

Technical data sheet Bar code positioning system

Part no.: 50144061

FBPS 617i 17 SM 100 H

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- Electrical connection
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For illustration purposes only



Technical data

Basic data

| | |
|-------------|--|
| Series | FBPS 600i |
| Order guide | ATTENTION! Only bar code tapes from the accessories of the FBPS 600i may be used |

Functions

| | |
|-----------|-------------------------|
| Functions | Heating |
| | Safe position detection |

Characteristic parameters

| | |
|-----------------------------|-------------------------------------|
| SIL | 3, EN 61508 |
| SILCL | 3, IEC/EN 62061 |
| Performance Level (PL) | e, ISO / EN ISO 13849-1:2015 |
| PFH _D | < 9.5E-09 per hour |
| Mission time T _M | 20 years, ISO / EN ISO 13849-1:2015 |
| Category | 4, ISO / EN ISO 13849-1:2015 |
| MTTF | 64 years |
| Error reaction time | 10 ms (configurable) |

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 ... 1 mm |
| Reproducibility (1 sigma) | 0.15 mm |
| Measurement value output | 1 ms |
| Max. traverse rate | 10 m/s |

Electrical data

| | |
|--------------------|------------------------------|
| Protective circuit | Polarity reversal protection |
| | Short circuit protected |

Performance data

| | |
|-------------------------------|------------------------|
| Supply voltage U _B | 24 V, DC, -25 ... 25 % |
| Current consumption, max. | 1,000 ... 1,100 mA |
| Power consumption, max. | 24 W |

Inputs

| | |
|------------------------------------|------------|
| Number of digital switching inputs | 1 Piece(s) |
|------------------------------------|------------|

Switching inputs

| | |
|------|--|
| Type | Digital switching input, configurable (not safe) |
|------|--|

Outputs

| | |
|-------------------------------------|------------|
| Number of digital switching outputs | 1 Piece(s) |
|-------------------------------------|------------|

Switching outputs

| | |
|------|---|
| Type | Digital switching output, configurable (not safe) |
|------|---|

Interface

| | |
|------|------------------------|
| Type | 2-channel SSI with CRC |
|------|------------------------|

SSI

| | |
|-----------------|----------------|
| Function | Process |
| Clock frequency | 80 ... 800 kHz |
| Data bit | Adjustable |

Service interface

| | |
|------|-----|
| Type | USB |
|------|-----|

USB

| | |
|----------|--|
| Function | Configuration/parameterization via integrated web server |
| | Service |

Connection

| | |
|-----------------------|------------|
| Number of connections | 4 Piece(s) |
| Plug outlet | Lateral |

Connection 1

| | |
|----------|-----------------------|
| Function | Functional earth (FE) |
| | Signal IN |
| | Signal OUT |
| | Voltage supply |

| | |
|-----------------------|-----------|
| Type of connection | Connector |
| Designation on device | XD1 PWR |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | A-coded |

Connection 2

| | |
|--------------------|---------------|
| Function | SSI channel A |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | B-coded |

Connection 3

| | |
|--------------------|---------------|
| Function | SSI channel B |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | B-coded |

Connection 4

| | |
|--------------------|-------------------|
| Function | Service interface |
| Type of connection | USB |
| Connector type | USB 2.0 Mini-B |

Technical data

Mechanical data

| | |
|-----------------------|--|
| Design | Cubic |
| Dimension (W x H x L) | 116.3 mm x 112.5 mm x 51.5 mm |
| Housing material | Metal |
| Metal housing | Diecast aluminum |
| Lens cover material | Glass |
| Net weight | 540 g |
| Housing color | Silver Yellow |
| Type of fastening | Dovetail grooves Fastening on back Mounting thread Via optional mounting device |

Operation and display

| | |
|-----------------------|-----------------|
| Type of display | LED |
| Type of configuration | Via web browser |

Environmental data

| | |
|------------------------------------|---------------|
| Ambient temperature, operation | -35 ... 60 °C |
| Ambient temperature, storage | -35 ... 70 °C |
| Relative humidity (non-condensing) | 90 % |

Certifications

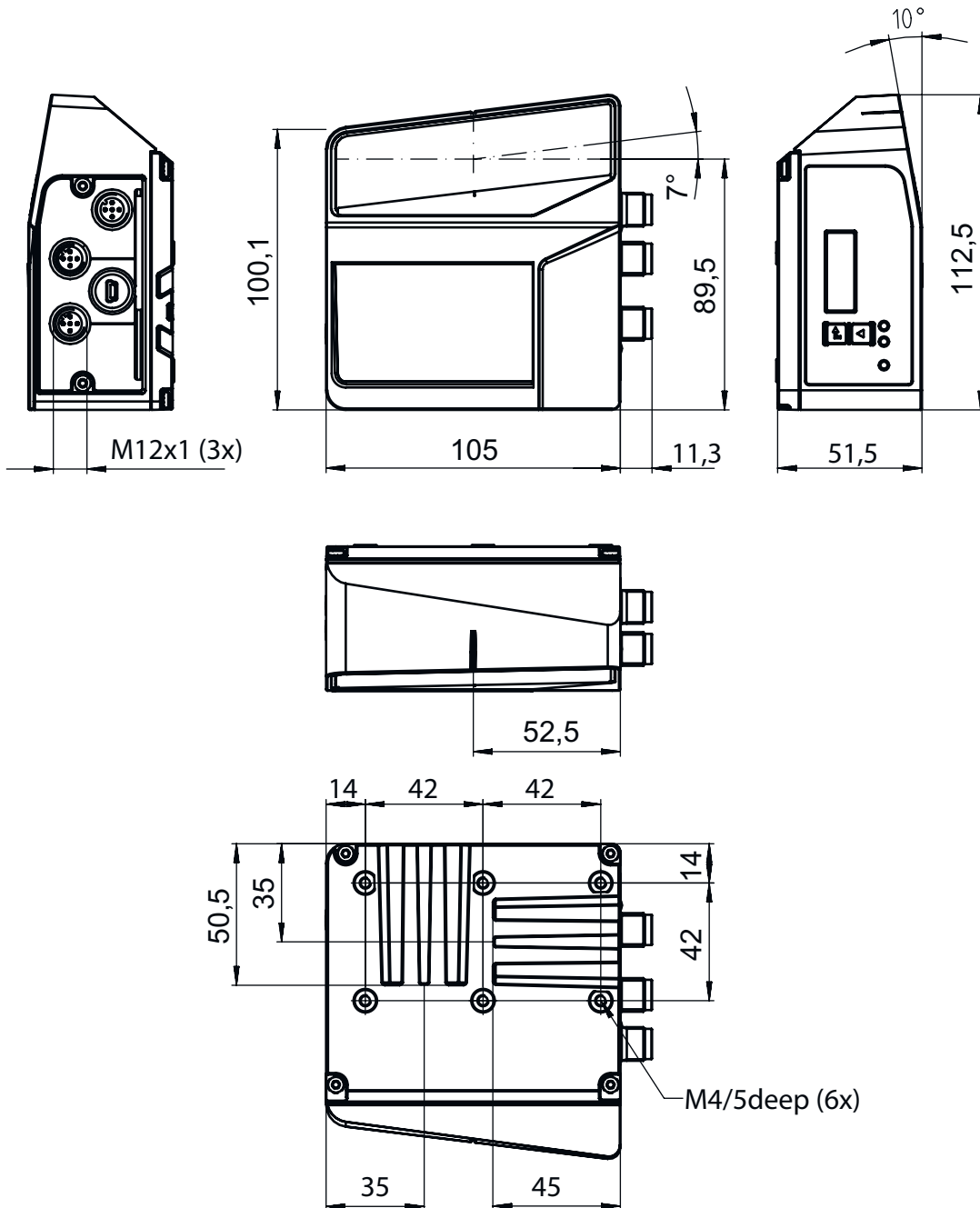
| | |
|----------------------|--|
| Degree of protection | IP 65, EN 60529 with various connectors or screwed-on caps |
| Protection class | III |
| Certifications | c TÜV NRTL US CSA TÜV Süd UL |

Classification

| | |
|-----------------------|----------|
| Customs tariff number | 84714900 |
| 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



Electrical connection

Connection 1

XD1 PWR

Function

Functional earth (FE)

Signal IN

Signal OUT

Voltage supply

Electrical connection

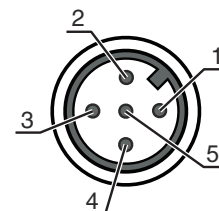
Connection 1

XD1 PWR

| | |
|--------------------|-----------|
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | A-coded |

| Pin | Pin assignment |
|-----|----------------|
|-----|----------------|

| | |
|---|--------|
| 1 | VIN |
| 2 | SWO 1 |
| 3 | GNDIN |
| 4 | SWIN 1 |
| 5 | FE |



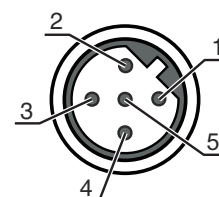
Connection 2

X1 SSI1

| | |
|--------------------|---------------|
| Function | SSI channel A |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | B-coded |

| Pin | Pin assignment |
|-----|----------------|
|-----|----------------|

| | |
|---|-------|
| 1 | DATA+ |
| 2 | DATA- |
| 3 | CLK+ |
| 4 | CLK- |
| 5 | FE |



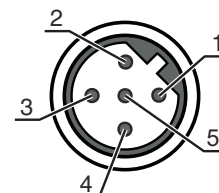
Connection 3

X2 SSI2

| | |
|--------------------|---------------|
| Function | SSI channel B |
| Type of connection | Connector |
| Thread size | M12 |
| Type | Male |
| Material | Metal |
| No. of pins | 5 -pin |
| Encoding | B-coded |

| Pin | Pin assignment |
|-----|----------------|
|-----|----------------|

| | |
|---|-------|
| 1 | DATA+ |
| 2 | DATA- |
| 3 | CLK+ |
| 4 | CLK- |
| 5 | FE |



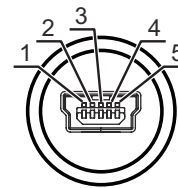
Connection 4

XF0 SERVICE

| | |
|--------------------|-------------------|
| Function | Service interface |
| Type of connection | USB |
| Connector type | USB 2.0 Mini-B |

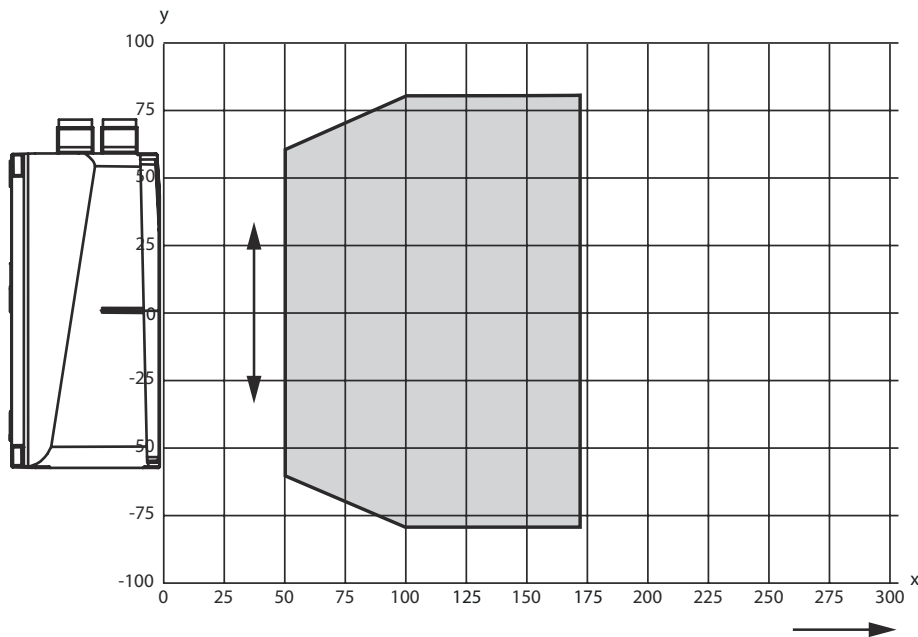
Electrical connection

| Pin | Pin assignment |
|-----|----------------|
| 1 | VB |
| 2 | D- |
| 3 | D+ |
| 4 | ID |
| 5 | GND |



Diagrams

Reading field curve



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

Part number code

Part designation: **FBPS 6XXi WW SM XXX Y Z**

| | |
|-------------|--|
| FBPS | Operating principle FBPS: Fail-safe bar code positioning system |
| 6XXi | Series/interface (integrated fieldbus technology) 607i: 2-channel standard SSI 617i: 2-channel SSI with CRC |
| WW | Series/interface (integrated fieldbus technology) 07i: 2-channel standard SSI 17i: 2-channel SSI with CRC |
| SM | Scanning principle / optics S: line scanner (single line) M: Medium Density (medium distance) |

Part number code


| | |
|-----|---|
| XXX | Plug outlet 100: lateral 110: bottom |
| YZ | Special equipment n/a: no special equipment D: With display 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!**



The protection of personnel and the device cannot be guaranteed if the device is operated in a manner not complying with its intended use.

- ☞ Only use the product in accordance with its intended use.
- ☞ Leuze electronic GmbH + Co. KG is not liable for damages caused by improper use.
- ☞ Before commissioning the device, read the operating instructions. Knowledge of the operating instructions is an element of proper use.

 **ATTENTION! LASER RADIATION – CLASS 1 LASER PRODUCT**





The device satisfies the requirements of IEC/EN 60825-1:2014 safety regulations for a product of **laser class 1** 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.


- ☞ Observe the applicable statutory and local laser protection regulations.
- ☞ The device must not be tampered with and must not be changed in any way. There are no user-serviceable parts inside the device. Repairs must only be performed by Leuze electronic GmbH + Co. KG.

Accessories


Connection technology - Connection cables

| | Part no. | Designation | Article | Description |
|---|----------|--------------------|------------------|---|
|  | 50104172 | KB SSI/IBS-2000-BA | Connection cable | Suitable for interface: SSI, Interbus-S Connection 1: Connector, M12, Axial, Female, B-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 2.000 mm Sheathing material: PUR |
|  | 50133859 | KD S-M12-5A-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 2.000 mm Sheathing material: PUR |


Accessories

| | Part no. | Designation | Article | Description |
|---|----------|--------------------|------------------|---|
|  | 50133839 | KD U-M12-5A-P1-020 | Connection cable | Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 2.000 mm 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 - Mounting brackets

| | Part no. | Designation | Article | Description |
|--|----------|-------------|-----------------|---|
|  | 50121433 | BT 300 W | Mounting device | Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Adjustable Material: Metal |

Mounting technology - Other

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

Bar code tape

| | Part no. | Designation | Article | Description |
|--|----------|------------------|---------------|--|
|  | 50144173 | BCB G30 H25 L010 | Bar code tape | Dimensions: 25 mm x 10,000 mm Grid dimension: 30 mm |
|  | 50104792 | BCB G30 H47 L010 | Bar code tape | Dimensions: 47 mm x 10,000 mm Grid dimension: 30 mm |

Accessories

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. 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. 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.