PRELIMINARY DATASHEET

Telemecanique Sensors

XUK8TAE1MM12: Qa = 0/10 VDC + Q autodetect (PNP/NPN)
XUK8TAE2MM12: Qa= 4 /20 mA + Q autodetect (PNP/NPN)

Distance sensor for large distances – Time-of-flight technology

CE
IP69K
ECOLAB
Laser

PRODUCT HIGHLIGHTS

- For measurement and control tasks with all object surfaces at long scanning distances
- Stable and precise distance measurement even with tilted objects and with bright, highly reflective or shiny back-grounds
- Compact design for an easy integration
- High flexibility thanks to invertible analogue characteristic (Q_A) and window mode (Q)
- Easy installation and operation via external teach-in
- Clearly visible laser light spot (laser class 1) for an easy alignment and full eye safety

Optical data

Measurement range	0.1 ... 5 m (see Selection Table)[1]
Resolution	< 5 mm (12-bit)
Linearity	± 30 mm[1,2]
Repeatability	See diagram
Hysteresis	40 mm
Type of light	Laser, red 650 nm
Laser class (DIN EN 60825-1:2008-5)	1

Functions

Indicator LED 2, green	Operating voltage indicator
Indicator LED 2, yellow	Status indicator analogue output
Indicator LED 1 yellow	Switching output indicator
Measurement range adjustment	Via Teach-in button or control input
Adjustment possibilities	Analogue measurement range Q_A Invertible analogue characteristic Switching output Q (window mode) N.O. / N.C. and Auto-Detect / NPN / PNP via teach-in and control line Button lock via control input
Default settings	See Selection Table

Electrical data

Operating voltage $+U_B$	18 ... 30 V DC
No-load current I	≤ 60 mA
Output current Ie Q	100 mA
Protection circuits	Reverse polarity protection U_B / short-circuit protection (Q)
Protection class	2
Power On Delay	< 5 s
Switching output Q	Auto-Detect / PNP / NPN
Output function	N.O. / N.C.
Switching frequency f (ti/tp 1:1) Q	≤ 250 Hz

Response time Q	2 ms
Load	≤ 500 Ohm (4 ... 20 mA) ≥ 4 k Ohm (0 ... 10 V)
Analogue output Q_A	4 ... 20 mA / 0 ... 10 V
Update rate Q_A	2 ms
Temperature drift	< 0.1 %/K
Warm-up time	20 min.
Control input IN	$+U_B$ = Teach-in $-U_B$ = Button locked Open = normal operation

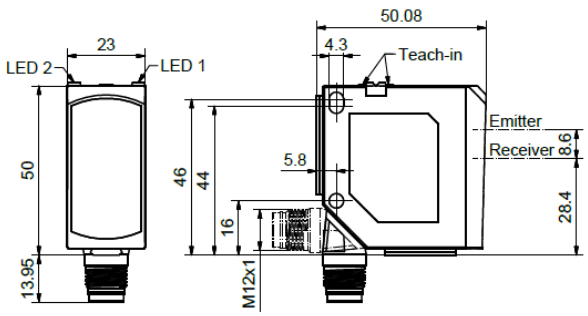
Mechanical data

Dimensions	50 x 50,08 x 23 mm³
Enclosure rating	IP 67 & IP 69K[3]
Material, housing	ABS
Material, front screen	PMMA
Type of connection	See Selection Table

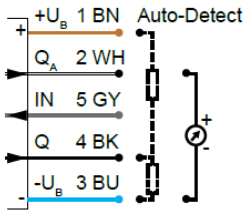
Ambient temperature: operation	-40 ... +60 °C[4]
Ambient temperature: storage	-40 ... +80 °C
Weight (plug device)	125 g
Resistance to vibration and impacts	EN 60947-5-2

1) Reference material 90% reflectivity
2) At 50Hz
3) With connected IP67/IP69K connector
4) up to +50°C with output 4 ... 20mA

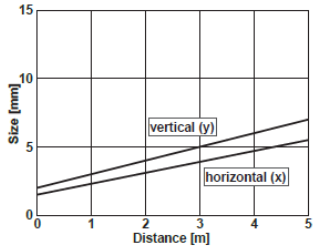
Plug connection



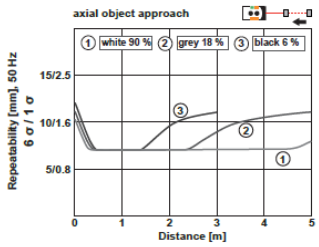
Connection, 5-pin, Auto-Detect

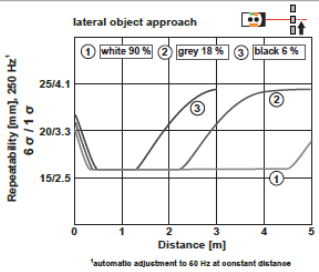


Light spot size



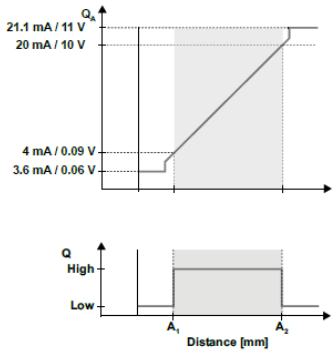
Repeatability[1]





[1] At constant ambient conditions

Characteristic analogue curve



Reference material	Measurement range
White (90 %)	0.1 … 5 m
Grey (18 %)	0.1 … 5 m
Black (6 %)	0.1 … 3 m

Default setting	
Analogue output Q_A (4…20 mA / 0 … 10 V)	0.3 … 3 m
Switching output Q (A1…A2), N.O., Auto-Detect	0.3 … 3 m

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