

MANUAL

ODT-MAC335-HD-RD
Stationary Reader



CE

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"

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1

Introduction

Congratulations

You have chosen a device manufactured by Pepperl+Fuchs. Pepperl+Fuchs develops, produces and distributes electronic sensors and interface modules for the market of automation technology on a worldwide scale.

Symbols used

The following symbols are used in this manual:



Note!

This symbol draws your attention to important information.



Handling instructions

You will find handling instructions beside this symbol

Contact

If you have any questions about the device, its functions, or accessories, please contact us at:

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Lilienthalstraße 200
68307 Mannheim
Telephone: +49 621 776-4411
Fax: +49 621 776-274411
E-Mail: fa-info@pepperl-fuchs.com

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Declaration of conformity

This product was developed and manufactured under observance of the applicable European standards and guidelines.



Note!

A Declaration of Conformity can be requested from the manufacturer.

The product manufacturer, Pepperl+Fuchs GmbH, D-68307 Mannheim, has a certified quality assurance system that conforms to ISO 9001.



3 Safety

3.1 Symbols relevant to safety



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 devices and any connected facilities or systems, or result in their complete failure.

3.2 Intended use

The ODT-MAC335 stationary reader is used for decoding 1D and 2D codes.

Always operate the device as described in these instructions to ensure that the device and connected systems function correctly. The protection of operating personnel and plant is only guaranteed if the device is operated in accordance with its intended use.

3.3 Laser Class 1

Class 1 Laser Product

This sensor is certified according to laser protection class 1.



Warning!

Class 1 laser light

The laser light can be an irritant, especially in a dark environment. Do not point lasers at people!

Maintenance and repairs should only be carried out by authorized service personnel!

Install the device so that the warning is clearly visible and readable.

Caution: Use of controls, adjustments, or performance of procedures other than those specified herein may result in harmful laser beam exposure.

3.4 General notes on safety

The plant owner is responsible for its planning, installation, commissioning, operation, maintenance and disassembly.

Installation and commissioning of all devices must be performed by a trained professional only.

Protection of operating personnel and the system is not ensured if the product is not used in accordance with its intended purpose.

Only use recommended original accessories.

User modification and or repair are dangerous and will void the warranty and exclude the manufacturer from any liability. If serious faults occur, stop using the device. Secure the device against inadvertent operation. In the event of repairs, return the device to your local Pepperl+Fuchs representative or sales office.

When packing the device for storage or transport, use materials that will protect the device from bumps and impacts and protect against moisture. The original packaging provides the best protection. Also take into account the permitted ambient conditions.

4 Product Description

4.1 ODT-MAC335 – Use and application

The ODT-MAC335 is a universal reader designed for identifying products and acquiring data online. The range of functions available is far superior to any other individual device. The ODT-MAC335 has a unique lens, a 1.3 million pixel CMOS sensor and a 400 MHz processor. These elements combine to produce a reading system that offers the following features:

- Decoding of all standard 1D codes (barcodes) and 2D codes (stacked codes and matrix codes)
- Omnidirectional reading of all codes at high evaluation speeds
- Reading high-density as well as medium and low-density codes
- Read range covers larger surface area and distance

The ODT-MAC335 was developed for decoding 1D and 2D codes. Thanks to automatic dynamic optimization, the reader detects the most varied of codes and enables efficient operation. You can program the ODT-MAC335 with the aid of a convenient program or configuration code. There is an option for developing customer-specific solutions with a JavaScript editor.



CMOS technology – high resolution for 1D and 2D codes

Stationary readers incorporate imagers that use CMOS technology, which enables a compact design and low-cost production that requires fewer components. The high-resolution imager can detect 2D codes (data matrix, MaxiCode, PDF 417, QR codes, etc.) as well as almost all standard 1D barcodes. Compatible symbologies can be detected omnidirectionally, i.e., independent of the rotational position. The code is always read provided it is located within the image field.

The Data Matrix ECC 200 code opens up completely new opportunities for labeling components using extremely small labels.



4.2 Field of vision and resolution

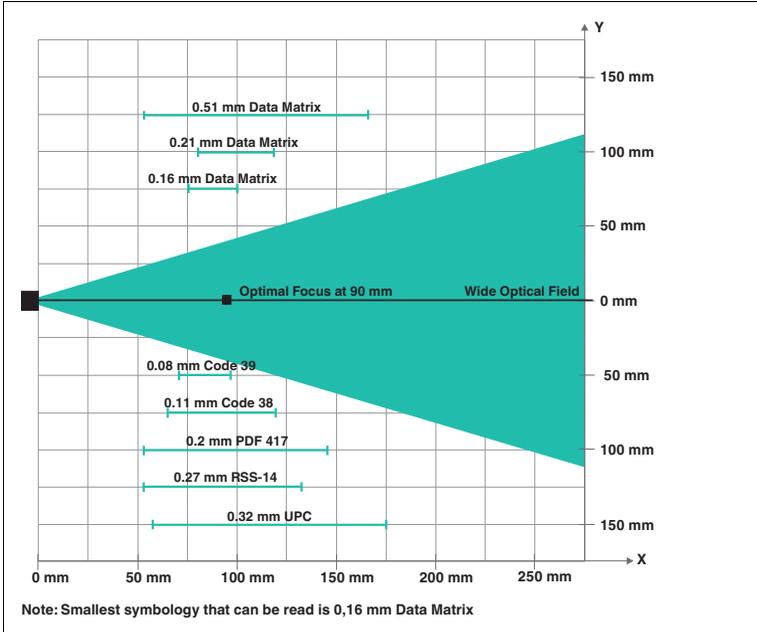


Figure 4.1 Field of view of the MAC335

4.3 Displays and controls

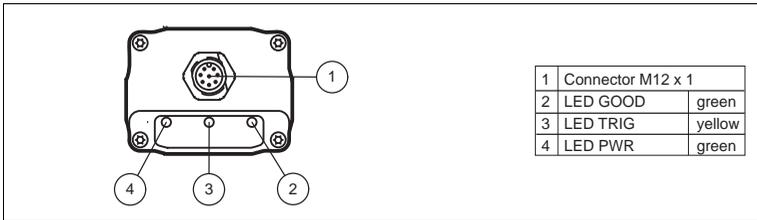


Figure 4.2 Display elements MAC335

4.4 Interfaces and connections

The device includes the following connections:

Power supply

There is an 8-pin M12 plug on the rear of the sensor housing for connecting the power supply and the inputs and outputs. The following diagram shows the pin assignment:

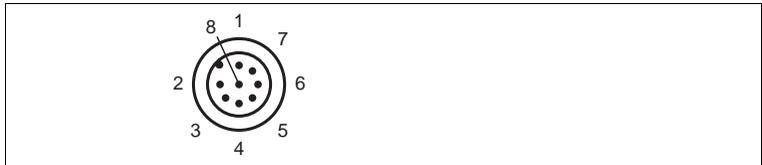


Figure 4.3 Connection layout for supply voltage and inputs and outputs

- 1 Trigger input
- 2 24 V supply to device
- 3 RS 232_RX
- 4 24 V external power supply (I/O)
- 5 External ground (GND)
- 6 GOOD output
- 7 Device ground (GND)
- 8 RS 232_TX

4.5 Delivery package

- ODT-MAC335-HD-RD

4.6 Accessories

Various accessories are available.

4.6.1 Power supply

Use the following connection cable to connect the power supply, inputs and outputs to the sensor.

M12 connection cables

	Material	Length	Cable end, field attachable 
8-pin M12 socket, straight 	PUR	2 m	V19-G-2M-PUR-ABG
		5 m	V19-G-5M-PUR-ABG
		10 m	V19-G-10M-PUR-ABG

Field-attachable M12 connectors

Model number	Description	mm ²	Cable dia.
V19-G-ABG-PG9	8-pin M12 socket, straight	max. 0.75	5 to 8 mm

Other lengths on request.

5 Installation

5.1 Preparation



Unpacking the unit

1. Check that all package contents are present and undamaged.
 - ↳ If anything is damaged, inform the shipper and contact the supplier.
2. Check that all items are present and correct based on your order and the shipping documents.
 - ↳ If you have any questions, please contact Pepperl+Fuchs.
3. Keep the original packing material in case you need to store or ship the unit at a later time.

5.2 Mounting



Note!

Preventing reflection and glare

Reflection and glare from reflective surfaces can impair the captured image and therefore lead to incorrect readings. To prevent reflection and glare, install the stationary reading device at a slight angle.



Note!

Connection to ground

When installing the device, ensure that it has a ground connection.

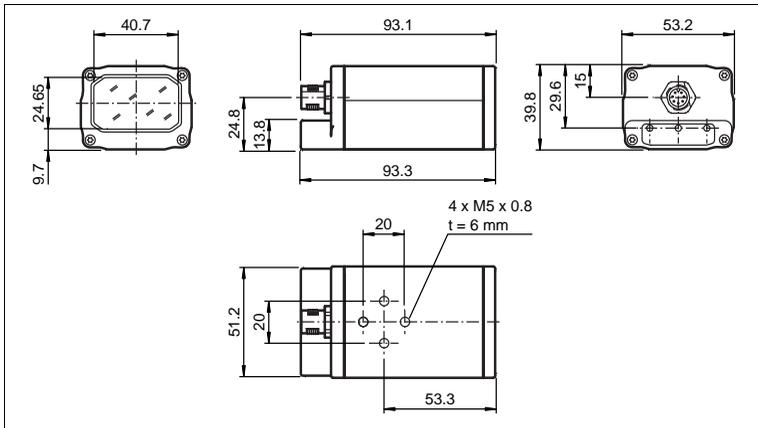


Figure 5.1 ODT-MAC335 Dimensions

5.3 Connecting the Device

Ensure the Following Conditions are Fulfilled:

- The housing must be grounded.
- Always use shielded cables.
Connect the cable shield to the housing on the RS 232 connector.

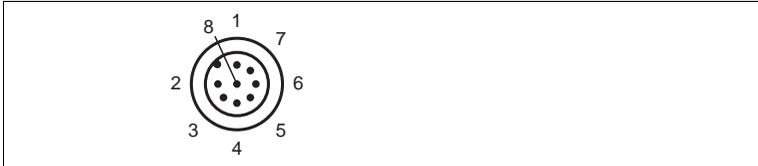


Figure 5.2 Connection layout for supply voltage and inputs and outputs

- 1 Trigger input
- 2 24 V supply to device
- 3 RS 232_RX
- 4 24 V external power supply (I/O)
- 5 External ground (GND)
- 6 GOOD output
- 7 Device ground (GND)
- 8 RS 232_TX



Danger!

Warning

Live lines

Before mounting the reader or sensor, make sure that the power supply is switched off.



Connecting a Cable

To connect a cable to the sensor, proceed as follows:

1. Plug the 8-pin M12 socket into the connector provided for this purpose on the back of the housing.
2. Tighten the cap nut over the connector.

↳ This ensures that the power cable cannot be inadvertently pulled out.

▶ Connecting to the Supply Voltage

To supply voltage to the sensor, proceed as follows:

1. Connect the ground from the power supply provided to pin 7 on the reader.
2. Now connect the 24 VDC supply voltage from the power supply provided for this purpose to pin 2 on the reader.
3. To use the RS 232 interface and the input and output, connect pin 4 to the 24 VDC supply voltage and pin 5 to ground. The 24 VDC supply voltage and the 24 V external power supply are galvanically isolated, allowing two independent supply voltages to be used.

↳ The reader is now connected to the supply voltage.

▶ Connecting the RS 232 Interface

To connect the RS 232 interface, proceed as follows:

1. If necessary, switch off the PC before making connections to the serial interface on the PC.
2. Connect the RX line (pin 3) on the reader to the corresponding TX line on the PC.
3. Connect the TX line (pin 8) on the reader to the corresponding RX line on the PC.

↳ The reader is now connected to the RS 232 interface on the PC.

Inputs and Outputs

The inputs and outputs are galvanically isolated from the supply voltage to prevent equalizing currents.

▶ Connecting the External Trigger

The trigger input requires a voltage to be present between pin 1 (24 V, external) and pin 5 (GND, external).

1. If the reader and the trigger source are powered from different power supplies, proceed as follows:

↳ Connect pin 5 to GND on the external power supply and pin 1 to the trigger source.

2. If the reader and the trigger source are powered from a single power supply, proceed as follows:

↳ Bridge pins 5 and 7 and connect pin 1 to the trigger source.



Good Signal Connection

During the good pulse, the good output connects pin 4 to pin 6. The good signal is a signal pulse that is emitted only if the trigger signal is present.

1. If the reader and the receiver of the good signal are powered from different power supplies, proceed as follows:
 - ↳ Connect pin 4 to the 24 V of the external power supply and pin 6 to the receiver of the good signal.
2. If the reader and the receiver of the good signal are powered from a single power supply, proceed as follows:
 - ↳ Bridge pins 2 and 4 and connect pin 6 to the receiver of the good signal.

5.4

Storage and transport

For storage and transport purposes, package the unit using shockproof packaging material and protect it against moisture. The best method of protection is to package the unit using the original packaging. Furthermore, ensure that the ambient conditions are within allowable range.

6 Commissioning

6.1 Reading a code

This reader uses digital camera technology to record an image of the code to be read. After an image has been recorded, the reader uses highly developed evaluation procedures to evaluate the data contained in the recording.



Note!

Because of the large detection area of the reader, we advise you to cover the codes you do not wish to scan to prevent you from inadvertently configuring the incorrect setting.



Reading a code

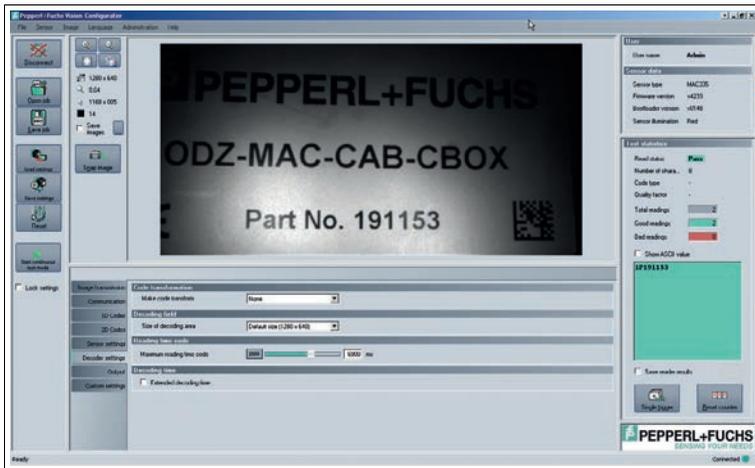
1. Position the code you wish to read centrally in front of the reader.
 - ↳ The reader can also read symbols that are not centrally located, but not as easily as central codes. If two codes are located within the field of view, the reader decodes the symbol closest to the center of the reader.
2. Issue the trigger signal.
 - ↳ The GOOD LED on the back of the reader lights up, indicating that the codes were recorded and decoded successfully.

7 Operation

7.1 Operation using Vision Configurator

The "Vision Configurator" software provides you with a user-friendly interface for convenient operation of the reader. With the use of an XML configuration file, the reader can be adapted to the particular requirements of your plant.

Standard tasks include establishing connections to the reader, programming operating parameters and system maintenance, as well as the transfer and display of data and error diagnostics.



Note!

Minimum hardware and software requirements

Before you begin installing the software, check that all minimum hardware and software requirements are met.

The minimum hardware and software requirements are listed below:

- Processor: Pentium III 1 GHz
- Working memory: min. 512 MB RAM
- Hard disk space: min. 10 GB free hard disk space
- .Net Runtime Environment 2.0



Installing the software

To install the software on the computer, proceed as follows:

1. Download the latest version of the Vision Configurator from the internet.
2. Open the file "VisionConfigurator_setup.exe".
3. Follow the instructions for the installation process.

↳ You can start the software once the installation process has finished.

7.2 Operation via code reading

You can configure some settings directly by scanning in special codes.

The reader uses the following factory settings:

- RS 232 mode
- 57600 baud
- 2 stop bits
- No parity
- Text commands on
- Sleep mode off

7.2.1 Programming different code symbologies



Note!

Code Save Settings

Always scan the code **Save Settings** after reading a configuration code. Thus the configuration code is saved permanently.

Aztec

Aztec On



Aztec Off (Default)



Save Settings



Example:



Codabar

Codabar On (Default)



Codabar Off



Save Settings



Example:



Codablock F

Codablock F On



M277_01

Codablock F Off (Default)



M276_01

Save Settings



M188_02

Example:



Code 11

Code 11 On (Default)



M394_01

Code 11 Off



M393_01

Code 11 Checksum 1
digit



M395_01

Code 11 Checksum 1
digit & Strip from result



M397_01

Code 11 Checksum 2
digit & Strip from result



M396_01

Save Settings



M188_02

Example:



Code 39

Code 39 On (Default)



M235_01

Code 39 Off



M234_01

Code 39 Enable Checksum



M237_01

Code 39 Enable Checksum & Strip from result



M238_01

Disable Checksum (Default)



M236_01

Code 39 Extended Full ASCII On



M233_01

Code 39 Extended Full ASCII Off (Default)



M232_01

Code 39 Short Margin On



M390_01

Code 39 Short Margin Off (Default)



M389_01

Code 39 Trioptic On (Default)



M671_01

Code 39 Trioptic Off



M670_01

Save Settings



M188_02

Example: Code 39



12345678

Example: Trioptic Code 39



123456

Code 93

Code 39 On (Default)



M281_02

Code 93 Off



M280_01

Save Settings



M188_02

Example:



Code 128

Code 128 On (Default)



M283_01

Code 128 Off



M282_01

Code 128 Short Margin On



M392_01

Code 128 Short Margin Off (Default)



M391_01

Save Settings



M188_02

Example:



Composite

Composite On



M285_02

Composite Off (Default)



M284_02

Save Settings



M188_02

Data Matrix

Data Matrix Rectangle On



Data Matrix Rectangle Off (Default)



Data Matrix Inverse On



Data Matrix Inverse Off (Default)



Save Settings



Example Data Matrix:



Example Data Matrix Rectangle:



GoCode

GoCode is a two-dimensional symbol in miniature format. GoCode was developed in such a way that it fits into one text line and has a multidimensional adaptable matrix pattern which can be reproduced practically on any surface. GoCode is a private symbology and can be used by obtaining a fixed-term license. GoCode has many important advantages when compared with usual linear bar codes and 2D symbols. Please contact Pepperl+Fuchs if you require any further information on the advantages of a private symbology.



Interleaved 2 of 5

Int 2 of 5 On (Default)



M244_01

Int 2 of 5 Off



M243_01

Int 2 of 5 Two Digits On



M246_01

Int 2 of 5 Two Digits Off (Default)



M245_02

Int 2 of 5 Four Digits On



M248_01

Int 2 of 5 Four Digits Off (Default)



M247_01

Save Settings



M188_02

Example:



Maxicode

Maxicode On



M289_04

Maxicode Off (Default)



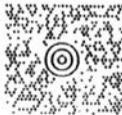
M288_01

Save Settings



M188_02

Example:



Matrix 2 of 5

Matrix 2 of 5 On (Default)



Matrix 2 of 5 Off



Save Settings



Example:



Micro PDF417

Micro PDF417 On



Micro PDF417 Off (Default)



Save Settings



Example:



MSI Plessey

MSI Plessey On



MSI Plessey Off (Default)



Save Settings



Example:



NEC 2 of 5

NEC 2 of 5 On



M673_01

NEC 2 of 5 Off (Default)



M672_01

Save Settings



M188_02

PDF417

PDF417 On (Default)



M293_01

PDF417 Off



M292_01

Macro PDF 417 On



M287_01

Macro PDF 417 Off (Default)



M286_01

Save Settings



M188_02

Example:



Pharmacode

An explanation of the Pharmacode settings and all programming codes can be obtained from Pepperl+Fuchs.

Post Codes

All post codes (zipcodes) are deactivated as standard. Scan the following codes to activate the corresponding post symbology.



Note!

If you wish to change the activated symbologies, first scan the code **Disable all Postal Codes** and then the post codes for the desired symbology.

Australian Post On



M252_01

Japan Post On



M253_01

KIX



M254_01

Planet On



M256_01

Postnet On



M257_01

Planet & Postnet On



M255_01

Royal Mail On



M258_01

4-State CB On
(Intelligent Mail)



M748_01

Disable all Postal Codes



M261_01

Save Settings



M188_02

Example:



QR Code

QR Code On



M261_01

QR Code Off (Default)



M260_01

Enable Checksum



M265_01

Disable Checksum (Default)



M264_01

QR Code Inverse On



M262_01

Both Inverse and Standard On



M263_01

All QR On (includes Micro QR)



M609_03

Inverse QR and Micro QR On



M687_03

Save Settings



M188_02

Example QR Code



Example Micro QR



GS1 data bar

GS1 Limited On



M268_01

GS1 14 and GS1 14 Truncated On



M271_01

GS1 14 Stacked On



M270_01

GS1 Expanded On



M269_01

All GS1 On



M267_01

All GS1 Off (Default)



M266_01

Save Settings



M188_02

Example GS1 Limited Code



Example GS1 14 Code



Example GS1 14 Truncated Code



Example GS1 14 Stacked Code



Telepen

Telepen On (Default)



M677_01

Telepen Off



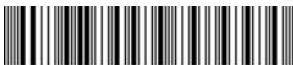
M676_01

Save Settings



M188_02

Example:



23456781

UPC/EAN/JAN

UPC On (Default)



M295_01

UPC Off



M294_01

UPC Short Margin Enabled



M299_01

UPC Short Margin Disabled
(Default)



M298_01

UPC Extension On



M297_01

UPC Extension Off



M296_01

Save Settings



M188_02

Example:



7.2.2 RS 232 Operating Modes



Changing RS 232 communication parameters

Scan the respective code to change the individual RS 232 connection settings.

RS 232 Communication Settings

Setting Data Bit			
7 data bits  M100_01	8 data bits (default)  M101_01		
Setting Stop Bit			
2 stop bits (default)  M106_01	1 stop bit  F001_01		
Setting Baud Rate			
1200  M092_01	2400  M093_01	4800  M094_01	9600  M095_01
19200  M096_01	38400  M097_01	57600 (default)  M098_01	115200  M099_01
Setting Parity			
Even  M102_01	Odd  M104_01	None (default)  M103_01	
To reset the code reader to the RS 232 default settings, scan this code:		 PF001_03	

Scan the code **Save Settings** after selection:



7.2.3

Continuous Reading

In addition to being able to press the trigger button to start a reading, you also have the option of using the reader in continuous operation and performing an unlimited number of readings. Several configuration options are available here.



Configuring Continuous Reading

To activate continuous operation and configure continuous reading, scan the relevant codes in the following table.

Activating/Deactivating Continuous Operation		
Activating  M140_01		Deactivating (default)  M141_02
Reading Delay		
Defines the time interval between the individual readings.		
0 seconds (default)  M142_01	1 second  M143_01	3 seconds  M144_01
Double Code Reading Delay		
Defines the time interval during which the codes that were already decoded during a previous reading are deleted.		
0 seconds (default)  M222_01	1 second  M223_01	3 seconds  M224_01
Activating/Deactivating Reading of Codes in Presentation Mode		
Activating  M701_01		Deactivating (default)  M702_01

Scan the code **Save Settings** after selection:



Note!

If the reader is in "Continuous Reading" mode, it will accept only control codes. Other commands are not supported.

7.2.4 Mirror decoding

As soon as you activate mirror decoding, the handheld can read codes that have been inverted. Furthermore, all other code reading functions are deactivated.



Activating/Deactivating mirror decoding

1. To activate mirror decoding, scan the code **Mirroring on:**



2. Scan the mirrored code **Save Settings:**



3. To deactivate mirror decoding, scan the code **Mirroring off (Default):**



4. Scan the code **Save Settings:**



7.2.5 Prefix and suffix settings



Caution!

Risk of data loss

If you scan one of the following codes, data loss may result

First save the settings on your handheld before scanning one of the following codes.



Defining prefix

For presentation of the read data, we recommend - besides the use of suffixes - the use of prefixes as separators between the individual data records. You can select between several separators. Combining several separators is also possible (e.g. a comma followed by a space, followed by the data record).

To define a prefix, scan the corresponding data matrix code in the following table.

Comma as a prefix



M159_02

Space as a prefix



M164_02

Tabulator as a prefix
(RS 232 mode)



M218_02

Carriage return line feed (RS 232 mode)



M214_02

STX as a prefix





Deleting a prefix

To delete all prefixes, scan the data matrix code **Prefix - Erase**:



Defining suffix

For presentation of the read data, we recommend - besides the use of prefixes - the use of suffixes as separators between the individual data records. You can select between several separators. Combining several separators is also possible (e.g. a comma followed by a space, followed by the data record). Proceed as follows to define a suffix:

To define a suffix, scan the corresponding data matrix code in the following table.

Comma as a suffix



M160_04

Space as a suffix



M165_04

Carriage return as a suffix
(RS 232 mode)



M168_04

Line feed as a suffix
(RS 232 mode)



M169_04

Carriage return line feed
(RS 232 mode)



M170_04

Tabulator as a suffix
(RS 232 mode)



M219_04

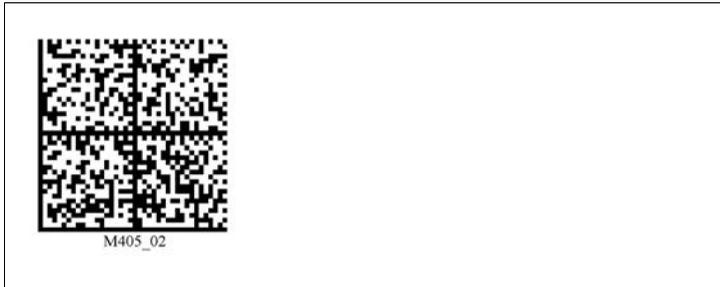
ETX as a suffix





Deleting a suffix

To delete all suffixes, scan the code **Suffix - Erase**:



Deleting prefixes and suffixes

To delete all prefixes and suffixes, scan the code **Erase Prefix & Suffix Data**:



7.2.6 Text command function



Activating/Deactivating the text command function

To activate or deactivate the text command function, scan one of the following codes.

<p>Activating the text command with echo and response (default)</p>	<p>Activating the text command without echo but with response</p>
<p style="text-align: center;"> PF002_01</p>	<p style="text-align: center;"> PF003_01</p>
<p>Activating the text command without echo or response</p>	<p>Deactivating text command</p>
<p style="text-align: center;"> PF004_01</p>	<p style="text-align: center;"> M197_02</p>

Scan the code **Save Settings**



after selection:

7.2.7 Information on the Firmware and Serial Number

You have the option of displaying information on the firmware and serial number of the reader.

The information is structured as follows:

Xap/iVVVVWWWWXXXXSSSSSSSSSPXXX-XX+XX-

Abbreviation	Character	Description
Xap/i	-	Internal ID
VVVV	4	Version number of application firmware
WWWW	4	Version number of bootloader firmware
XXXX	4	Version number of Bluetooth firmware
SSSSSSSSS	10	Serial number of the reader
P	1	A for application firmware, B for bootloader firmware
XXX-XX+XX-	-	Internal ID



Reading Firmware and Serial Numbers

To read information on the firmware and serial number of the reader, proceed as follows:

1. Open the HyperTerminal software.
2. Scan the code **Reader ID and Firmware**:



↳ Information on the firmware and serial numbers of the reader is transferred from the internal reader memory bank and displayed in the text editing program.



Note!

Current firmware and upgrades

Pepperl+Fuchs regularly releases new firmware for readers. Contact Pepperl+Fuchs for information on current firmware versions or upgrades.

8 Maintenance and repair

8.1 Maintenance

The cable and power supply are maintenance-free. To get the best possible performance out of your device, keep the optical unit on the device clean and clean it when necessary.

Observe the following instructions when cleaning:

- Do not touch the optical unit with your fingers.
- Do not immerse the device in water. Do not spray the device with water or other fluids.
- Do not use a scouring agent to clean the surface of the device.
- Use a cotton or paper cloth moistened with water or isopropyl alcohol (not soaked).
- Remove any residual alcohol using a cotton or paper cloth moistened with distilled water (not soaked).
- Wipe the surface of the device dry using a lint-free cloth.

8.2 Repair

The devices must not be repaired, changed or manipulated. If there is a defect, the product must always be replaced with an original device.

9 Troubleshooting

9.1 What to do in the event of an error

Fundamentally applicable:

- Do not use the stationary reader outside of the specified temperature range.
- When not in use, always store the stationary reader within the specified temperature range.
- Always make sure that the optical surface is clean to get the best possible performance out of the device.
- Do not touch the device with your fingers.

Before requesting a service call, please check that the following actions have been taken:

- Test the equipment according to the following checklists,
- Telephone for assistance from the Service Center in order to isolate the problem.

Checklist

Error	Cause	Remedy
"PWR" LED not lit up	The power supply is switched off.	Check whether there is a reason for it being switched off (installation or maintenance work etc.). Switch the power supply on if appropriate.
"PWR" LED not lit up	The M12 socket is not connected to the connector on the sensor.	Connect the 8-pin M12 plug to the sensor and tighten the cap nut by hand.
"PWR" LED not lit up	Wiring fault in the splitter or control cabinet.	Check the wiring carefully and repair any wiring faults.
"PWR" LED not lit up	Supply cable to the sensor is damaged.	Replace the damaged wire.
No connection to the device	RS232 interface not connected.	Check the connection to the RS 232 interface.
Problems when reading codes	Optical unit dirty	Clean the optical unit see chapter 8.1
Problems when reading codes	Code smeared, uneven, scratched	Read new code
Problems when reading codes	The code type you wish to read is not activated in the reader	Activate the code type in the device
Problems when reading codes	Code not positioned within the reading window, incorrect distance or decoding time too short	Move the position of the code in the reading window, adjust the distance or increase the decoding time
Problems when reading codes	Code is positioned on a reflective surface	Change the pitch angle of the device

- If none of the above remedies the problem, contact the Service Center.

10 Appendix

10.1 Text Commands

You have the option of sending **text commands** directly to the reader via the RS 232 interface using serial communication software such as Hyperterminal. Enter the commands directly using the keyboard or send the commands in a file from a library. Press "Enter" (<CR> "Carriage Return") to issue each text command.

Example Commands

Sending a text command:			
Example	P	%16	1
Set data matrix rectangle		Data matrix rectangle	On
Set Hong Kong of bit 1		(12d)	1

Receiving a text command:			
Example	G	%16	
Get register xx16		Data matrix rectangle	
Get register (12d)		(12d)	
(The reader will respond to the setting value as a sequence of 8 ASCII hexadecimal digits)			

Some commands do not require a data type:			
Example	I		
(Sends reader ID and firmware version)			

MAC335 Text Commands

Text command	Character string bold print = default setting	Description bold print = default setting
Send setting to reader	P%xx	Sending settings to the sensor
	e.g. P%161	Enable rectangular
Get setting from reader	G%xx	xx; a single character (0 - 255), which is the setting number
	e.g. G%16	Determine if rectangular data matrix is enabled
Software trigger	\$%xx \$ 03	Start one read cycle 01 = show target 03 = read near and far fields
Timeout	P%35xxxxxxx P% 350	Keep processing the "read code" events for this amount of time /ms. The valid range is 0 to 7FFFFFFF 0 = 1000 ms
Targeting always on	P%04xx<CR>P%c4xx P%04 01 <CR>P%c4 ff	00;02 = On 01;ff = Off
Motion detection	P%86xx P%86 00	00 = disable #03 = enable

Text command	Character string bold print = default setting	Description bold print = default setting
Sensitivity of motion detection	P%87xx P%87 50	75 = Low 50 = Normal 25 = High
Baud rate	P%1cxxxxxxx P%1c E100	4B0 = 1200 960 = 2400 12C0 = 4800 2580 = 9600 4B00 = 19200 9600 = 38400 E100 = 57600 1C200 = 115200
Data bits	P%1exx P%1e 8	7 = 7 data bits 8 = 8 data bits
Parity	P%22xx P%22 0	0 = none 1 = odd 2 = even
Stop bits	P%1dxx P%1d 2	1 = send 1 stop bit 2 = send 2 stop bits
Reader text commands	P%41xx P%41 1	0 = disable 1 = enable text commands 3 = enable with suppress echo 7 = enable with suppress echo and suppress 8 = disable text commands but enable magic sequence ";>PAX" where x is 1.3 or 7 as defined
No sleep	P%2c7FFFFFFF<CR> P%c40<CR>	
Factory defaults	J<CR>;>PA1<CR> P%1B1<CR> P%420<CR> P%cE100<CR> P%411<CR> P(53)#1280<CR> P(54)#1024<CR> P(1C9)#1024<CR> P%081<CR> P%2c7FFFFFFF<CR> P%c40<CR>W<CR>	Reset to RS 232 factory defaults
Decode field window	P%53#xx<CR> P%54#xx<CR> P(1c7)#xx<CR> P%53# 1280 <CR> >P%C7# 640 <CR> P%(1c7)# 640 <CR>	Full image: 1280; 1024; 1024 Default: 1280; 640; 640
Laser target	P%0fxx P%0f 1	0 = off 1 = on
Clear prefix and suffix	1<CR>5<CR>	
AIM ID prefix	P%edxx P%ed 0	0 = disable 1 = enable
Mirroring	P%14xx P%14 0	0 = Off 1 = On

Text command	Character string bold print = default setting	Description bold print = default setting
Data matrix improvements	P(12c)xx P(12c) 0	0 = Normal 1 = Binarization improvement 2 = Low contrast improvement 3 = Binarization improvement & low contrast improvement
Data Matrix	P%19xx P%19 1	0 = disabled 1 = Normal 3 = inverse
Data matrix rectangle	P%16xx P%16 0	0 = Off 1 = On
Linear code improvements	P(14f)xx P(14f) 0	0 = Normal 1 = Improved reading on linear barcodes including PDF 417 and MicroPDF417 2 = Improved reading on Interleaved 2 of 5
Code 39	P%6bxx P%6b 1	0 = Off 1 = On
Code 39 extended full ASCII	P%49xx P%49 0	0 = Off 1 = On
Checksum	P%70xx P%70 0	0 = disable 1 = enable 2 = enable checksum and strip from result
Code 39 short margin	P%f6xx P%f6 0	0 = Off 1 = On
Code 39 Trioptic	P%85xx P%85 1	0 = Off 1 = On
Interleaved 2 of 5	P%6exx P%6e 1	0 = Off 1 = On
Interleaved 2 of 5 two digits	Q%c9xx Q%c9xx Q%c9 0 Q%c9 1	0 = Off 1 = On
Interleaved 2 of 5 four digits	Q%c9xx Q%c9xx Q%c9 2 Q%c9 2	2 = Off 3 = On
Checksum	P%71xx P%71 0	0 = disable 1 = enable 2 = enable checksum and remove
NEC 2 of 5	P%0axx P%0a 0	0 = disable 1 = enable
PDF 417	P%29xx P%29 1	0 = Off 1 = On
Micro PDF 417	P%2axx P%2a 0	0 = Off 1 = On
Macro PDF 417	P%cfxx P%cf 0	0 = Off 1 = On
GoCode	P%18xx P%18 0	0 = Off 1 = On

Text command	Character string bold print = default setting	Description bold print = default setting
Aztec symbology	P%50xx P%50 1	0 = Off 1 = On
Codabar symbology	P%6fxx P%6f 1	0 = Off 1 = On
Postal symbology	P%4bxx P%4b 0	0 = disable all postal codes 8 = Australian post on 20000 = Japan post on 200001 = KIX On 2080 = Postnet and Planet on 80 = Planet on 2000 = Postnet on 200000 = Royal Mail on
QR code symbology	P%2bxx P%2b 0	0 = Off 1 = On 2 = inverse on 3 = both and inverse standard on 7 = All QR codes (including Micro QR) f = Inverse and Micro QR code
Checksum	P%48xx P%48 0	0 = disable 1 = enable
RSS symbology	P%4cxx P%4c 0	0 = All off #31 = All RSS on 4 = RSS limited on 1 = Expanded on #16 = RSS 14 stacked on 8 = RSS 14/RSS 14 truncated on
Code 93 symbology	P%6cxx P%6c 1	0 = Off 1 = On
Code 128 symbology	P%6dxx P%6d 1	0 = Off 1 = On
Code 128 short margin	P%fxx P%f 00	0 = Off 1 = On
UPC extension	P%4dxx P%4d 0	0 = Off 1 = On
UPC short margin	P%74xx P%74 0	0 = Off 1 = On
CodaBlock_F symbology	P%6dxx<CR> P%cexx<CR> P%6d1<CR> P%ce 0 <CR>	1, 0 = Off 0, 1 = On
Maxicode symbology	P%47xx P%47 0	0 = Off 1 = On
MSI Plessey symbology	P%4fxx P%4f 0	0 = Off 1 = On
Telepen symbology	P%0cxx P%0c 1	0 = Off 1 = On
Composite symbology	P%4axx<CR> P%34xx<CR> P%4a 0 <CR> P%34 1 <CR>	0, 1 = Off 1, 2 = On

Text command	Character string bold print = default setting	Description bold print = default setting
Code 11	P%f7xx P%f 70	0 = disable 1 = enable with two checksum digits checked 3 = enable with one checksum digit checked 5 = enable with two checksum digits stripped from result 7 = enable with one checksum digit stripped from result
Pharmacode symbology	P%f8xx P%f 80	0 = Disable Pharmacode 1 = Pharmacode enable, no color, hrz, right to left decode 5 = Pharmacode enable, no color, vert, right to left decode 9 = Pharmacode enable, no color, hrz, left to right decode 13 = Pharmacode enable, no color, vert, left to right decode
Save setting	W	Requests the reader to write its current settings from RAM to its nonvolatile memory
Save settings to nonvolatile memory	~	Requests the reader to write some of its current settings from RAM to its nonvolatile memory. All settings are written except the communication settings (commMode, commProtocol, uartBaud, etc.)
Clear all stored data	N	Requests the reader to delete its stored results
Reader information string	I	Reader ID and firmware
Reboot	Z	Request the reader to reboot

FACTORY AUTOMATION – SENSING YOUR NEEDS



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