Dimensioned drawing

60 … 300 mm
200 … 1300 mm

20 - 30 V
DC

- Ideal for detection of levels of liquids, bulk materials, transparent media, …
- Distance information largely independent of surface properties
- 1 analogue output, 1 switching output
- PC-configuration software for configuring sensor and switching output / analogue output
- Up to 10 devices can be synchronised via the SYNC input
- Separate adjustment of start and end of switching range (Q1) via potentiometer and PC

M30x1.5
SW 36
80
117
131
123.5
ø27.3
11.5
2
10.5
8.5
M12x1
C / B
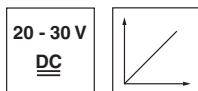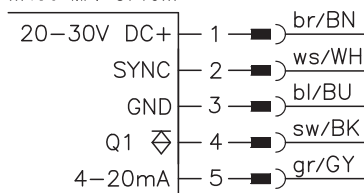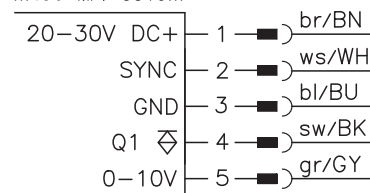A

A   Potentiometer for end of switching range Q1
B   Indicator diode Q1
C   Potentiometer for start of switching range Q1

Electrical connection

...430 M/V 3710...
...430 M/V 5710...

20–30V DC+	1	br/BN
SYNC	2	ws/WH
GND	3	bl/BU
Q1	4	sw/BK
4–20mA	5	gr/GY

...430 M/V 3510...
...430 M/V 5510...

20–30V DC+	1	br/BN
SYNC	2	ws/WH
GND	3	bl/BU
Q1	4	sw/BK
0–10V	5	gr/GY

CE

c(UL)us LISTED

IEC 60947...

IEC 60947...

IP 65

Accessories:

(available separately)

- Cable with M12 connector (K-D …)
- "USDS-Config" configuration software (free download from *www.leuze.com*)
- PGU 01 (programming unit)
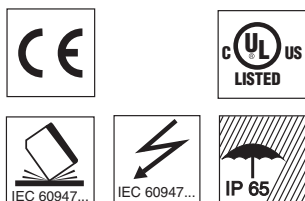
We reserve the right to make changes • USDS_03gb.fm

Specifications

Ultrasonic specifications	VRTU…-5x10-300…	VRTU…-3x10-1300…
Operating range [1]	60 … 300mm	200 … 1300mm
Ultrasonic frequency	400kHz	200kHz
Opening angle	6°	
Resolution	≤ 1mm	≥ 1mm
Absolute measurement accuracy	± 1.5% of the measurement range end value	
Reproducibility	± 0.45 mm	± 2mm
Switching hysteresis	10mm	10mm
Sensitivity	potentiometer 270°	

Timing		
Switching frequency (min.) [2]	8Hz	4Hz
Response time (max.) [2]	80ms	110ms
Delay before start-up	280ms	280ms

Electrical data	
Operating voltage U_B	20 … 30VDC (incl. ± 10% residual ripple)
Residual ripple	± 10% of U_B
Bias current	≤ 50mA (without load)
Outputs	1 PNP transistor, 1 analogue output

Switching output	
Function characteristics	switching in case of object recognition
Output current (PNP)	300mA
Current output	**only HRTU…-x710-…**
Output current	4 … 20mA
Load resistor	R_L = 0 … 300Ω
Characteristic curve	ascending
Voltage output	**only HRTU…-x510-…**
Output voltage	0 … 10V
Load resistor	R_L ≥ 500Ω
Characteristic curve	ascending

Indicators	
Yellow LED	output activated
Flashing yellow LED	programming error

Mechanical data	
Housing	metal / CuZn
Weight	210g
Connection type	M12 connector, plastic, 5-pin

Environmental data	
Ambient temp. (operation/storage)	-25°C … +70°C/-40°C … +85°C
Protective circuit [3]	1, 2, 3
VDE safety class	III
Protection class	IP 65
Standards applied	IEC 60947-5-2
Fitting position	any

1) For the complete temperature range, measured object ≥ 10x10mm
2) Can be configured up to 3 times faster using "USDS-Config"
3) 1=short-circuit and overload protection, 2=no polarity reversal protection, 3=wire break and inductive protection

Remarks

- **Approved purpose**:
  The ultrasonic distance sensors are used for acoustic, contactless detection of objects.
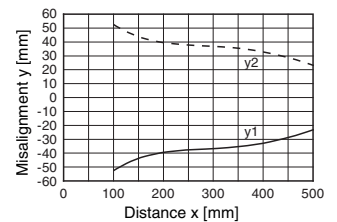
Order guide

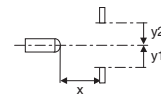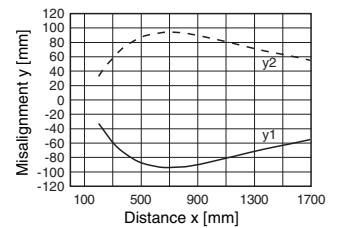|	Designation	Part No.
Current output	VRTU 430M/V-5710-300-S12	500 36266
Current output	VRTU 430M/V-3710-1300-S12	500 36267
Voltage output	VRTU 430M/V-5510-300-S12	500 40771
Voltage output	VRTU 430M/V-3510-1300-S12	500 40772

Tables

Diagrams

VRTU…-5x10-300…
Typ. response behaviour (object 10x10mm)

VRTU…-3x10-1300…
Typ. response behaviour (object 10x10mm)

Remarks

- Synchronisation:
  Mutual interference is excluded by connecting the sensors with the SYNC input.

Configuration software "USDS-Config"

The configuration software runs under Windows 95/98/NT/2000/XP and offers the following features:

- Configuration of multiplex operation
- Configuration of the sensor (attenuation, switching frequency, response time)
- Adjustment of the switching output (start/end of switching range, hysteresis, object present yes/no)
- Adjustment of the analogue output
- Support of various languages