MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

LEUZE ELECTRONIC

BPS304iSM100D

PROFIBUS BARCODE POSITIONING SENSOR

Used with the applicable BPS 304i configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Leuze technical data sheet 50125675, BPS 304i SM 100 D. Manufacturer product specifications and drawings.

Technical data sheet
Bar code positioning system
Part no.: 50125675
BPS 304i SM 100 D



Figure can vary

Contents

- Technical data
- Dimensioned drawings
- Diagrams
- Part number code
- Notes
- Accessories

Technical data

Basic data

Series	BPS 300i
Order guide	Bar code tape must be ordered separately
	Operation only possible in combination with MS 3xx or MK 3xx connection unit

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	0.001 ... 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
	Short circuit protected

Performance data

Supply voltage U_B	18 ... 30 V, DC
Power consumption, max.	3.7 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	PROFIBUS DP

PROFIBUS DP

Function	Process
Classification	V0
Transmission speed	0.0096 ... 12 Mbit/s

Service interface

Type	USB

USB

Function	Configuration via GSD modules
	Service

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
	Silver
Type of fastening	Dovetail grooves
	Fastening on back
	Via optional mounting device

Operation and display

Type of display	LED
	Monochromatic graphic display, 128 x 32 pixels
Type of configuration	Via web browser

Environmental data

Ambient temperature, operation	-5 ... 50 °C
Ambient temperature, storage	-35 ... 70 °C
Relative humidity (non-condensing)	90 %

Certifications

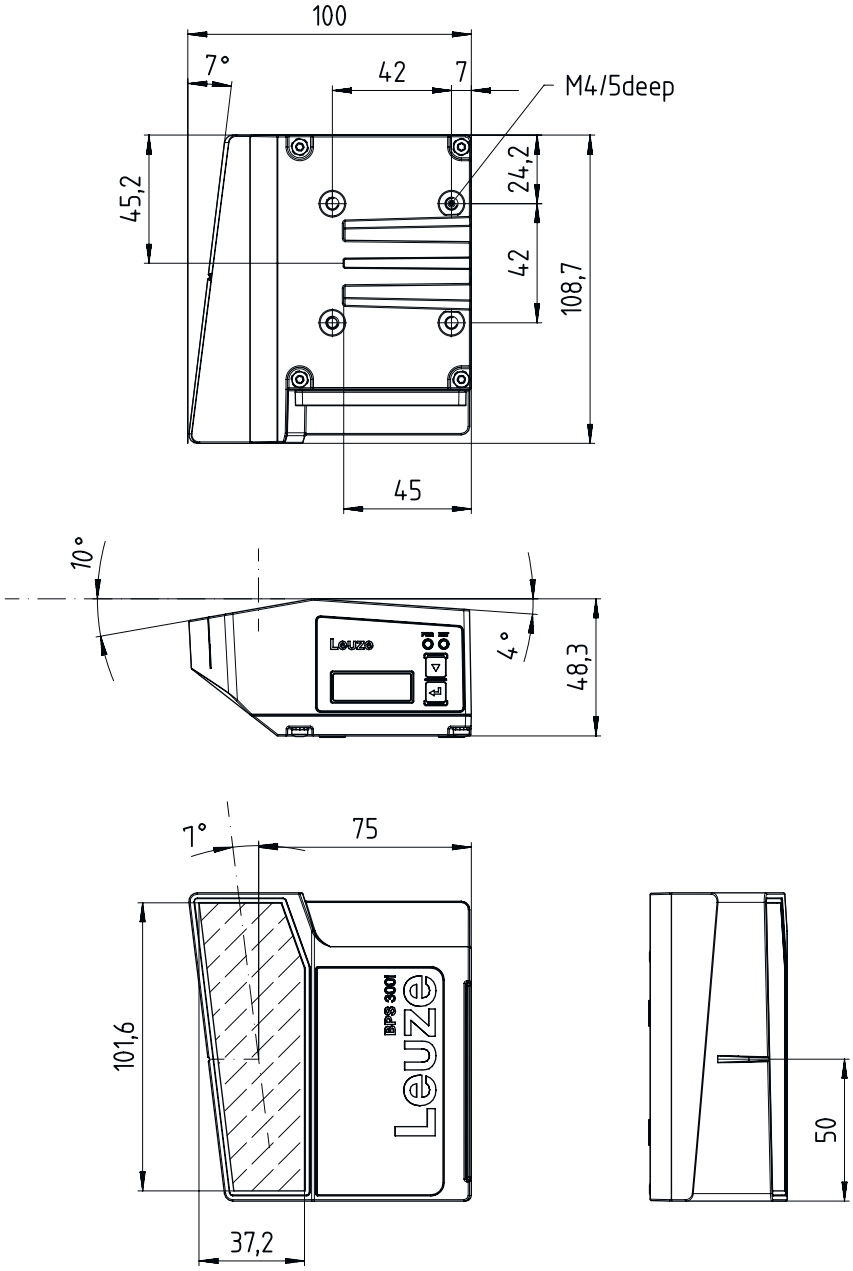
Degree of protection	IP 65, EN 60529 with various connectors or screwed-on caps
Protection class	III
Certifications	c UL US
Test procedure for EMC in accordance with standard	EN 61000-6-2
	EN 61000-6-3
Test procedure for shock in accordance with standard	IEC 60068-2-27, test Ea
Test procedure for continuous 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
ETIM 5.0	EC001825
ETIM 6.0	EC001825
ETIM 7.0	EC001825
ETIM 8.0	EC001825

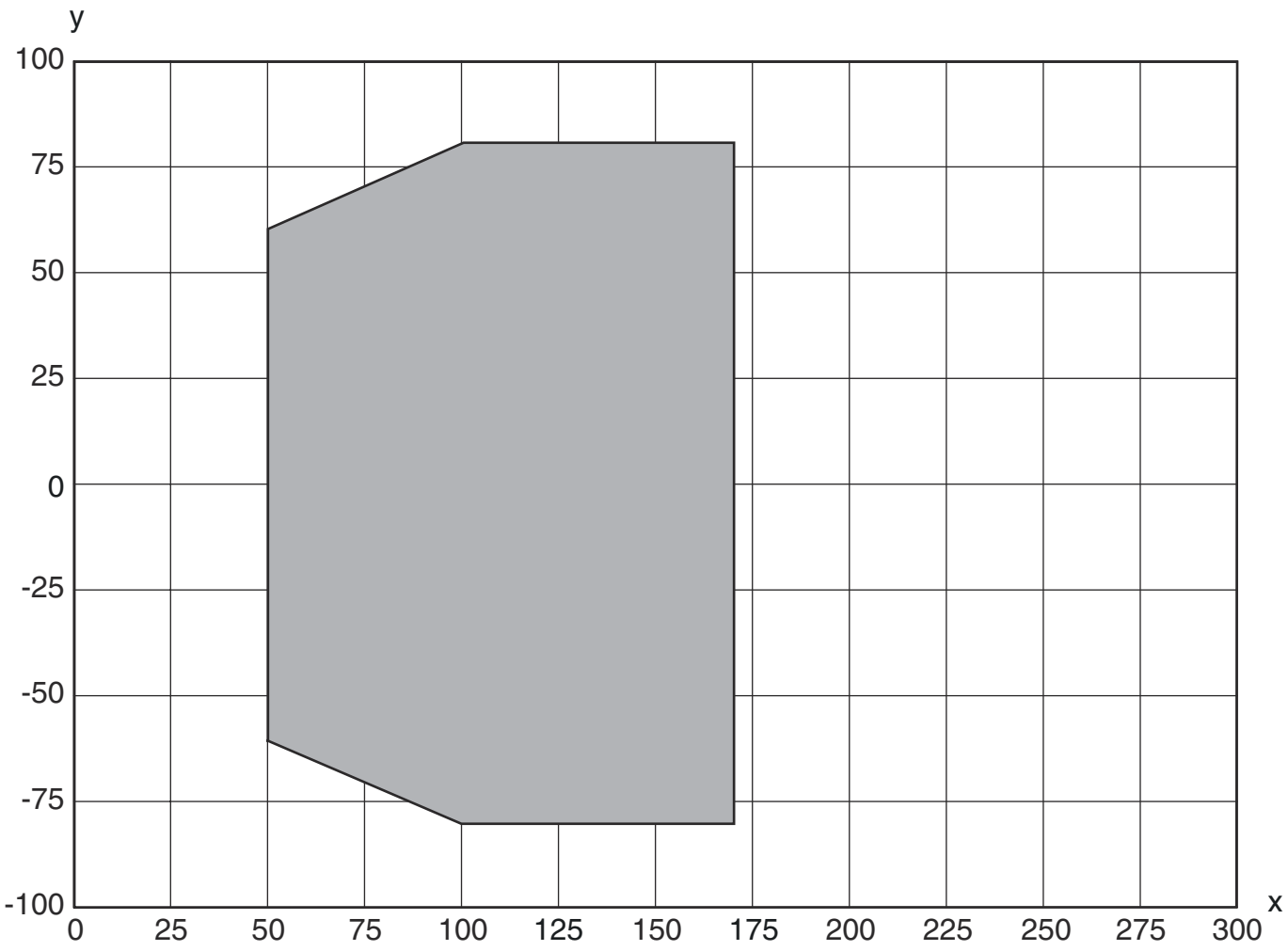
Dimensioned drawings

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	**Operating principle** BPS: bar code positioning system
3XXXi	**Series/interface (integrated fieldbus technology)** 300i: RS 232 / RS 422 (stand-alone) 301i: RS 485 304i: PROFIBUS DP 307i: SSI 348i: PROFINET RT
SM	**Scanning principle / optics** S: line scanner (single line)
100	**Beam exit** 100: lateral

Part number code

Y Z	**Special equipment** n/a: no special equipment D: With display H: With heating D H: optionally with display and heating
AA	**Switching element** n/a: Transistor, PNP 02: Transistor, NPN

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.
- The product may only be put into operation by competent persons.
- Only use the product in accordance with its intended 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

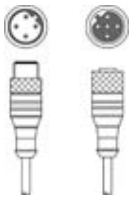
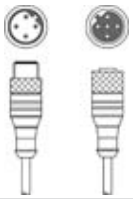
Connection technology - Connection cables

	Part no.	Designation	Article	Description
	50135243	KD PB-M12-4A-P3-050	Connection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Female, B-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR
	50132079	KD U-M12-5A-V1-050	Connection cable	Connection 1: Connector, M12, Axial, Female, A-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

Accessories

	Part no.	Designation	Article	Description
	50135248	KS PB-M12-4A-P3-050	Connection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Male, B-coded, 5 -pin Connector, LED: No Connection 2: Open end Shielded: Yes Cable length: 5.000 mm Sheathing material: PUR

Connection technology - Interconnection cables

	Part no.	Designation	Article	Description
	50135253	KDS PB-M12-4A-M12-4A-P3-020	Interconnection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, B-coded, 5 -pin Shielded: Yes Cable length: 2,000 mm Sheathing material: PUR
	50135255	KDS PB-M12-4A-M12-4A-P3-100	Interconnection cable	Suitable for interface: PROFIBUS DP Connection 1: Connector, M12, Axial, Female, B-coded, 5 -pin Connection 2: Connector, M12, Axial, Male, B-coded, 4 -pin Shielded: Yes Cable length: 10,000 mm Sheathing material: PUR

Connection technology - Connectors

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

Connection technology - Terminating resistors

	Part no.	Designation	Article	Description
	50038539	TS 02-4-SA	Terminator plug	Suitable for: MultiNet Plus, PROFIBUS DP Function: Bus termination Connection 1: Connector, M12, Axial, Male, B-coded, 4 -pin

Connection technology - Connection boxes

	Part no.	Designation	Article	Description
	50116465 *	MK 304	Connection unit	Suitable for: BCL 304i, BPS 304i Interface: PROFIBUS DP Number of connections: 4 Piece(s) Connection: Terminal

Accessories

	Part no.	Designation	Article	Description
	50116470 *	MS 304	Connection unit	Suitable for: BCL 304i, BPS 304i Interface: PROFIBUS DP Number of connections: 4 Piece(s) Connection: Connector, M12

* Necessary accessories, please order separately

Mounting technology - Rod mounts

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

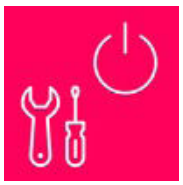
Mounting technology - Other

	Part no.	Designation	Article	Description
	50124941	BTU 0300M-W	Mounting device	Fastening, at system: Through-hole mounting Mounting bracket, at device: Clampable, Groove mounting, Suited for M4 screws Material: Metal 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 Grid dimension: 40 mm
	50040041	BCB G40 H47 L010	Bar code tape	Dimensions: 47 mm x 10,000 mm Grid dimension: 40 mm
	50037489	BCB G40 H47 L020	Bar code tape	Dimensions: 47 mm x 20,000 mm 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. 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.

Accessories

	Part no.	Designation	Article	Description
	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. 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 website in the Download tab of the article detailed page.