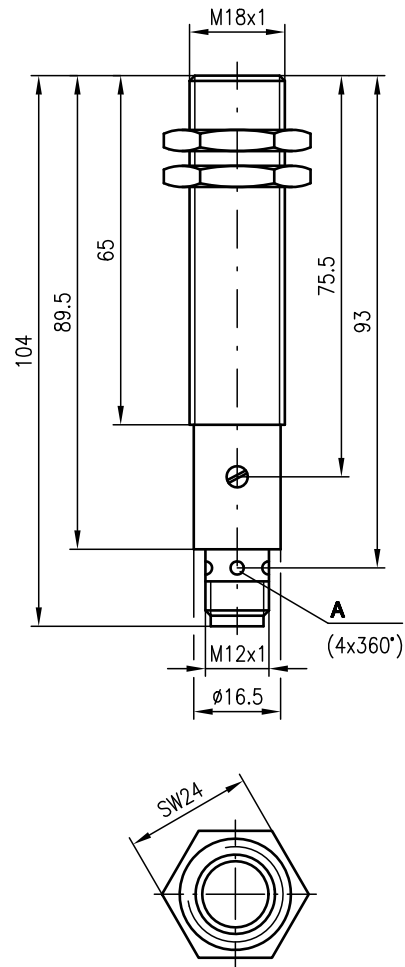


HRTU 418

Ultrasonic distance sensors

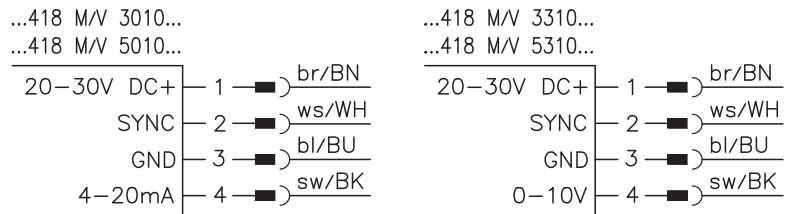


Dimensioned drawing

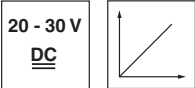


A Indicator diodes Q1

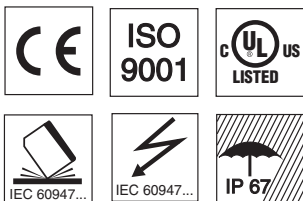
Electrical connection



50 ... 300mm
150 ... 1000mm



- Ideal for detection of levels of liquids, bulk materials, transparent media, ...
- Distance information largely independent of surface properties
- PC-configuration software for configuring sensor and analogue output
- Up to 10 devices can be synchronised via the SYNC input



Accessories:

(available separately)

- Mounting systems
- 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_02gb.fm

Specifications

Ultrasonic specifications

	HRTU...-5x10-300...	HRTU...-3x10-1000...
Operating range ¹⁾	50 ... 300mm	150 ... 1000mm
Ultrasonic frequency	400kHz	200kHz
Opening angle	6°	
Resolution	1 mm	
Absolute measurement accuracy	± 2.5% of the measurement range end value	
Reproducibility	± 1mm	± 2mm
Switching hysteresis	10mm	10mm

Timing

	5Hz	4Hz
Switching frequency (min.) ²⁾	5Hz	4Hz
Response time (max.) ²⁾	100ms	120ms
Delay before start-up	280ms	280ms

Electrical data

Operating voltage U_B	20 ... 30V DC (incl. ± 10% residual ripple)
Residual ripple	± 10% of U_B
Bias current	≤ 60mA
Switching output	analogue
Current output	only HRTU...-x010-...
Output current	4 ... 20mA
Load resistor	$R_L = 0 \dots 300\Omega$
Characteristic curve	ascending
Voltage output	only HRTU...-x310-...
Output voltage	0 ... 10V
Load resistor	$R_L \geq 500\Omega$
Characteristic curve	ascending

Indicators

Yellow LED	object detected
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Mechanical data

Housing	metal / CuZn
Weight	50g
Connection type	M12 connector, plastic, 4-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 67
Standards applied	IEC 60947-5-2
Fitting position	any

- 1) For the complete temperature range, measured object $\geq 10 \times 10 \text{mm}$
- 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

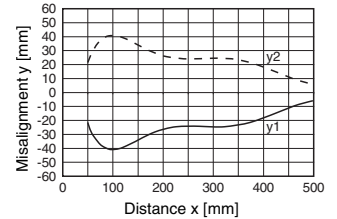
	Designation	Part No.
Current output	HRTU 418M/V-5010-300-S12	500 36259
Current output	HRTU 418M/V-3010-1000-S12	500 36260
Voltage output	HRTU 418M/V-5310-300-S12	500 40616
Voltage output	HRTU 418M/V-3310-1000-S12	500 40618

Tables

Diagrams

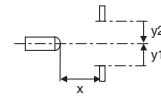
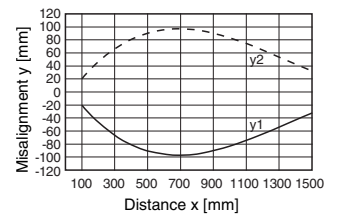
HRTU...-5x10-300...

Typ. response behaviour (object 10x10mm)



HRTU...-3x10-1000...

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