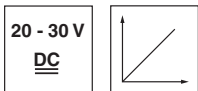


VRTU 430

Ultrasonic distance sensors



400 ... 3000 mm



- Ideal for detection of levels of liquids, bulk materials, transparent media, ...
- Distance information largely independent of surface properties
- Analogue current output or voltage output, 1 switching output
- All settings are adjustable
- Up to 10 devices can be synchronised via the SYNC input
- Start and end of switching range adjustable separately

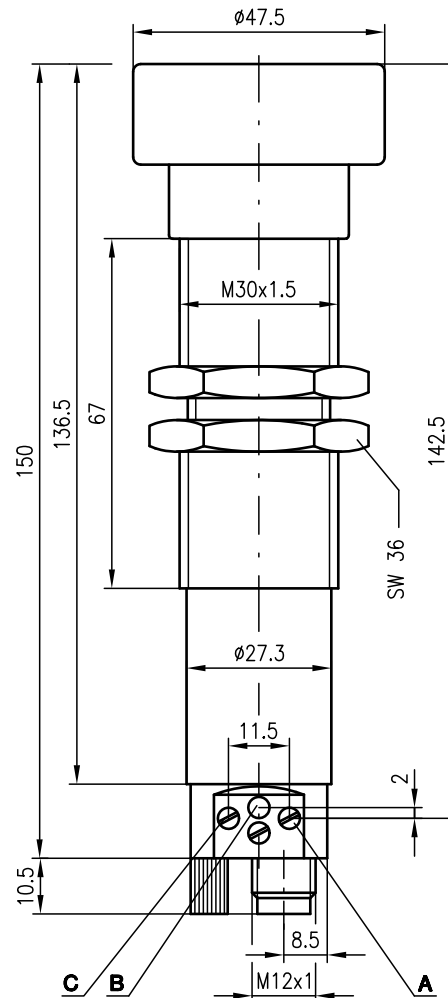


Accessories:

(available separately)

- Programming software "USDS-Config"
- PGU 01 (programming unit)

Dimensioned drawing



- A** End of switching range
- B** Indicator diode Q1
- C** Start of switching range

Electrical connection

...430 M/V 2710...

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 2510...

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

Specifications

Ultrasonic specifications

Operating range ¹⁾	400 ... 3000mm
Ultrasonic frequency	120kHz
Opening angle	6°
Resolution	≥ 1mm
Absolute measurement accuracy	± 1.5% of the measurement range end value
Reproducibility	± 5mm
Switching hysteresis	20mm

Timing

Switching frequency	2Hz
Response time	200ms
Delay before start-up	280ms

Electrical data

Operating voltage U_B	20 ... 30VDC (incl. ± 10% residual ripple)	
Residual ripple	± 10% of U_B	
Bias current	< 60mA	
Outputs	1 PNP transistor,	1 PNP transistor,
	1 analogue current output	1 analogue voltage output
Function characteristics	switching in case of object recognition	
Output current (PNP switching output)	max. 300mA	
Analogue output	4 ... 20mA	0 ... 10V
Load resistance (analogue output)	R_L 0 ... 300Ω	R_L ≥ 2kΩ
Characteristic curve	ascending	
Switching range adjustment	potentiometer 270°	

Indicators

Yellow LED	output activated
Flashing yellow LED	programming error

Mechanical data

Housing	metal / CuZn
Weight	340g
Connection type	M12 connector, plastic, 5-pin

Environmental data

Ambient temp. (operation/storage)	-25°C ... +70°C/-40°C ... +85°C
Protective circuit ²⁾	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 ≥ 50x50mm

2) 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.

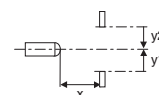
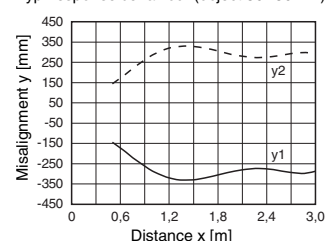
Order guide

	Designation	Part No.
With analogue current output	VRTU 430M/V-2710-3000-S12	500 36268
With analogue voltage output	VRTU 430M/V-2510-3000-S12	501 07096

Tables

Diagrams

Typ. response behaviour (object 50x50mm)



Remarks

● Synchronisation:

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

● Multiplex:

Achieved by configuring the sensors with the "USDS-Config" software.