

 **Leuze electronic**

**HVS.**  
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the **sensor** people

## Barcode positioning systems BPS 8, BPS 34/37

Innovations that truly  
move you forwards.



Flexible, tolerant and millimetre precision.

The Leuze electronic **barcode positioning system**.

## An idea conquers the market.

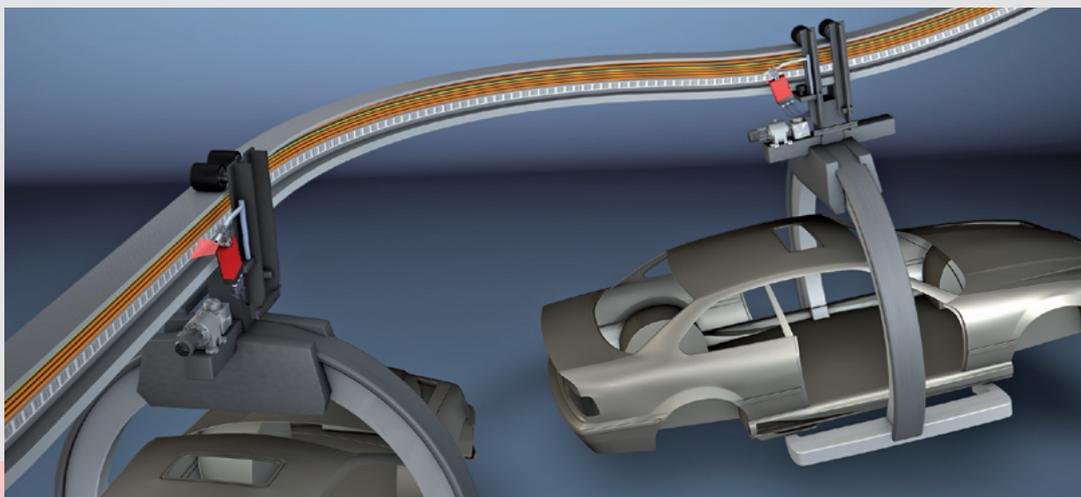
Wherever systems are moved automatically, it is necessary to uniquely determine their respective positions. In addition to mechanical measuring sensors, optical methods are particularly well suited for position determination as they can be used to determine position without mechanical wear and slippage.

Compared to common optical measurement techniques, the unique Leuze electronic barcode positioning system is able to measure a position with absolute millimetre accuracy, i.e. independent of reference points.

As a result, it is able to provide a unique position value at any time. With the highly flexible and hard-wearing barcode tape, the system can even be used without problem in systems with curves or guide tolerances. And this at lengths of up to 10,000 metres.

Our systems are used above all for position detection and for positioning. Practical applications exist in a wide range of industries and areas.

- Telfer lines
- Skillet systems
- Side-tracking skates
- High-bay storage devices and lifting gear
- Crane systems
- Transfer machines
- Lifts



## With Leuze electronic BPS, always **one step ahead.**

The unique product family of Leuze electronic barcode positioning systems convinces through a variety of advantages unmatched by other solutions.

- The laser simultaneously scans 3 barcodes and, as a result, is able to determine the position with millimetre accuracy. In addition, the wide reading field makes accurate position determination possible even in the event of minor damage to the tape.
- With the systems' flexible read distances, it is also possible to bridge over mechanical deviations.
- The Series 34 and 37 systems are capable of simultaneously measuring position and velocity and are thus also suitable for control tasks in your automation applications.
- The unique labelling of the barcode tape allows the system to be put back into operation without problem even after a brief voltage drop without e.g. needing to utilise a reference point.
- The Leuze barcode tape is very robust, highly flexible and, thanks to the self-adhesive back, can be easily integrated into your overall mechanical system. It can be fit optimally to both vertical as well as horizontal curved paths and thereby reliably facilitates trouble-free and reproducible measurement at any point in your system with millimetre accuracy.

### How the **BARCODE POSITIONING SYSTEMS** from Leuze electronic function.

By means of a visible red light laser, the information embedded in the barcode tape is read by the barcode reader and transmitted to the control. In doing so, the read head always scans at least three barcodes within a fixed angle and can thus determine the position with millimetre accuracy.

Position determination is essentially performed in three steps:

**Step 1:** Read the code on the barcode tape

**Step 2:** Determine the position of the code read in the laser beam

**Step 3:** The position value is determined with millimetre accuracy from the code information and code position



Precise positioning made easy.

The Leuze electronic **BPS 8**.



**RS232**  
**RS485**

Our BPS 8 compact barcode positioning system convinces with simple mounting mechanics and a standardised M12 plug connection. This, together with the option of using an RS 232 or RS 485 interface, makes integrating the system in your system architecture a simple process. Furthermore, the BPS 8 is available with either front beam exit or with a deflection mirror.

Technical data	
Integration time	26.6 (13.3) m/s
Reproducibility	±1 (2) mm
Measurement value output	300 values/s
Resolution	from 1/100 mm
Operating temperature	0 °C to +40 °C
Protection class	IP 67
Interfaces	RS 232, RS 485 via MA 8-01
Working range	80–140 mm, front beam exit 60–120 mm, angular beam exit
Traverse rate max.: 4 m/s	4 m/s
Supply voltage	4.9–5.4 V DC, direct connection 10–30 V DC, via MA 8-01
Laser safety class	Class 2 acc. to EN 60825-1
Approvals	 

Available accessories	
Connector unit	MA 8-01 RS 485 interface, 24 V DC, protection class IP 67
Connection cable	M12 connector. Various cable lengths and connector types available
Special mounting bracket	A specified mounting bracket simplifies mounting

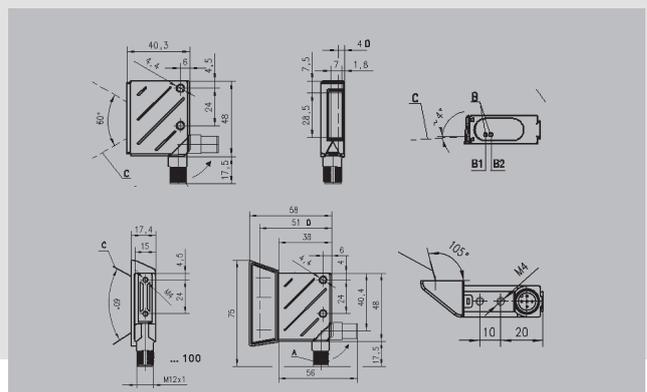
BCB 8 barcode tape (see next page for details).

Factory-set, customer-specific configuration possible.

LASER LIGHT  
DO NOT STARE INTO BEAM

Maximum output: 1.3mW  
Pulse duration: 420µs  
Wavelength: 650nm

CLASS 2 LASER PRODUCT  
IEC 60825-1:1993+A2:2001  
Complies with 21 CFR 1040.10



# The professionals for complex positioning tasks. The Leuze electronic **BPS 34/37**.



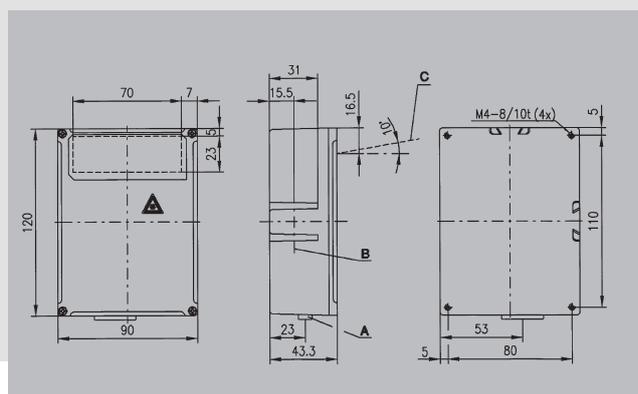
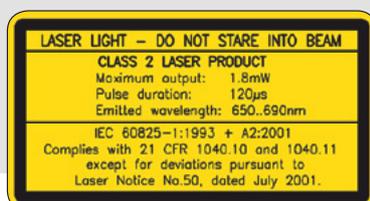
The BPS 34 (with PROFIBUS interface) and BPS 37 (with SSI interface) positioning systems are used wherever the system places complex demands in the areas of configuration, velocity measurement and traverse rate. In addition, optional optics heating facilitates the use of the devices even at temperatures below the freezing point.

Technical data	
Integration time:	16 (8) m/s
Reproducibility	±1(2) mm
Measurement value output	500 value/s
Resolution:	from 1/100 mm
Operating temperature	0°C to +40°C
with optics heating	-30°C to +40°C
High-temperature version:	0°C to +50°C
Protection class	IP 65
Interfaces	PROFIBUS DP/SSI
Working range	90–170 mm
Traverse rate, max.	10 m/s
Supply voltage	10–30 V DC
Laser safety class	Class 2 acc. to EN 60825-1
Approval	 

Available accessories	
Modular hoods w. integrated connectors	MS 34 103 / MS 34 105, M12 connections, PROFIBUS In/Out
Modular connector unit	MA 4.7 for simple configuration of the SSI interface
Connection cable	M12 connector for PROFIBUS, ready-made

BCB barcode tape (see next page for details).

Configuration via PROFIBUS protocol can be executed at any time.



## The Leuze electronic BCB/BCB 8 barcode tapes.

Handle almost everything up to 10,000 m.

The second fundamental element of a Leuze electronic barcode positioning system is the barcode tape. The photosetting technique is used to print a unique, UV-resistant barcode at regular intervals on an extremely robust and highly flexible, self-adhesive plastic tape. 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 to the travel path and conforms well to both horizontal as well as vertical curves. If the tape should nevertheless be damaged, an appropriate repair kit can be downloaded from the Internet. By integrating so-called mark labels in the barcode tape, the barcode reader can also control specific functions such as velocity changes or conveyor movements.

Technical data	BCB/BCB 8
Max. length	10,000 m
Temperature range	-40 °C to +120 °C
Printing method	Photosetting
Adhesive	Acrylic glue
Tape height	47 mm
Spacing between barcodes	40 mm / 30 mm
Environmental conditions	Scratch and wipe resistant, UV-light resistant, moisture and chemical resistant



**Economical** to mount, technologically **unique**  
– **reliable** in practical use.

The Leuze barcode positioning system is already proving itself in a number of demanding applications where it convinces with its technological advantages and its reliability.



As a supplementary system for the positioning of lifts (BPS 8 and BPS 34/37).



For positioning along the X- and Y-axes of high-bay storage devices and lifting gear, e.g. conveyor and storage technology (BPS 34/37), even with curves.



For the position determination of skid systems and side-tracking skates, e.g. in the automobile industry (BPS 8 and BPS 34/37).



For the position determination of trolley lines, e.g. in the automobile industry (BPS 8 and BPS 34/37).



For the position determination of gantry cranes (BPS 8 and BPS 34/37).

## **Optoelectronic Sensors**

Cubic Series  
Cylindrical Sensors, Mini Sensors, Fibre Optic Amplifiers  
Measuring Sensors  
Special Sensors  
Light Curtains  
Forked Sensors  
Double Sheet Monitoring, Splice Detection  
Accessories

## **Identification Systems**

### **Data Transmission Systems**

### **Distance Measurement**

Barcode Readers  
RF-IDent-System  
Modular Interfacing Units  
Industrial Image Processing Systems  
Optical Data Transmission Systems  
Optical Distance Measurement/Positioning  
Hand-Held Readers

## **Safety Sensors**

### **Safety Systems**

### **Safety Services**

Safety Laser Scanners  
Safety Light Curtains  
Transceivers and Multi Light Beam Safety Devices  
Single Light Beam Safety Devices  
AS-i-Safety Product Range  
Safety Sensor Technology for PROFIBUS DP  
Safety Switches and Safety Locking Devices  
Safety Relays and Safety Interfaces  
Sensor Accessories and Signal Devices  
Safety Engineering Software  
Machine Safety Services

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