

M18K – Threaded barrel



The M18K detect small objects with pin-point accuracy. They are IP67 rated and thus also applicable in rough environments.

The sensors come in a small 18 mm threaded barrel made of nickel-plated brass. Available are diffuse mode devices with a max. range of 20 cm and retroreflective mode devices with a max. range of 70 cm. Both versions are either equipped with a PNP transistor or analog frequency output.

Features

- M18K, threaded barrel
- Nickel-plated brass
- Protection class IP67
- Diffuse mode (RU/RUN) and retroreflective mode (RUR) devices
- Max. range 70 cm
- Beam angle 6°
- Version with lateral emission (M18KS)
- Switching or analog frequency output
- LED indicates the switching status and teach mode
- Adjustments via teach 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 D IP65 T 60 °C X (only valid for RUC...M30 family)
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M18K – Analog frequency output



General data

Operating voltage	20...30 VDC	Ambient temperature	-25...+70 °C
Protection class	IP67	Converter ring material	plastic
Housing material	metal, CuZn, nickel-plated	Converter ring quality	PBT
Electrical connection	connector, M12 x 1		

Versions with lateral emission (M18KS)

Types and data – selection table

Type	Dimensions	Range	Ultrasound frequency	w	d
RU20-M18K-LFX-H1141	Ø18 x 63 mm	3...20 cm	400 kHz	w140	d573
RU70-M18K-LFX-H1141	Ø18 x 63 mm	10...70 cm	200 kHz	w140	d573
RU20-M18KS-LFX-H1141	Ø18 x 81 mm	3...20 cm	400 kHz	w140	d574
RU70-M18KS-LFX-H1141	Ø18 x 81 mm	10...70 cm	200 kHz	w140	d574

M18K – Switching output (Diffuse mode sensor)



General data

Operating voltage	20...30 VDC	Electrical connection	connector, M12 x 1
Output	—, PNP	Ambient temperature	-25...+70 °C
Protection class	IP67	Converter ring material	plastic
Housing material	metal, CuZn, nickel-plated	Converter ring quality	PBT

Versions with lateral emission (M18KS)

Types and data – selection table

Type	Switching frequency	Dimensions	Range	Ultrasound frequency	w	d
RUN20-M18K-AP8X-H1141	≤ 10 Hz	Ø18 x 63 mm	3...20 cm	400 kHz	w141	d573
RUN70-M18K-AP8X-H1141	≤ 5 Hz	Ø18 x 63 mm	10...70 cm	200 kHz	w141	d573
RUN20-M18KS-AP8X-H1141	≤ 10 Hz	Ø18 x 81 mm	3...20 cm	400 kHz	w141	d574
RUN70-M18KS-AP8X-H1141	≤ 5 Hz	Ø18 x 81 mm	10...70 cm	200 kHz	w141	d574

M18K – Switching output (retroreflective sensor)



General data

Operating voltage	20...30 VDC	Electrical connection	connector, M12 x 1
Output	—, PNP	Ambient temperature	-25...+70 °C
Protection class	IP67	Converter ring material	plastic
Housing material	metal, CuZn, nickel-plated	Converter ring quality	PBT

Versions with lateral emission (M18KS)

Types and data – selection table

Type	Switching frequency	Dimensions	Range	Ultrasound frequency	w	d
RUR20-M18K-AP8X-H1141	≤ 10 Hz	Ø18 x 63 mm	0...20 cm	400 kHz	w141	d573
RUR70-M18K-AP8X-H1141	≤ 5 Hz	Ø18 x 63 mm	0...70 cm	200 kHz	w141	d573
RUR20-M18KS-AP8X-H1141	≤ 10 Hz	Ø18 x 81 mm	0...20 cm	400 kHz	w141	d574
RUR70-M18KS-AP8X-H1141	≤ 5 Hz	Ø18 x 81 mm	0...70 cm	200 kHz	w141	d574