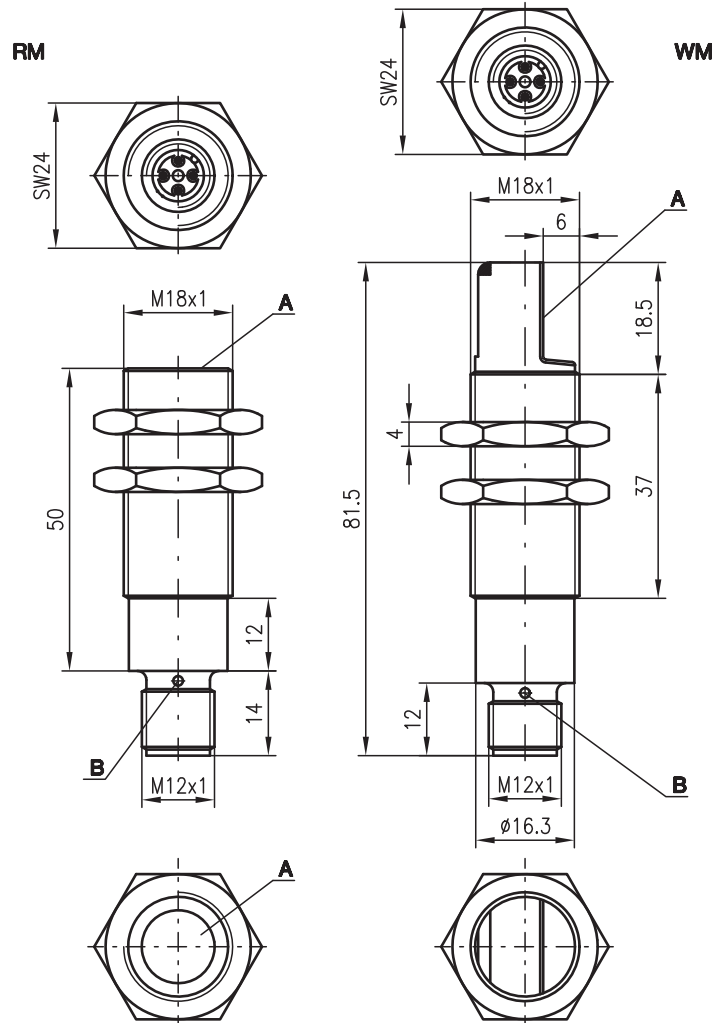


HRTU 418 RM/WM

Ultrasonic sensors

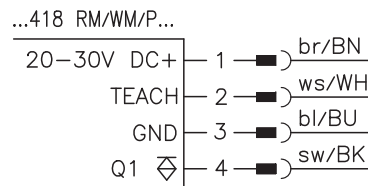


Dimensioned drawing



A Active surface
B Indicator diode Q1

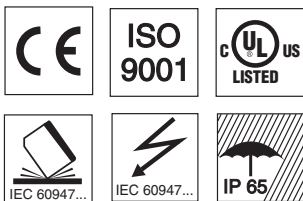
Electrical connection



30 ... 200mm
100 ... 700mm



- Colour and transmission independent detection of objects
- Switching behaviour largely independent of surface properties
- Distance teachable
- Small construction



Accessories:

(available separately)

- Mounting systems
- Cable with M12 connector (K-D ...)

We reserve the right to make changes • USDS_10gb.fm

Specifications

Ultrasonic specifications

Operating range ¹⁾
 Adjustment range
 Ultrasonic frequency
 Typ. opening angle
 Resolution
 Direction of beam

HRTU 418...-200-S12

30 ... 200mm
 50 ... 200mm
 400kHz
 see diagrams

HRTU 418...-700-S12

100 ... 700mm
 150 ... 700mm
 200kHz

Reproducibility
 Switching hysteresis
 Temperature drift

HRTU 418RM/P...: straight,
 HRTU 418WM/P...: angular, 90°
 ± 1mm
 10mm
 ± 0.17%/K

Timing

Switching frequency
 Response time
 Delay before start-up

10Hz
 50ms
 20ms

5Hz
 100ms

Electrical data

Operating voltage U_B
 Residual ripple
 Bias current
 Switching output
 Function characteristics
 Output current
 Switching range adjustment

20 ... 30V DC (incl. ± 10% residual ripple)
 ± 10% of U_B
 ≤ 20mA
 PNP transistor
 switching in case of object recognition
 150mA
 teach-in, teach input (pin 2) connected to GND for ≥ 3s

Indicators

Yellow LED
 Flashing yellow LED

output activated
 teaching procedure

Mechanical data

Housing
 Weight
 Connection type

metal / CuZn
 50g
 M12 connector, plastic, 4-pin

Environmental data

Ambient temp. (operation/storage)
 Protective circuit ²⁾
 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 ≥ 20x20mm
 2) 1=short-circuit and overload protection, 2=polarity reversal protection, 3=wire break and inductive protection

Order guide

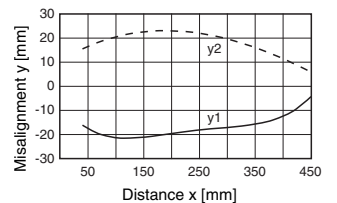
	Designation	Part No.
Operating range: 30 ... 200mm, direction of beam: straight	HRTU 418RM/P-5020-200-S12	500 38635
Operating range: 30 ... 200mm, direction of beam: 90°	HRTU 418WM/P-5020-200-S12	500 38636
Operating range: 100 ... 700mm, direction of beam: straight	HRTU 418RM/P-3020-700-S12	500 38639
Operating range: 100 ... 700mm, direction of beam: 90°	HRTU 418WM/P-3020-700-S12	500 38640

Tables

Diagrams

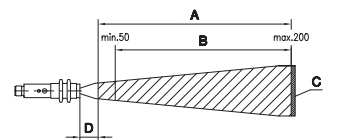
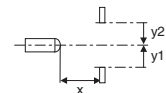
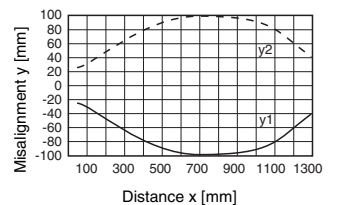
HRTU 418 ...-200-S12

Typ. response behaviour (object 20x20mm)



HRTU 418 ...-700-S12

Typ. response behaviour (object 20x20mm)



- A** Operating range
- B** Adjustment range
- C** Object
- D** Dead zone

Remarks

- **Approved purpose:**
The ultrasonic sensors are used for acoustic, contactless detection of objects.
- **Teaching procedure:**
Position measured object at the desired measurement distance. Connect teach input (pin 2) to GND for ≥ 3s. Reconnect teach input to + U_B or leave unconnected; switching output is taught.
- **Temperature drift**
± 0.17%/K