

the **sensor** people

## The Newest Generation of Forked Sensors

GS 61, GS 63 – optical forked sensors  
IGSU 14B – ultrasonic forked sensor






With the **new** generation of forked sensors,  
we set standards in **functionality** and **flexibility**.

### More power in a small design.

With the new GS 61 and GS 63 optical forked photoelectric sensors, Leuze electronic complements the very successful ultrasonic forked sensors of the GSU 14B and IGSU 14B series to create an outstanding performance portfolio.

With the GSU 14B and IGSU 14B sensors, developed for precise and fast detection with high web speeds and dispenser accuracy and the use of various material combinations—from paper to transparent foils, printed or metalized—a clear benchmark was already set. The new GS 61 and GS 63 sensors, developed especially for the detection of non-transparent labels, are characterized by further, particularly user-oriented features. Thus, the considerably reduced response time and the very high repeatability ensure unmatched reliability. The extremely flat, lower fork in the new slim-line design enables integration directly at the dispensing edge in installation situations with very limited space. Large mouth widths for the processing of booklets or folded labels offer a very broad spectrum of use. Lockable teach buttons for safeguarding against manipulation and ALC (Auto Level Control) for improving the functional reliability on devices equipped with these features are further innovations of this unique sensor family.



## Optical forked photoelectric sensors

### GS 61 and GS 63.



**GS 61**

The world's smallest forked photoelectric sensor in industrial quality.

- Optical forked photoelectric sensor with 3 mm mouth width for exact detection of labels on base material
- Simple sensitivity adjustment via multiturn potentiometer or optionally via teach-in function
- **New**  
Slim-line design (reduced fork height) for installation directly on the dispensing edge
- **New**  
Removable operating head for easy parameter adjustment without tools
- **New**  
Smallest dimensions of all industrial forked photoelectric sensors with an excellent price / performance ratio



**GS 63**

First-class technology in a new design.

- Optical forked photoelectric sensor with 3 mm mouth width and 60 mm mouth depth also making it ideally suited for detecting wide labels
- High switching frequency and short response time guarantee very good repeatability
- Easy adjustment via lockable teach button or teach input
- Robust metal housing that is sealed to protect against corrosion by means of the cathodic dip painting method familiar from automotive engineering
- **New**  
Slim-line design (reduced fork height) for installation directly on the dispensing edge
- **New**  
ALC (Auto Level Control) function: highest performance reserve through autonomous online optimization of the switching threshold
- **New**  
Storage of up to ten teach values in the sensor
- **New**  
Warning output for indicating teach or function errors

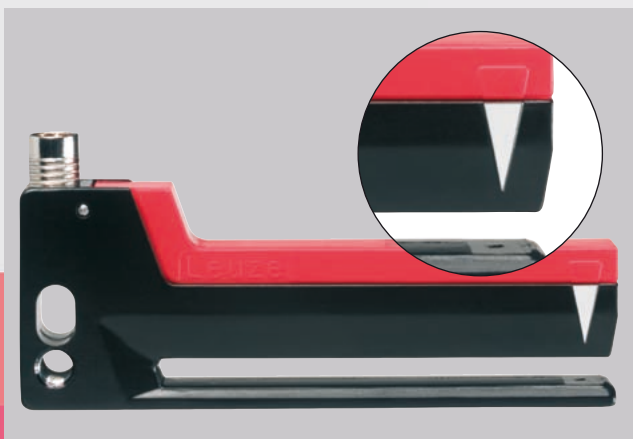
## Innovations in detail for the **best functionality.**

### Advantage: slim-line design

For more design freedom through considerable reduction in device size.

- The extremely flat lower fork enables simple installation directly at the dispensing edge in installation situations with very limited space
- Installation freedom with the GS 61, the world's smallest forked photo-electric sensor in industrial quality for label technology
- Highly visible markings for fast alignment of the label tape

Extremely flat lower fork in slim-line design.  
Highly visible marking for label alignment.



### Advantage: connectivity

For direct mounting and connection in installation situations with extremely limited space.

- Metal M8 connector or alternatively with 2,000 mm cable connection
- Either horizontal (to the rear) or vertical (upward) plug outlet
- The outlet with cable is oriented at less than 45°

Optional BT-GS6X.L mounting adapter.



### Advantage: accessories

For reliable and precise fastening.

- Optional BT-GS6X.L mounting adapter for compatibility with many common forked sensors
- Custom mounting devices for specific requirements

Either horizontal or vertical plug connection.







## Device selection

| Basic functions  | GS 61 /<br>potentiometer | GS 61 /<br>teach  | GS 63             | IGS 63            |
|--|--------------------------|-------------------|-------------------|-------------------|
| Slim-line design (reduced fork height) for positioning directly at the dispenser edge  | X                        | X                 | X                 | X                 |
| Robust metal housing that is sealed to protect against corrosion by means of the cathodic dip painting method familiar from automotive engineering | —                        | —                 | X                 | X                 |
| Smallest housing of all industrial forked photoelectric sensors  | X                        | X                 | —                 | —                 |
| Suitable for booklets and fan-fold flyers  | X                        | X                 | X                 | X                 |
| Special functions  |                          |                   |                   |                   |
| Sensitivity adjustment via potentiometer   | X                        | —                 | —                 | —                 |
| Dynamic and static teach function  | —                        | X                 | X                 | X                 |
| Lockable teach button  | —                        | —                 | X                 | X                 |
| Teach input (line teach)   | —                        | —                 | X                 | X                 |
| ALC function for maximum functional reliability  | —                        | —                 | X                 | X                 |
| Warning output for separate display of errors and maintenance  | —                        | —                 | —                 | X                 |
| Number of switching outputs  | 1 x push-pull            | 1 x push-pull     | 1 x push-pull*    | 1 x push-pull*    |
| Number of LEDs   | 2: ON, OUT               | 3: ON, OUT, WARN  | 3: ON, OUT, WARN  | 3: ON, OUT, WARN  |
| M8 plug outlet   | straight, angular        | straight, angular | straight, angular | straight, angular |
| 2,000 mm cable   | X                        | X                 | X                 | X                 |
| Highly visible marking for aligning the label infeed   | X                        | X                 | X                 | X                 |

\*adjustable: signal in the gap  
signal on the label

Alternatively, also with cable connection.



Removable operating head for potentiometer adjustment.



## Ultrasonic forked sensors

### GSU 14B and IGSU 14B.



**GSU 14B**

- Ultrasonic forked sensor for universal application
- Large mouth width, hence also suitable for booklets or fan-fold flyers
- Basic version GSU 14B comparable with the previous model GSU 14



**IGSU 14B**

- **New**  
EasyTeach function:  
press button - dispense labels - done!
- **New**  
ALC (Auto Level Control) function: highest performance reserve through autonomous online optimization of the switching threshold
- **New**  
Warning output for indicating teach or function errors
- Easy adjustment via lockable teach button or teach input

## Device selection

| Basic functions  | GSU 14B (basic) | IGSU 14B (advanced) |
|--|-----------------|---------------------|
| Directly comparable to GSU 14  | X               | —                   |
| Universal application (paper, transparent foil, metallized foil)           | X               | X                   |
| Suitable for booklets and fan-fold flyers                                  | X               | X                   |
| Maximum conveyor speed up to 240 m/min (4 m/s)                             | X               | X                   |
| Typ. Response time < 200 µs  | X               | X                   |
| 1 adjustable switching output (light or dark switching function)           | —               | X                   |
| 2 switching outputs  | X               | —                   |
| Special functions  |                 |                     |
| Manual teach-in  | X               | —                   |
| EasyTeach  | —               | X                   |
| Online optimization of the switching threshold by ALC (Auto Level Control) | —               | X                   |
| Warning display on the device  | X               | X                   |
| Warning display for indicating teach or function errors                    | —               | X                   |

## Specifications of all forked sensors.

| Physical data  | GS 61  | GS 63 / IGS 63   | GSU 14B / IGSU 14B  |
|--|--|--|---|
| Mouth width  | 3 mm   | 3 mm   | 4 mm  |
| Mouth depth  | 40 mm  | 60 mm  | 68 mm   |
| Label size (width in direction of transport x height)  | 2 x 5 mm   | 2 x 5 mm   | 5 x 10 mm   |
| Smallest label gap                                     | 2 mm   | 2 mm   | 2 mm  |
| Conveyor speed   |  |  | 240 m/min   |
| Switching frequency (max.)                             | 10 kHz   | 10 kHz   |   |
| Max. permissible conveyor speed during teach operation | 20 m/min   | 20 m/min   | 50 m/min  |
| Response time  | 50 µs  | 50 µs  | 100 µs  |
| Repeatability  | ≤ 0.1 mm*  | ≤ 0.1 mm*  | ≤ 0.2 mm*   |
| Indicators and switching output                        |  |  |   |
| Green LED  | ready  | ready  | ready   |
| Yellow LED   | switching signal in the label gap  | switching signal in the label gap  | switching point in the label gap  |
| Red LED  | teach error, function error  | teach error, function error  | teach error, function error   |
| Switching outputs                                      | 1 push-pull switching output<br>Pin 4: PNP gap signal, NPN label signal<br>1 push-pull switching output<br>Pin 4: PNP label signal, NPN gap signal | 1 push-pull switching output<br>Pin 4: PNP gap signal, NPN label signal<br>1 push-pull switching output<br>Pin 4: PNP label signal, NPN gap signal | 1 push-pull switching output<br>Pin 4: PNP light switching, NPN dark switching<br>1 push-pull switching output as warning output<br>Pin 2: active low (normal operation high, event case low) |
| Switching output function                              | Gap signal or label signal   | gap signal/label signal adjustable   | gap signal/label signal adjustable  |

\*dependent on conveyor speed





## **Optoelectronic Sensors**

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

## **Identification Systems**

### **Data Transmission Systems**

### **Distance Measurement**

Barcode Readers  
RF-IDent-Systems  
Modular Interfacing Units  
Industrial Image Processing Systems  
Optical Data Transmission Systems  
Optical Distance Measurement/Positioning  
Mobile Code Readers

## **Safety Sensors**

### **Safety Systems**

### **Safety Services**

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

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