



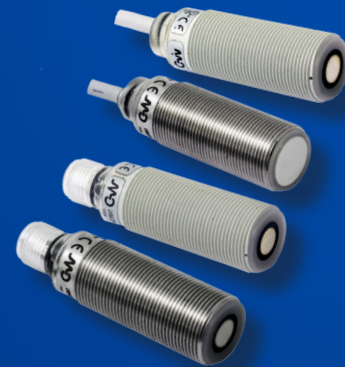
UK6 series

M18 cylindrical short body direct diffuse
& retro-reflective Ultrasonic Sensor UK6
with Teach-In button



features

- M18 diffuse sensors with short housing
- Digital output
- Analogue output



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M18 short body
with Teach-In button

code description

UK 6 A / H 1 - 0 E UL AN

series	UK	M18 Ultrasonic sensor
function		Diffuse models
	R	Retroreflective models
housing type	6	M18 Short housing
nominal sensing distance Sn	A	40...300 mm (diffuse models), 50...300 mm (retroreflective models)
	C	60...800 mm (diffuse models), 80...800 mm (retroreflective models)
	D	80...1,200 mm (diffuse models), 100...1,200 mm (retroreflective models)
adjustment	H	Teach-In by cable
output	1	0...10 V single voltage analogue output
	2	4...20 mA single current analogue output
	P	PNP - NO/NC digital output
	N	NPN - NO/NC digital output
housing materials	0	Axial plastic housing
	1	AISI 316L (DIN 1.4404) stainless steel housing (axial)
cable exit / connector	E	M12 plug cable exit
	A	2 m cable exit
cULus	UL	cULus certified
ATEX	AN	ATEX certified, Cat.3, 2.22 Zone



available models

diffuse models

M18 short body
with Teach-In button

housing	material	output	distance (mm)	PNP - NO/NC	NPN - NO/NC	analogue output 0...10 V	analogue output 4...20 mA
M18	plastic	M12	40...300	UK6A/HP-0EUL	UK6A/HN-0EUL	UK6A/H1-0EUL	UK6A/H2-0EUL
			60...800	UK6C/HP-0EUL	UK6C/HN-0EUL	UK6C/H1-0EUL	UK6C/H2-0EUL
			80...1,200	UK6D/HP-0EUL	UK6D/HN-0EUL	UK6D/H1-0EUL	UK6D/H2-0EUL
		cable	40...300	UK6A/HP-0AUL	UK6A/HN-0AUL	UK6A/H1-0AUL	UK6A/H2-0AUL
			60...800	UK6C/HP-0AUL	UK6C/HN-0AUL	UK6C/H1-0AUL	UK6C/H2-0AUL
			80...1,200	UK6D/HP-0AUL	UK6D/HN-0AUL	UK6D/H1-0AUL	UK6D/H2-0AUL

housing	material	output	distance (mm)	PNP - NO	NO/NC	analogue output 0...10 V	analogue output 4...20 mA
M18	metal	M12	40...300	UK6A/HP-1EUL	UK6A/HN-1EUL	UK6A/H1-1EUL	UK6A/H2-1EUL
			60...800	UK6C/HP-1EUL	UK6C/HN-1EUL	UK6C/H1-1EUL	UK6C/H2-1EUL
			80...1,200	UK6D/HP-1EUL	UK6D/HN-1EUL	UK6D/H1-1EUL	UK6D/H2-1EUL
		cable	40...300	UK6A/HP-1AUL	UK6A/HN-1AUL	UK6A/H1-1AUL	UK6A/H2-1AUL
			60...800	UK6C/HP-1AUL	UK6C/HN-1AUL	UK6C/H1-1AUL	UK6C/H2-1AUL
			80...1,200	UK6D/HP-1AUL	UK6D/HN-1AUL	UK6D/H1-1AUL	UK6D/H2-1AUL

available models

retroreflective models

housing	material	distance (mm)	plastic housing		metal housing	
			PNP - NO/NC	NPN - NO/NC	PNP - NO/NC	NPN - NO/NC
M18	M12	50...300	UKR6A/HP-0EUL	UKR6A/HN-0EUL	UKR6A/HP-1EUL	UKR6A/HN-1EUL
		80...800	UKR6C/HP-0EUL	UKR6C/HN-0EUL	UKR6C/HP-1EUL	UKR6C/HN-1EUL
		100...1,200	UKR6D/HP-0EUL	UKR6D/HN-0EUL	UKR6D/HP-1EUL	UKR6D/HN-1EUL
	cable	50...300	UKR6A/HP-0AUL	UKR6A/HN-0AUL	UKR6A/HP-1AUL	UKR6A/HN-1AUL
		80...800	UKR6C/HP-0AUL	UKR6C/HN-0AUL	UKR6C/HP-1AUL	UKR6C/HN-1AUL
		100...1,200	UKR6D/HP-0AUL	UKR6D/HN-0AUL	UKR6D/HP-1AUL	UKR6D/HN-1AUL

	UK6A/H*-**	UK6C/H*-**	UK6D/H*-**
nominal sensing distance	300 mm	800 mm	1.200 mm
minimum sensing distance	40 mm	60 mm	80 mm
beam angle	7° ± 2°	8° ± 2°	
switching frequency	8 Hz	5 Hz	5 Hz
operating voltage	10...30 Vdc		
max ripple content	5 %		
output type	PNP or NPN - NO/NC selectable analogue output: 0...10 V or 4...20 mA		
output current	100 mA		
output voltage drop	≤ 2,2 V (@ I = 100 mA)		
no-load supply current	≤ 35 mA @ Val = 30 V		
leakage current	≤ 10 µA @ 30 V		
power on delay	≤ 100 ms		
temperature range	-20°C...+70°C		
temperature drift of Sr	≤ 5 %		
short-circuit protection	● (autoreset)		
induction protection	●		
voltage reversal protection	●		
weight	plastic version: 65 g connector / 75 g cable metallic housing: 80 g connector / 140 g cable		
LEDs	yellow: output green: alignment		
protection degree	IP67		
EMC	IEC60947-5-2		
housing material	plastic housing: PTB metal housing: AISI316L		
active head material	epoxy - glass resin		
connection	M12 plug cable exit 2 m cable exit		

⁽¹⁾ metallic target 100 x 100 (UK6A)

⁽²⁾ metallic target 200 x 200 (UK6C - UK6D)



technical specification

M18 short body
with Teach-In button

	UK6RA/H*-**	UKR6C/H*-**	UKR6D/H*-**
			
nominal sensing distance	300 mm	800 mm	1,200 mm
detection distance S_r	270 mm	720 mm	1,080 mm
minimum distance from background	50 mm	80 mm	100 mm
beam angle	$7^\circ \pm 2^\circ$	$8^\circ \pm 2^\circ$	
switching frequency	8 Hz	5 Hz	3 Hz
operating voltage	10...30 Vdc		
max ripple content	5 %		
output type	PNP or NPN - NO/NC selectable		
output current	100 mA		
output voltage drop	$\leq 2,2 \text{ V (@ } I = 100\text{mA})$		
no-load supply current	$\leq 35 \text{ mA @ } V_{al} = 30 \text{ V}$		
leakage current	$\leq 10 \text{ }\mu\text{A @ } 30 \text{ V}$		
power on delay	$\leq 100 \text{ ms}$		
temperature range	$-20^\circ\text{C}...+70^\circ\text{C}$		
temperature drift of S_r	$\leq 5 \text{ %}$		
short-circuit protection	● (autoreset)		
induction protection	●		
voltage reversal protection	●		
weight	65 g plastic version / 80 g metallic version		
LEDs	yellow: output green: alignment		
protection degree	IP67		
EMC	IEC60947-5-2		
housing material	plastic housing: PTB metal housing: AISI316L		
active head material	epoxy - glass resin		
connection	M12 plug cable exit 2 m cable exit		

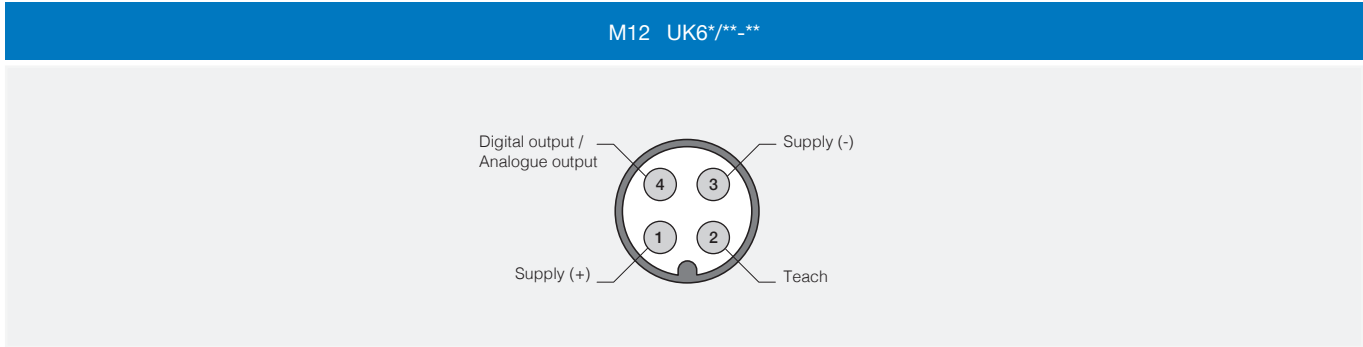
electrical diagrams of connections

models with single analogue output	PNP NO/NC models	NPN NO/NC models

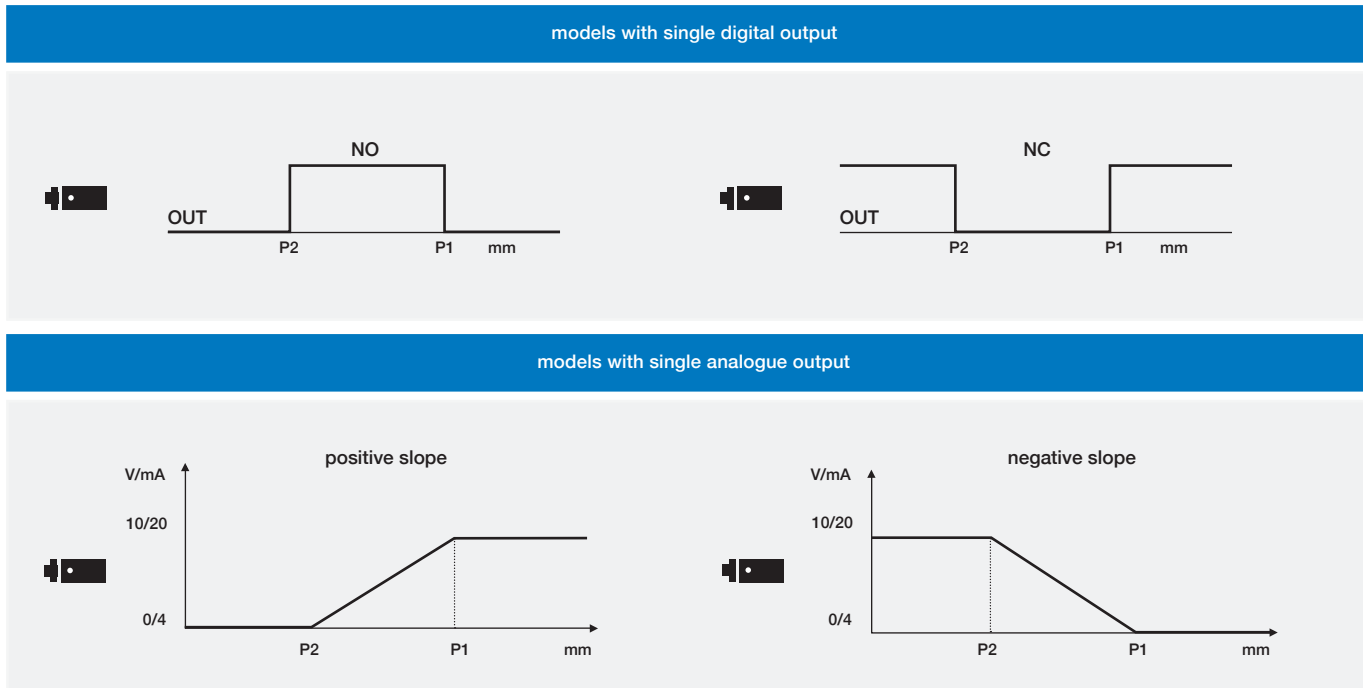
- BN brown
- BU blu
- BK black
- WH white

M18 short body
with Teach-In button

connector



available outputs



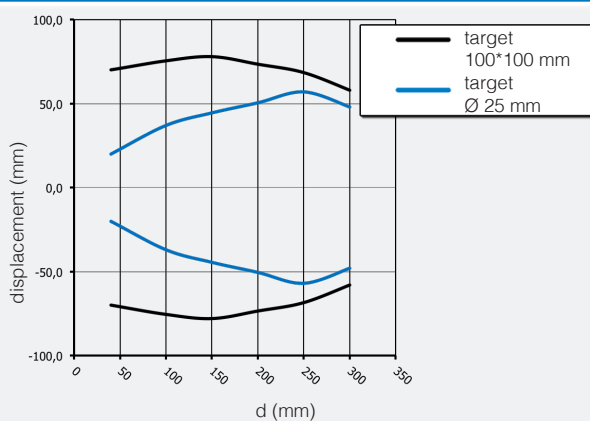


response diagrams

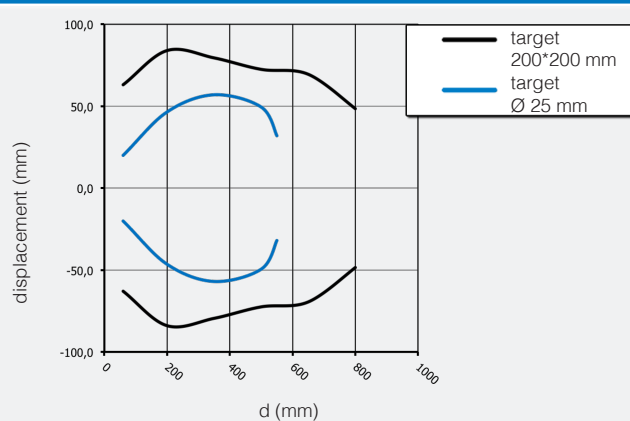
direct diffuse models

M18 short body
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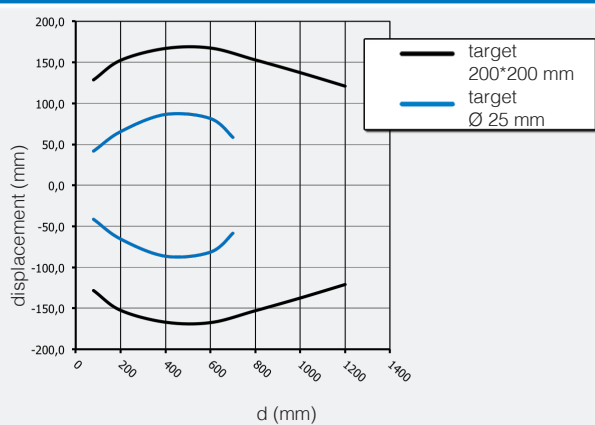
UK6A/**-** parallel displacement



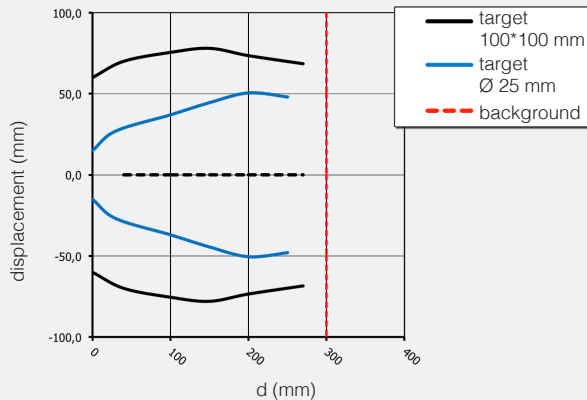
UK6C/**-** parallel displacement



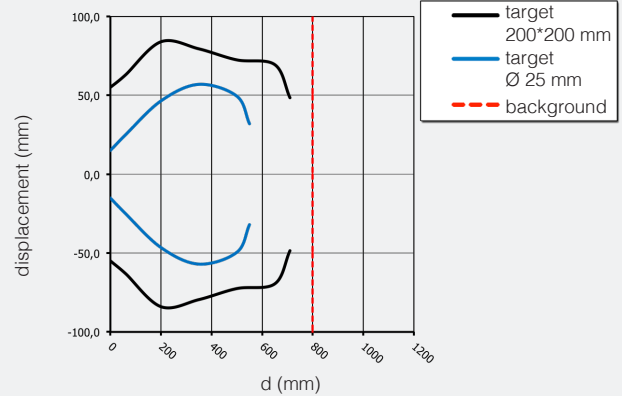
UK6D/**-** parallel displacement



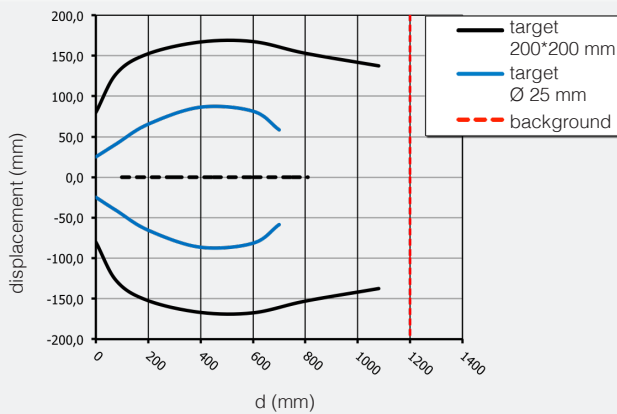
UK6RA/**-**-** parallel displacement



UK6RC/**-**-** parallel displacement



UK6RD/**-**-** parallel displacement



adjustment

Reflector detection (Sd)

Install the sensor in the correct position. Install the background (any solid, flat, fixed surface) perpendicularly to the sensor's axes. Connect the Teach-in wire to +24V (PNP models) or to 0V (NPN models) for 2 sec. Yellow LED blinks for 5 times, after that, the sensor acquires the background position (Sd distance).

NO/NC selection

Connect the Teach-in wire to +24V (PNP models) or to 0V (NPN models) for a time > 8 sec. Yellow LED blinks quickly until the teach-in wire is released, then 5 blinks confirm the change of working state. The sensor change its working mode from NO to NC and vice versa.

Operating distance (Sr)

The effective operating distance (Sr) is equivalent to background diastance (Sd) decreases of 10%. This hysteresis allows the correct detection of the target even if the background is vibrating during the machine normal operations.



dimensions (mm)

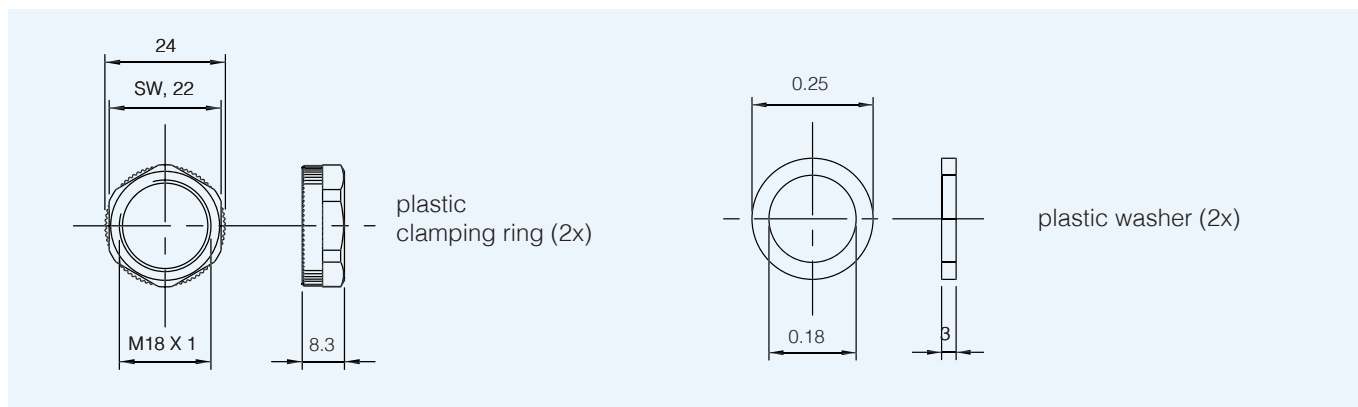
M18 short body
with Teach-In button

UK6*/** - *AUL	UK6*/** - *EUL

1 LED

dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models

