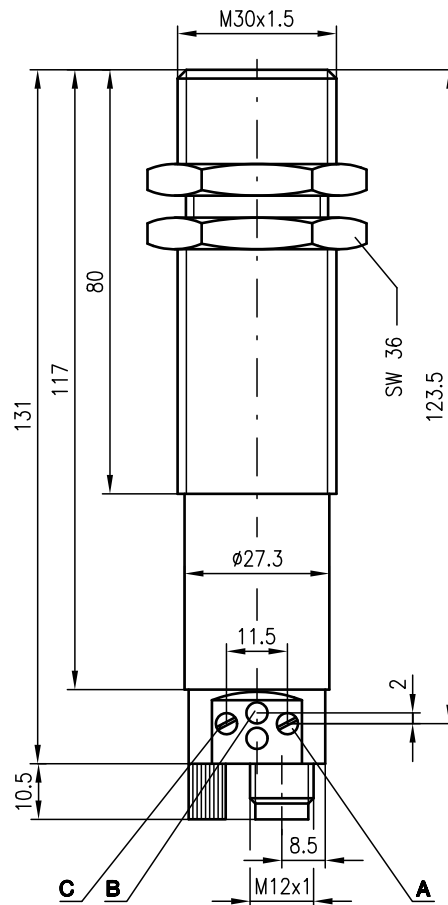


VRTU 430

Ultrasonic distance sensors



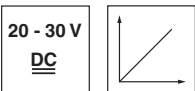
Dimensioned drawing



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



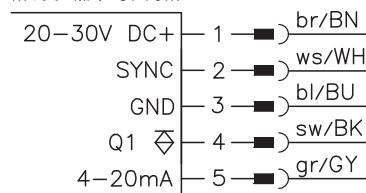
60 ... 300 mm
200 ... 1300 mm



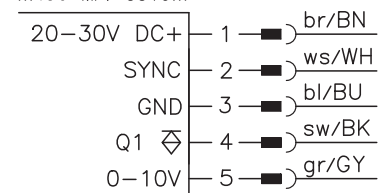
- Ideal for detection of levels of liquids, bulk materials, transparent media, ...
- Distance information largely independent of surface properties
- 1 analogue output, 1 switching output
- PC-configuration software for configuring sensor and switching output / analogue output
- Up to 10 devices can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

Electrical connection

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



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



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

	VRTU...-5x10-300...	VRTU...-3x10-1300...
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
Output current (PNP)
300mA

Current output

Output current
Load resistor
Characteristic curve
only HRTU...-x710-...

Voltage output

Output voltage
Load resistor
Characteristic curve
only HRTU...-x510-...

Indicators

Yellow LED
Flashing yellow LED
output activated
programming error

Mechanical data

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

Environmental data

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

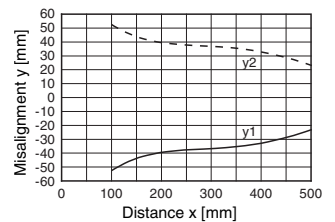
	Designation	Part No.
Current output	VRTU 430M/V-5710-300-S12	500 36266
Current output	VRTU 430M/V-3710-1300-S12	500 36267
Voltage output	VRTU 430M/V-5510-300-S12	500 40771
Voltage output	VRTU 430M/V-3510-1300-S12	500 40772

Tables

Diagrams

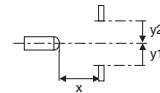
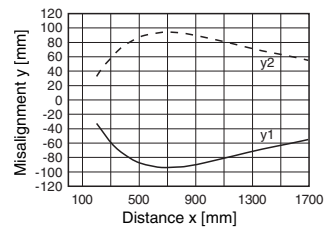
VRTU...-5x10-300...

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