SA series

M18 DC high performances
with rear adjustment

features

- **Wide range of models: diffuse, retro-reflective, polarized and fixed-focus**
- **All models are available with sensitivity adjustment trimmer**
- **Double LED indicator (ON/OFF - supply)**
- **NO/NC selectable output**
- **IP65 protection degree**
- **Complete protection against electrical damage**
- **Wide range of plugs, accessories and reflectors available**
- **Approvals: CE**

web contents

- **Application notes**
- **Photos**
- **Catalogue / Manuals**



code description

SA 2 / 0 N - 0 C

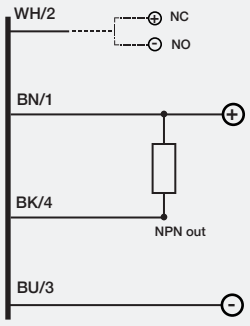
series	SA	M18 photoelectric sensor with high performance
	2	150 mm diffuse reflection
type	6	400 mm diffuse reflection
	8	1000 mm diffuse reflection
	C	6 m retro-reflective
	P	3.5 m polarized
	T	Diffuse reflection fixed-focus
NO / NC	0	NO/NC selectable
NPN / PNP output	N	NPN output logic
	P	PNP output logic
housing material	0	Plastic housing
	1	Metal housing
cable / plug exit	C	Right angle cable output 2 m
	K	M12 right angle plug cable exit

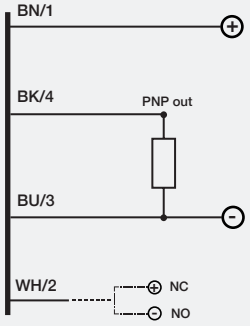
available models

output	function	distance	plastic models		metal models	
			PNP NO/NC	NPN NO/NC	PNP NO/NC	NPN NO/NC
right angle cable	diffuse reflection	150 mm	SA2/0P-0C	SA2/0N-0C	SA2/0P-1C	SA2/0N-1C
		400 mm	SA6/0P-0C	SA6/0N-0C	SA6/0P-1C	SA6/0N-1C
		1.000 mm	SA8/0P-0C	SA8/0N-0C	SA8/0P-1C	SA8/0N-1C
	retro-reflective	6 m	SAC/0P-0C	SAC/0N-0C	SAC/0P-1C	SAC/0N-1C
	polarized	3 m	SAP/0P-0C	SAP/0N-0C	SAP/0P-1C	SAP/0N-1C
	focalized with STF-12	12 mm	SAT/0P-0C	SAT/0N-0C	SAT/0P-1C	SAT/0N-1C
	focalized with STF-25	25 mm				
	focalized with STF-50	50 mm				
M12 right angle plug	diffuse reflection	150 mm	SA2/0P-0K	SA2/0N-0K	SA2/0P-1K	SA2/0N-1K
		400 mm	SA6/0P-0K	SA6/0N-0K	SA6/0P-1K	SA6/0N-1K
		1.000 mm	SA8/0P-0K	SA8/0N-0K	SA8/0P-1K	SA8/0N-1K
	retro-reflective	6 m	SAC/0P-0K	SAC/0N-0K	SAC/0P-1K	SAC/0N-1K
	polarized	3 m	SAP/0P-0K	SAP/0N-0K	SAP/0P-1K	SAP/0N-1K
	focalized with STF-12	12 mm	SAT/0P-0K	SAT/0N-0K	SAT/0P-1K	SAT/0N-1K
	focalized with STF-25	25 mm				
	focalized with STF-50	50 mm				

electrical diagrams of the connections

emitter NPN	receiver NPN





BN	brown
BU	blue
BK	black
WH	white
PK	pink
GY	gray

In case of combined load, resistive and capacitive, the maximum admissible capacity C is 0,2µF, for maximum load voltage and current.

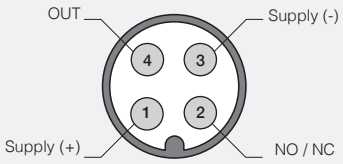
Indications NO and NC are referred to the diffuse reflection sensors (on target absence). For retro-reflective models the indication NO to be replaced by NC and NC becomes NO.

technical specification

	iffuse reflection			retro-reflective		fixed-focus		
	standard			standard	polarized	STF-12	STF-25	STF-50
	SA2/0*-**	SA6/0*-**	SA8/0*-**	SAC/0*-**	SAP/0*-**	SAT/0*-**		
								
nominal sensing distance	150 mm [1]	400 mm [1]	1.000 mm [2]	6 m [3]	3 m [3]	12 mm	25 mm	50 mm
emission	infrared (880 nm)				red (660 nm)			
tolerance	+15...-10 % Sn							
hysteresis	≤ 10 %							
repeatability	5 %							
operating voltage	10...30 Vdc							
ripple	≤ 10 %							
no-load supply current	≤ 30 mA	≤ 35 mA	≤ 30 mA	≤ 35 mA	≤ 30 mA			
load current	≤ 100 mA							
leakage current	≤ 10 µA							
output voltage drop	2 V max. IL = 100 mA							
output type	NPN or PNP, NO/NC selectable							
switching frequency	1 kHz max.							
power on delay	200 ms							
power supply protections	polarity reversal, transient							
output protection	short circuit (autoreset)							
operating temperature range	- 25°C...+ 70°C (without freeze)							
temperature drift	≤ 10 % Sr							
protection degree	IP67 (EN60529) [4]							
EMC	in conformity with the EMC Directive according to EN 60947-5-2							
external light interference	3,000 lux (incandescent lamp), 10,000 lux (sunlight)							
LEDs	yellow (output energized), green (supply), red (activated output)							
housing material	BT (plastic housing),nickel-plated brass (metal housing), nylon (cable exit)							
optic material	PMMA					glass (STF-**)		
tightening torque	1 Nm (plastic housing) / 25 Nm (metal housing)							
weight (approximate)	plastic version: 40 g connector / 75 g cable metallic version: 100 g connector / 140 g cable							

[1] With 100x100 mm white matt paper [2] With 200x200 mm white matt paper [3] With standard reflector Ø 80 mm (RL110 supplied seperately) [4] Protection guaranteed only with plug cable well mounted.

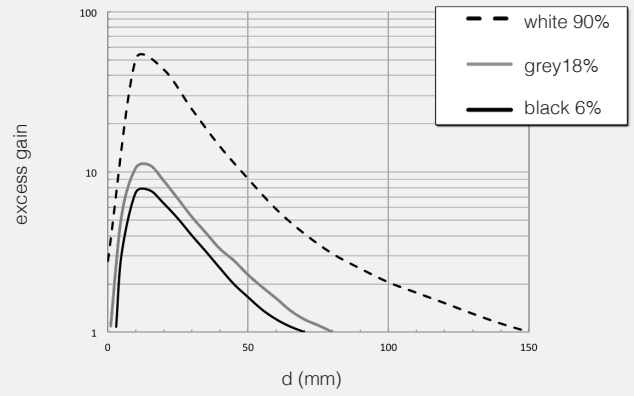
plug

M12


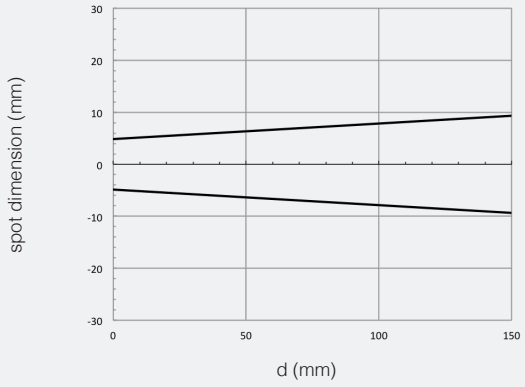
response diagrams

direct diffuse models

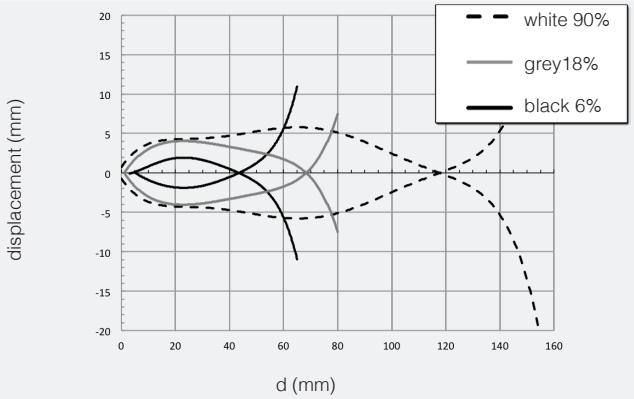
SA2/0*-** excess gain



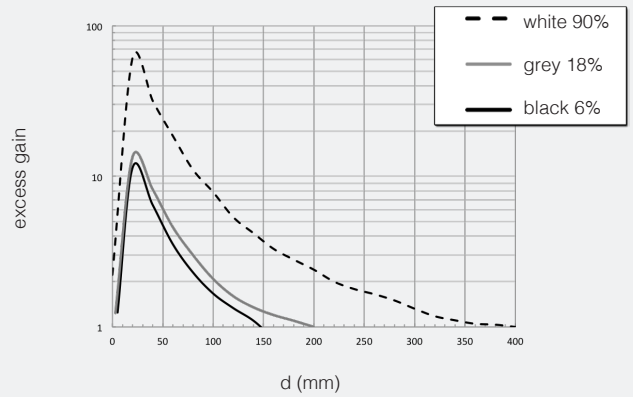
SA2/0*-** spot dimension



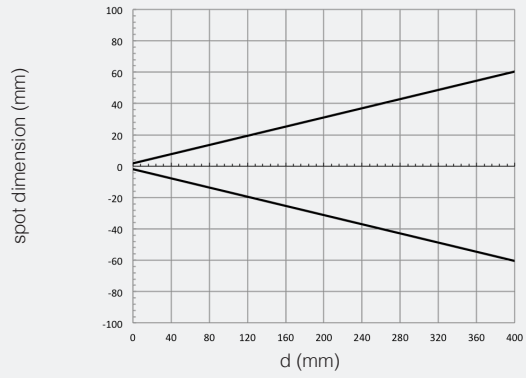
SA2/0*-** parallel displacement



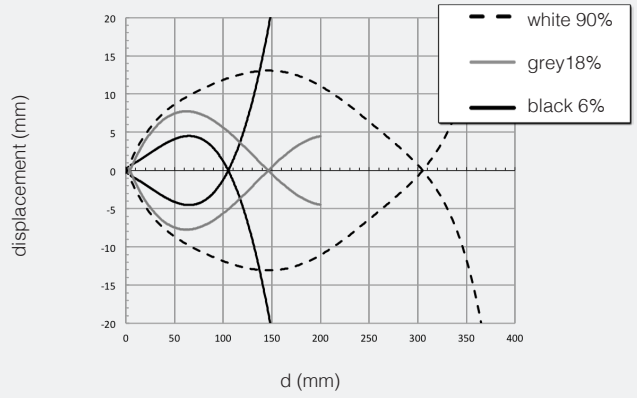
SA6/0*-** excess gain



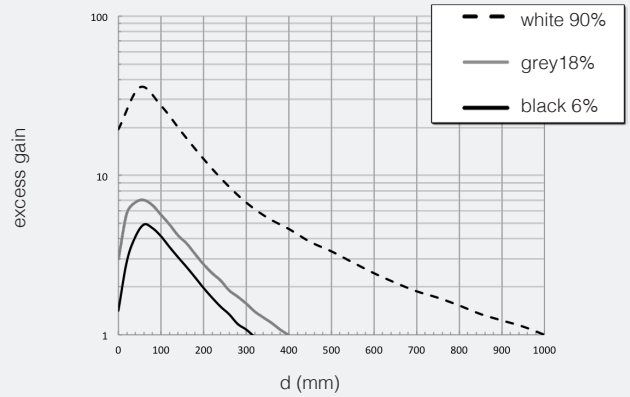
SA6/0*-** spot dimension



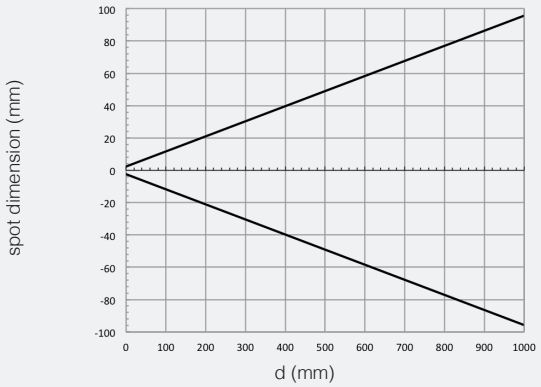
SA6/0*-** parallel displacement



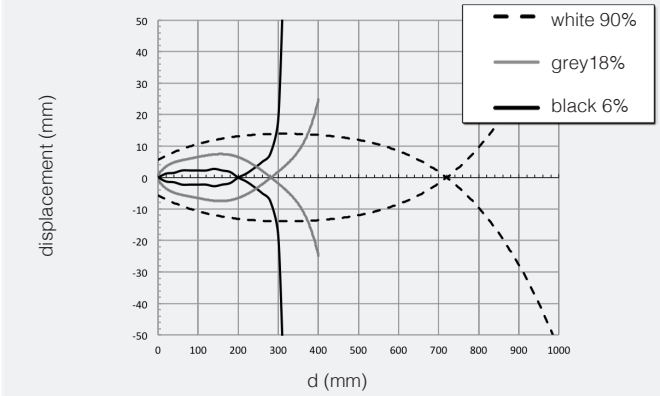
SA8/0*-** excess gain



SA8/0*-** spot dimension



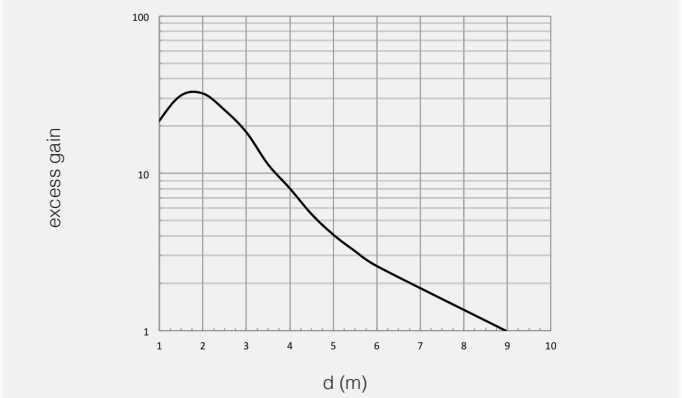
SA8/0*-** parallel displacement



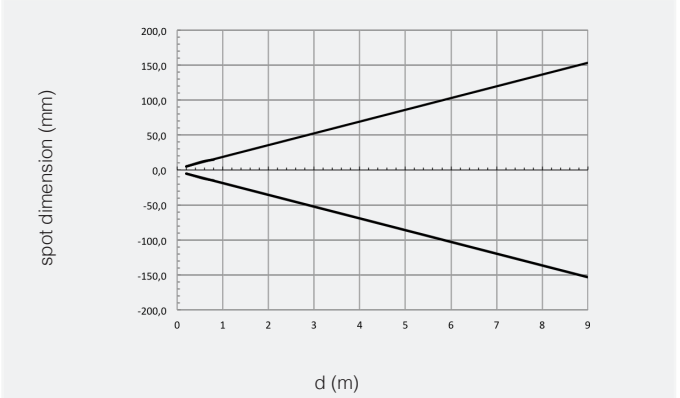
response diagrams

direct diffuse models

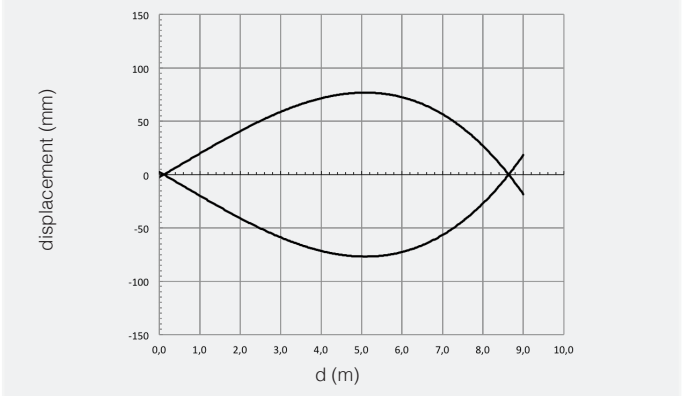
SAC/0*-** excess gain



SAC/0*-** spot dimension



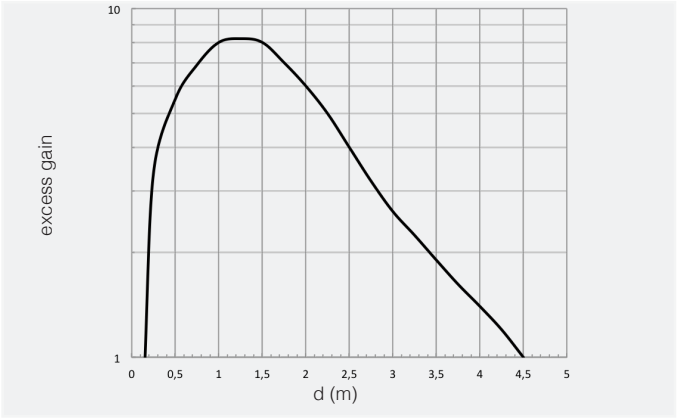
SAC/0*-** parallel displacement



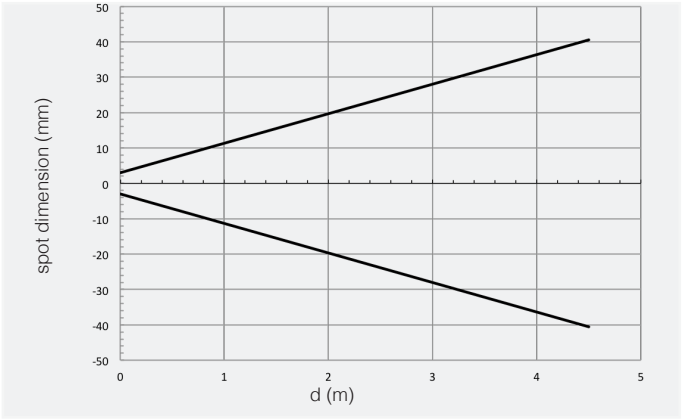
response diagrams

polarized models (diagrams detected with RL110)

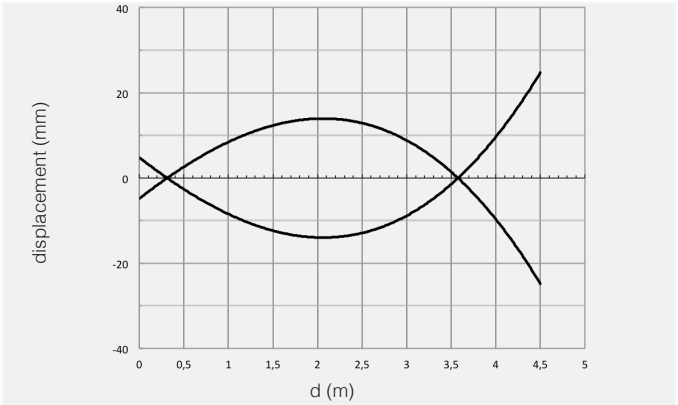
SAP/**-** excess gain



SAP/**-** spot dimension



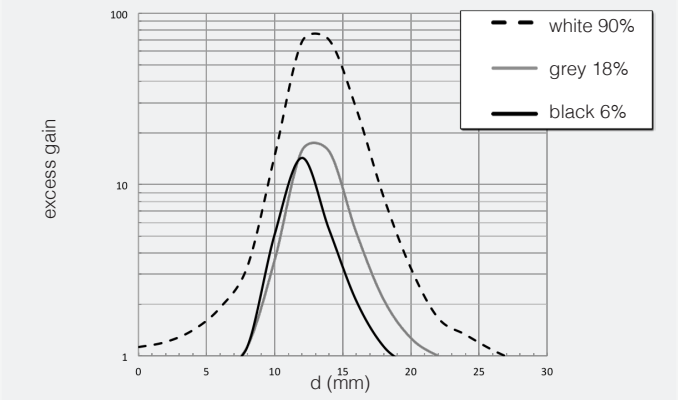
SAP/**-** parallel displacement



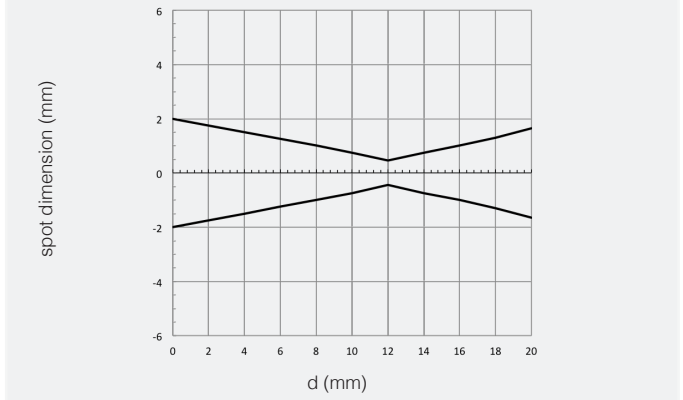
response diagrams

direct diffuse models

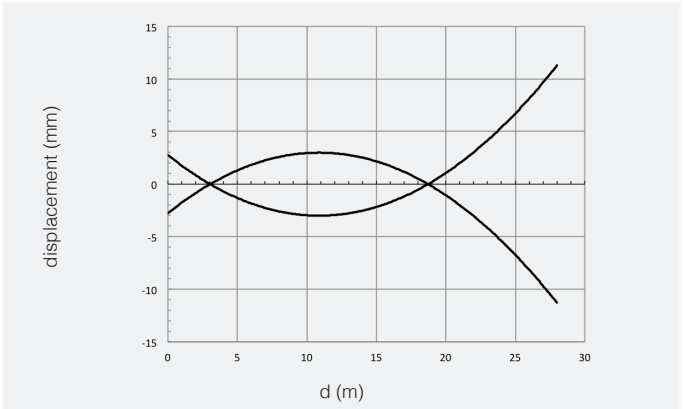
S*T/**-** + STF-12 excess gain



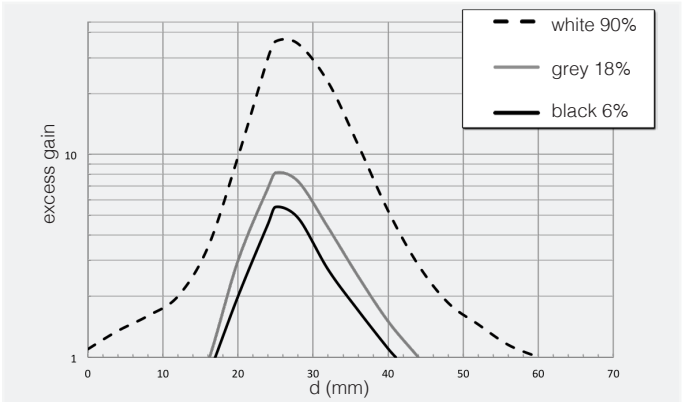
S*T/**-** + STF-12 spot dimension



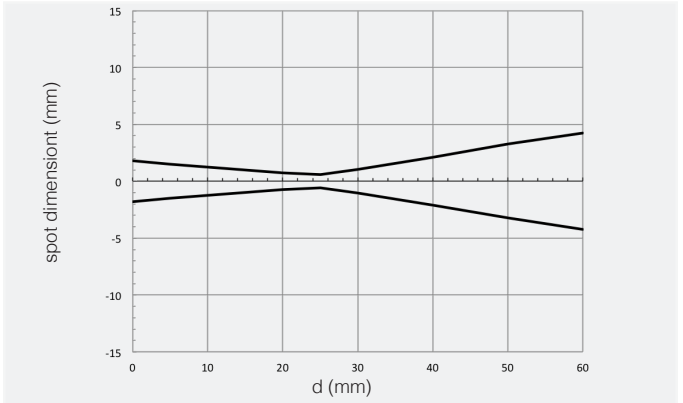
S*T/**-** + STF-12 parallel displacement



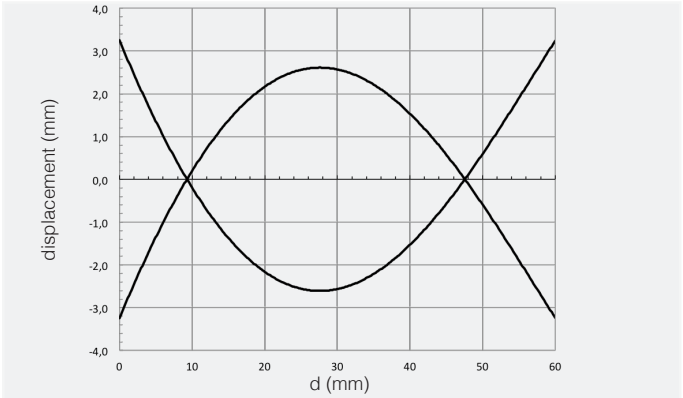
S*T/**-** + STF-12 excess gain



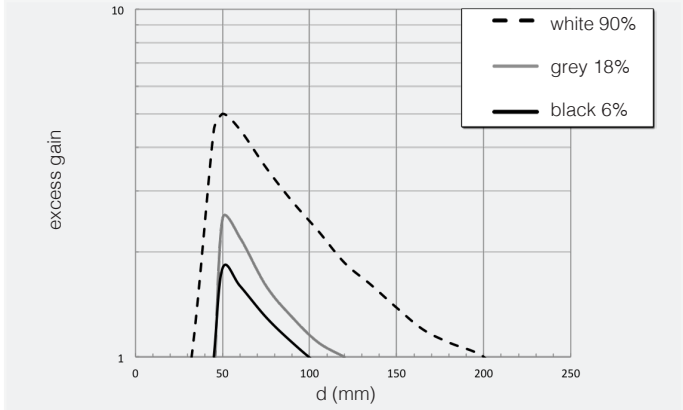
S*T/**-** + STF-12 spot dimension



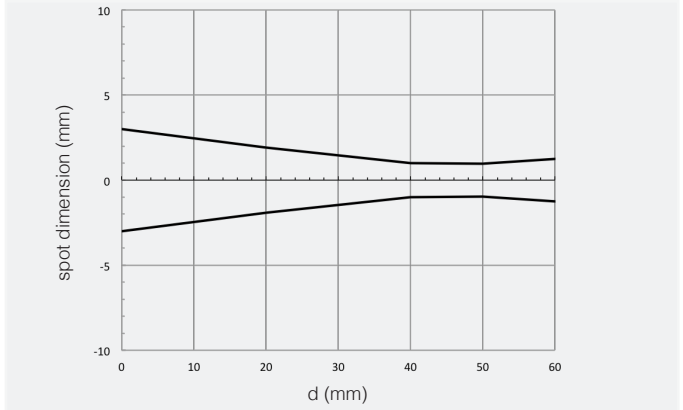
S*T/**-** + STF-12 parallel displacement



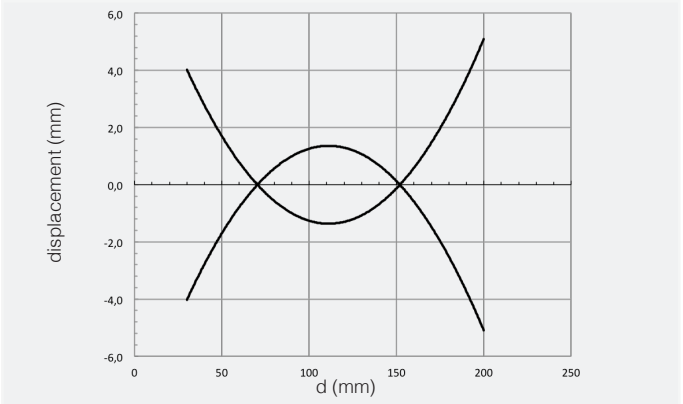
S*T/**-** + STF-50 excess gain



S*T/**-** + STF-50 spot dimension

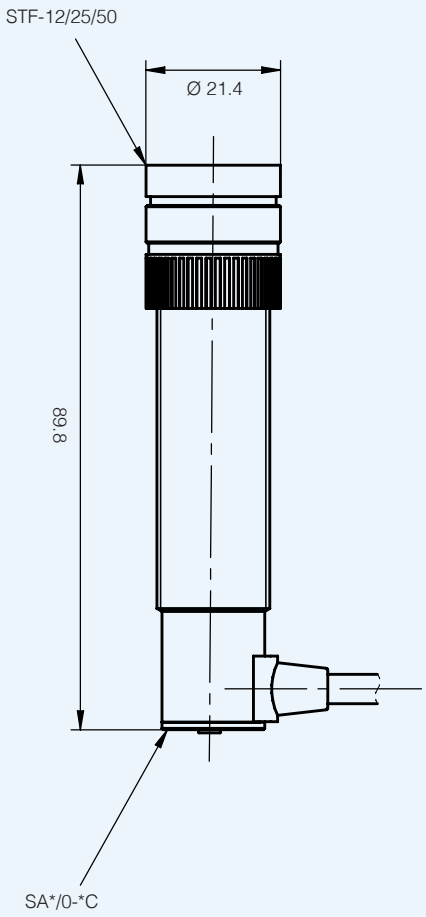


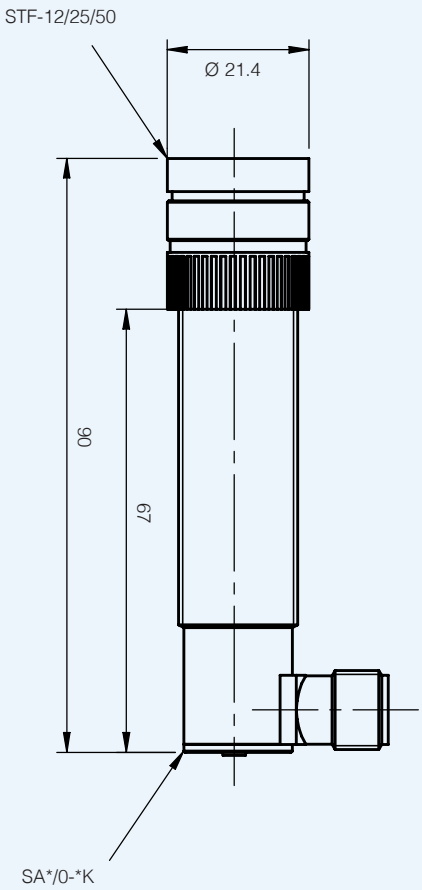
S*T/**-** + STF-50 parallel displacement



dimensions (mm)

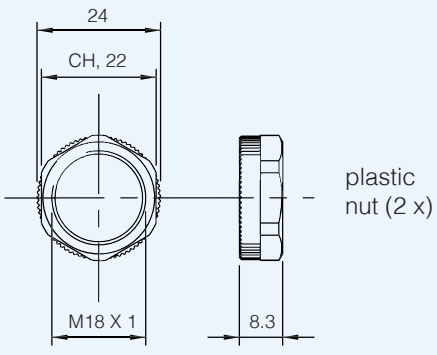
SA*/0*-*C	SA*/0*-*K





dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models

