Leuze electronic

HVS
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the sensor people

The Newest Generation of Forked Sensors

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

PRODUCT INFORMATION

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

Advantage: connectivity

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

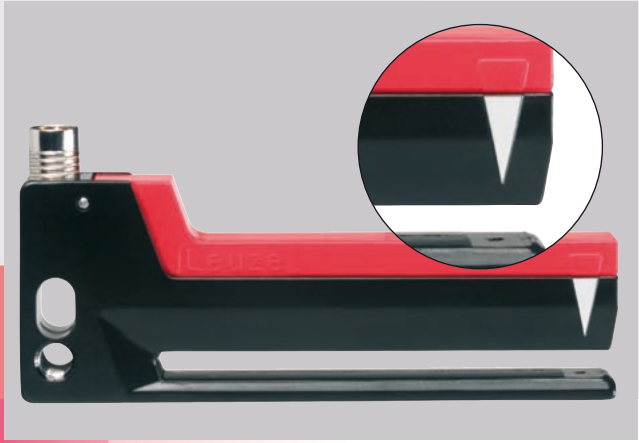
- Metal M8 connector or alternatively with 2,000 mm cable connection
- Either horizontal (to the rear) or vertical (upward) plug outlet
- The outlet with cable is oriented at less than 45°

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

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



Optional BT-GS6X.L mounting adapter.

Either horizontal or vertical plug connection.

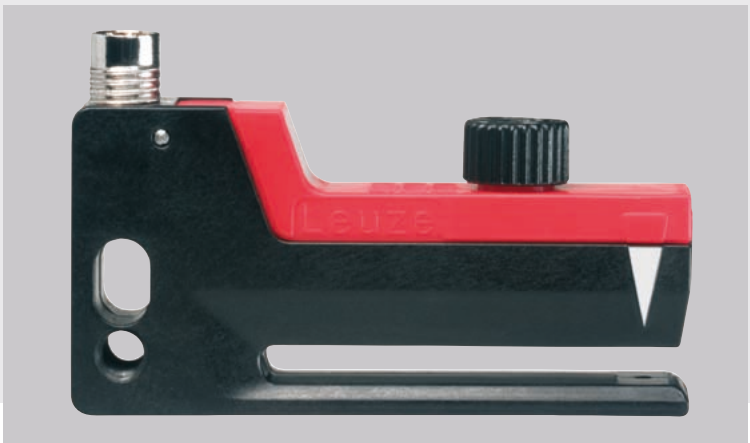
Device selection

Basic functions	GS 61 / potentiometer	GS 61 / 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

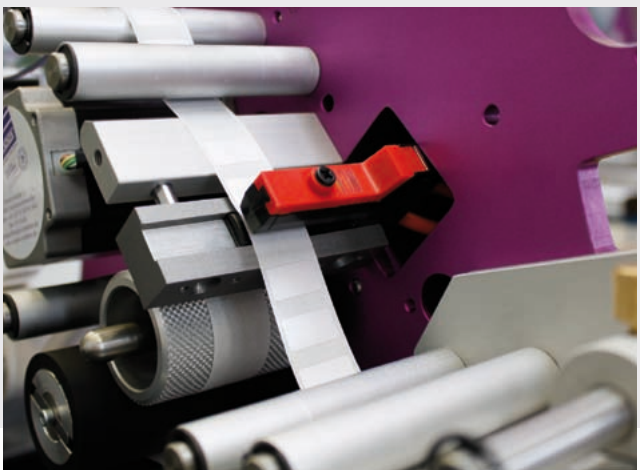
Device selection

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 Pin 4: PNP gap signal, NPN label signal 1 push-pull switching output Pin 4: PNP label signal, NPN gap signal	1 push-pull switching output Pin 4: PNP gap signal, NPN label signal 1 push-pull switching output Pin 4: PNP label signal, NPN gap signal	1 push-pull switching output Pin 4: PNP light switching, NPN dark switching 1 push-pull switching output as warning output 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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