

RKU 8

Retro-reflective ultrasonic sensor

Art. Nr. 501 09142



0 ... 400mm



- Colour and transmission independent detection of objects, even in wet and foggy environment
- Switching behaviour largely independent of surface properties
- Teach function for adjustment
- M12 turning connector

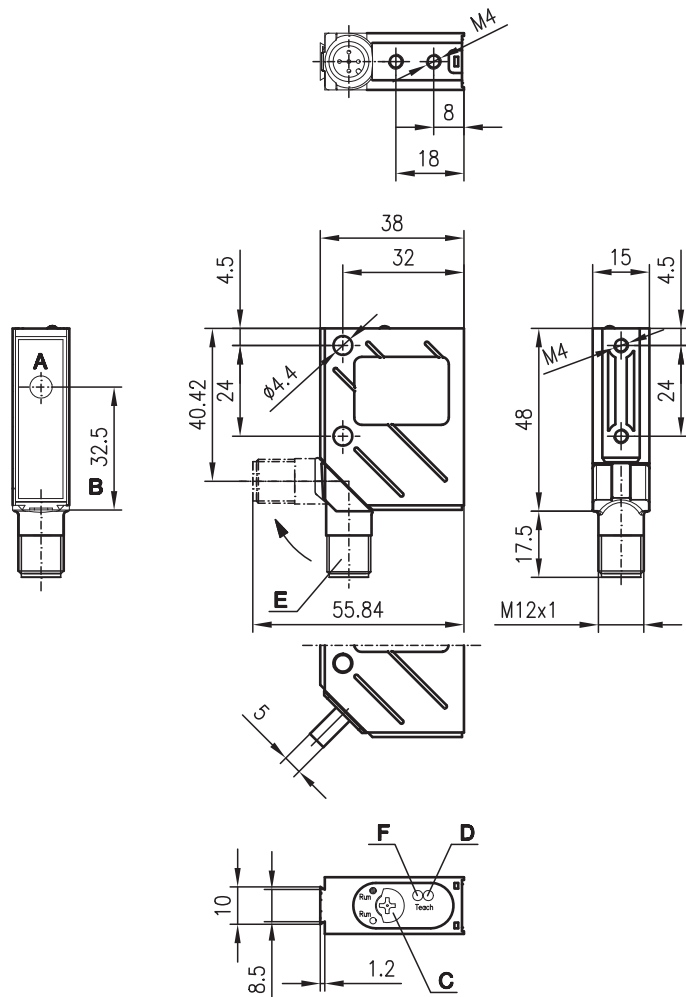


Accessories:

(available separately)

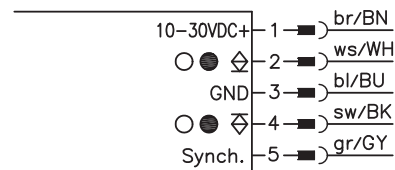
- Mounting systems
- Cable with M12 connector (K-D ...)
- Control guard

Dimensioned drawing



- A Converter
- B Ultrasonic axis
- C Operational control
- D Green LED
- E 90° turning connector
- F Yellow LED

Electrical connection



Specifications

Ultrasonic specifications

Operating range ¹⁾	0 ... 400mm
Adjustment range	160 ... 435mm
Dead zone	≤ 35mm
Ultrasonic frequency	300kHz
Typ. opening angle	see diagrams
Resolution	1 mm
Reproducibility	± 1 mm
Temperature drift	± 0.17%/K

Timing

Switching frequency	8Hz
Delay before start-up	250ms

Electrical data

Operating voltage U_B	20 ... 30V DC (incl. ± 10% residual ripple)
Residual ripple	± 10% of U_B
Bias current	≤ 25mA
Switching output	1 PNP and 1 NPN transistor
Function characteristics	reversible, object detected/not detected
Output current	max. 150mA

Indicators

Green LED	ready
Flashing green LED	teaching in progress
Yellow LED	object detected
Flashing yellow LED	device or teach error

Mechanical data

Housing	metal
Weight	70g
Connection type	M12 connector, 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 67
Standards applied	IEC 60947-5-2
Fitting position	any

Options

Synch. input

Sensor synchronisation	see remarks
Sensor active/not active	U_B or not connected/0V
Activation delay	< 100ms

- 1) For the complete temperature range, measured object ≥ 20x20mm
 2) 1=short-circuit and overload protection, 2=polarity reversal protection (not for analogue inputs), 3=wire break and inductive protection

Teach process

	Operation	Green LED	Yellow LED
1.	Mount reflector at the desired distance (switching distance + dead zone)	ON	ON/OFF
2.	Put step switch in position "Teach"	-	-
3.	Wait for acknowledge signal	-	-
	"Teach-in was successful"	1 Hz	ON
	"Teach-in was not successful"	ON	1 Hz
4.	Put step switch in position "Run"	-	-
	Run ○ Output is active when object was detected	ON	ON
	Run ● Output is not active when object was detected	ON	OFF

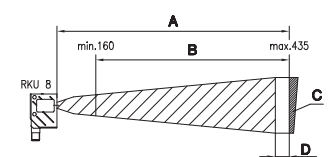
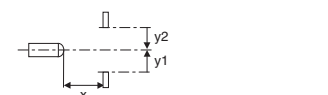
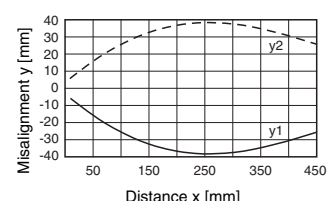
Order guide

	Designation	Part No.
With 8Hz max. switching frequency	RKU 8/24-400-S12	500 38913

Tables

Diagrams

Typ. response behaviour (object 20x20mm)



- A Operating range
- B Adjustment range
- C Reflector
- D Dead zone

Remarks

- **Approved purpose:**
The retro-reflective ultrasonic sensors are ultrasonic sensors for acoustic, contactless detection of objects.
- **Synchronisation:**
Max. 10 sensors may be synchronised by connecting the Synch inputs. Thus, mutual interference can be avoided.
- **Temperature drift**
± 0.17%/K