

Compact rectangular design Q30



The Q30 detect small objects with pinpoint accuracy. They are available as diffuse mode sensors with sensing ranges of 30 cm respectively 100 cm, optionally with switching or Analog output.

In order to avoid crosstalk, up to six devices can be synchronized simply by connecting the power supply. Alternate operation of several sensors is also possible via external control or synchronizing/enable input.

Features

- Compact rectangular design
88 x 65 x 30 mm
- plastic housing
- Protection class IP65
- Ambient temperature 0...+55 °C
- Diffuse mode
- Max. range 100 cm
- Beam angle 6°
- Analog or switching output
- LEDs indicate switching status/object detected
- Easy adjustment of operating range via potentiometer
- Synchronizing/enable input

Type code CP40, M18, M18K, M30, Q12, Q30

RUR	70	M18KS	AP8X	H1141	3GD
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RUR	Series	70	Sensing range	M18KS	Design
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Series

- RU** ultrasonic sensor, diffuse mode
- RUC** ultrasonic sensor, programmable synchronizable, multiplex function diffuse mode
- RUN** ultrasonic sensor, diffuse mode
- RUR** ultrasonic sensor, retroreflective mode

Sensing range

70 max. sensing range in cm

Design

- CP40** rectangular, plastic 40 x 40 x 160 mm or 40 x 40 x 177.5 mm
- EM18** cylinder/thread M18, stainless steel, Ø 18 mm
- EM30** cylinder/thread M30 stainless steel, Ø 30 mm
- EMT18** cylinder/thread, M18, stainless steel, teflon-coated ultrasonic transducer surface (containing silicone) Ø 18 mm
- EMT30** cylinder/thread M30, stainless steel, teflon-coated ultrasonic transducer surface (containing silicone), Ø 30 mm
- M18** cylinder/thread, M18, metal, CuZn nickel-plated, Ø 18 mm
- M18K** compact design, cylinder/thread M18, metal, CuZn, nickel-plated Ø 18 mm
- M18KS** compact design, side emission, cylinder/thread M18, metal, CuZn, nickel-plated, Ø 18 mm
- M30** cylinder/thread M30, metal CuZn, nickel-plated, Ø 30 mm
- M3047** cylinder/thread M30, metal CuZn, nickel-plated sonic transducer Ø 47 mm
- M3065** cylinder/thread M30, metal CuZn nickel-plated sonic transducer Ø 65 mm, Ø 18 mm
- MT18** cylinder/thread M18, metal, CuZn, nickel-plated, teflon-coated ultrasonic transducer surface (containing silicone), Ø 18 mm
- MT18K** compact design, cylinder/thread M18, metal, CuZn, nickel-plated, teflon-coated ultrasonic transducer surface (containing silicone) Ø 18 mm
- MT3047** cylinder/thread M30, metal, CuZn, nickel-plated, teflon-coated ultrasonic transducer surface (containing silicone), ultrasonic transducer Ø 47 mm
- Q12** compact, rectangular plastic 31 x 12 x 20 mm
- Q30** compact, rectangular plastic, 65 x 30 x 88 mm

AP8X	Electrical version	H1141	Electrical connection
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Electrical version

- A** NO
- 2A** 2 x NO
- F** frequency output
- I** analog output 0...20 mA or 4...20 mA
- L** analog
- N** NPN
- P** PNP
- U** analog output 0...10V
- X** LED display
- X2** 2 x LEDs
- 6** 10...30 VDC input current
- 8** 18...35 VDC input current

Electrical connection

- H1141** connector, M12 x 1, 4-pole
- H1151** connector, M12 x 1, 5-pole
- V1141** connector, M8 x 1, 4-pole
- blank** cable connection, 2 m, with CP40 = terminal chamber

3GD	Approval
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Approval

- 3GD** ATEX declaration of conformity 3163M, EX II 3 G EEx nA II T6 X / II 3 DIP65 T 60 °C X (only valid for RUC...M30 family)

Q30 – Switching output



General data

Operating voltage	18...35 VDC
Output	—, PNP
Dimensions	65 x 30 x 88 mm
Protection class	IP65
Housing material	plastic, PBT-GF30-V0

Electrical connection	connector, M12 x 1
Ambient temperature	0...+55 °C
Converter ring material	plastic
Converter ring quality	PBT

Types and data – selection table

Type	Switching frequency	Switching frequency	Range	Approach speed	Ultrasound frequency	w	d
RU30-Q30-AP8X-H1141	≤ 8 Hz	-	6...30 cm	4 m/s	400 kHz	w081	d580
RU100-Q30-AP8X-H1141	≤ 5 Hz	≤ 0.005 kHz	20...100 cm	8 m/s	230 kHz	w081	d580

Q30 – Analog output



General data

Operating voltage	18...35 VDC
Display, Object detected Type	LED
Dimensions	65 x 30 x 88 mm
Protection class	IP65
Housing material	plastic, PBT-GF30-V0
Electrical connection	connector, M12 x 1

Ambient temperature	0...+55 °C
Analog output	0...10 V
Load	≥ 1000 Ω
Converter ring material	plastic
Converter ring quality	PBT

Types and data – selection table

Type	Range	Response time	Approach speed	Ultrasound frequency	w	d
RU30-Q30-LUX-H1141	6...30 cm	70 ms	4 m/s	400 kHz	w146	d580
RU100-Q30-LUX-H1141	20...100 cm	90 ms	8 m/s	230 kHz	w146	d580

w Wiring diagrams on page 832 ff

d Dimension drawings on page 842 ff

a Accessories on page 806 ff