Leuze electronic

HVS
PRECONISATEUR DE SOLUTIONS DEPUIS 1985

2 rue René Laennec 51500 Taissy France
Fax: 03 26 85 19 08, Tel : 03 26 82 49 29
E-mail:hvssystem@hvssystem.com
Site web : www.hvssystem.com

the sensor people

Measuring and switching ultrasonic sensors

Comprehensive product portfolio – the allrounders amongst the sensors

PRODUCT INFORMATION

There are only unsuitable **sensors**,
rather than **difficult environmental conditions**.

Ultrasonic sensor solutions for almost any application

Ultrasonic sensors – the allrounders amongst the sensors – always come into use when optical systems reach their limits. Hence, partially and fully transparent or extremely dark objects can be detected just as easily as objects with reflecting surfaces or objects in dusty, vaporous or humid environments.

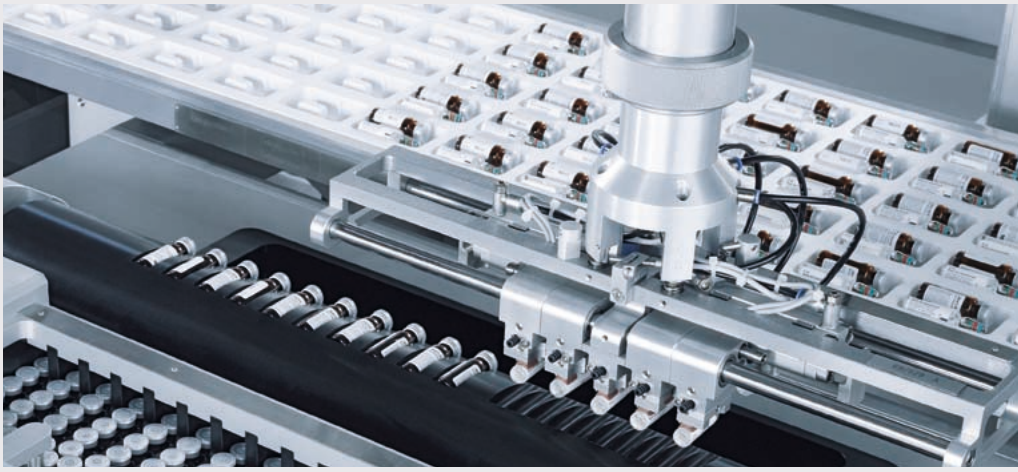
Other advantages at a glance

- Mainly surface-independent switching behavior with sound reflecting materials
- Excellent background suppression due to propagation time measurement
- Distance measuring sensors with temperature compensation
- Different operating principles for switching sensors
- Systems with especially narrow sound cone for the detection of small objects or of objects with extremely small openings
- Systems with teach-in function on the device and/or by cable
- Systems with adjustable switching frequency or sound cone shape

Application examples

Packaging technology

- Reliable detection of transparent objects such as e.g. PET bottles or foils
- Level measurement and level monitoring of liquids or bulk materials
- Detection of high-gloss or structured objects and surfaces



Graphics industry

- Detection of high-gloss printing media
- Stack height measurement
- Determination of roller diameter

Distance, height or dimension measurements of objects in different areas of application

Measuring ultrasonic sensors

HRTU 418

Function characteristics	Retro-reflective ultrasonic scanners	
Overall dimension [mm]	M18 x 1	
Measurement ranges [mm]	50 – 300	150 – 1,000
Response times [ms]	100	120
Resolution [mm]	1	
Reproducibility [mm]	±1	±2
Temperature compensation	Yes	

Special features:

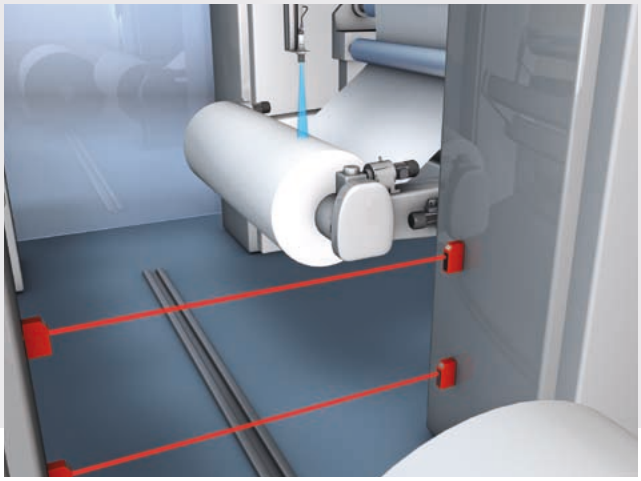
- A current or voltage output configurable via PC software
- To avoid mutual interference, max. 10 sensors may be synchronized via one cable
- Sensitivity, average value calculation, reduction of response time and outputs configurable via PC software

VRTU 430

Function characteristics	Retro-reflective ultrasonic scanners			
Overall dimension [mm]	M30 x 1.5			
Measurement ranges [mm]	60 – 300	200 – 1,300	400 – 3,000	600 – 6,000
Response times [ms]	80	110	200	400
Resolution [mm]	1			
Reproducibility [mm]	±0.45	±2	±5	±9
Temperature compensation	Yes			

Special features:

- One current/voltage output each and one switching output configurable via PC software
- To avoid mutual interference, max. 10 sensors may be synchronized via one cable
- Sensitivity, average value calculation, reduction of the response time and outputs configurable via PC software



Switching ultrasonic sensors

Series 8

Function characteristics	Throughbeam ultrasonic sensor	Retro-reflective ultrasonic sensor	Retro-reflective ultrasonic scanners
Overall dimension [mm]	15 x 48 x 38 (W x H x D)		
Operating ranges [mm]	0 – 800	0 – 400	50 – 400
Response times [ms]	2	62.5 / 16.7	62.5
Resolution [mm]	–	1	1
Reproducibility [mm]	–	±1	±1

Special features:

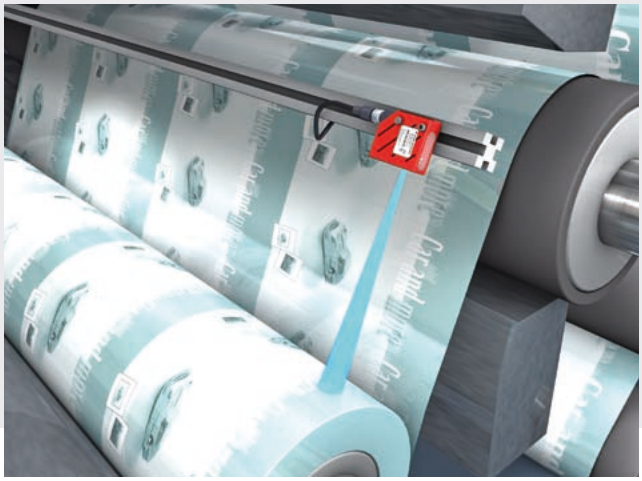
- Detection of narrow gaps
- High switching frequency up to 250 Hz (throughbeam ultrasonic sensor)
- Teach function for adjustment
- Ranges adjustable in five stages for throughbeam ultrasonic sensor

LSU 18

Function characteristics	Throughbeam ultrasonic sensor
Overall dimension [mm]	15 x 50 x 33 (W x H x D)
Operating ranges [mm]	0 – 650
Response time [ms]	5
Resolution [mm]	–
Reproducibility [mm]	–

Special features:

- High sound pressure, therefore suitable for air transport systems
- Detection of narrow gaps
- Insensitive to dust
- Switching frequency max. 100 Hz



Switching ultrasonic sensors

NEW: HRTU 420

Function characteristics	Retro-reflective ultrasonic scanners		
Overall dimension [mm]	20 x 42 x 15 (W x H x D)		
Scanning ranges [mm]	Narrow sound cone: 10 – 200	Standard sound cone: 40 – 400	Wide sound cone: 100 – 1,000
Response times [ms]	Narrow sound cone: 10	Standard sound cone: 25	Wide sound cone: 50
Resolution [mm]	1		
Reproducibility [mm]	≤ ±0.5		

Special features:

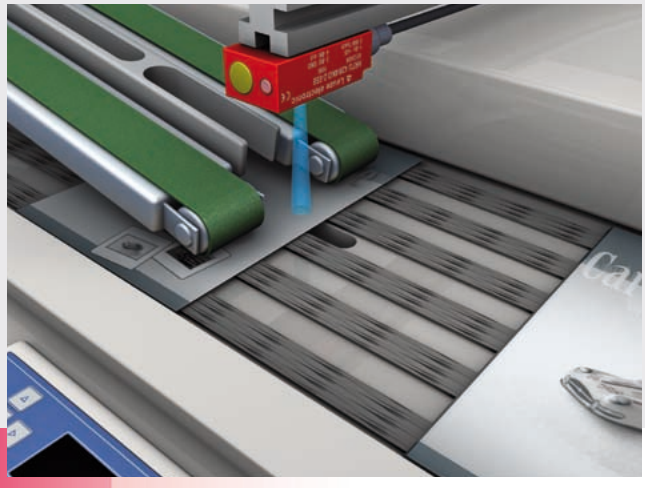
- 3 different opening angles and sound cones: narrow, standard, wide
- Teach-in on the device and via a cable
- Protection against erroneous operation by automatically locking teach button

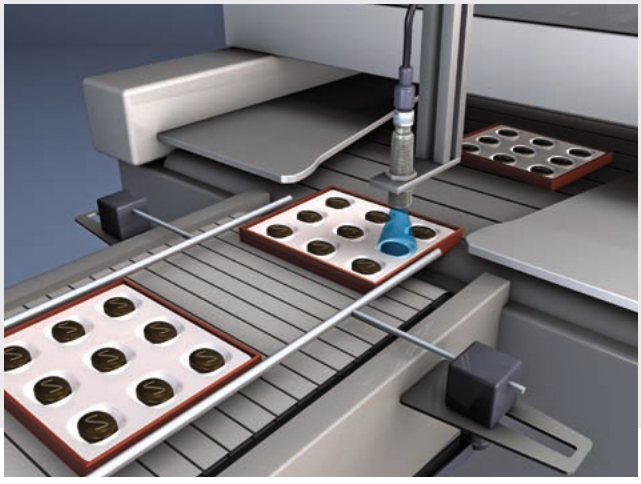
NEW: HRTU 412

Function characteristics	Retro-reflective ultrasonic scanners	
Overall dimension [mm]	M12 x 1	
Scanning ranges [mm]	Narrow sound cone: 10 – 200	Standard sound cone: 40 – 400
Response times [ms]	Narrow sound cone: 10	Standard sound cone: 25
Resolution [mm]	1	
Reproducibility [mm]	≤ ±0.5	

Special features:

- 2 different opening angles and sound cones: narrow, standard
- Teach-in via a cable
- Protection against erroneous operation by automatically locking teach button





HRTU 418

Function characteristics	Retro-reflective ultrasonic scanners			
Overall dimension [mm]	M18 x 1 standard construction		M18 x 1 short construction	
Measurement ranges [mm]	50 – 300	150 – 1,000	25 – 400	50 – 700
Response times [ms]	100	120	50	100
Resolution [mm]	1			
Reproducibility [mm]	±1	±2	±1	±1
Temperature compensation	Yes		No	

Special features:

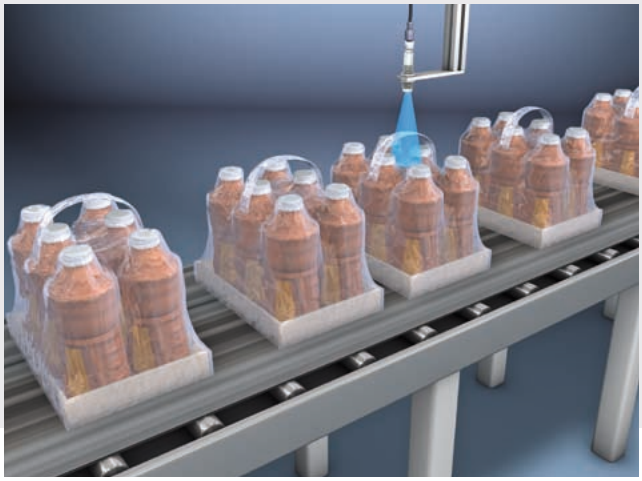
- Model with angled head (sound exit 90 degrees to the longitudinal axis of the sensor)
- Short construction
- 2 independent switching outputs, teach-in via a cable

VRTU 430

Function characteristics	Retro-reflective ultrasonic scanners			
Overall dimension [mm]	M30 x 1.5			
Measurement ranges [mm]	60 – 300	200 – 1,300	400 – 3,000	600 – 6,000
Response times [ms]	80	110	200	400
Resolution [mm]	<=1	>=1	>=1	>=1
Reproducibility [mm]	±0.45	±2	±5	±9
Temperature compensation	Yes			

Special features:

- Two switching outputs with separate adjustment of start and end of switching range (Q1) via potentiometer and PC software
- To avoid mutual interference, max. 10 sensors may be synchronized via one cable
- All basic functions and switching outputs configurable via PC software



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 and Safety Command Devices
Safety Relays
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services

Leuze electronic GmbH + Co. KG
In der Braike 1
D-73277 Owen / Germany
Phone +49 (0) 7021 / 573-0
Fax +49 (0) 7021 / 573-199
info@leuze.de
www.leuze.com

en 01-2010/08 50114124