legal requirements in force in the EU but is released to a purchaser within the EU, the product is intended for use solely in the destination country of the end customer outside of the EU for which a transmission license exists. The product may therefore under no circumstances be used directly by the purchaser or released to third parties for the purpose of distribution, application or use on the market within the EU as part of a commercial activity.
In the event of an infringement, the purchaser is obliged to indemnify the supplier against any resulting damages, costs, penalty payments and other expenses.

## Dimensions




## Technical Data

**General specifications**

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## Technical Data

| | | |
|---|---|---|
| Operating frequency | | 920.5 … 924.5 MHz: China<br>Transmission licenses for other countries on request |
| Emitted power | | 3 ... 800 mW ERP adjustable |
| Operating distance | | typ. 2 m |
| UL File Number | | E468231 |
| MTBF | | 55 a (Operation at +40 °C) |
| **Indicators/operating means** | | |
| LED green | | Power on |
| LED yellow | | Read/write operation successful |
| LED blue | | Transmission mode |
| LED Link/Traffic | | green: network connection<br>yellow: flashes in rhythm with the transmitted data |
| **Electrical specifications** | | |
| Rated operating voltage | $U_e$ | 20 ... 30 V DC , PELV |
| Ripple | | ≤ 10 % at 30 V DC |
| Current consumption | | ≤ 500 mA |
| Power consumption | $P_0$ | ≤ 10 W |
| Surge protection | | category 2 |
| **Interface 1** | | |
| Physical | | Ethernet |
| Protocol | | HTTP<br>EtherNet/IP<br>PROFINET IO |
| Transfer rate | | 10 MBit/s or 100 MBit/s |
| **Interface 2** | | |
| Physical | | Ethernet |
| Protocol | | HTTP<br>EtherNet/IP<br>PROFINET IO |
| Transfer rate | | 10 MBit/s or 100 MBit/s |
| **Standard conformity** | | |
| Degree of protection | | EN 60529 |
| RFID | | ISO/IEC 18000-63 |
| **Approvals and certificates** | | |
| SRRC approval | | CMIIT ID: 2021DJ7850 |
| **Ambient conditions** | | |
| Classification | | Environmental condition A (controlled environment) |
| Ambient temperature | | -20 ... 70 °C (-4 ... 158 °F) (Operation with nontransmission periods, adjustable)<br>-20 ... 50 °C (-4 ... 122 °F) (Continuous transmission mode) |
| Storage temperature | | -40 ... 85 °C (-40 ... 185 °F) |
| Pollution degree | | 2 |
| **Mechanical specifications** | | |
| Housing length | | 114 mm |
| Housing width | | 112 mm |
| Housing height | | 63 mm |
| Degree of protection | | IP67 |
| Connection | | Power supply: M12 connector<br>Protective earth: M4 earthing screw<br>Ethernet: M12 plug connection |
| Material | | |
| Housing | | PA 6.6 |
| Base | | diecast aluminum |
| Mass | | 820 g |

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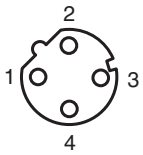
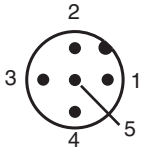
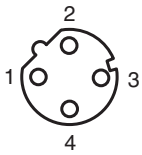
## Connection Assignment




1 = Tx+
2 = Rx+
3 = Tx-
4 = Rx-




1 = +24 V
2 = DOUT
3 = GND
4 = DIN1
5 = DIN2




1 = Tx+
2 = Rx+
3 = Tx-
4 = Rx-

## Accessories

| | | |
|---|---|---|
|  | **IUC77-25L100-GBL 1000pcs** | RFID Transponder |
|  | **IUC77-28L90-M-FR2 25pcs** | RFID Transponder |
|  | **IUC77-34-M-FR2 10pcs** | RFID Transponder |
|  | **IUC77-50-FR2 10pcs** | RFID Transponder |
|  | **IUC87-F257-T17-M-FR2 10 pcs** | Tag for standard applications |
|  | **IUC87-F257-T18-M-FR2 10 pcs** | Tag for paint shop applications |
|  | **IUC87-F257-T19-M-FR2 10 pcs** | Tag for autoclave applications |
|  | **IUZ-MH13** | Mounting bracket for wall mounting |
|  | **IUZ-MH15** | Mounting aid for round steel ø 12 mm or sheet 1.5 mm ... 3 mm |
|  | **V15-G-*M-PUR-ABG** | Female cordset single-ended M12 straight A-coded, 5-pin, PUR cable grey, shielded |
|  | **V1SD-G-GN*M-PUR-E1S-V45-G** | Ethernet bus cable M12 plug straight D-coded to RJ45 Ethernet-coded, 4-pin, PUR cable green, Cat5e, shielded, drag chain suitable |

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