RFID20-*

RFID Reader

Manual

Your automation, our passion.

PEPPERL+FUCHS

With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

Contents

PEPPERL+FUCHS

1   History of the Manual

The following editions of the manual have been released:

Version	Comments
11/2024	First edition

PEPPERL+FUCHS

2 Introduction

2.1 Content of this Document

This document contains information that you need in order to use your product throughout the applicable stages of the product life cycle. These can include the following:

- Product identification
- Delivery, transport, and storage
- Mounting and installation
- Commissioning and operation
- Maintenance and repair
- Troubleshooting
- Dismounting
- Disposal

Note

This document does not substitute the instruction manual.

Note

For full information on the product, refer to the instruction manual and further documentation on the Internet at www.pepperl-fuchs.com.

Note

For specific device information such as the year of construction, scan the QR code on the device. As an alternative, enter the serial number in the serial number search at www.pepperl-fuchs.com.

The documentation consists of the following parts:

- Present document
- Instruction manual
- Datasheet

Additionally, the following parts may belong to the documentation, if applicable:

- EU-type examination certificate
- EU declaration of conformity
- Attestation of conformity
- Certificates
- Control drawings
- Functional safety manual
- Additional documents

2.2 Manufacturer

Pepperl+Fuchs Group Lilienthalstraße 200, 68307 Mannheim, Germany
Internet: www.pepperl-fuchs.com

2.3 Target Group, Personnel

Responsibility for planning, assembly, commissioning, operation, maintenance, and dismounting lies with the plant operator.

PEPPERL+FUCHS

Only appropriately trained and qualified personnel may carry out mounting, installation, commissioning, operation, maintenance, and dismounting of the product. The personnel must have read and understood the instruction manual and the further documentation.

Prior to using the product make yourself familiar with it. Read the document carefully.

2.4   Symbols Used

This document contains symbols for the identification of warning messages and of informative messages.

Warning Messages

You will find warning messages, whenever dangers may arise from your actions. It is mandatory that you observe these warning messages for your personal safety and in order to avoid property damage.

Depending on the risk level, the warning messages are displayed in descending order as follows:

Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.

Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.

Caution!

This symbol indicates a possible fault.

Non-observance could interrupt the device and any connected systems and plants, or result in their complete failure.

Informative Symbols

Note

This symbol brings important information to your attention.

Action

1. This symbol indicates a paragraph with instructions. You are prompted to perform an action or a sequence of actions.

2024-11

PEPPERL+FUCHS

3 Product Description

3.1 Overview

Figure 3.1

RFID20-* is an RFID (Radio Frequency Identification) device consisting of an enclosure with integrated electronics equipped with an RFID chipcard reader. These are proximity readers that can read the corresponding transponder media without direct contact and transfer the data to operating devices or any other systems.

Two versions of the RFID reader are available for different functionalities (see type code):

- TWN4 MultiTech 3 M LF HF (Option "A")
- TWN4 MultiTech 3 LEGIC M LF HF (Option "B")

The RFID20-* is intended for use in the safe area or hazardous area Zone 2/22. The device is connected via USB to a PC. It can be mounted into a cabinet or an enclosure. The preferred mounting option is integrated in the VisuNet FLX housing.

2024-11

PEPPERL+FUCHS

RFID20-* Reader as VisuNet System Accessory

Figure 3.2

PEPPERL+FUCHS
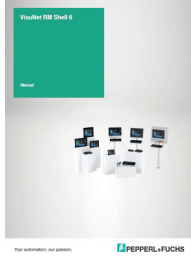
RFID20-* Reader as Stand-alone component

Figure 3.3

PEPPERL+FUCHS

3.2 Reference Documents

Important Instructions and Manuals for Operating the Device

	Documentation	Contents
	VisuNet FLX System Manual	- Dimensions - Important: Installation of the ferrite core - Card holder installation
	VisuNet RM Shell 6 Manual	- Software Settings
	VisuNet Control Center Manual	- Software Settings

2024-11

PEPPERL+FUCHS

3.3 Supported Transponder Media

Legend

$x^{1)}$	UID only
$x^{2)}$	r/w enhanced security features on request
$x^{3)}$	Supported as part of the EV1 downward compatibility
$x^{4)}$	UID + r/w public area
$x^{5)}$	AV2 only, requires one free SAM slot for MIFARE SAM AV2 card
$x^{6)}$	Hash value only
$x^{7)}$	only emulation of 4100/4102
$x^{8)}$	without encription

PEPPERL+FUCHS

			TWN4 Multi-Tech 3 M LF HF Standard (Standalone Option: "A"; FLX Version Option: "R")	TWN4 Multi-Tech 3 LEGIC M LF HF Standard (Standalone Option: "B"; FLX Version Option: "F")
13.56 MHz (HF)	ISO 14443A	LEGIC Advant	x[1]	x
		NTAG2xx	x	x
		NXP MIFARE Classic	x	x
		NXP MIFARE Classic EV1	x[2]	x[2]
		NXP MIFARE DESFire EV1	x	x
		NXP MIFARE DESFire EV2/EV3	x[3]	x[3]
		NXP MIFARE DESFire Light	x[3]	x[3]
		NXP MIFARE Mini	x	x
		NXP MIFARE Plus S	x	x
		NXP MIFARE Plus X	x	x
		NXP MIFARE Smart MX	x[2]	x[2]
		NXP MIFARE Ultralight	x	x
		NXP MIFARE Ultralight C	x	x
		NXP MIFARE Ultralight EV1	x[2]	x[2]
		SLE44R35	x[2]	x[2]
		SLE66Rxx (my d-move)	x[2]	x[2]
		Topaz	x	x
	ISO 14443B	Calypso	x[2]	x[2]
		Calypso Innovatron Protocol	x[2]	x
		CEPAS	x[2]	x[2]
		CTS	x	x
		Pico Pass	x[1]	x[1]
		SRI4K	x	x
		SRI512	x	x
		SRIX4K	x	x
		SRT512	x	x

PEPPERL+FUCHS

			TWN4 Multi-Tech 3 M LF HF Standard (Standalone Option: "A"; FLX Version Option: "R")	TWN4 Multi-Tech 3 LEGIC M LF HF Standard (Standalone Option: "B"; FLX Version Option: "F")
13.56 MHz (HF)	ISO 15693	EM4x33	$x^{2)}$	$x^{2)}$
		EM4x35	$x^{2)}$	$x^{2)}$
		ICODE SLI	x	x
		LEGIC Advant	$x^{1)}$	x
		M24LR16/64	x	x
		MB89R118/119	x	x
		Pico Pass	$x^{1)}$	$x^{1)}$
		SRF55Vxx (my d-vicinity)	$x^{2)}$	$x^{2)}$
		Tag-it	x	x
	ISO 18092 / ECMA-340	NFC Forum Tag type 1	x	x
		NFC Forum Tag type 2	x	x
		NFC Forum Tag type 3	x	x
		NFC Forum Tag type 4	x	x
		NFC Forum Tag type 5	x	x
		Sony FeliCa	$x^{4)}$	$x^{4)}$
		LEAF	$x^{5)}$	$x^{5)}$
		LEGIC Prime	x	x

2024-11

PEPPERL+FUCHS

			TWN4 Multi-Tech 3 M LF HF Standard (Standalone Option: "A"; FLX Version Option: "R")	TWN4 Multi-Tech 3 LEGIC M LF HF Standard (Standalone Option: "B"; FLX Version Option: "F")
125 kHz (LF)		AWID	x	x
		Cardax	x[5]	x[5]
		CASI-RUSCO	x	x
		Deister	x[5]	x[5]
		EM4050	x	x
		EM4100	x	x
		EM4102	x	x
		EM4150	x	x
		EM4200	x[7]	x[7]
		EM4305	x	x
		EM4450	x	x
		EM4550	x	x
		HITAG 1/2/S	x[8]	x[8]
		ICT	x	x
		IDTECK	x	x
		ISONAS	x	x
		Keri	x	x
		Miro	x	x
		Nedap	x[5]	x[5]
		Pyramid	x	x
		Q5	x	x
		T5557	x	x
		T5567	x	x
		T5577	x	x
		TITAN (EM4050)	x	x
		UltraProx	x	x
		UNIque	x	x
		ZODIAC	x	x

For further information please also refer to:https://www.elatec-rfid.com/fileadmin/Documents/Data-Sheet/elatec-transponder-matrix-fw-4-80-data-sheet-en.pdf.

PEPPERL+FUCHS

3.4 Recommended Mode for Integration into Systems

Manufacturer	System	Recommended Reader Configuration
Siemens	PM-Logon	Multi USB-CDC Standard
Obion	LogOnPlus	Multi CCID 1 Slot Standard or LogOnPlus (RM Shell)
Nymi	Connected Worker Platform	Please contact Nymi for Configuration File

Depending on the Installation environment and the used RFID Tag (Technology and Manufacturer) the reading distance can highly vary.

Warning!
Pepperl+Fuchs does not guarantee that tags utilizing the listed technologies can be read in the customer specific installation situation.

3.5 Technical Data

General specifications	
Type	RFID Reader/Writer for LF, HF, NFC
Operating distance	LF and HF: Up to 76 mm / 3 inch, depending on environment and transponder
Operating modes	USB keyboard emulation – USB virtual COM port – CCID / PC/SC 2.01

Supply	
Power supply	4.3 V - 5.5 V via USB; Limited power source according to the safety norms listed in the respective declaration of conformity, short-circuit current < 8 A

Indicators/operating means	
Indicators (Default Settings)	LED green: power on LED red flashing beeper/buzzer: read/write attempt performed

Electrical specifications	
Operation frequency	125 kHz (LF) / 13.56 MHz (HF)

Interface	
Interface type	USB

Directive conformity	
Explosion protection	
Directive 2014/34/EU	EN IEC 60079-0:2018 EN IEC 60079-7:2015+A1:2018 EN IEC 60079-31:2024
Radio and telecommunication terminal equipment	
Directive 2014/53/EU	**RFID20-A-*NF-****-N**:** EN 300 330 V2.1.1 EN 301 489-1 V1.9.2 EN 62368-1:2014+AC:2015-05+AC:2015-11 EN 50364:2010 EN 62479:2010 EN 55032:2015 **Additional standards:** EN 301 489-1 V2.1.1 EN 301 489-3 V2.1.1 EN 62311:2008 EN 62369-1:2009 **RFID20-B-*NF-****-N**:** EN 300 330 V2.1.1 EN 301 489-1 V1.9.2 EN 62368-1:2014+AC:2015-05+AC:2015-11 EN 50364:2010 EN 62479:2010 EN 55032:2015 **Additional standards:** EN 301 489-1 V2.2.3 EN 301 489-3 V2.1.1 EN 62369-1:2009 EN 62311:2008
RoHS	
Directive 2011/65/EU (RoHS)	EN IEC 63000:2018

Conformity	
Degree of protection	**Front side:** Non-Ex: IP66 with included front foil Ex: IP66 with included front foil **Back side:** IP20

Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 158 °F)
Storage temperature	-20 ... 65 °C (-4 ... 149 °F)
Relative humidity	max. relative humidity 93% at 40°C (non-condensing) according to EN60068-2-78

2024-11

PEPPERL+FUCHS

Mechanical specifications	
Material	PEEK housing, anodized aluminum backside
Mass	300 g
Dimensions	126 mm x 81 mm x 25 mm
Cut out dimensions	90 mm x 65 mm
Cable length	1.8 m / 0.6 m

3.6 Certifications and Markings

Self-Declaration

Gas	Dust
II 3G Ex ec IIC T4 Gc	II 3D Ex tc IIIC 135 °C Dc

3.7 Labels and Dimensions

Labels

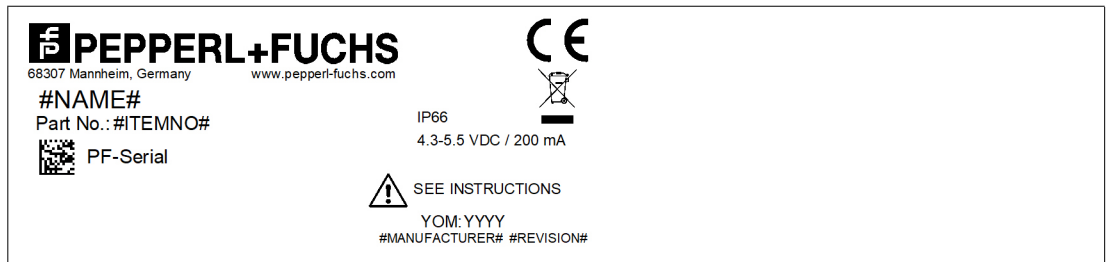**Sample Label for Non-Explosion-Hazardous Area Installation**

Figure 3.4   Non-Ex version

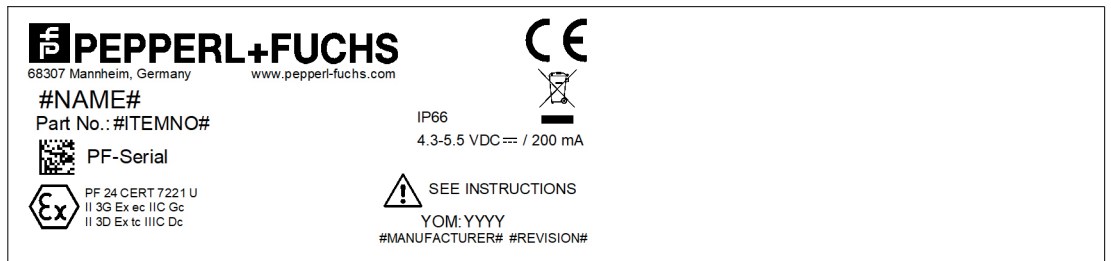**Sample Label for Installation in Zone 2/22 (P+F Self-Declaration)**

Figure 3.5   Self-declare variant
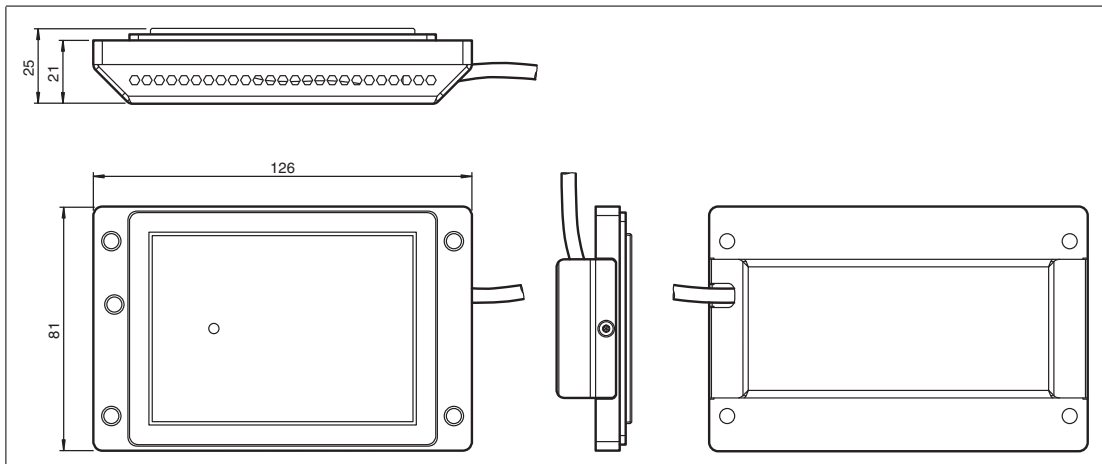
PEPPERL+FUCHS

Dimensions

Figure 3.6

PEPPERL+FUCHS

4 Installation and Commissioning

4.1 Installation

Warning!

Warning/Caution!

When the front foil is peeling off and or not fully intact any more. Explosion protection and IP66 protection cannot be ensured.

Prior to mounting, installation, and commissioning of the device you should make yourself familiar with the device and carefully read the instruction manual.

Warning!

Do not open the housing! Before the unit is put into operation, it must be ensured that the housing is closed and not damaged.

Warning!

In ambient temperatures exceeding +45 °C the surface of the device may heat up.

Caution when touching!

Caution!

Mount the device in a metal housing or in a housing that is certified for this use.

The component shall be installed in an enclosure that provides a minimum ingress protection of IP 54 in accordance with IEC 60079-0.

Ensure that the degree of protection is maintained by the entire installation.

The minimum wall thickness of the enclosure has to be 1.5 mm.

The device must be installed and operated only in a controlled environment that ensures a pollution degree 2 (or better) according to IEC/EN 60664-1.

The device must be installed and operated only in an environment of overvoltage category II (or better) according to IEC/EN 60664-1.

Provide a transient protection. Ensure that the peak value of the transient protection does not exceed 140 % of the rated voltage.

Avoid electrostatic charges which could result in electrostatic discharges while installing, operating, or maintaining the device.

The danger of ignition due to propagating brush discharges must be avoided by mounting the apparatus in areas without intensive charging mechanism. (valid for dust application)

The danger of ignition due to electrostatic discharges must be avoided by mounting the apparatus in areas without electrostatic charging mechanism. (valid for gas application)

Impacts from heavy or sharp-edged objects on the device have to be avoided.

The device has to be mounted in an area with a lower risk of mechanical impact.

The device contains a Micro USB Connector, a UART Connector and a SAM Slot (SAM Card Holder). These connections have not been evaluated for use in the hazardous area and must not be used.

The RFID20-* must be protected from direct sunlight.

The component has to be built in an equipment that is providing, or is provided with a voltage limitation.

PEPPERL+FUCHS

4.2 Mounting

The device may be installed and operated in any position.

The device must be mounted securely. For this, use the threads and holes integrated into the enclosure.

Mounting, connection, commissioning, repair and maintenance may only be carried out by qualified staff specially trained for this purpose.

The device is intended for indoor use. If placed in a suitable housing, the device can also be used outdoors.

General Installation information

The details of used associated equipment must be observed (for example permitted cable diameter for used cable glands, tighten rules, cable clamping).

Country-specific regulations must be observed, in particular any ambient parameters that may be different (e.g. ambient temperature range).

Unused openings must be closed by a suitable blind plug.

Included with Delivery

- the RFID20-* consists of a plastic frame and aluminum housing
- printed foil
- 3x set of 4x spacers
- 3x ferrite cores

Figure 4.1

Spacers included in delivery:

Spacer	Amount
1.0 mm	4x
2.0 mm	4x
2.5 mm	4x

PEPPERL+FUCHS

Figure 4.2

Caution!

Device damage!

Mount the device in such a way that it is protected from ultraviolet radiation and sunlight. Do not expose the device to direct sunlight! The device might get damaged.

Warning!

Device damage!

Protect the device from external heat sources (e.g sunlight).

Caution!

Use of the device!

The use of the device is only permitted under the ambient conditions (temperature, humidity, vibration and shock) which are specified in the technical data. Failure to comply with any of these conditions voids the warranty for the device. Pepperl+Fuchs cannot be held liable for any damage arising from improper use and handling.

The RFID20-* reader can be mounted in a housing with the suitable cutout. This mounting is approved for the installation in Ex e, Ex p or Ex tb housing. The installed devices must be certified individually for the respective type of protection and also have IP66.

The RFID Reader is intended to be mounted into an enclosure. Therefore the enclosure has to be prepared as follows.

The enclosure has to have a cut out with a dimension according to figure *4.3 Cutout dimensions*. Around the cut out, four studs have to be put on the inside of the enclosure with measures according to figure *4.3 Cutout dimensions*. The studs have to be welded on the inside of the enclosure. It is not allowed to drill the enclosure to mount the studs. The RFID Reader is screwed with a spacer and a nut on the studs.

The nuts shall be screwed with a force of at least 2.3 Nm.

If the RFID Reader is mounted into the enclosure, the RFID foil frame is put from the outside on the enclosure and the RFID Reader. Therefore see chapter 4.3.
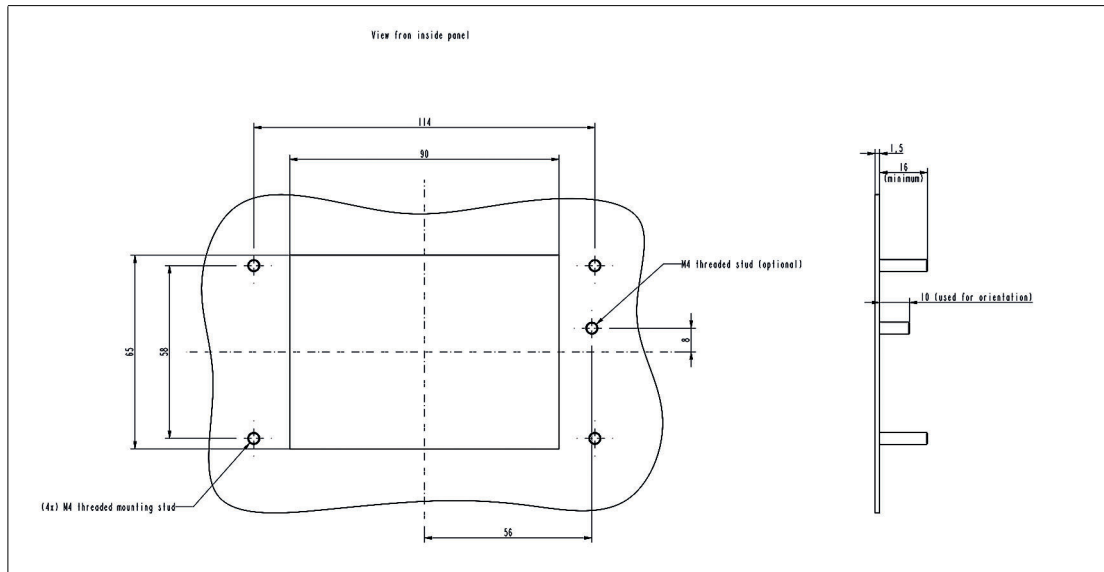
Figure 4.3   Cut-out dimensions

Cutout width	Cutout height
90 mm	65 mm

Observe the following recommended distance to other electrical components or to a housing wall:

- Behind the device: ± 55 mm

The RFID Reader can be integrated housings with wall thickness of 1,5 mm, 2 mm, 3 mm and 4 mm. Please refer to the table below which of the included mounting studs and spacers have to be used:

Wall thickness versus stud/spacer lengths			
Wall thickness (mm)	4x mounting studs min. length (mm)	4x spacer thickness (mm)	Alignment stud length min/max (mm)
1.5	16	2.5	10/14
2	16	2	8/12
3	16	1	8/12
4	14	none	8/10

Note

Installation in a control cabinet or in a metal housing:

When operating the reader in an industrial environment, it is mandatory to install it in a control cabinet or in a closed metal housing

The devices must be certified individually for the respective type of protection and also have IP66.

The device must be mounted securely. For this, use the threads and holes integrated into the enclosure.

All screws for fixing the frame must be tightened with a torque of at least 2.3 Nm.

In order to ensure IP66 Protection the front foil must be installed properly.

PEPPERL+FUCHS

4.3 Front foil attachment

It is mandatory to align the front foil properly and use the right pressure to ensure good adhesion.

Proceed as follows to attach the front foil for stand-alone applications of the RFID20-* reader or in case of exchanging a damaged front foil:

1. Clean the housing with isopropanol.

2. Align the foil in the center and move it upwards until the light guide matches with the transparent part of the foil.

3. Mark the outline of the foil with a removeable marker.

Figure 4.4

4. Remove the upper part of the foil and align it with the markings of the pen.

5. Do not touch the foil.

Figure 4.5

6. Slowly peel off the adhesive foil and glue the foil into the right position. After fist gluing ensure that the foil is pressed onto the material with at least 6894.57 Nm/m^2 of force or a pressure of 10 psi.

7. Make sure that the foil is placed straight.
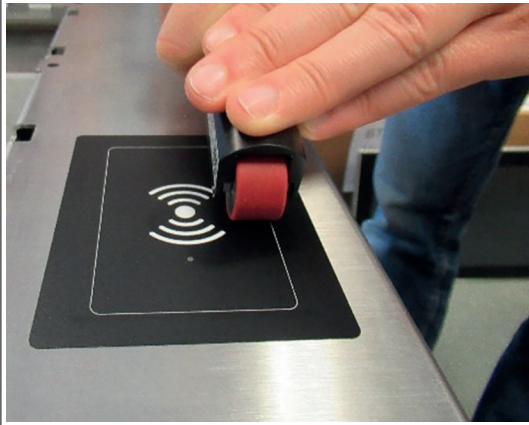
Figure 4.6

Figure 4.7

8. Important: Make sure that the foil is flush all around.

9. Remove paint with isopropanol.

   The correct installation is the responsibility of the user/ installer of the device. Pepperl+Fuchs does not take on liability for damages resulting from improper installation.

2024-11

PEPPERL+FUCHS

4.4 Connecting the RFID Reader to a VisuNet device

The RFID reader RFID20-* comes preinstalled in the VisuNet FLX system. The LED of the RFID reader is green per default when supply voltage is applied.

Important: In order to meet certain electrical noise emission limits, it is necessary to install a ferrite core on the Ethernet cables and the USB Supply cable SK-IDM-Z2-J2-1M-U-N connected to the BPC3200-*.

Please find detailed information how to install the ferrite core within the VisuNet FLX in the VisuNet FLX System manual.
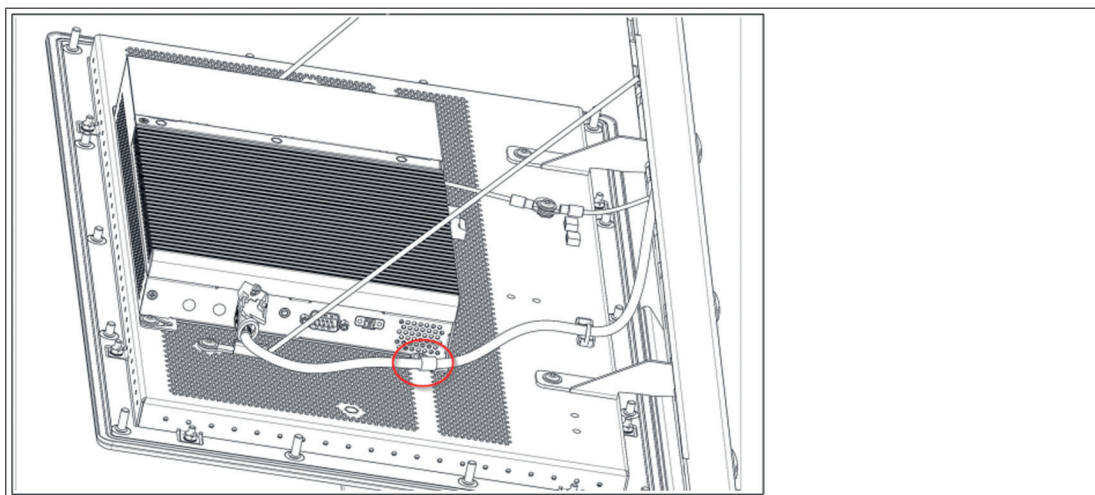

Figure 4.8

The USB cable is already connected to one of the USB Ports on the left side of the BPC3200-* per default. On the BPC3200-*, the standard non ex-i USB must be used to connect the RFID reader RFID20-*.

Warning!

Interfaces must have a strain relief in Ex-operation.

This can be achieved with the ATEN Locks (#548400).

Note

Please refer to the VisuNet RM Shell 6 manual for detailed information regarding the configuration.

4.5 Connecting the RFID Reader to a PC

The RFID20-* Reader can be connected to any USB-Port 2.0 or greater. The RFID20-* reader has to be built in an equipment that is providing, or is provided with a controlled overvoltage condition involving transient protection for equipment of overvoltage category II affect electrical segregations under control.

Warning!

Interfaces must have a strain relief in Ex-operation.

This can be achieved with the ATEN Locks (#548400).

PEPPERL+FUCHS

4.6 Software

Please refer to the VisuNet RM Shell RFID settings to get information on the RFID version number. For stand-alone applications, please refer to the development kit from ELATEC.

i **Note**

The default setting for the RFID20-* is Standard keyboard accepting upgrade and config cards. In this configuration the reader connects as USB HID keyboard and accepts upgrade as well as configuration cards.

Further standard configurations are available in the ELATEC DevPack. Furthermore, individual configurations can be created via the ELATEC AppBlaster.

i **Note**

It is the customers' responsibility to make sure the individual configuration is compatible to the RFID20-* reader version.

i **Note**

Using the RFID reader with an open Windows® On-Screen-Keyboard can sporadically lead to faulty characters being read.

Mitigation: Lower the character repeat rate of the reader (see ELATEC manual) or close the OSK.

i **Note**

The standard Keyboard configuration of the RFID reader reads data with an English Keyboard layout. Make sure the layout of Windows® matches the layout of the RFID reader. The reader supports English, German, and French layouts (see ELATEC manual).

Compatibility Matrix RFID20-* Reader with Software

☑	available/operational
☒	not available/non operational

	VisuNet RM Shell 6	Windows® 10 Enterprise LTSC 2021 x64	IGEL OS 11/12	Rockwell Thin-Manager Ready
Configuration				
Integrated configuration	☑	☒	☒	☒
Configuration tool	☑	☑	☒	☒
Configuration cards	☑	☑	☑	☑
Operation				
USB-HID	☑	☑	☑	☑
USB-CDC	☑	☑	☒	☒
USB-CCID	☑	☑	☑	☑

PEPPERL+FUCHS

Note

VisuNet FLX: In order configure the RFID reader of an IGEL OS 11/OS 12 and ThinManager device please use the ELATEC Configuration Tool on an Windows PC connected to the RFID Reader via USB. Alternatively use the option of configuration cards. See ELATEC website for configuration card creation kit.

Note

VisuNet GXP: In order configure the RFID Reader of an IGEL OS 11/OS 12 and ThinManager device please use configuration cards. See ELATEC website for configuration card creation kit.

Proceed as Follows to Install and Commission the RFID20-* Reader to a VisuNet RM Shell device:

1. Open the VisuNet RM Shell Settings to configure your RFID20-* reader. The USB cable comes already plugged in the VisuNet device. The AppBlaster tool is already integrated within the VisuNet RM Shell.

Note

For further information please refer to the VisuNet RM Shell manual.

Proceed as Follows to Install and Commission the RFID20-* reader to a PC:

1. Install the available driver package RFID Reader TWN4 on your device (available on the Pepperl+Fuchs website).

2. Connect the reader to your PC using the USB cable.

3. Install TWN4 DevPack from ELATEC and flash the RFID20-* reader with the AppBlaster once.

Note

Please refer to ELATEC (www.elatec-rfid.com) and download the TWN4 DevPack from the website.

4.7 LED Indication

The LED of the RFID20-* can be configured individually. Per default the following settings are configured:

LED Color	Note
Green	Supply voltage is applied, the RFID reader is ON
Red	To verify that the RFID tag is recognized it sounds a beep and the red LED flashes

PEPPERL+FUCHS

4.8 Integration in Host Device

There are no specific operational use conditions for RFID20-*-*NF-****-N** other than the conditions mentioned in the product user manual and data sheet. The host manufacturer and integrator must ensure that these use conditions comply with the use conditions of the host device. In addition, these use conditions must be stated in the user manual of the host device. The product is equipped with two integrated RFID antennas. Thus, no antenna installation is required.

4.8.1 RF Exposure Condition

This device complies with the RF exposure requirements for fixed devices for occupational/controlled exposure for not more than 6 minutes if the distance is smaller than 20 cm to the HF or LF antenna.

The minimum distance to the LF or HF antenna has to be:

- Valid for type RFID20-A-*NF-****-N** (with RFID Module TWN4 MultiTech 3 M LF HF): Minimum distance to use is 0,45 cm

- Type RFID20-B-*NF-****-N** (with RFID Module TWN4 MultiTech 3 LEGIC M LF HF): Minimum distance to use is 0 mm

These RF exposure conditions must be stated in the end-product manual(s) of the host device manufacturer.

4.8.2 Simultaneous Use in a Host Device

The use of other RFID readers or modules in direct vicinity to the product, or in combination with the product might damage the product or alter its reading performance. In case the host device already contains other RFID devices, observe a minimum distance of 30 cm between all RFID devices to achieve the best performance for each device.

Simultaneous transmission

When the host product supports simultaneous-transmission operations, the host manufacturer needs to check if there are additional RF exposure filing requirements due to the simultaneous transmissions. When additional application filing for RF exposure compliance demonstration is not required (e. g. the RF module in combination with all simultaneously operating transmitters complies with the RF exposure simultaneous transmission SAR test exclusion requirements), the host manufacturer may do his own evaluation without any filing, using reasonable engineering judgment and testing for confirming compliance with out-of-band, restricted band, and spurious emission requirements in the simultaneous-transmission operating modes.

2024-11

PEPPERL+FUCHS

5 Maintenance and Cleaning

5.1 Maintenance

The devices are maintenance-free across their entire lifespan. The following must be checked during maintenance work:

a. Damage to the seals.

c. All screws and nuts are tightened fast.

d. All cables and lines are properly connected and undamaged.

In case of damage or modification to the delivery state, immediately contact your local sales support. The device must be exchanged.

5.2 Cleaning

How often it becomes necessary to clean the system depends on the operating and environmental conditions. If necessary, follow the on-site cleaning plan.

Clean and maintain your system regularly.

Recommended cleaning agent for foil residue: Isopropyl alcohol, Household Cleaners and Water.

PEPPERL+FUCHS

6 Chemical Resistance

The RFID reader foil is manufactured from a biaxially aligned polyester-based material and therefore has a greater resistance to solvents. The foil is stronger and more durable than other standard foils used on front panels, such as polycarbonate and PVC.

The RFID RFID20-* Reader foil is resistant against the following substances (Test method: DIN42115):

Alcohols
Dilute acids
Dilute alkalis
Esters
Hydrocarbons
Ketones
Household cleaners

The RFID reader foil is resistant against the following substances (Test method: AATCC test method 100):

Staphyloccus aureus (MRSA)
Escherichia coli 0157
Listeria monocytogenes
Pseudomonas aeruginosa
Salmonella enteritidis
Bacillus cereus
Streptococcus faecalis
Klebsiella pneumoniae
Aspergillus niger
Penicillium purpurogenum
Phoma violacea
Saccharmyyces cerevisiae

The chemical resistance of materials highly depends on various factors, including exposure time, temperature, humidity etc. and can lead to different forms of product alterations including discoloration, change in shore, tearing strength, volume tc.

The below listed materials have been assessed against following chemicals using an immersion test (min. 48 h immersion @ 23 °C) and based on original manufacture's material datasheet. Following test criteria have been defined for the assessment: visual parameters change (e.g. color change, chalking, readability of texts) and degradation of mechanical properties.

Symbol	Meaning
A	Excellent
B	Good - Minor effect, slight corrosion or discoloration

PEPPERL+FUCHS

Symbol	Meaning
C	Fair - Moderate effect, not recommended
D	Severe effect, not recommended for ANY use

	PEEK Plastic frame @ 23 °C	Aluminum	Foam Gasket BISCO HT-800 (Dimension stability wet/dry)
Acetic acid (concentrated 50%)	A	C	1 / 1 (* 10% concentrated)
Acetone	A	A	D
Ammonia (concentrated)	A	A	1 / 1(* 10% Ammonia Water)
Concentrated mineral Acids, Concentrated alkaline Solutions, Highpressure steam above 100°C	D	D	D
Ethanol	A	B	D
Formic acid (concentrated 50%)	B	B	D
Glycol	A	B	D
Hydrofluoric acid, 5%	C (* 40% concentrated)	D (* 20% concentrated)	D
Hydrogen peroxide (30%)	A	A	D
Isopentanol	D	D	D
Isopropanol	A	A	1 / 1
Methanol	A	A	1 / 1
n-Hexane	D	A	D
Nitric acid (concentrated)	C	D	D

PEPPERL+FUCHS

7 Appendix

7.1 Accessories

Mounting Accessories

Part. No.	Type Code	Description
70185322	RFID20-REPLACEMENT-FOIL	Replacement foil for RFID20-* reader family. For readers built into VisuNet FLX or stand-alone application.
70185321	RFID-CARD-HOLDER	Card holder clip for RFID20-*, VisuNet FLX and VisuNet GXP. Clip with double sided adhesive.
548400	ATEN-LockPro	Latch that allows to lock universal cables to Box Thin Clients and PCs Includes 10 latches per package

2024-11

PEPPERL+FUCHS

Your automation, our passion.

Explosion Protection

- Intrinsic Safety Barriers
- Signal Conditioners
- FieldConnex® Fieldbus
- Remote I/O Systems
- Electrical Ex Equipment
- Purge and Pressurization
- Industrial HMI
- Mobile Computing and Communications
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

Pepperl+Fuchs Quality
Download our latest policy here:

www.pepperl-fuchs.com/quality

PEPPERL+FUCHS