

Bar code positioning systems for positioning with millimeter accuracy over distances of up to 10,000 m



Bar code positioning

With bar code positioning systems, the read head is moved along a bar code tape. It calculates the absolute position data in the direction of travel with millimeter accuracy up to a distance of 10,000 m. The bar code tape is simple to use and can be bonded in both straight lines and curves. Maximum flexibility, simple mounting, transparent diagnosis as well as a large selection of integrated interfaces are the strengths of this system.



Determination of position data with millimeter accuracy using the BPS 300i bar code positioning system

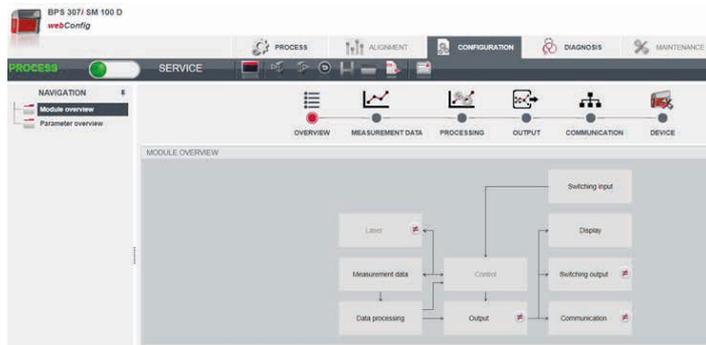
Fast and precise position detection is a prerequisite in machine and system construction for ensuring the efficient movement of goods. The BPS 300i bar code positioning system, with its absolute position determination over a length of 10,000 m at a maximum speed of 10 m/s, is designed for use on stacker cranes, transverse transfer cars and electrical monorail systems.

Advantages for you

- **Simple fieldbus integration:** The integrated fieldbus interfaces enable adaptation to various control systems. If configurations are necessary, they are performed directly via the control systems (e.g., GSDML file) or via the web server integrated in the device (e.g., with SSI interface). The devices are configured directly via the control. You thereby save installation time and costs for otherwise necessary connection units. Moreover, no parameterization is necessary in the event of replacement.
 - **Large reserve capacity:** Thanks to a working range of ± 60 mm, the systems with their laser technology are very tolerant of mechanical fluctuations. They thereby offer reliable position detection with maximum reserve capacity in every environment
 - **Predictive maintenance:** The reading quality monitoring constantly analyzes the decodability of the bar codes and indicates any decline in functional reserve in good time. The system's availability is thereby ensured.
 - **Easy mounting:** The sophisticated fastening concept enables simple and robust mounting of the devices. In the event of replacement, the devices can be exchanged in a position-neutral manner, i.e. without the need for realignment.
- Modularly selectable function range:**
 - Various connection hoods (terminals, M12, cables) for optimum integration in your control.
 - Optional display for visualization and diagnosis
 - Optional optics heating for low-temperature applications.



Highlights



Integrated webConfig tool

An integrated web user interface enables access to comprehensive diagnosis that can also be designed as remote access if necessary. Devices with, e.g., SSI or RS 485 / RS422 interfaces can be configured very easily with the easy-to-understand graphical user interface.

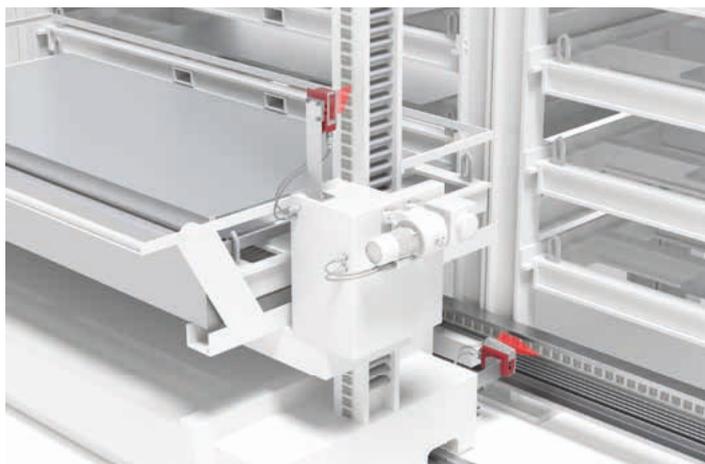


RS422 RS485

integrated connectivity

The BPS 300i transfers position data as well as status information via various interfaces that are integrated in the device. Additional gateways are no longer required. Communication is particularly convenient if data can be exchanged with the control via defined GSD / GSDML or ESI file structures.

Fast and accurate positioning for stacker cranes



Safe position detection with just one device up to PL e (FBPS 600i)



BPS 8 compact bar code positioning system



The compact BPS 8 bar code positioning system requires little space and can reliably compensate for mechanical fluctuations thanks to its large working range. It impresses with simple mounting mechanics and standardized M12 plug connection.

The RS 232 or RS 485 interface allows the system to be easily integrated into any system architecture. The BPS 8 is available either with front beam exit or with a deflecting mirror.

Safe bar code positioning system FBPS 600i

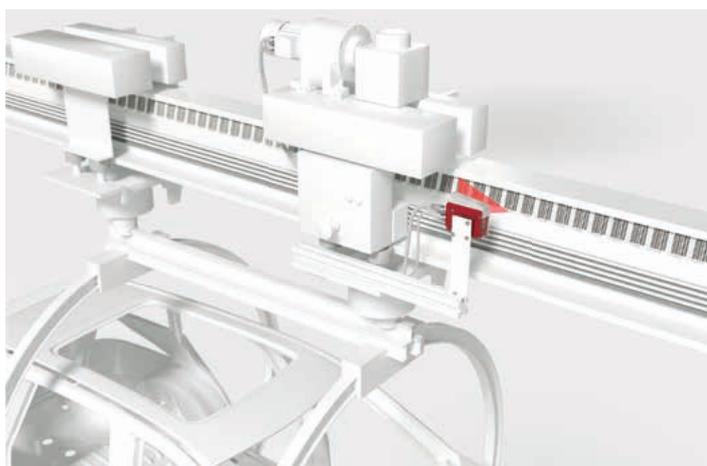


The world's first safety bar code positioning system, FBPS 600i, requires just one sensor for safe position detection. The device is connected to a safe evaluation unit – e.g. a frequency inverter – via two SSI interfaces and is suitable for applications up to performance level PL e. As a result, safety functions can be implemented extremely easily and the time and effort required for installation and servicing is reduced.

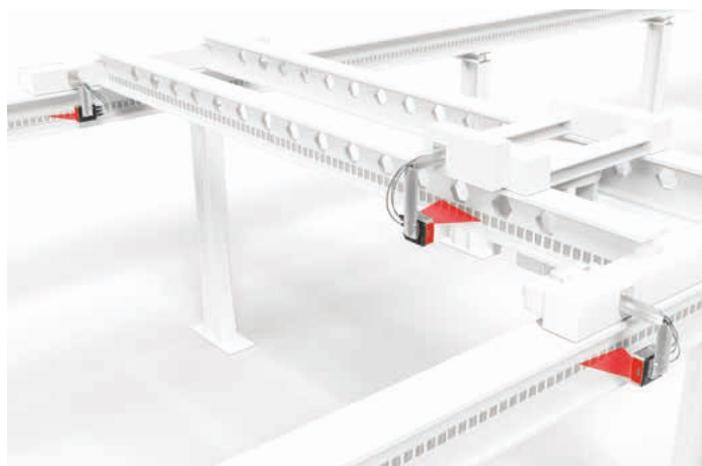
Technical data

		BPS 300i	BPS 8	FBPS 600i
Technical data	Working range	50 – 170 mm	80–140 mm, front beam exit 60–120 mm, angled beam exit	50 – 170 mm
	Reproducibility	± 0.15 mm	± 1(2) mm	± 0.15 mm
	Measurement value output	1 ms (1,000 values/s)	3.3 ms (300 values/s)	1 ms
	Integration time	8 ms	26.6 (13.3) ms	–
	Traverse rate	10 ms	4 ms	10 ms
	Integrated interfaces	EtherNet/IP, PROFINET, PROFIBUS, SSI, RS 485, RS 232	RS 232, RS 485 via MA 8-01	2-channel SSI with CRC, 2-channel standard SSI
	Supply voltage	10–30 V DC	4.9–5.4 V DC, direct connection 10–30 V DC, via MA 8-01	24 V DC
	Ambient temperature (operation) without heating with heating	–5 to +50°C –35 to +50°C	0°C to +40°C	–5 to +50°C –35 to +50°C

Curve-capable position determination on electrical monorail systems



Position detection on gantry crane axes



BCB bar code tapes

The second fundamental element of a bar code positioning system is the bar code tape. A self-adhesive and highly flexible plastic tape is printed with a unique bar code at regular intervals. This technology makes the tape resistant, resilient and mechanically durable. The position value is also printed in 'plain text' to simplify handling. This tape, which may be up to 10,000 m in length, can be simply affixed along the travel path and also enables use on horizontal and vertical curves, such as those found on electrical monorail systems.

The bar code tape can be delivered according to individual requirements. Here, the tape height, tape length as well as the start and end position can be adapted to the given application. If the tape nevertheless becomes damaged, the necessary tape section is available online on the Leuze homepage and can be self-printed as a first step. This is possible without any time delay, thereby ensuring system availability. The tape section can then be ordered as an originally manufactured bar code tape.



		BCB
Technical data	Tape lengths	Standard tapes: 5 m to 150 m, 200 m Individual tape lengths: up to 10,000 m
	Tape height	Standard heights: 25 mm / 47 mm Individual height: 20 mm to 140 mm
	Bar code tapes for BPS 300; BPS 30	BCB G40 ... (grid dimension 30 mm)
	Bar code tapes for FBPS 300; BPS 8	BCB G30... (grid dimension 30 mm)
	Recommended processing temperature	0°C – +45°C
	Temperature resistance	40°C – +120°C
	Adhesive	Powerful adhesive
	Mechanical features	Scratch- and wipe-resistant, as well as resistant to UV light, moisture and chemicals

Accessories

Mounting plate for BPS 300i



M12 connection for BPS 300i



Clamp connection for BPS 300i



Space-saving pigtail model for M12 or RJ45 connection



RS 232 / 485 interface and 24 V supply (BPS 8)



Gateway for integration in all fieldbuses



Mounting bracket for the BPS 8 to ensure correct mounting at the correct angle to the tape



Shielded connection cable for BPS 8



Our product range at a glance

Switching sensors

- Optical sensors
- Inductive sensors
- Capacitive sensors
- Ultrasonic sensors
- Fiber optic sensors
- Fork sensors
- Light curtains
- Special sensors

Measuring sensors

- Distance sensors
- Sensors for positioning
- 3D sensors
- Light curtains
- Bar code positioning systems
- Fork sensors

Safety

- Safety solutions
- Safety laser scanners
- Safety light curtains
- Single and multiple light beam safety devices
- Safety radar sensors
- Safe locking devices, switches and proximity sensors
- Safety controls and relays
- Machine safety services

Identification

- Bar code identification
- 2D-code identification
- RF identification

Data transmission

- Optical data transmission systems

Network and connection technology

- Connection technology
- Modular connection units

Industrial image processing

- Light section sensors
- Industrial IP cameras
- Vision sensors

Accessories and supplementary products

- Signaling devices
- Mounting systems
- Reflectors

Contact

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