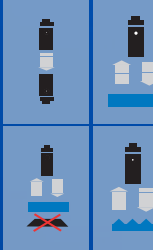




MS - MP series

M18 DECOU[®] DC output



M18 DECOU[®]
DC output



features

- Wide range of models: diffuse, retro-reflective, polarized, through-beam detection and background suppression
- Through-beam models with high sensing range
- Retro-reflective models with red visible polarized light
- Models with right angle optic (MP)
- Background suppression models with fixed distance
- Check function available for all through-beam models
- Complete protection against electrical damage

web contents

- Application notes
- Photos
- Catalogue / Manuals

code description

		MS 0 / 0 0 - 0 A					
series	MS	M18 DECOU [®] photoelectric sensor					
	MP	M18 photoelectric sensor with right angle optic and DECOU [®] output					
type	0	50 mm background suppression					
	1	100 mm background suppression					
	T	Focalized background suppr. 12 mm (focalizer STF-12), 25 mm (focalizer STF-25) ⁽¹⁾					
	2	100 mm diffuse reflection					
	3	100 mm diffuse reflection with adjustment					
	4	200 mm diffuse reflection					
	6	400 mm diffuse reflection					
	7	400 mm diffuse reflection with adjustment					
	C	4.5 m retro-reflective					
	P	3.5 m polarized retro-reflective					
	N	3.5 m polarized retro-reflective with adjustment					
	E	Standard emitter					
	R	16 m standard receiver					
	D	32 m long distance receiver					
emitter type	0	Standard emitter - DECOU [®] output					
	X	Emitter with check					
emitter	0	Standard emitter - DECOU [®] output					
housing material	0	Plastic housing					
	1	Metal housing					
cable / plug output	A	Axial cable output					
	C	Right angle cable exit ⁽¹⁾					
	E	M12 plug cable exit					
	K	M12 right angle plug cable exit ⁽¹⁾					

⁽¹⁾ Not available for MP models



M18 DECOU[®]
DC output

available models

photoelectric sensors with axial optic

function	distance	axial cable exit 4 wires PNP/NPN - NO/NC		axial plug exit 4 wires PNP/NPN - NO/NC		radial cable exit 4 wires PNP/NPN - NO/NC		radial plug exit 4 wires PNP/NPN - NO/NC	
		plastic housing	metal housing	plastic housing	metal housing	plastic housing	metal housing	plastic housing	metal housing
background suppression	50 mm	MS0/00-0A	MS0/00-1A	MS0/00-0E	MS0/00-1E	-	-	MS0/00-0K	-
	100 mm	MS1/00-0A	MS1/00-1A	MS1/00-0E	MS1/00-1E	-	-	-	-
	focalized			MST/00-0E	MST/00-1E	-	-	-	-
direct diffuse	100 mm	MS2/00-0A	MS2/00-1A	MS2/00-0E	MS2/00-1E	-	-	-	-
		MS3/00-0A	MS3/00-1A	MS3/00-0E	MS3/00-1E	-	-	-	-
	200 mm	MS4/00-0A	MS4/00-1A	MS4/00-0E	MS4/00-1E	-	-	MS4/00-0K	-
	400 mm	MS6/00-0A	MS6/00-0A	MS6/00-0E	MS6/00-0E	-	-	MS6/00-0K	-
		MS7/00-0A	MS7/00-0A	MS7/00-0E	MS7/00-0E	-	-	MS7/00-0K	-
retro-reflective	4 m	MSC/00-0A	MSC/00-0A	MSC/00-0E	MSC/00-0E	MSC/00-0C	MSC/00-1C	MSC/00-0K	-
polarized	3.5 m	MSP/00-0A	MSP/00-1A	MSP/00-0E	MSP/00-1E	-	-	-	-
		MSN/00-0A	MSN/00-1A	MSN/00-0E	MSN/00-1E	-	-	MSE/00-0K	MSE/00-1K
through beam	emitter	MSE/00-0A	MSE/00-1A	MSE/00-0E	MSE/00-1E	-	-	-	-
	emitter with check	MSE/X0-0A	MSE/X0-1A	MSE/X0-0E	MSE/X0-1E	-	-	-	-
	receiver 16 m	MSR/00-0A	MSR/00-1A	MSR/00-0E	MSR/00-0E	-	-	MSR/00-0K	MSR/00-1K
	receiver 32 m	MSD/00-0A	MSD/00-1A	MSD/00-0E	MSD/00-1E	-	-	-	-

available models

photoelectric sensors with radial optic

function	distance	axial cable exit 4 wires PNP/NPN - NO/NC		axial plug exit 4 wires PNP/NPN - NO/NC		radial cable exit 4 wires PNP/NPN - NO/NC		radial plug exit 4 wires PNP/NPN - NO/NC	
		plastic housing	metal housing	plastic housing	metal housing	plastic housing	metal housing	plastic housing	metal housing
background suppression	50 mm	MP0/00-0A	MP0/00-1A	MP0/00-0E	MP0/00-1E	-	-	-	-
	100 mm	MP1/00-0A	MP1/00-1A	MP1/00-0E	MP1/00-1E	-	-	-	-
direct diffuse	200 mm	MP2/00-0A	-	MP2/00-0E	-	-	-	-	-
		MP4/00-0A	-	MP4/00-0E	-	-	-	-	-
	400 mm	-	-	MP6/00-0E	-	-	-	-	-
retro-reflective	4.5 m	MPC/00-0A	MPC/00-0A	MPC/00-0E	MPC/00-0E	-	-	-	-
polarized	3.5 m	-	-	-	-	-	-	-	-
through beam	emitter	MPE/00-0A	MPE/00-1A	MPE/00-0E	MPE/00-1E	-	-	-	-
	emitter with check	MPE/X0-0A	MPE/X0-1A	MPE/X0-0E	MPE/X0-1E	-	-	-	-
	receiver 16 m	MPR/00-0A	MPR/00-1A	MPR/00-0E	MPR/00-0E	-	-	-	-

technical specification

background suppression models

	M*0/00-*	M*1/00-**	MST/00-**
			
nominal sensing distance	50 mm ⁽¹⁾	100 mm ⁽¹⁾	12/25 mm
emission	infrared (880 nm)		red (660 nm)
regulation	-		
tolerance	0...+10 % Sn		
dfferential travel	≤ 5 %		≤ 10 %
repeatability	5 %		
operating voltage	10...30 Vdc		
ripple	≤ 10 %		
supply current	≤ 40 mA		≤ 30 mA
load current	≤ 100 mA		
leakage current	6 A (Ton = 10 ms)		
output voltage drop	1.2 V max. IL = 100 mA		
output type	DECOUT® (NPN/PNP, NO, NC)		
switching frequency	1 KHz		
power on delay	200 ms		
power supply protections	transient		
output protection	short circuit (with hold)		
operating temperature range	- 25°C...+ 70°C (without freeze)		
temperature drift	5 % Sr		10 % Sr
protection degree	IP67 (EN60529) ⁽²⁾		
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)		yellow
housing material	PBT (plastic) / nicked plated brass (metallic) / PC (cable exit)		
optic material	PMMA		plastic
tightening torque	1 Nm (plastic housing), 25 Nm (metallic housing)		
weight (approx)	plastic version: 30 g plug / 70 g cable metallic version: 100 g plug / 130 g cable		

⁽¹⁾ With 100x100 mm white matt paper ⁽²⁾ Protection guaranteed only with plug cable well mounted



technical specification

direct diffuse models

M18 DECOUT®
DC output

	M*2/00-**	M*3/00-**	M*4/00-**	M*6/00-0**	M*7/00-**
					
nominal sensing distance	100 mm ⁽¹⁾		200 mm ⁽¹⁾		400 mm ⁽²⁾
emission	infrared (880 nm)				
regulation	-	●	-		●
tolerance	-				+15...-10 % Sn
dfferential travel	≤ 5 %				≤ 10 %
repeatability	5%				
operating voltage	10...30 Vdc				
ripple	≤ 10 %				
supply current	≤ 40 mA				≤ 30 mA
load current	≤ 100 mA				
leakage current	6 A (Ton = 10 ms)				
output voltage drop	1,2 V max. IL = 100 mA				
output type	DECOUT® (NPN/PNP, NO NC)				
switching frequency	80 Hz				
power on delay	200 ms				
power supply protections	transient				
output protection	short circuit (with hold)				
operating temperature range	-25°C...+70°C (without freeze)				
temperature drift	5 % Sr				
protection degree	IP67 (EN60529) ⁽³⁾				
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)				
housing material	PBT (plastic) / nicked plated brass (metallic) / PC (cable exit)				
optic material	PMMA				
tightening torque	1 Nm (plastic housing), 25 Nm (metallic housing)				
weight (approx)	plastic version: 30 g plug / 70 g cable metallic version: 100 g plug / 130 g cable				

⁽¹⁾ With 100x100 mm white matt paper ⁽²⁾ With 200x200 mm white matt paper ⁽³⁾ Protection guaranteed only with plug cable well mounted

technical specification

retro-reflective and long distance models

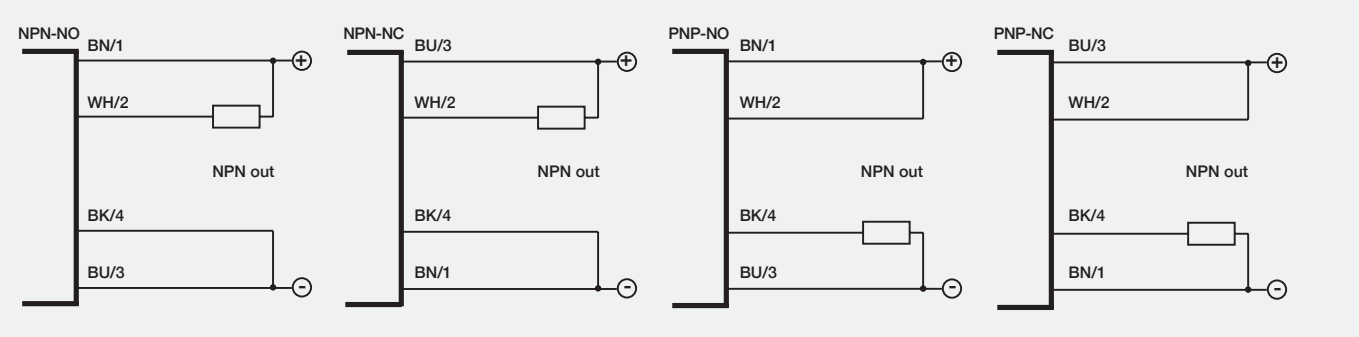
	retro-reflective			through-beam	
	standard	polarized		standard	long distance
	M*C/00-*	M*P/00-**	MSN/00-**	M*E/**-** M*R/**-**	M*E/**-** M*D/**-**
					
nominal sensing distance	4,5 m ⁽¹⁾	3,5 m ⁽¹⁾		16 m	32 m
emission	infrared (880 nm)	red (660 nm)		infrared (880 nm)	
tolerance	+15...-10 % Sn			-	
dfferential travel	≤ 10 %				
repeatability	5 %				
operating voltage	10...30 Vdc				
ripple	≤ 10 %				
no-load supply current	≤ 30 mA			≤ 15 mA (emitter) ≤ 35 mA (emitter with check) ≤ 25 mA (receiver)	
load current	≤ 100 mA				
leakage current	≤ 10 µA				
output voltage drop	1,2 V max. IL = 100 mA				
output type	DECOUT® (NPN/PNP, NO/NC)				
switching frequency	80 Hz			30 Hz	
power on delay	200 ms				
power supply protections	transient				
output protection	short circuit (with hold)				
operating temperature range	- 25°C...+ 70°C (without freeze)				
temperature drift	≤ 10 % Sr				
protection degree	IP67 (EN60529) ⁽²⁾				
EMC	in conformity with the EMC Directive according to EN 60947-5-2 60947-5-2				
external light interference	3,000 lux (incandescent lamp), 10,000 lux (sunlight)				
LEDs	yellow (output energized)				
housing material	PBT (plastic) / nickel-plated brass (metallic) / polycarbonate (cable exit)				
optic material	PMMA				
tightening torque	1 Nm (plastic housing), 25 Nm (metallic housing)				
weight (approx)	plastic version: 30 g plug / 70 g cable metallic version: 100 g plug / 130 g cable				

⁽¹⁾ With 100x100 mm white matt paper ⁽²⁾ Protection guaranteed only with plug cable well mounted

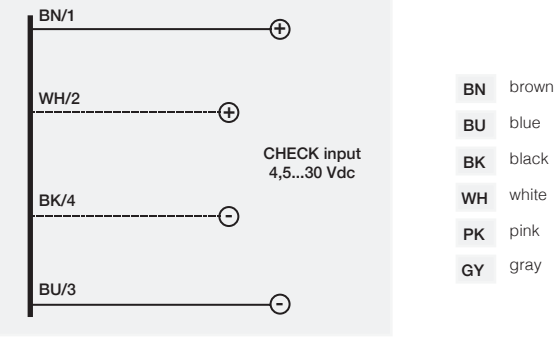
M12	M12 emitter with check	M12 emitter without check

electrical diagrams of the connections

DECOU® output

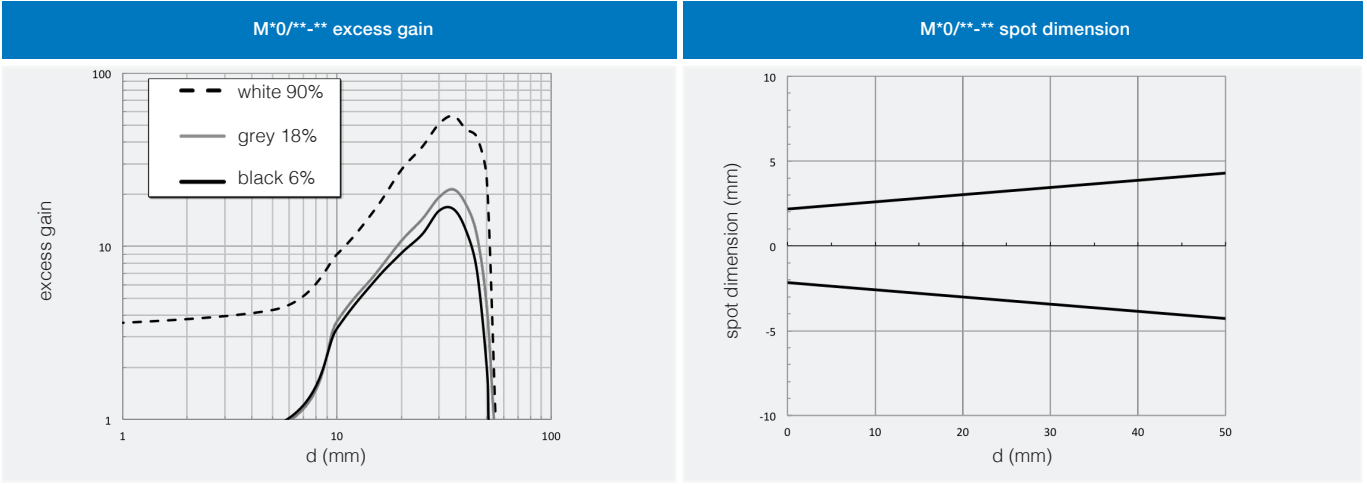


emitter with check



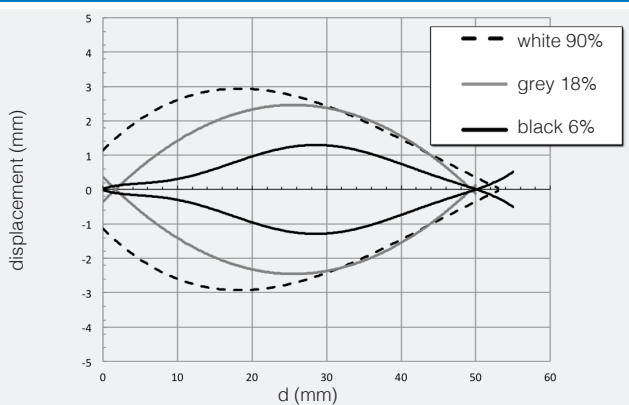
response diagrams

background suppression models

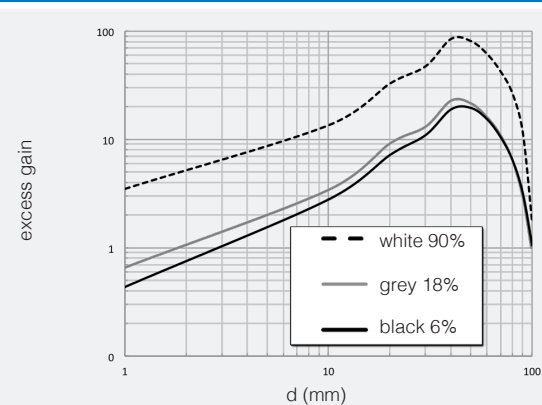




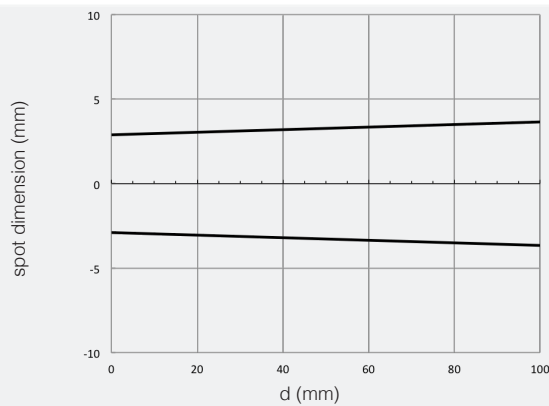
M*0/**-** parallel displacement



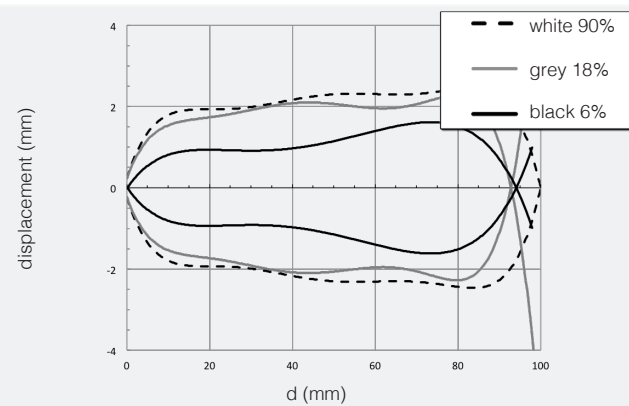
M*1/**-** excess gain



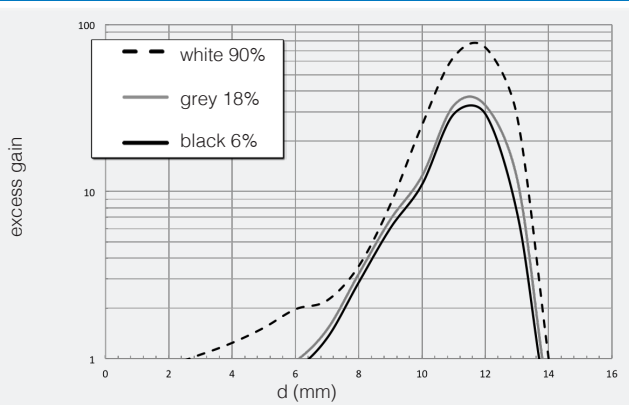
M*1/**-** spot dimension



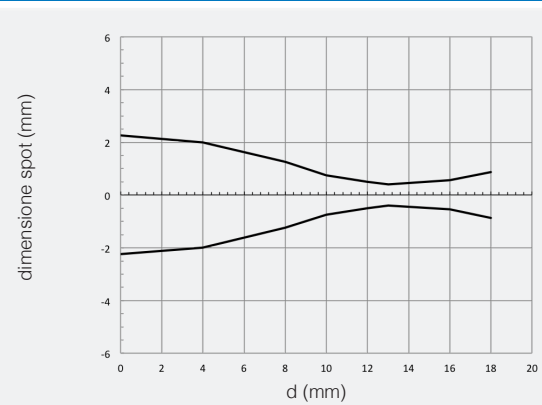
M*1/**-** parallel displacement



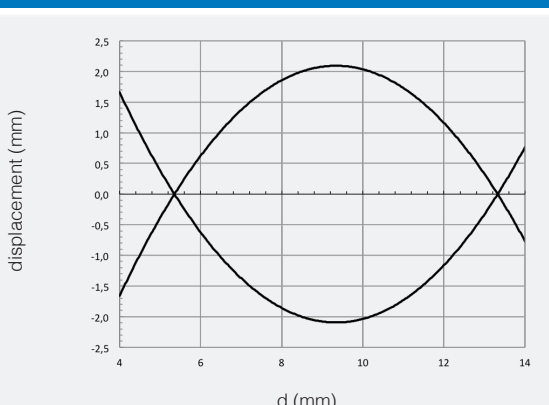
MST/00-**-** + STF12 excess gain



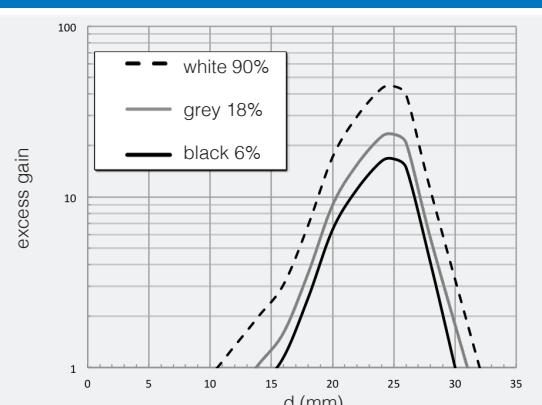
MST/00-**-** + STF12 spot dimension



MST/00-**-** + STF12 parallel displacement



MST/00-**-** + STF25 excess gain

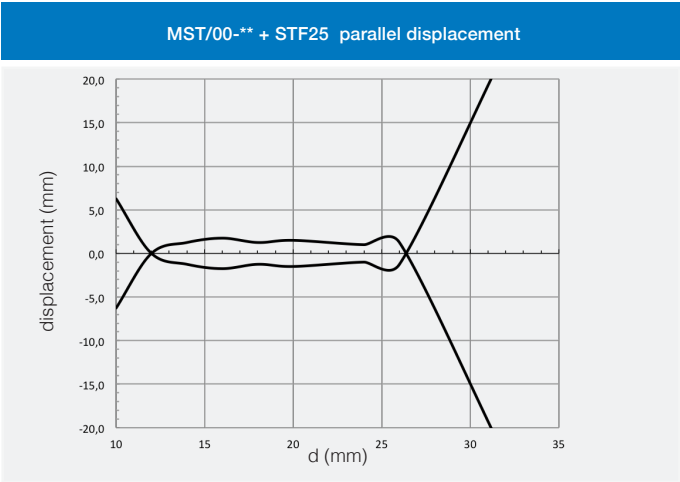
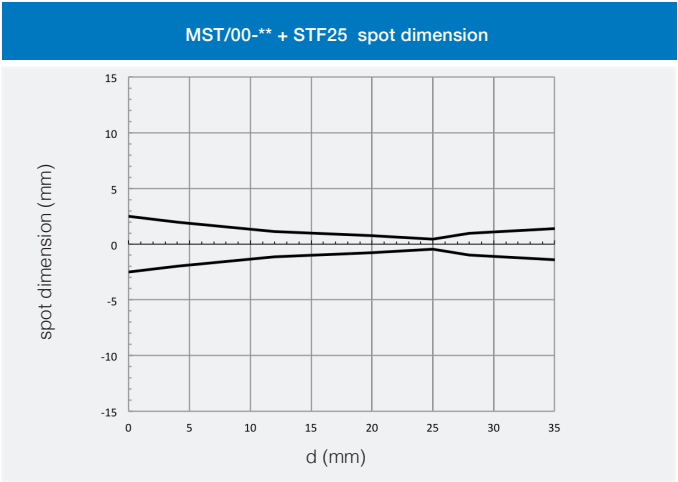




M18 DECOUT®
DC output

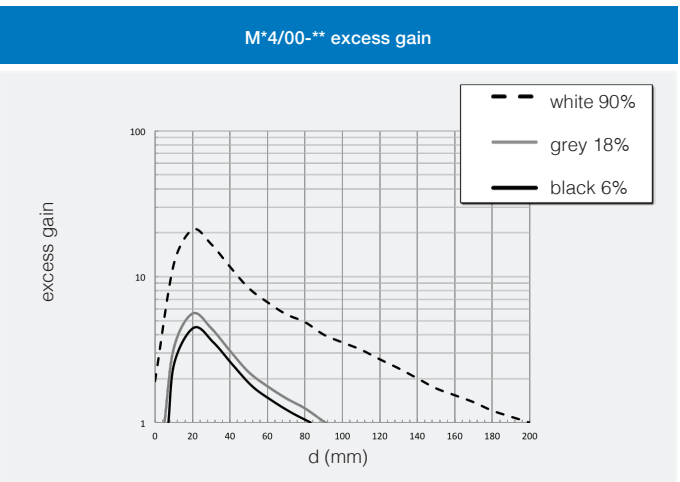
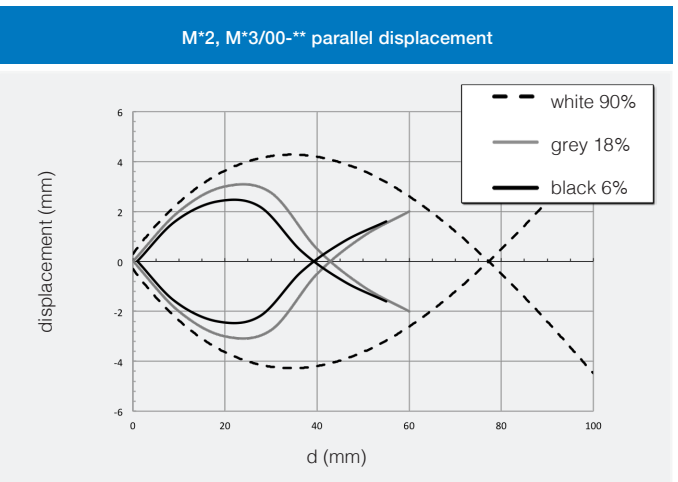
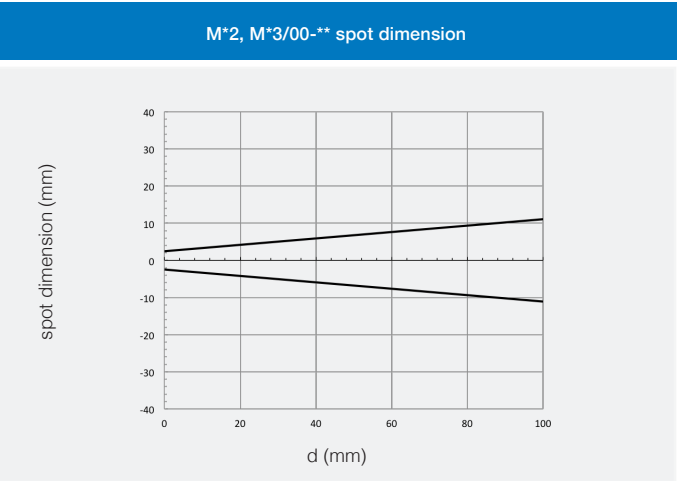
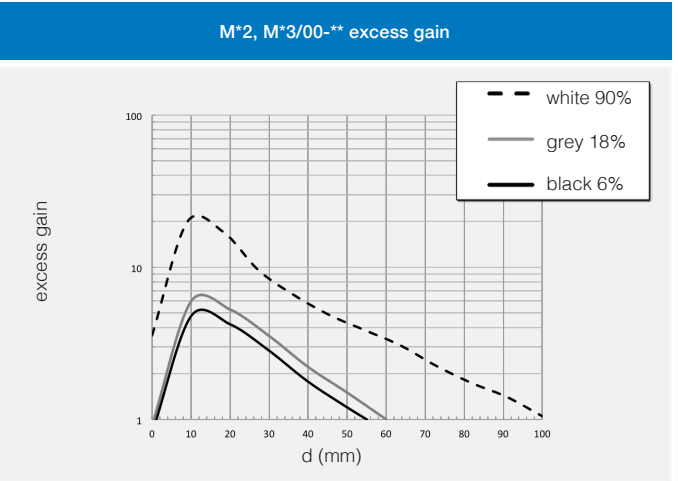
response diagrams

direct diffuse models



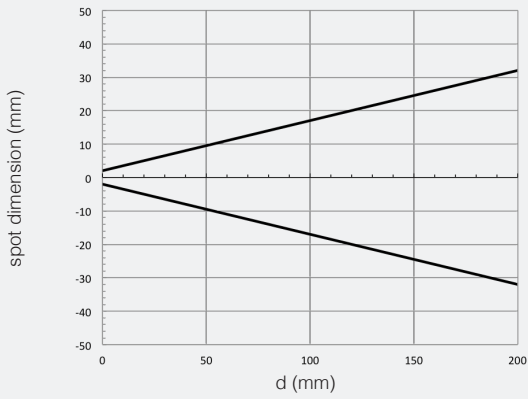
response diagrams

direct diffuse models

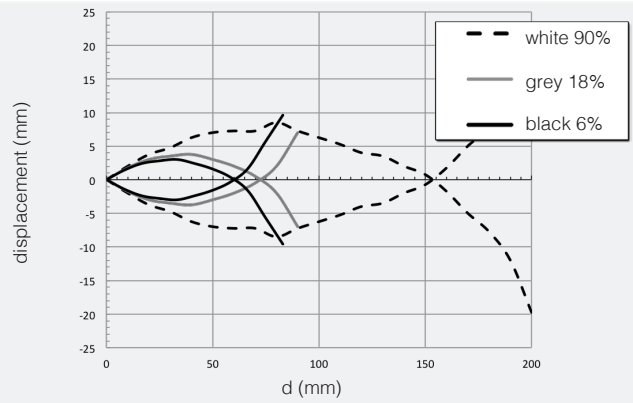


MS - MP

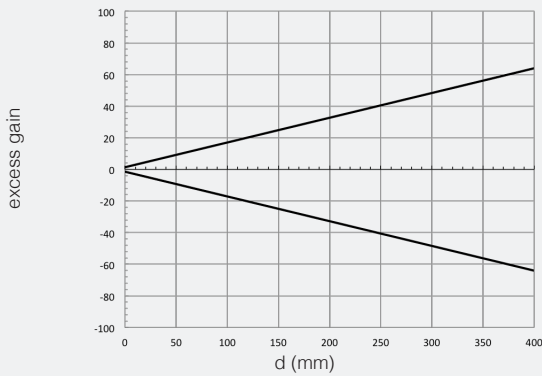
M*4/00-** dimensione spot



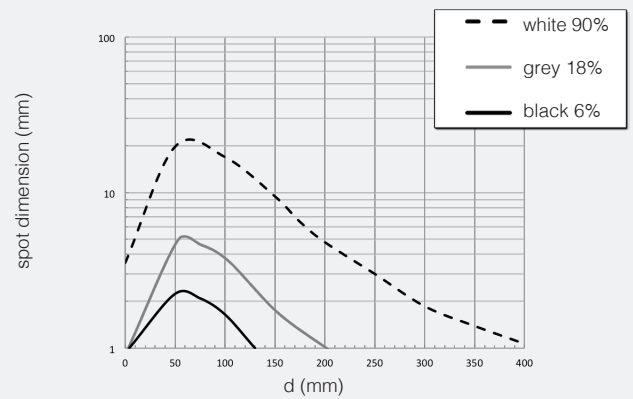
M*4/00-** parallel displacement



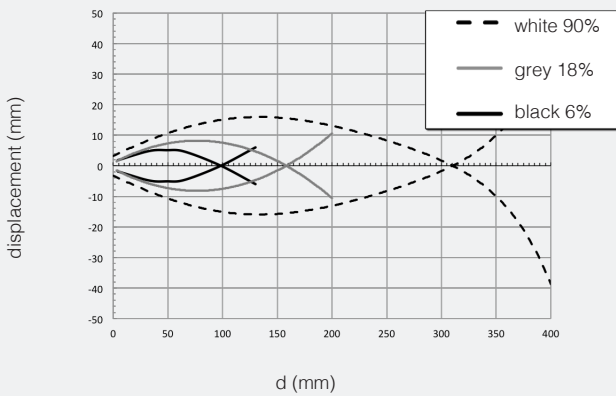
M*6, M*7**/00-** excess gain



M*6, M*7**/00-** spot dimension



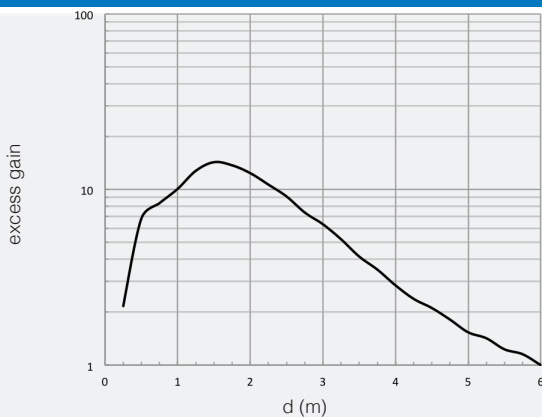
M*6, M*7**/00-** parallel displacement



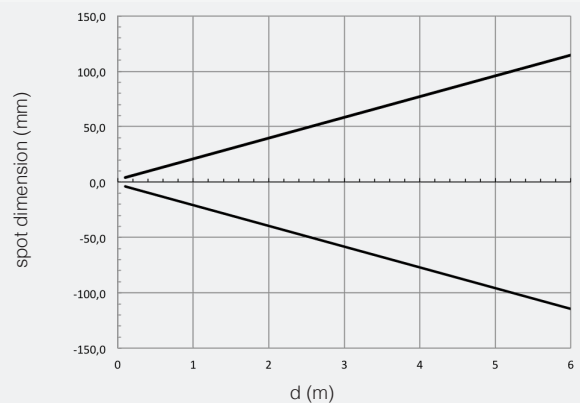
response diagrams

retro-reflective standard and polarized models

MSC/**-** excess gain



MSC/**-** spot dimension



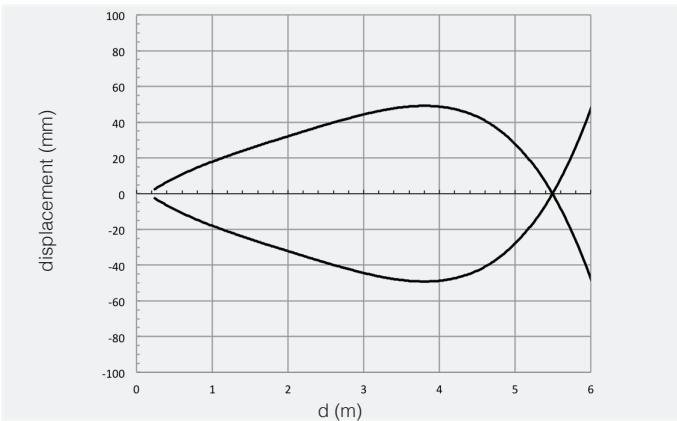


M18 DECOU®
DC output

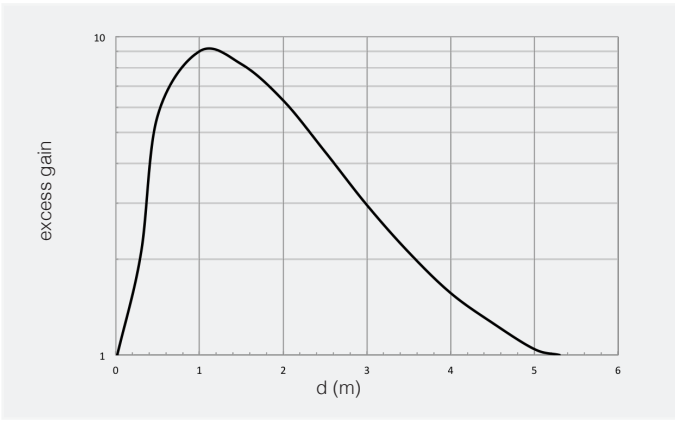
response diagrams

retro-reflective polarized models (diagrams measured using RL100)

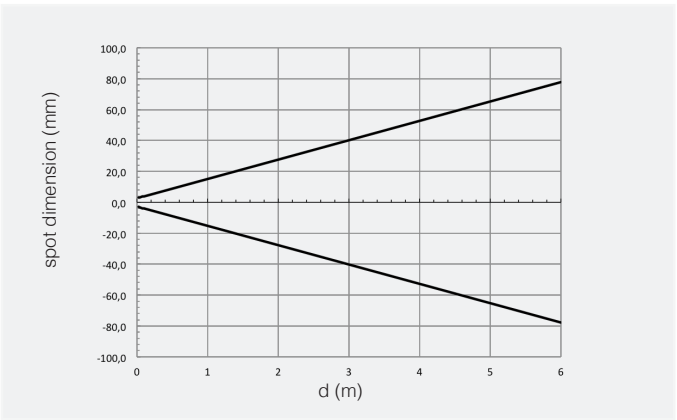
MSC/**-** parallel displacement



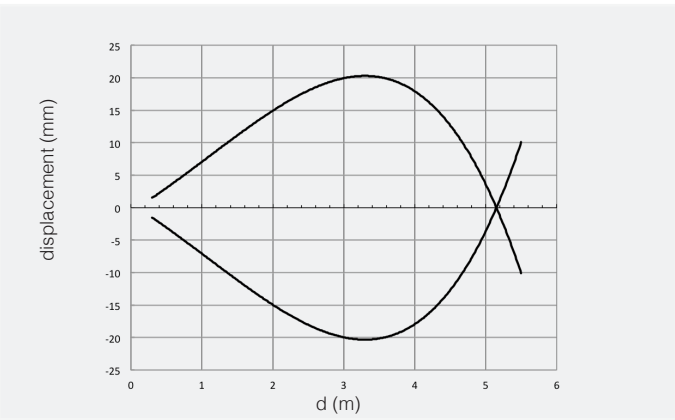
MSP, MSN/**-** excess gain



MSP, MSN/**-** spot dimension



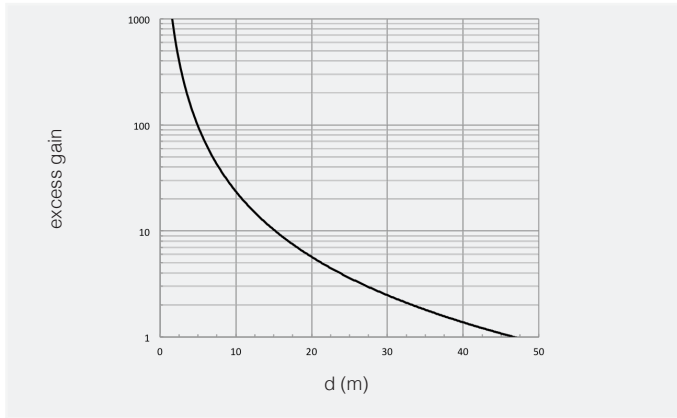
MSP, MSN/**-** parallel displacement



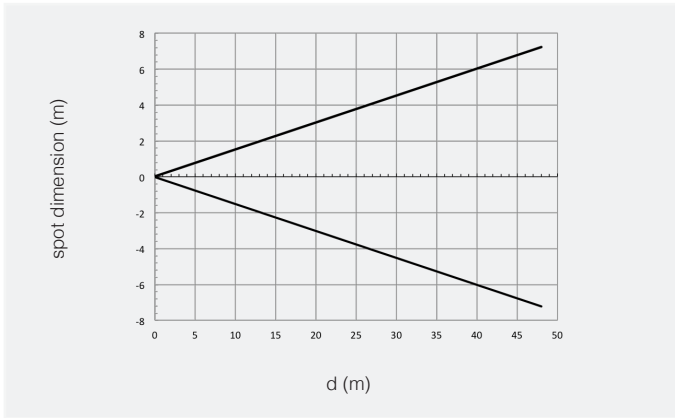
response diagrams

through-beam standard and long distance models

MSE/**-** - MSD/**-** excess gain



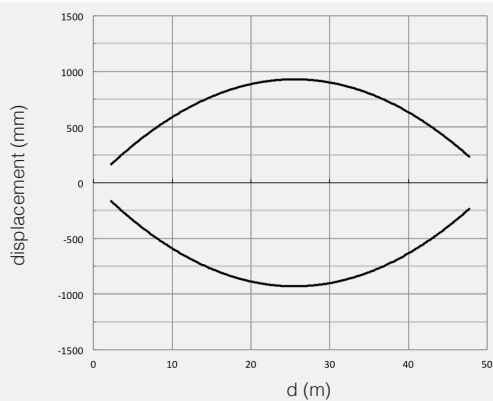
MSE/**-** - MSD/**-** spot dimension



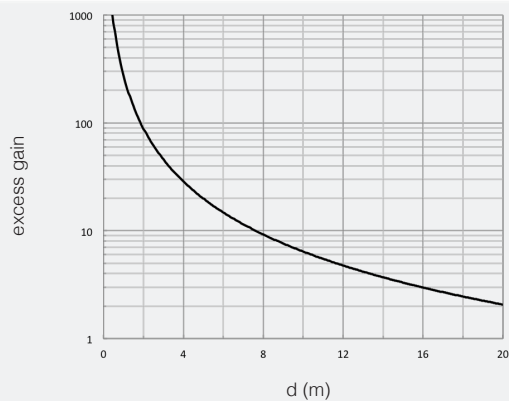
MS - MP



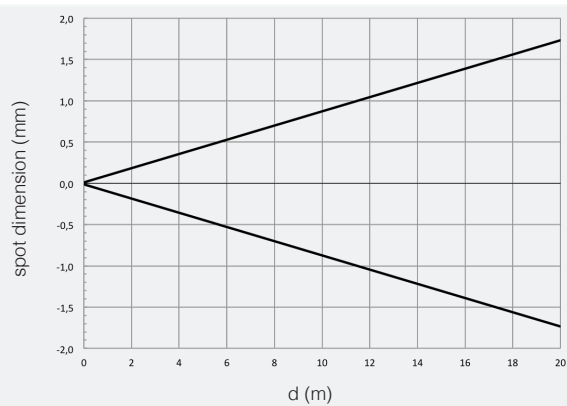
MSE/**-**-MSD/**-**-parallel displacement



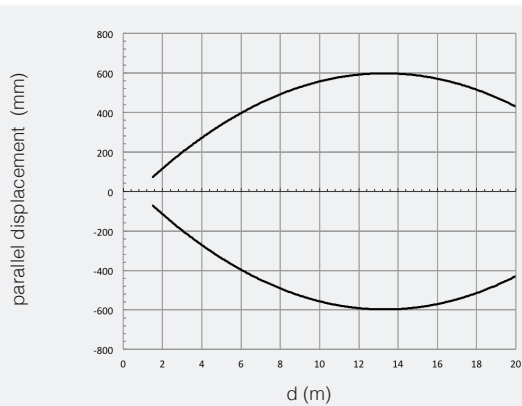
MSE/**-**-MSR/**-**-excess gain



MSE/**-**-MSR/**-**-spot dimension



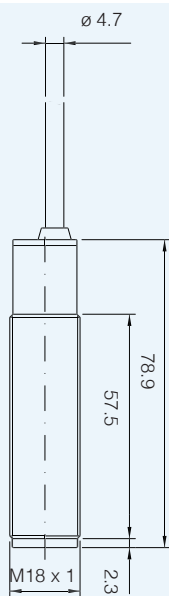
MSE/**-**-MSR/**-**-parallel displacement



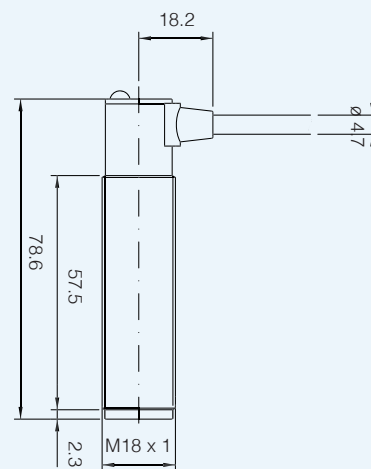
dimensions (mm)

axial models

MS*/00-0A



MS*/00-0C

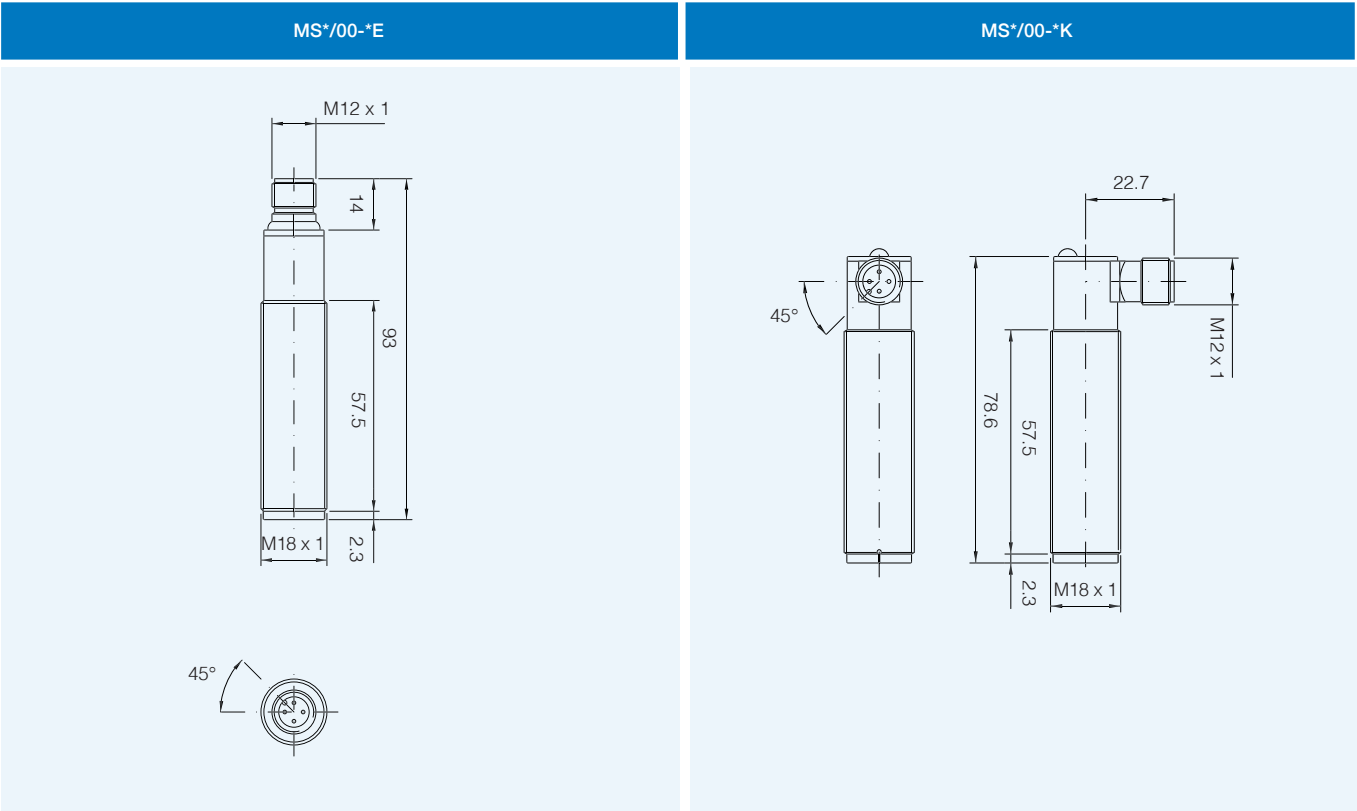




M18 DECOU®
DC output

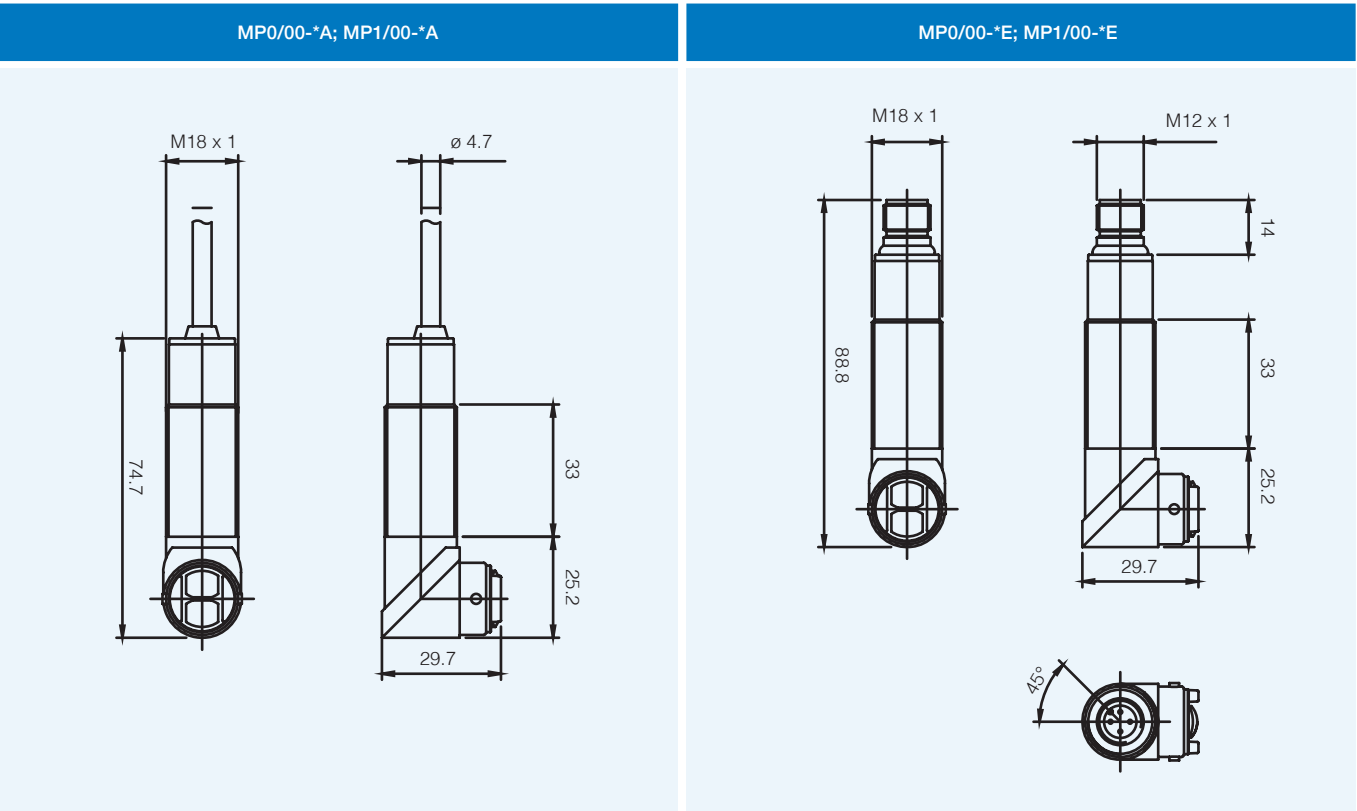
dimensions (mm)

axial models



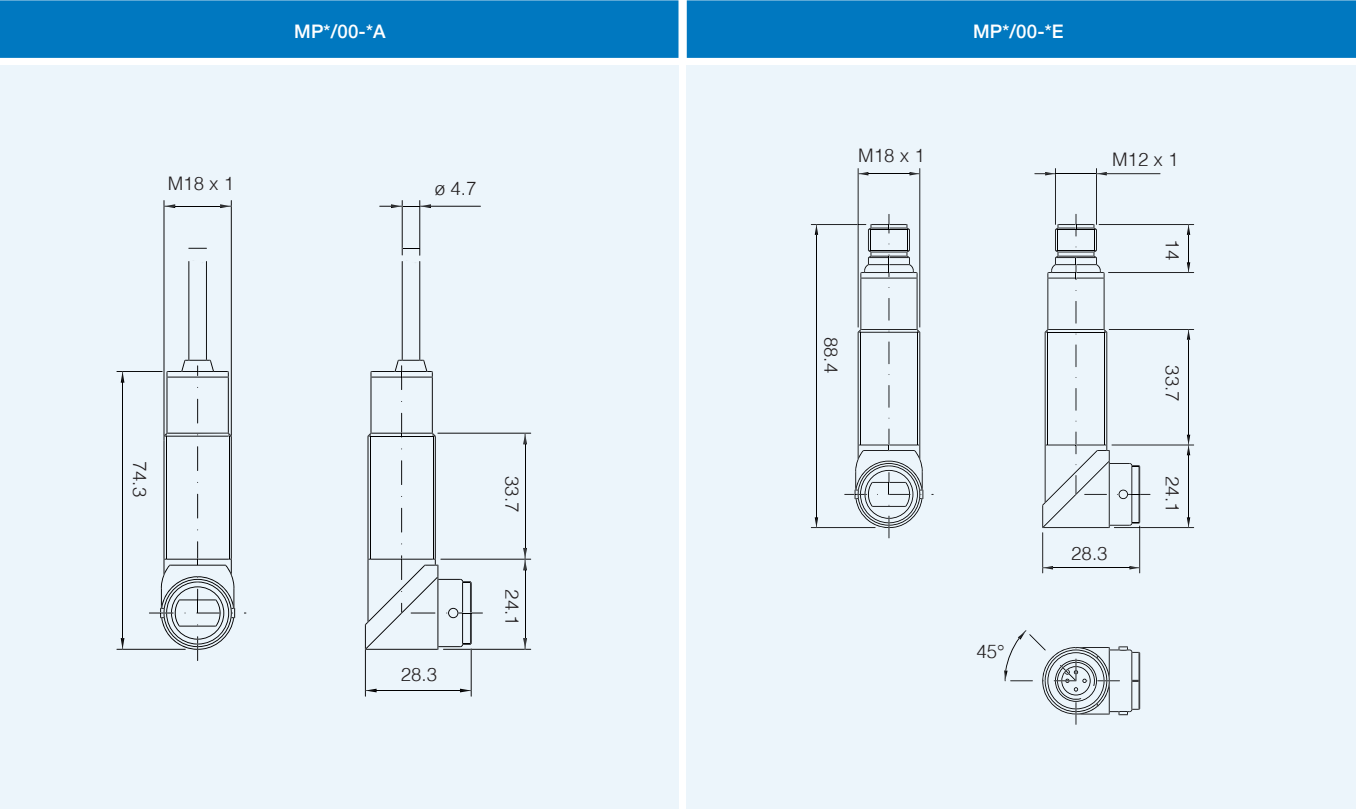
dimensions (mm)

background suppression radial models



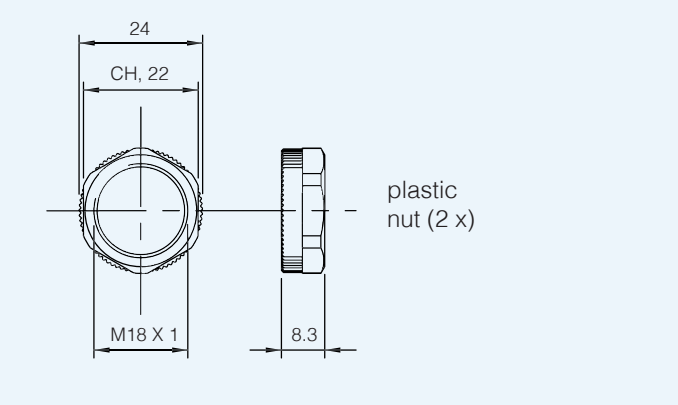
dimensions (mm)

diffuse reflection, retroreflective, polarized, through beam radial models



dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models

