

## Technical data sheet

### Bar code positioning system

Part no.: 50139945  
BPS 338i SM 100 H



For illustration purposes only

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CDRH

EtherCAT



UK  
CA

## Technical data

### Basic data

|             |                                                                                                                                      |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Series      | BPS 300i                                                                                                                             |
| Order guide | Bar code tape must be ordered separately<br>Operation only possible in combination with MS 3xx, MK 3xx or ME 338 103 connection unit |

### Functions

|           |         |
|-----------|---------|
| Functions | Heating |
|-----------|---------|

### Characteristic parameters

|      |          |
|------|----------|
| MTTF | 83 years |
|------|----------|

### Optical data

|                          |                                                          |
|--------------------------|----------------------------------------------------------|
| Depth of field           | 50 ... 170 mm                                            |
| Light source             | Laser, Red                                               |
| Wavelength               | 655 nm                                                   |
| Laser class              | 1, in accordance with IEC 60825-1:2014 (EN 60825-1:2014) |
| Transmitted-signal shape | Continuous                                               |
| Light beam exit          | Lateral                                                  |

### Measurement data

|                           |                     |
|---------------------------|---------------------|
| Measurement range         | 0 ... 10,000,000 mm |
| Resolution                | 0.01 ... 10 mm      |
| Reproducibility (1 sigma) | 0.05 mm             |
| Measurement value output  | 1 ms                |
| Max. traverse rate        | 10 m/s              |

### Electrical data

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

#### Performance data

|                         |                 |
|-------------------------|-----------------|
| Supply voltage $U_B$    | 18 ... 30 V, DC |
| Power consumption, max. | 17.7 W          |

#### Inputs/outputs selectable

|                                     |                 |
|-------------------------------------|-----------------|
| Output current, max.                | 60 mA           |
| Number of inputs/outputs selectable | 2 Piece(s)      |
| Input current, max.                 | 8 mA            |
| Switching element                   | Transistor, PNP |

### Interface

|      |          |
|------|----------|
| Type | EtherCAT |
|------|----------|

### Service interface

|              |                                                          |
|--------------|----------------------------------------------------------|
| Type         | USB                                                      |
| USB Function | Configuration/parameterization via integrated web server |

### Mechanical data

|                       |                                                                       |
|-----------------------|-----------------------------------------------------------------------|
| Design                | Cubic                                                                 |
| Dimension (W x H x L) | 100 mm x 108.7 mm x 48.3 mm                                           |
| Housing material      | Metal                                                                 |
| Metal housing         | Diecast aluminum                                                      |
| Lens cover material   | Glass                                                                 |
| Net weight            | 580 g                                                                 |
| Housing color         | Red<br>Silver                                                         |
| Type of fastening     | Dovetail grooves<br>Fastening on back<br>Via optional mounting device |

### Operation and display

|                       |                                                                   |
|-----------------------|-------------------------------------------------------------------|
| Type of display       | LED                                                               |
| Type of configuration | via TwinCAT ESI file or service USB/<br>webConfig via web browser |

### Environmental data

|                                    |               |
|------------------------------------|---------------|
| Ambient temperature, operation     | -35 ... 50 °C |
| Ambient temperature, storage       | -35 ... 70 °C |
| Relative humidity (non-condensing) | 90 %          |

### Certifications

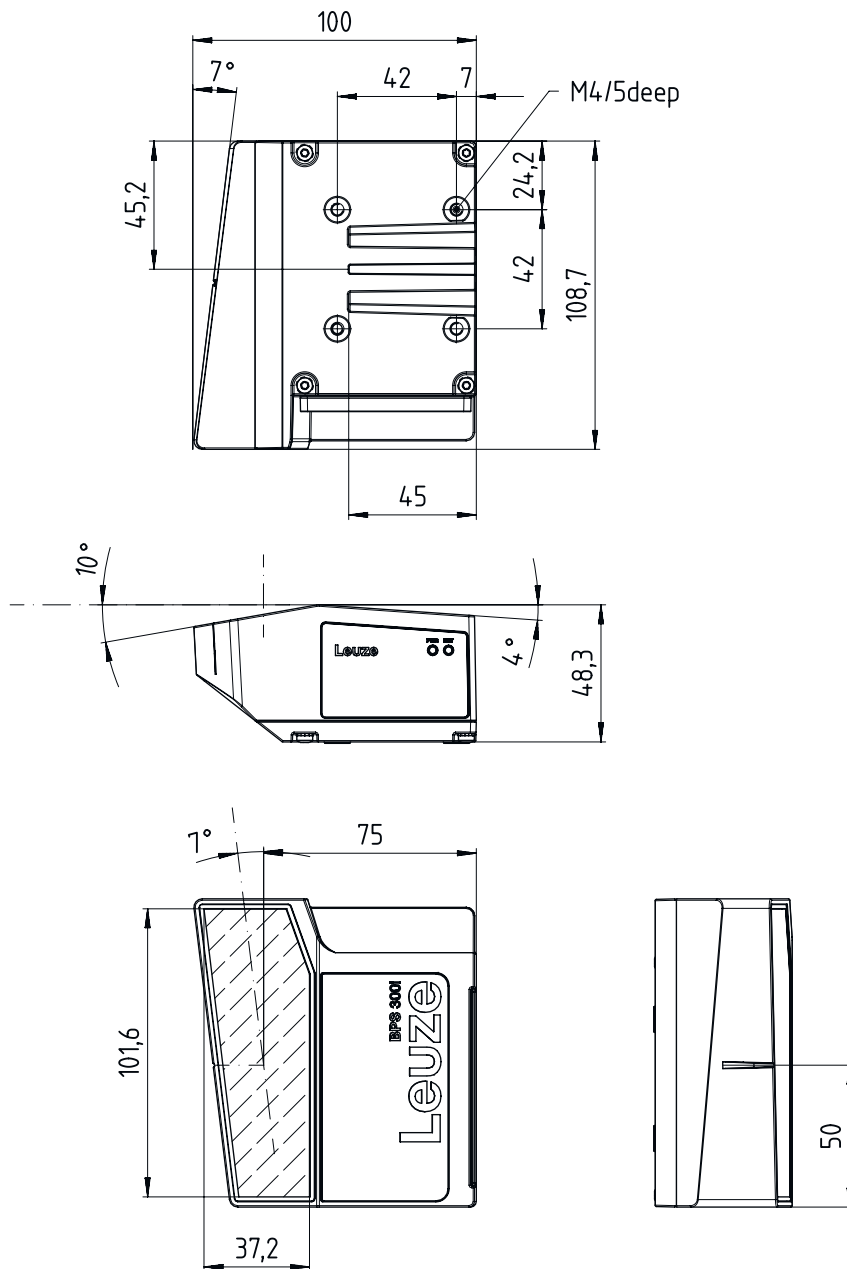
|                                                                 |                                                            |
|-----------------------------------------------------------------|------------------------------------------------------------|
| Degree of protection                                            | IP 65, EN 60529 with various connectors or screwed-on caps |
| Protection class                                                | III                                                        |
| Certifications                                                  | c UL US                                                    |
| Test procedure for EMC in accordance with standard              | EN 61000-6-2<br>EN 61000-6-3                               |
| Test procedure for shock in accordance with standard            | IEC 60068-2-27, test Ea                                    |
| 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 |
| ECLASS 5.1.4          | 27280190 |
| ECLASS 8.0            | 27280190 |
| ECLASS 9.0            | 27280190 |
| ECLASS 10.0           | 27280190 |
| ECLASS 11.0           | 27280190 |
| ECLASS 12.0           | 27280106 |
| ECLASS 13.0           | 27280106 |
| ECLASS 14.0           | 27280106 |
| ETIM 5.0              | EC001825 |
| ETIM 6.0              | EC001825 |
| ETIM 7.0              | EC001825 |
| ETIM 8.0              | EC001825 |
| ETIM 9.0              | EC001825 |

## Dimensioned drawings

All dimensions in millimeters



Diagrams

Reading field curve



x Reading field distance [mm]  
y Reading field width [mm]

Part number code

Part designation: **BPS 3XXi SM 100 Y Z AA**

|      |                                                                                                                                                                                                                                                              |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BPS  | <b>Operating principle</b><br>BPS: bar code positioning system                                                                                                                                                                                               |
| 3XXi | <b>Series/interface (integrated fieldbus technology)</b><br>300i: RS 232 / RS 422 (stand-alone)<br>301i: RS 485<br>304i: PROFIBUS DP<br>307i: SSI<br>348i: PROFINET RT<br>3007i: SSI (reduced function range)<br>3048i: PROFINET RT (reduced function range) |
| SM   | <b>Scanning principle / optics</b><br>S: line scanner (single line)                                                                                                                                                                                          |
| 100  | <b>Beam exit</b><br>100: lateral                                                                                                                                                                                                                             |

Part number code

|                                                                                  |                                                                                                                                         |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Y Z                                                                              | <b>Special equipment</b><br>n/a: no special equipment<br>D: With display<br>H: With heating<br>D H: optionally with display and heating |
| AA                                                                               | <b>Switching element</b><br>n/a: Transistor, PNP<br>02: Transistor, NPN                                                                 |
| <b>Note</b>                                                                      |                                                                                                                                         |
|  | A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .          |

Notes

|                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Observe intended use!</b>                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                               | <ul style="list-style-type: none"><li>This product is not a safety sensor and is not intended as personnel protection.</li><li>The product may only be put into operation by competent persons.</li><li>Only use the product in accordance with its intended use.</li></ul>                                                                                                                                                                                                                                                                                                                                      |
|  <b>ATTENTION! LASER RADIATION – CLASS 1 LASER PRODUCT</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                             | <p>The device satisfies the requirements of IEC/EN 60825-1:2014 safety regulations for a product of <b>laser class 1</b> and complies with 21 CFR 1040.10 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.</p> <ul style="list-style-type: none"><li>Observe the applicable statutory and local laser protection regulations.</li><li>The device must not be tampered with and must not be changed in any way.<br/>There are no user-serviceable parts inside the device.<br/>Repairs must only be performed by Leuze electronic GmbH + Co. KG.</li></ul> |

Accessories

Connection technology - Connection cables

|                                                                                     | Part no. | Designation         | Article          | Description                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------------|----------|---------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50132079 | KD U-M12-5A-V1-050  | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: No<br>Cable length: 5.000 mm<br>Sheathing material: PVC                                    |
|                                                                                     | 50135074 | KS ET-M12-4A-P7-050 | Connection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connector, LED: No<br>Connection 2: Open end<br>Shielded: Yes<br>Cable length: 5.000 mm<br>Sheathing material: PUR |

## Accessories

### Connection technology - Interconnection cables

|                                                                                  | Part no. | Designation                 | Article               | Description                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------|----------|-----------------------------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50137077 | KSS ET-M12-4A-M12-4A-P7-020 | Interconnection cable | Suitable for interface: Ethernet<br>Connection 1: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Connection 2: Connector, M12, Axial, Male, D-coded, 4 -pin<br>Shielded: Yes<br>Cable length: 2.000 mm<br>Sheathing material: PUR |
|                                                                                  | 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                                         |

### Connection technology - Connectors

|                                                                                   | Part no. | Designation | Article   | Description                                                |
|-----------------------------------------------------------------------------------|----------|-------------|-----------|------------------------------------------------------------|
|  | 50020501 | KD 095-5A   | Connector | Connection: Connector, M12, Axial, Female, A-coded, 5 -pin |

### Mounting technology - Rod mounts

|                                                                                    | Part no. | Designation | Article         | Description                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------|----------|-------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50027375 | BT 56       | Mounting device | Functions: Static applications<br>Design of mounting device: Mounting system<br>Fastening, at system: For 16 mm rod, For 18 mm rod, For 20 mm rod<br>Mounting bracket, at device: Clampable<br>Material: Metal<br>Tightening torque of the clamping jaws: 8 N·m |

### Mounting technology - Other

|                                                                                    | Part no. | Designation | Article         | Description                                                                                                                                                           |
|------------------------------------------------------------------------------------|----------|-------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 50124941 | BTU 0300M-W | Mounting device | Fastening, at system: Through-hole mounting<br>Mounting bracket, at device: Clampable, Groove mounting, Suited for M4 screws<br>Material: Metal<br>Shock absorber: No |

### Bar code tape

|                                                                                    | Part no. | Designation      | Article       | Description                                            |
|------------------------------------------------------------------------------------|----------|------------------|---------------|--------------------------------------------------------|
|  | 50144190 | BCB G40 H25 L010 | Bar code tape | Dimensions: 25 mm x 10,000 mm<br>Grid dimension: 40 mm |

Accessories

|                                                                                  | Part no. | Designation      | Article       | Description                                            |
|----------------------------------------------------------------------------------|----------|------------------|---------------|--------------------------------------------------------|
|  | 50040041 | BCB G40 H47 L010 | Bar code tape | Dimensions: 47 mm x 10,000 mm<br>Grid dimension: 40 mm |
|                                                                                  | 50037489 | BCB G40 H47 L020 | Bar code tape | Dimensions: 47 mm x 20,000 mm<br>Grid dimension: 40 mm |

Services

|                                                                                   | Part no. | Designation | Article          | Description                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------|----------|-------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | S981001  | CS10-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. |
|                                                                                   | S981005  | CS10-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.                                                          |

Note

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