



Figure can vary

**Part no.: 50141801**  
**DCR 248i FIX-M1-102-I3-G**  
**Stationary 2D-code reader**



**RS232**

**RS422**

Ethernet



## Contents

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## Technical data

<b>Basic data</b>	
Series	DCR 200i
Chip	CMOS
<b>Functions</b>	
Software functions	Reading of 1D codes Reading of 2D codes
<b>Read data</b>	
Code types, readable	2/5 Interleaved Aztec Codabar Code 128 Code 32 Code 39 Code 93 Data Matrix Code EAN 128 EAN 8/13 GS1 Databar GS1 Databar Omnidirectional GS1 Databar QR code GS1 Databar Stacked PDF417 Pharma Code QR code UPC
<b>Optical data</b>	
Reading distance	50 ... 220 mm
Light source	LED , Infrared
Transmitted-signal shape	Pulsed
Camera resolution, horizontal	1,280 px
Camera resolution, vertical	960 px
Modulus size	0.19 ... 0.5 mm
Electronic shutter speed	0.068 ... 5 ms
Camera type	Monochrome
<b>Electrical data</b>	
Protective circuit	Polarity reversal protection Short circuit protected
<b>Performance data</b>	
Supply voltage $U_B$	18 ... 30 V , DC
Average power consumption	8 W
<b>Inputs</b>	
Number of digital switching inputs	1 Piece(s)
<b>Switching inputs</b>	
Voltage type	DC

<b>Outputs</b>	
Number of digital switching outputs	1 Piece(s)
<b>Switching outputs</b>	
Voltage type	DC
Switching current, max.	100 mA
<b>Switching output 1</b>	
Switching element	MOSFET semiconductor ,
Switching principle	+24 V switching
<b>Inputs/outputs selectable</b>	
Number of inputs/outputs selectable	2 Piece(s)
Voltage type, outputs	DC
Voltage type, inputs	DC

<b>Interface</b>	
Type	RS 232 , RS 422 , Ethernet , PROFINET
<b>RS 232</b>	
Function	Process
Transmission speed	4,800 ... 115,200 Bd
Data format	Adjustable
Start bit	1
Data bit	8 data bits
Stop bit	1 stop bit
Parity	None
Transmission protocol	<STX><data><CR><LF>
Data encoding	ASCII Binary
<b>RS 422</b>	
Function	Process
Transmission speed	4,800 ... 115,200 Bd
Data format	Adjustable
Start bit	1
Data bit	7, 8 data bits
Stop bit	1, 2 stop bits
Parity	Adjustable
Data encoding	ASCII Binary
<b>Ethernet</b>	
Architecture	Client Server
Address assignment	DHCP Manual address assignment
Transmission speed	10 / 100 Mbit/s
Function	Process
Switch functionality	None
Transmission protocol	TCP/IP , UDP
<b>Profinet</b>	
Function	Process
Conformance class	B
Protocol	PROFINET RT
Transmission speed	100 Mbit/s

**Service interface**

Type Ethernet

**Ethernet**

Function Service

**Connection**

Number of connections 2 Piece(s)

**Connection 1**

 Function Data interface  
Signal IN  
Signal OUT  
Voltage supply

Type of connection Connector

Thread size M12

Type Male

Material Metal

No. of pins 12 -pin

Encoding A-coded

**Connection 2**

 Function Configuration interface  
Data interface

Type of connection Connector

Thread size M12

Type Female

Material Metal

No. of pins 4 -pin

Encoding D-coded

**Mechanical data**

Design Cubic

Dimension (W x H x L) 43 mm x 61 mm x 44 mm

 Housing material Metal  
Plastic , Diecast aluminum , PC

Lens cover material Glass

Net weight 120 g

Housing color Silver

 Type of fastening Mounting thread  
Via optional mounting device

**Operation and display**

Type of display LED

Number of LEDs 10 Piece(s)

 Type of configuration Configuration codes  
Teach-in  
Via web browser

Operational controls Button(s)

 Function of the operational control Adjustment mode  
Auto-setup  
Trigger

**Environmental data**

Ambient temperature, operation 0 ... 45 °C

Ambient temperature, storage -20 ... 70 °C

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Relative humidity (non-condensing)	90 %
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### Certifications

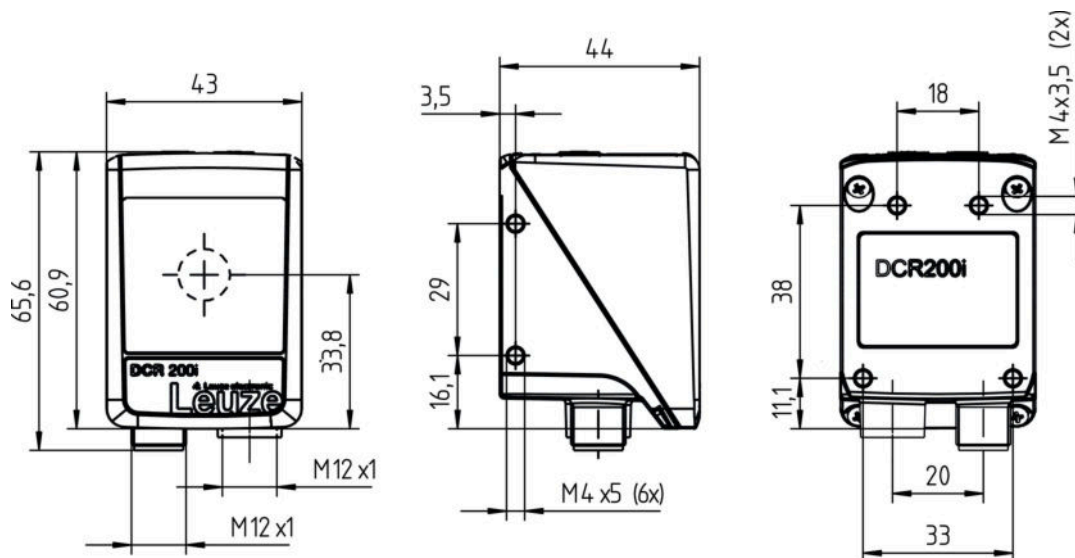
Degree of protection	IP 65
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61000-6-2 EN 61000-6-4
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29, test Eb
Test procedure for vibration in accordance with standard	IEC 60068-2-6, test Fc

### Classification

Customs tariff number	84719000
eCl@ss 8.0	27280103
eCl@ss 9.0	27280103
ETIM 5.0	EC002999
ETIM 6.0	EC002999

## Dimensioned drawings

All dimensions in millimeters



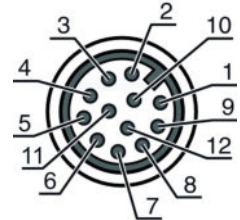
## Electrical connection

Connection 1	PWR / SWIO
Function	Data interface Signal IN Signal OUT Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male

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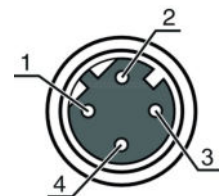
Connection 1	PWR / SWIO
Material	Metal
No. of pins	12 -pin
Encoding	A-coded

Pin	Pin assignment
1	VIN
2	GNDIN
3	SWIN 1
4	SWOUT 2
5	FE
6	GND RS 232 / GND RS 422
7	Rx-
8	Tx-
9	RxD/Rx+
10	TxD/Tx+
11	SWIO 3
12	SWIO 4



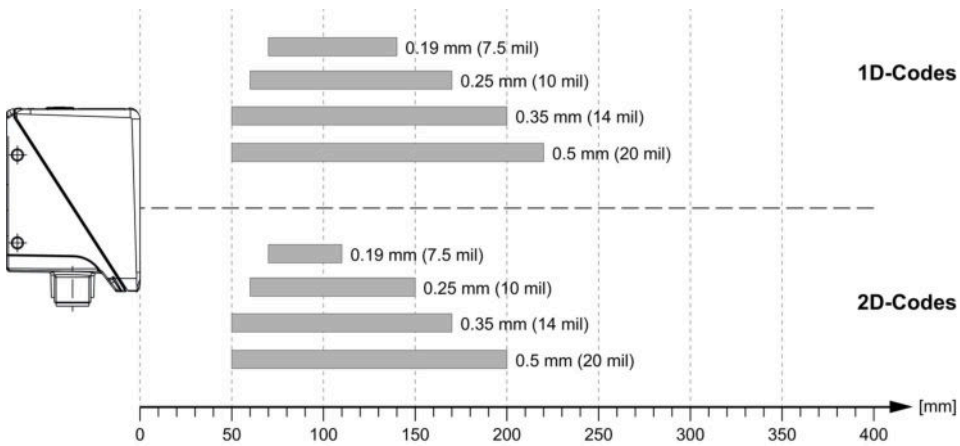
Connection 2	HOST
Function	Configuration interface Data interface
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

Pin	Pin assignment
1	TD+
2	RD+
3	TD-
4	RD-

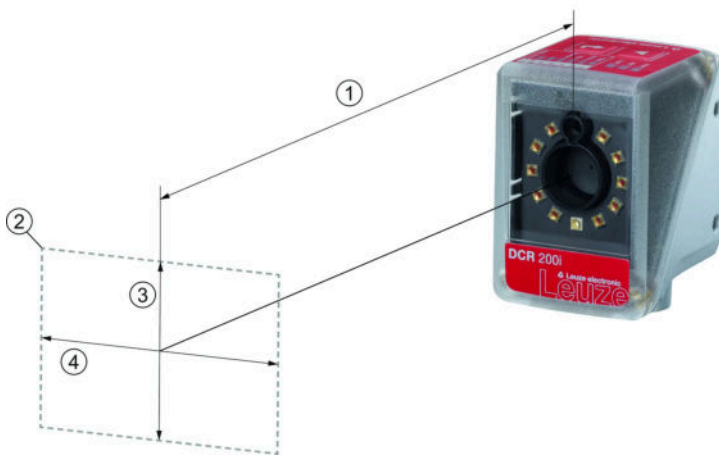


**Diagrams**

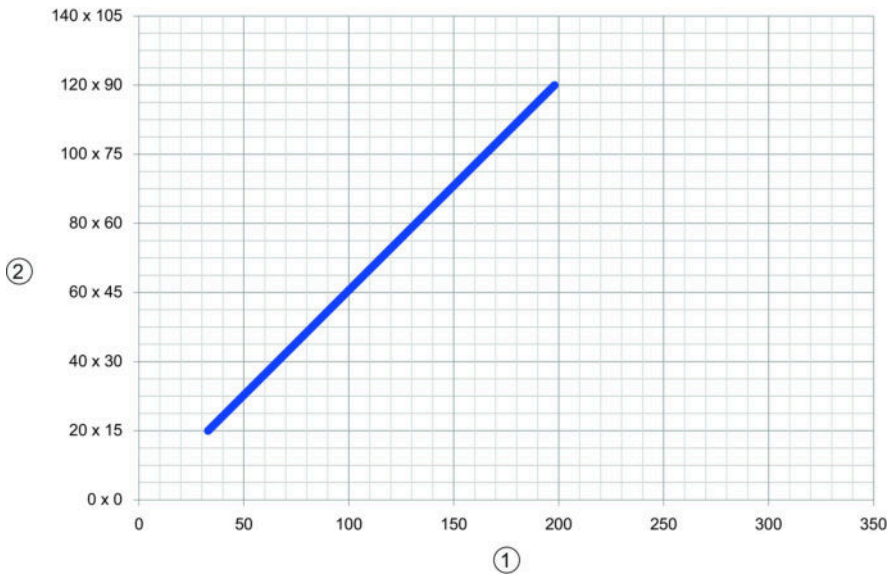
Reading distances



Relationship between camera distance and reading field size



- 1 Camera distance
- 2 Reading field
- 3 Reading field height [mm]
- 4 Reading field width [mm]



- 1 Camera distance [mm]
- 2 Reading field: width x height [mm]

## Operation and display

### LEDs

LED	Display	Meaning	
1	PWR	Off	No supply voltage
		Green, flashing	Initialization
		Green, continuous light	Operational readiness
		Orange, continuous light	Service operation
		Red, flashing	Device OK, warning set
		Red, continuous light	Device error
2	NET	Off	No supply voltage
		Green, flashing	Initialization
		Green, continuous light	Operational readiness
		Red, flashing	Communication error
		Red, continuous light	Network error
3	LINK	Green, continuous light	Ethernet connection is established
		Yellow, flashing	Data exchange active
4	TRIG	Green, flashing	Trigger and display of the read quality
5	AUTO	Green, flashing	Auto-setup and display of the read quality
6	ADJ	Green, flashing	Alignment mode and display of the read quality
7	TEACH	Green, flashing	Teach-in and display of the read quality

## Part number code

Part designation: DCR XXX YYY-Z-AAA-BC-D-EEEE

DCR	<b>Operating principle:</b> DCR: Dual Code Reader
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XXXX	<b>Series/interface (integrated fieldbus technology):</b> 202i: Ethernet TCP/IP, UDP, RS 232/RS 422 248i: PROFINET-IO, Ethernet TCP/IP, UDP, RS 232/RS 422
YYY	<b>Equipment:</b> FIX: Fixed focal length
Z	<b>Optics:</b> U: Ultra high density (very close) N: High Density (close) M: Medium Density (medium distance) F: Low Density (remote) L: Ultra low density (very large distance)
AAA	<b>Beam exit:</b> 102: front
B	<b>Illumination:</b> R: Red light I: infrared light
C	<b>Resolution range:</b> 3: 1280 x 960 pixels
D	<b>Protective screen:</b> n/a: plastic G: Glass P: Polarization filter
EEEE	<b>Special equipment:</b> V: Stainless steel housing F001: NPN inputs/outputs H: with heating

### Note

A list with all available device types can be found on the Leuze website at [www.leuze.com](http://www.leuze.com).



## Notes

### Observe intended use!

- This product is not a safety sensor and is not intended as personnel protection.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended use.

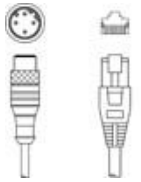
## Accessories

### Connection technology - Connection cables


	Part no.	Designation	Article	Description
	50130281	KD S-M12-CA-P1-020	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 12 -pin Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50135073	KS ET-M12-4A-P7-020	Connection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: Open end Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR

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## Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50135080	KSS ET-M12-4A-RJ45-A-P7-020	Interconnection cable	Suitable for interface: Ethernet Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin Connection 2: RJ45 Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR


## Mounting technology - Mounting brackets

	Part no.	Designation	Article	Description
	50132151	BT 320M	Mounting bracket	Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal


## Mounting technology - Rod mounts

	Part no.	Designation	Article	Description
	50132150	BTU 320M-D12	Mounting system	Design of mounting device: Mounting system Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal


## General

	Part no.	Designation	Article	Description
	50144030	IL AL 034/031 IR 110 H	Illumination	

## Services

	Part no.	Designation	Article	Description
	S981014	CS30-S-110	Start-up support	Details: Performed at location of customer's choosing, duration: max. 10 hours. Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses. Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.

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	Part no.	Designation	Article	Description
	S981019	CS30-T-110	Product training	Details: Location and content to be agreed upon, duration: max. 10 hours. Conditions: Price not including travel costs and, if applicable, accommodation expenses. Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.

**Note**

A list with all available accessories can be found on the Leuze electronic website in the Download tab of the article detailed page.