SMART
**SENSOR**
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**Part no.: 50134101**
**DCR 202i FIX-F1-102-R3-G-V**
**Stationary 2D-code reader**

CE · cULus LISTED · RS232 · RS422 · Ethernet · ECOLAB · IP 67 · IP 67 · IP 69K

# Contents




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# Technical data

| | |
|---|---|
| ***Basic data*** | |
| Series | DCR 200i |
| Chip | CMOS |

| | |
|---|---|
| ***Functions*** | |
| Software functions | Reading of 1D codes<br>Reading of 2D codes |

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|---|---|
| ***Read data*** | |
| Code types, readable | 2/5 Interleaved<br>Aztec<br>Codabar<br>Code 128<br>Code 32<br>Code 39<br>Code 93<br>Data Matrix Code<br>EAN 128<br>EAN 8/13<br>GS1 Databar<br>GS1 Databar Omnidirectional<br>GS1 Databar QR code<br>GS1 Databar Stacked<br>PDF417<br>Pharma Code<br>QR code<br>UPC |

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|---|---|
| ***Optical data*** | |
| Reading distance | 70 ... 360 mm |
| Light source | LED , Red |
| 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 |

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|---|---|
| ***Electrical data*** | |
| Protective circuit | Polarity reversal protection<br>Short circuit protected |

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|---|---|
| ***Performance data*** | |
| Supply voltage $U_B$ | 18 ... 30 V , DC |
| Average power consumption | 8 W |

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|---|---|
| ***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 |
| ***RS 232*** | |
| 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<br>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 |
| Data encoding | ASCII<br>Binary |
| ***Ethernet*** | |
| Architecture | Client<br>Server |
| Address assignment | DHCP<br>Manual address assignment |
| Transmission speed | 10 Mbit/s<br>100 Mbit/s |
| Function | Process |
| Switch functionality | None |
| Transmission protocol | TCP/IP , UDP |

| | |
|---|---|
| ***Service interface*** | |
| Type | Ethernet |
| ***Ethernet*** | |
| Function | Service |

# Part no.: 50134101 – DCR 202i FIX-F1-102-R3-G-V – Stationary 2D-code reader

| | |
|---|---|
| ***Connection*** | |
| Number of connections | 2 Piece(s) |
| ***Connection 1*** | |
| Function | Data interface<br>Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Stainless steel |
| No. of pins | 12 -pin |
| Encoding | A-coded |
| ***Connection 2*** | |
| Function | Configuration interface<br>Data interface |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Female |
| Material | Stainless steel |
| No. of pins | 4 -pin |
| Encoding | D-coded |

| | |
|---|---|
| ***Mechanical data*** | |
| Design | Cubic |
| Dimension (W x H x L) | 46 mm x 61 mm x 46 mm |
| Housing material | Stainless steel , V4A |
| Lens cover material | Glass |
| Net weight | 392 g |
| Housing color | Silver |
| Type of fastening | Mounting thread<br>Via optional mounting device |
| Compatibility of materials | ECOLAB |

| | |
|---|---|
| ***Operation and display*** | |
| Type of display | LED |
| Number of LEDs | 3 Piece(s) |
| Type of configuration | Configuration codes<br>Teach-in<br>Via web browser |

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|---|---|
| ***Environmental data*** | |
| Ambient temperature, operation | 0 ... 50 °C |
| Ambient temperature, storage | -20 ... 70 °C |
| Relative humidity (non-condensing) | 90 % |

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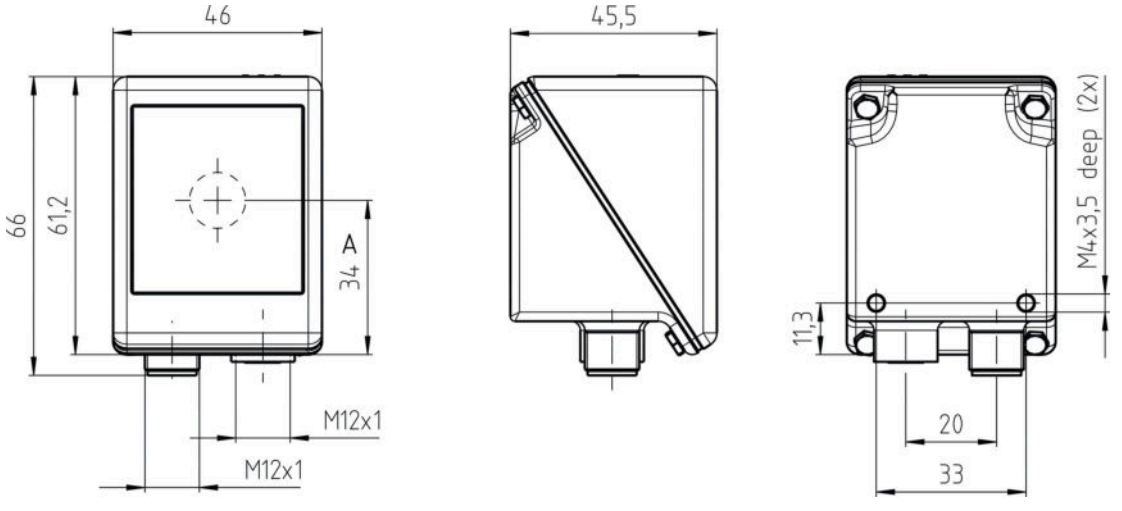
|---|---|
| ***Certifications*** | |
| Degree of protection | IP 67<br>IP 69K |
| Protection class | III |
| Certifications | c UL US |
| Test procedure for EMC in accordance with standard | EN 61000-6-2<br>EN 61000-6-4 |

| | |
|---|---|
| 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

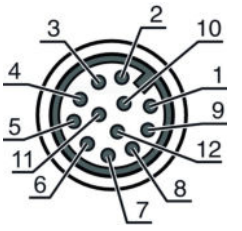
All dimensions in millimeters




## Electrical connection

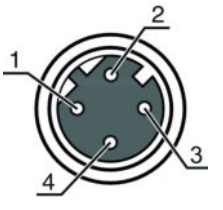
| Connection 1 | PWR / SWIO |
|---|---|
| Function | Data interface<br>Signal IN<br>Signal OUT<br>Voltage supply |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Stainless steel |
| No. of pins | 12 -pin |
| Encoding | A-coded |

| 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 |



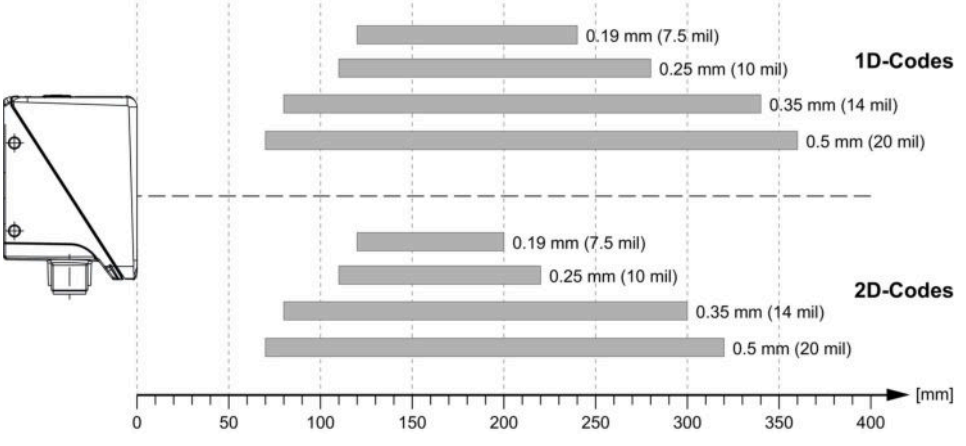

| Connection 2 | HOST |
|---|---|
| Function | Configuration interface<br>Data interface |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Female |
| Material | Stainless steel |
| No. of pins | 4 -pin |
| Encoding | D-coded |

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

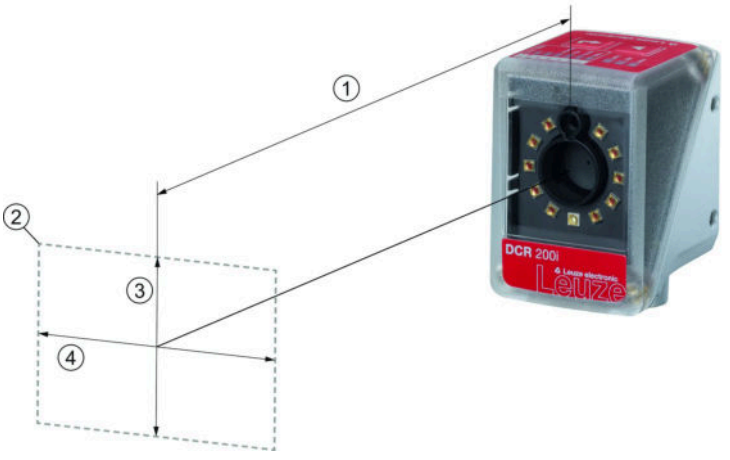



## Diagrams

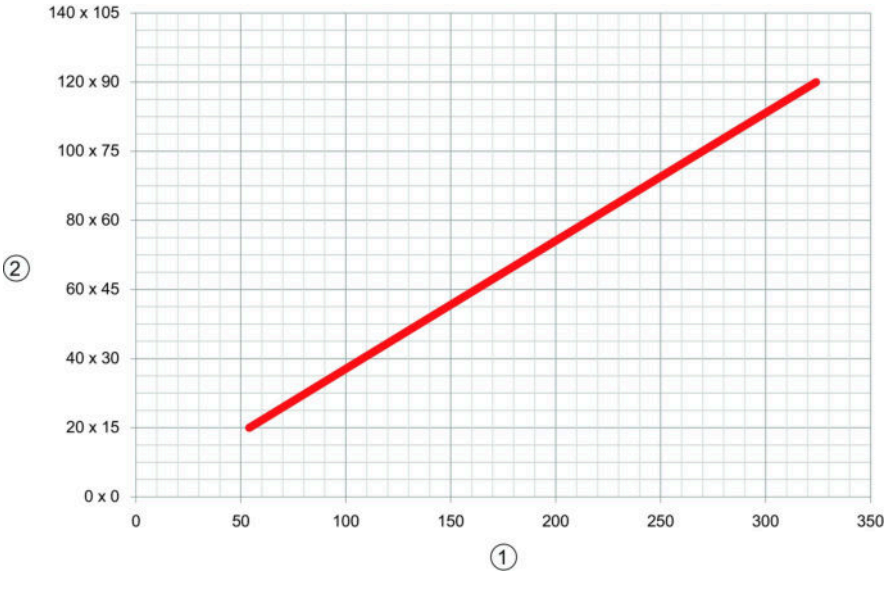
### Reading distances



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 |

| LED | | Display | Meaning |
|---|---|---|---|
| | | 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 |

## Part number code

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

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

| Note |
|---|
| A list with all available device types can be found on the Leuze website at www.leuze.com. |

## Notes

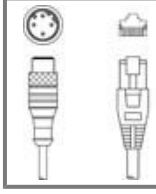
| Observe intended use! |
|---|
| • This product is not a safety sensor and is not intended as personnel protection.<br>• The product may only be put into operation by competent persons.<br>• Only use the product in accordance with its intended use. |

## 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<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 2,000 mm<br>Sheathing material: PUR |
|  | 50135073 | KS ET-M12-4A-P7-020 | Connection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 2,000 mm<br>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<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: RJ45<br>Shielded: Yes<br>Cable length: 2,000 mm<br>Sheathing material: PUR |

### Mounting technology - Mounting brackets

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

### Mounting technology - Rod mounts

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

# Part no.: 50134101 – DCR 202i FIX-F1-102-R3-G-V – Stationary 2D-code reader

## 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.<br>Conditions: Devices and connection cables are already mounted, price not including travel costs and, if applicable, accommodation expenses.<br>Restrictions: No mechanical (mounting) and electrical (wiring) work performed, no changes (attachments, wiring, programming) to third-party components in the nearby environment. |
|  | S981019 | CS30-T-110 | Product training | Details: Location and content to be agreed upon, duration: max. 10 hours.<br>Conditions: Price not including travel costs and, if applicable, accommodation expenses.<br>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. |