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- Bar code positioning systems
- Optical data transmission systems
- Laser distance measuring devices
- Industrial machine vision



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**Innovations to move
you forward.
Barcode positioning system
BPS 8, BPS 34/37**



Flexible, tolerant, precise to the millimeter. The **Leuze barcode positioning systems.**

Always a step out in front with **Leuze BPS.**



AN IDEA TAKES THE MARKETPLACE BY STORM.

Wherever equipment is moved by automatic means, exact position determination is essential. Alongside mechanical transducers, optical methods are ideally suited for position determination, as they are able to detect positions without slippage and without mechanical wear.

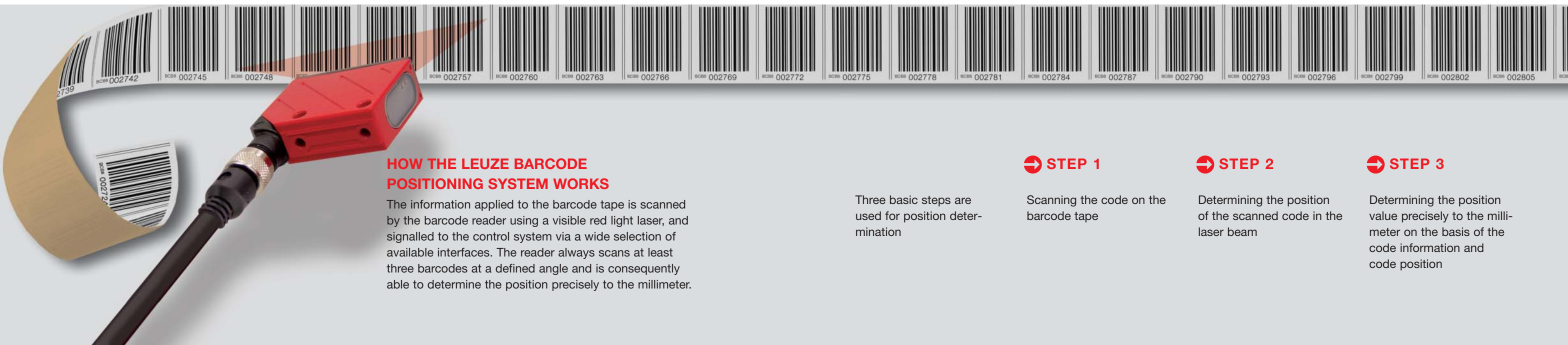
Compared to familiar optical measurement methods, the unique Leuze barcode positioning system is capable of absolute position measurement with millimeter precision, i.e. without the need to use reference points, and is consequently able to deliver an unequivocal statement of position at any time. The highly flexible and robust barcode tape permits the system to be used with maximum ease in situations involving corners or guidance tolerances – over distances of up to 10,000 meters.

Our systems are used predominantly in the field of position detection and absolute positioning. The fields of application for this type of system cover a wide range of applications and industries.

- Electrified Monorail Conveyors
- Skid handling systems
- Shuttle Carts/Tables
- Rack handling devices and hoists
- Crane systems
- Transfer machines
- Elevators

The unique Leuze barcode positioning system product family provides a wide range of convincing benefits which are unmatched by alternative solutions on the market.

- ➔ The lasers scan three barcodes simultaneously, so allowing positions to be determined precisely to the millimeter. The wide scanning field also ensures flawless position determination even where the tape has sustained minor damage.
- ➔ The flexible system scanning distance permits even mechanical discrepancies to be compensated.
- ➔ The series 34 and 37 systems are capable of measuring both position and speed simultaneously, allowing them to also be used for control functions in your automated operations.
- ➔ The unique inscription of the barcode tape allows the system to be restarted without problems even after a brief power failure without recourse to any type of reference point.
- ➔ The Leuze barcode tape is very robust, highly flexible and capable of trouble free integration in your overall mechanical setup due to its self-adhesive back. It adjusts ideally to both vertical curves and horizontal turns, guaranteeing interference-free, reproducible measured value recording at any optional point of your system with millimeter precision.



HOW THE LEUZE BARCODE POSITIONING SYSTEM WORKS

The information applied to the barcode tape is scanned by the barcode reader using a visible red light laser, and signalled to the control system via a wide selection of available interfaces. The reader always scans at least three barcodes at a defined angle and is consequently able to determine the position precisely to the millimeter.

Three basic steps are used for position determination

➔ STEP 1

Scanning the code on the barcode tape

➔ STEP 2

Determining the position of the scanned code in the laser beam

➔ STEP 3

Determining the position value precisely to the millimeter on the basis of the code information and code position



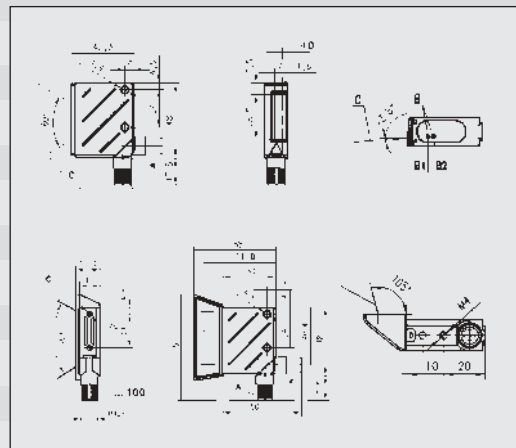
Precise position determination can be this simple. The **Leuze BPS 8**.

The impressive features of our compact barcode positioning system BPS 8 include the extreme simplicity of its mounting system and its standardized M12 plug-in connector. These benefits, as well as the additional scope to fall back on an RS 232 or RS 485 interface, allow the system to be integrated effortlessly into your system architecture. The BPS 8 can either be equipped with a standard frontal beam or an optional 90 degree deflecting mirror.

SPECIFICATIONS BPS 8:

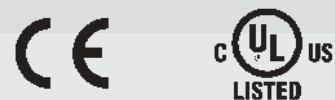
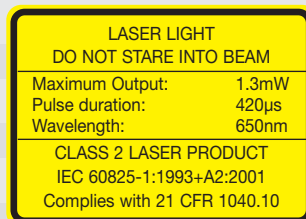
Integration time: 26.6 (13.3) ms
 Reproduction accuracy: $\pm 1(2)$ mm
 Measured value output: 300 values/s
 Resolution: from 1/100 mm
 Operating temperature: 0°C to +40°C
 Protection class: IP 67
 Interfaces: RS 232, RS 485 via MA 8-01
 Operating range: 80 – 140 mm, frontal beam outlet
 60 – 120 mm, 90 degree deflecting mirror
 Traversing speed max.: 4 m/s
 Supply voltage: 4.9 – 5.4 V DC, direct connection
 10 – 30 V DC, via MA 8-01
 Laser protection class: Class 2 to EN 60825-1
 Default customer-specific parameterization possible prior to delivery

RS232 RS485



AVAILABLE ACCESSORIES BPS 8:

Interfacing unit MA 8-01
 - RS 485 interface, 24 V DC, protection class IP 67
 Connecting cable:
 - M12 plug-in connector. Various cable lengths and plug types available
 Special mounting bracket:
 - Simplifies installation with prescribed retaining bracket
 Barcode tape BCB 8 (for details see next page)



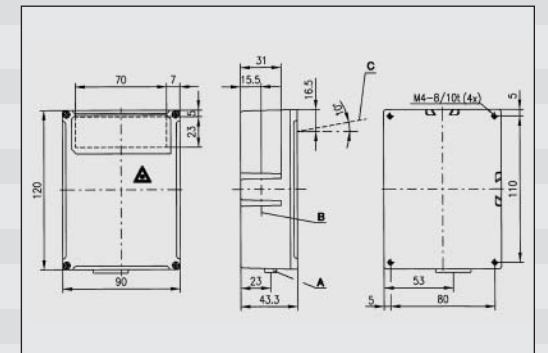
The professional solution to complex positioning assignments. The **Leuze BPS 34/37**.

The BPS 34 positioning systems (with PROFIBUS interface) and BPS 37 (with SSI interface) are used wherever more complex demands are made on parameterization, speed measurement and traversing speeds. An optional lens heating functional also permits deployment at temperatures well below freezing.

SPECIFICATIONS BPS 34/37:

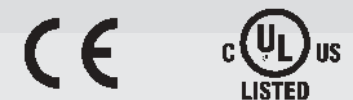
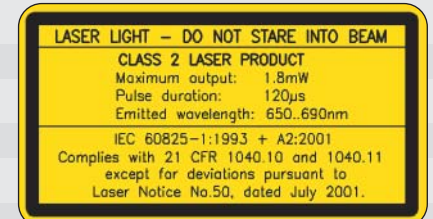
Integration time: 16 (8) ms
 Reproduction accuracy: $\pm 1(2)$ mm
 Measured value output: 500 values/s
 Resolution: from 1/100 mm
 Operating temperature: 0°C to +40°C
 With lens heating: -30°C to +40°C
 High-temperature version: 0°C to +50°C
 Protection class: IP 65
 Interfaces: PROFIBUS DP / SSI
 Operating range: 90 - 170 mm
 Traversing speed max.: 10 m/s
 Supply voltage: 10 - 30 V DC
 Laser protection class: Class 2 to EN 60825-1
 Parameterization via PROFIBUS protocol possible at any time

PROFIBUS SSI



AVAILABLE ACCESSORIES BPS 34/37:

Modular plug hoods:
 - MS 34 103 / MS 34 105, M12 connectors, PROFIBUS In/Out
 Modular interfacing unit:
 - MA 4.7 for simple parameterization of the SSI interface
 Connecting cable:
 - M12 plug-in cable pre-assembled for PROFIBUS
 Barcode tape BCB (for details see the next page)



Able to cope with practically any conditions up to 10.000 millimetres. The **Leuze barcode tapes.**

The second constituent element of the Leuze barcode positioning system is its barcode tape. A highly durable and highly flexible self-adhesive plastic tape is printed with a unique UV-resistant barcode using the filmsetting technique. Handling is simplified by an additional plain text imprint of the position value. This tape, which can measure anything up to 10.000 metres in length, can be simply stuck along

the traversing route and is capable of optimum adjustment to horizontal turn or vertical curves. Should the tape ever be damaged in extreme circumstances, a suitable repair kit can be simply downloaded from the internet. By integrating so-called mark labels in the barcode tape, the barcode reader is able to selectively trigger functions such as speed changes or conveying equipment movements.



SPECIFICATIONS OF THE BCB/BCB 8:

(Values in brackets apply to the BCB 8)

Max. length: 10.000 m
 Temperature range: -40 °C to +120 °C
 Printing technique: Filmsetting
 Adhesive: Acrylic

Height of the tape: 47 mm
 Barcode spacing: 40 mm (30 mm)
 Ambient conditions: Scratch and wipe-proof, as well as UV light, moisture and chemical resistant

Unique technology – **Reliable in practice.**

The Leuze barcode positioning system is already in successful use in challenging applications throughout industry, where its technological benefits and reliability are making a big impact.



For position determination of electric overhead conveyors, for instance in the automotive engineering industry (BPS 8 and BPS 34/37)



For position determination of skid handling systems and shuttle carts/tables for instance in the automotive engineering industry (BPS 8 and BPS 34/37)



For X and Y axis positioning of rack handling systems and hoists for instance in the field of warehousing and handling technology (BPS 34/37), also round corners



For gantry crane position determination (BPS 8 and BPS 34/37)



As supplementary system for positioning elevators (BPS 8 and BPS 34/37)