



RFID read/write device

IUT-F190-B40-2V1D-FR2-02

- Compact, high-performance UHF RFID read/write device for medium detection ranges
- Rugged housing for harsh industrial environments
- Switchable antenna polarization and multi-tag reading
- Clearly visible LED status indicator
- Integrated 2-port switch enables line or ring topology
- Simple operation and configuration via integrated web server
- OPC UA Server and AutoID Companion Specification enable standardized communication
- Easy integration into IT systems via REST API

UHF RFID read/write device, USA, Canada and Mexico



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.

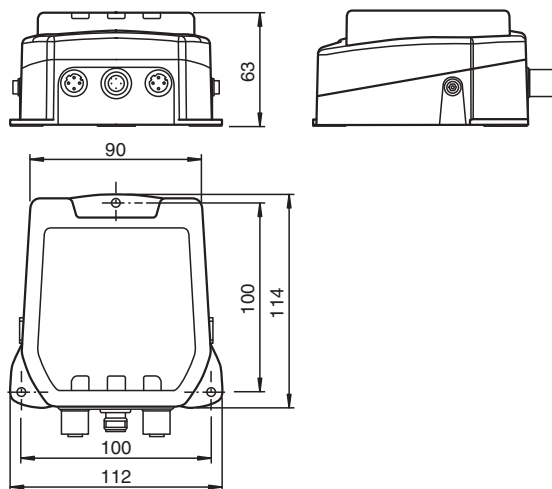
Application

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



Release date: 2024-04-22 Date of issue: 2024-04-22 Filename: 325915_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group
www.pepperl-fuchs.com

USA: +1 330 486 0001
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111
fa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091
fa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

Technical Data

General specifications

| | |
|---------------------|--|
| Operating frequency | 902 MHz ... 928 MHz: USA, Canada, Mexico Other countries available on request |
| Emitted power | 3 ... 1250 mW EIRP adjustable |
| 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 yellow: flashes in rhythm with the transmitted data |

Electrical specifications

| | | |
|-------------------------|-------|------------------------|
| Rated operating voltage | U_e | 20 ... 30 V DC , PELV |
| Ripple | | $\leq 10\%$ at 30 V DC |
| Current consumption | | ≤ 500 mA |
| Power consumption | P_0 | ≤ 10 W |
| Surge protection | | category 2 |

Interface 1

| | |
|---------------|--|
| Physical | Ethernet |
| Protocol | HTTP (REST API) OPC UA (AutoID Companion Specification) EtherNet/IP PROFINET IO |
| Transfer rate | 10 MBit/s or 100 MBit/s |

Interface 2

| | |
|---------------|--|
| Physical | Ethernet |
| Protocol | HTTP (REST API) OPC UA (AutoID Companion Specification) EtherNet/IP 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

| | |
|----------------|---|
| FCC approval | This device complies with part 15 of the FCC rules. 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. Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. |
| IC approval | This device complies with Industry Canada licence-exempt RSS standard(s) and with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. 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. |
| IFT approval | |
| Certificate | PEPEIU23-25034 |
| Radio approval | USA: Contains FCC IREIURF190 Canada: Contains 7037A-IURF190 |

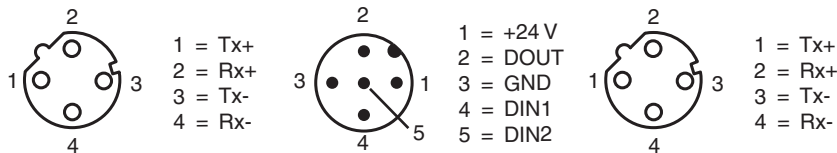
Ambient conditions

| | |
|---------------------|--|
| Classification | Environmental condition A (controlled environment) |
| Ambient temperature | -20 ... 70 °C (-4 ... 158 °F) (Operation with nontransmission periods, adjustable) -20 ... 50 °C (-4 ... 122 °F) (Continuous transmission mode) |

Technical Data

| | |
|----------------------------------|---|
| Storage temperature | -40 ... 85 °C (-40 ... 185 °F) |
| Pollution degree | 2 |
| Mechanical specifications | |
| Degree of protection | IP67 |
| Connection | Power supply: M12 connector Protective earth: M4 earthing screw Ethernet: M12 plug connection |
| Material | |
| Housing | PA 6.6 |
| Base | diecast aluminum |
| Mass | 820 g |
| Dimensions | |
| Height | 63 mm |
| Width | 112 mm |
| Length | 114 mm |

Connection Assignment



Safety Information

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.

Release date: 2024-04-22 Date of issue: 2024-04-22 Filename: 325915_eng.pdf