

Technical data sheet

Stationary 2D-code reader

Part no.: 50142059
DCR 248i FIX-L1-102-R3-H

Contents

- Technical data
- Dimensioned drawings
- Electrical connection
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- Operation and display
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Figure can vary



Technical data

Basic data

Series	DCR 200i
Chip	CMOS

Special version

Special version	Heating
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Functions

Software functions	Reading of 1D codes Reading of 2D codes
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Read data

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
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Optical data

Reading distance	50 ... 800 mm
Light source	LED, Red
Transmitted-signal shape	Pulsed
Camera resolution, horizontal	1,280 px
Camera resolution, vertical	960 px
Modulus size	0.35 ... 1 mm
Electronic shutter speed	0.068 ... 5 ms
Camera type	Monochrome

Electrical data

Protective circuit	Polarity reversal protection Short circuit protected
Performance data	
Supply voltage U_B	18 ... 30 V, DC
Average power consumption	12 W
Inputs	
Number of digital switching inputs	1 Piece(s)
Switching inputs	
Voltage type	DC
Outputs	
Number of digital switching outputs	1 Piece(s)

Switching outputs

Voltage type	DC
Switching current, max.	100 mA

Switching output 1

Switching element	MOSFET semiconductor
Switching principle	+24 V switching

Inputs/outputs selectable

Number of inputs/outputs selectable	2 Piece(s)
Voltage type, outputs	DC
Voltage type, inputs	DC

Interface

Type	RS 232, RS 422, Ethernet, PROFINET
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RS 232

Function	Process
Transmission speed	4,800 ... 115,200 Bd
Data format	Adjustable
Start bit	1
Data bit	8
Stop bit	1
Parity	None
Transmission protocol	<STX><data><CR><LF>
Data encoding	ASCII Binary

RS 422

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
Transmission protocol	Adjustable
Data encoding	ASCII Binary

Ethernet

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

Profinet

Function	Process
Conformance class	B
Protocol	PROFINET RT
Transmission speed	100 Mbit/s

Service interface

Type	Ethernet
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Ethernet

Function	Service
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Technical data

Connection

Number of connections	2 Piece(s)
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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
Metal housing	Diecast aluminum
Plastic housing	PC
Lens cover material	Plastic
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	-30 ... 45 °C
Ambient temperature, storage	-20 ... 70 °C
Relative humidity (non-condensing)	90 %

Certifications

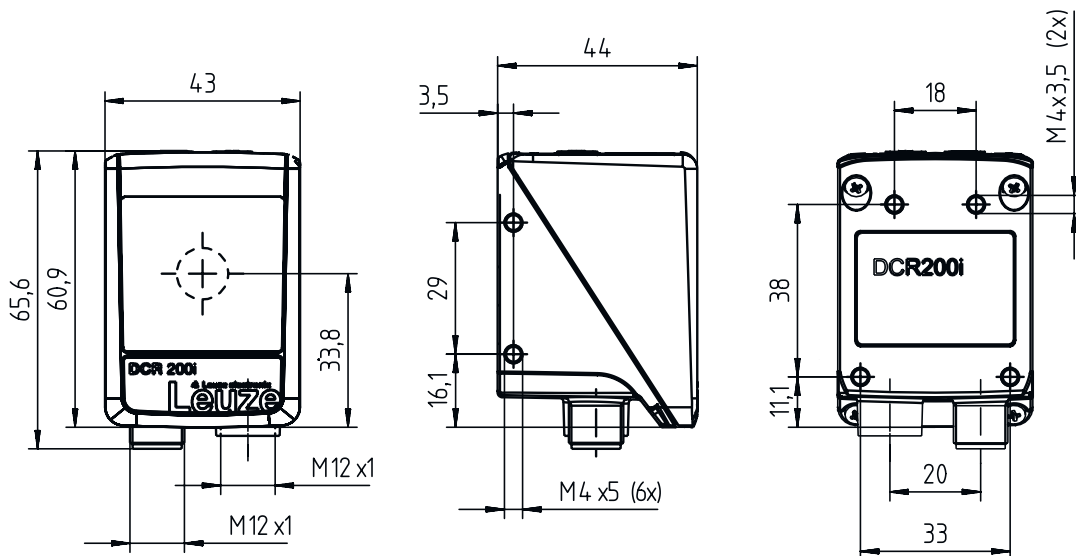
Degree of protection	IP 65
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61000-6-2 EN 61000-6-4
Test procedure for continuous shock in accordance with standard	IEC 60068-2-29, test Eb
Test procedure for vibration in accordance with standard	IEC 60068-2-6,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

Classification

Customs tariff number	84719000
eCl@ss 5.1.4	27280103
eCl@ss 8.0	27280103
eCl@ss 9.0	27280103
eCl@ss 10.0	27280103
eCl@ss 11.0	27280103
ETIM 5.0	EC002550
ETIM 6.0	EC002999
ETIM 7.0	EC002999

Dimensioned drawings

All dimensions in millimeters



Electrical connection

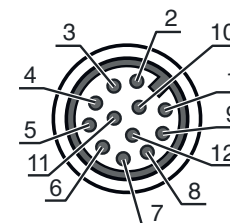
Connection 1

PWR / SWIO

Function	Data interface
	Signal IN
	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M12
Type	Male
Material	Metal
No. of pins	12 -pin
Encoding	A-coded

Pin Pin assignment

Pin	Pin assignment
1	V+
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



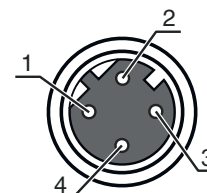
Electrical connection

Connection 2

HOST

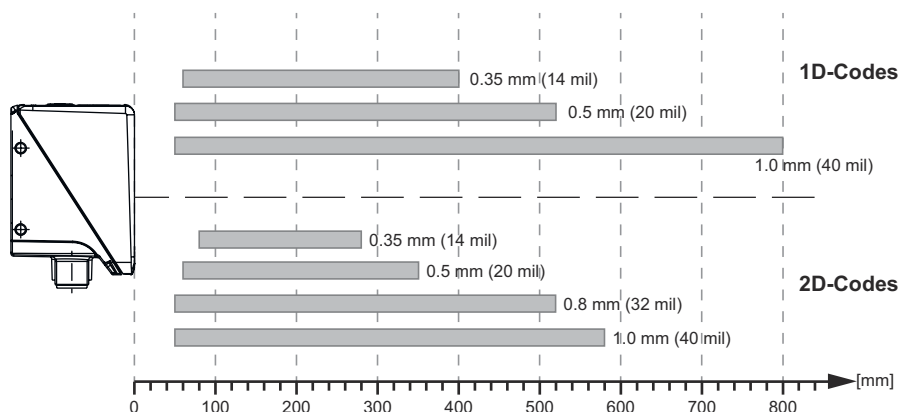
Function	Configuration interface Data interface
Type of connection	Connector
Thread size	M12
Type	Female
Material	Metal
No. of pins	4 -pin
Encoding	D-coded

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



Diagrams

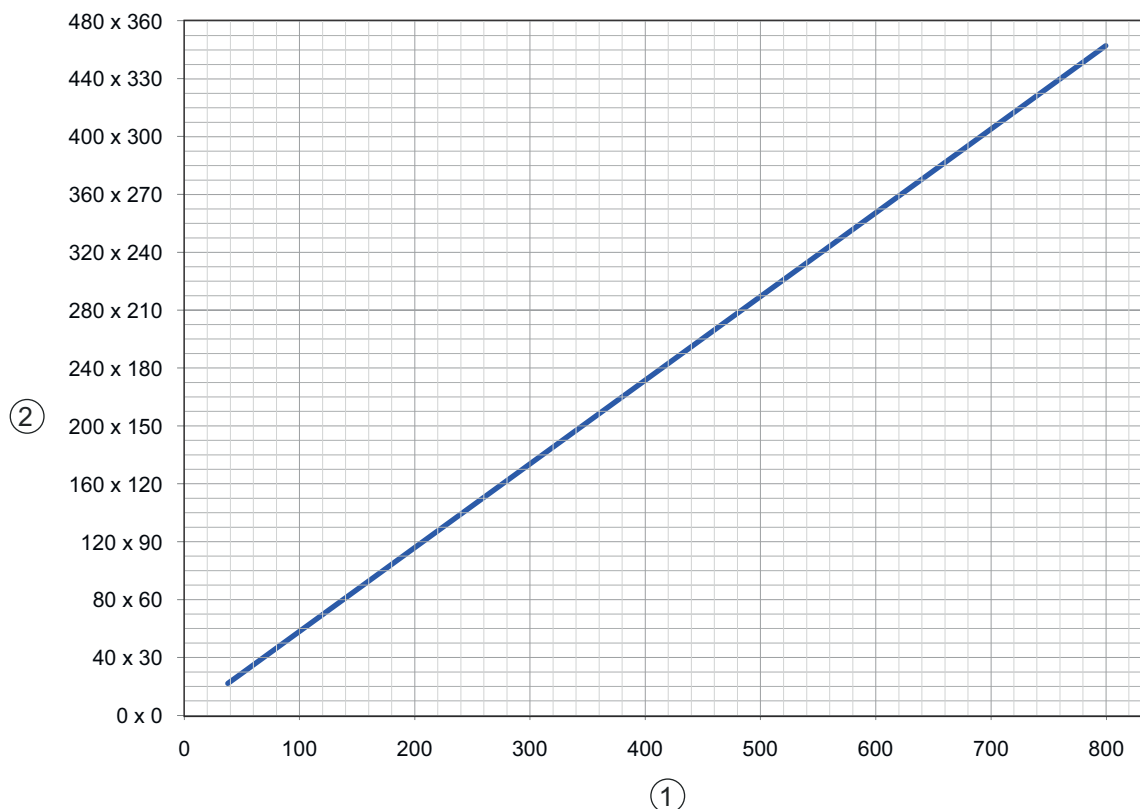
Reading distances



Relationship between camera distance and reading field size



Diagrams



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

Operation and display

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
3 LINK	Red, continuous light	Network error
	Green, continuous light	Ethernet connection is established
4 TRIG	Yellow, flashing	Data exchange active
	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
8	Green, flashing	Display of the read quality
9	Green, flashing	Display of the read quality
10	Green, flashing (behind lens cover)	Reading successful

Part number code

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

DCR	Operating principle DCR: Dual Code Reader
XXXX	Series/interface (integrated fieldbus technology) 202i: Ethernet TCP/IP, UDP, RS 232/RS 422 248i: PROFINET-IO, Ethernet TCP/IP, UDP, RS 232/RS 422 202iC: Ethernet TCP/IP, UDP, RS 232/RS 422 (IoT / Industry 4.0 connectivity) 248iC: PROFINET-IO, Ethernet TCP/IP, UDP, RS 232/RS 422 (IoT / Industry 4.0 connectivity)
YYY	Equipment FIX: Fixed focal length
Z	Optics 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	Beam exit 102: front
B	Illumination R: Red light I: infrared light
C	Resolution range 3: 1280 x 960 pixels
D	Protective screen n/a: plastic G: Glass P: Polarization filter
EEEE	Special equipment V: Stainless steel housing F001: NPN inputs/outputs F099: OPC-UA function H: with heating Xxxx: customer-specific model

Note



	<p>A list with all available device types can be found on the Leuze website at www.leuze.com.</p>
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Notes

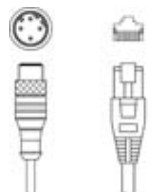
Observe intended use!	
	<ul style="list-style-type: none"> ⌘ This product is not a safety sensor and is not intended as personnel protection. ⌘ The product may only be put into operation by competent persons. ⌘ Only use the product in accordance with its intended use.

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


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

Accessories

Services

	Part no.	Designation	Article	Description
	S981014	CS30-S-110	Start-up support	<p>Details: Performed at location of customer's choosing, duration: max. 10 hours.</p> <p>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.</p> <p>Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment.</p>
	S981019	CS30-T-110	Product training	<p>Details: Location and content to be agreed upon, duration: max. 10 hours.</p> <p>Conditions: Price not including travel costs and, if applicable, accommodation expenses.</p> <p>Restrictions: Travel costs and accommodation expenses charged separately and according to expenditure.</p>

Note



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