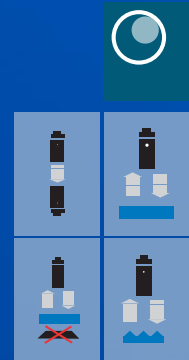




MS - MP series

M18 DECOUT® 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



M18 DECOUT®
DC output

code description

MS 0 / 0 0 - 0 A

series	MS	M18 DECOUT® photoelectric sensor
	MP	M18 photoelectric sensor with right angle optic and DECOUT® output
type	0	50 mm background suppression
	1	00 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 regulation
	4	200 mm diffuse reflection
	6	400 mm diffuse reflection
	7	400 mm diffuse reflection with regulation
	C	4.5 m retro-reflective
	P	3.5 m polarized retro-reflective
emitter type	N	3.5 m polarized retro-reflective with regulation
	E	Standard emitter
	R	16 m standard receiver
emitter	D	32 m long distance receiver
	0	Standard emitter - DECOUT® output
housing material	X	Emitter with check
	0	Standard emitter - DECOUT® output
cable / plug output	0	Plastic housing
	1	Metal housing
	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



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	-	-	-	-



	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	red (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	red (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

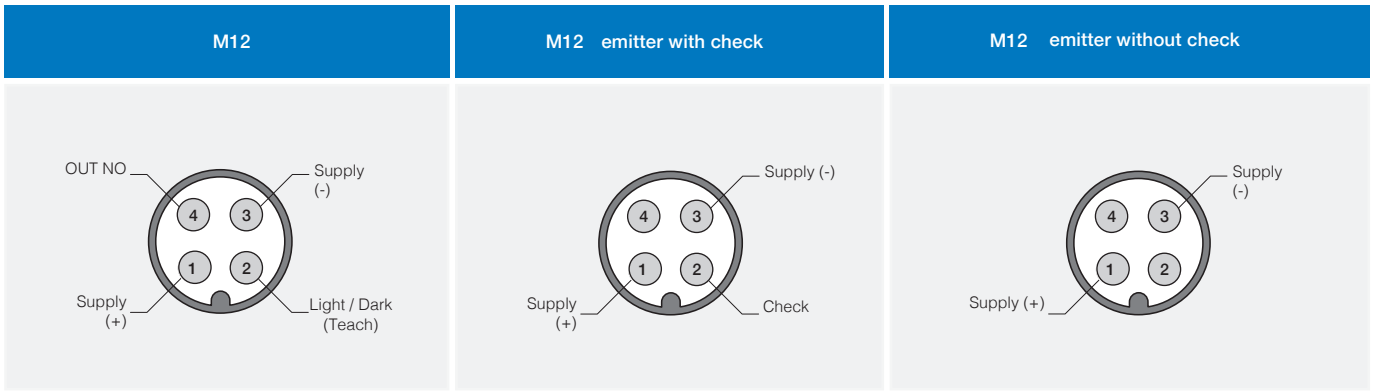
retro-reflective and long distance models



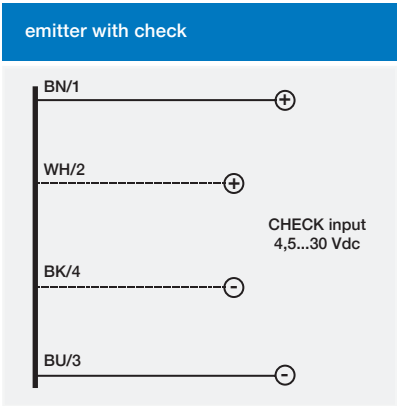
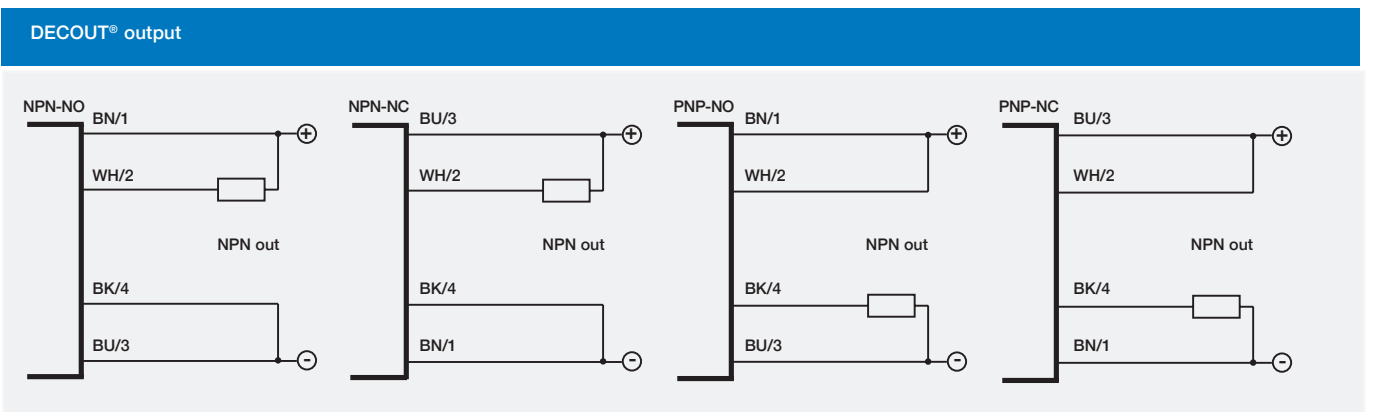
M18 DECOUT®
DC output

	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	red (output energized)				
housing material	PBT (plastic) / nickel-plated brass (metallic) / polycarbonate (cable exit)				
optic material	PMMA				
tightening torque	40 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



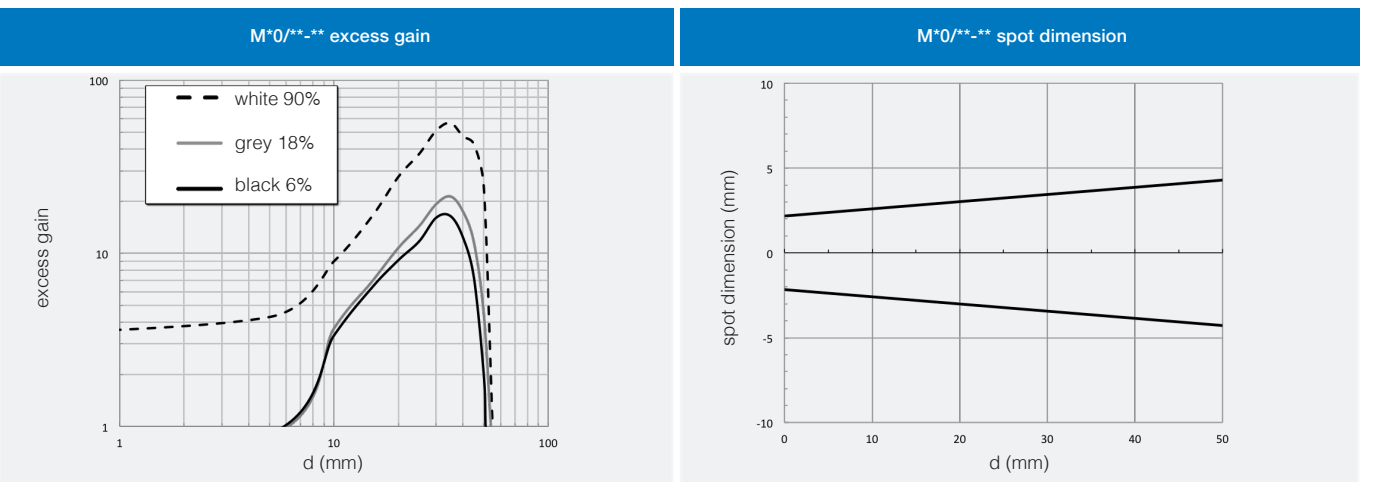
electrical diagrams of the connections



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

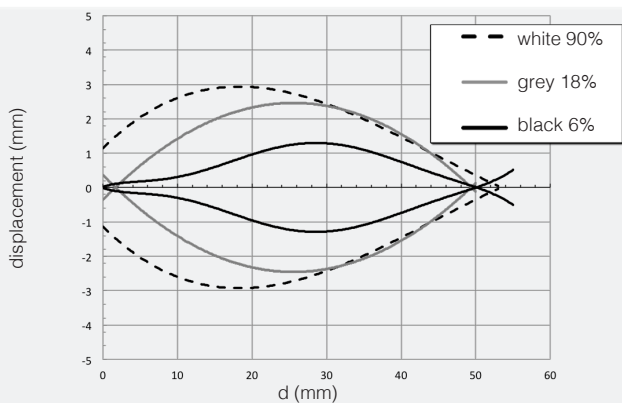
response diagrams

background suppression models

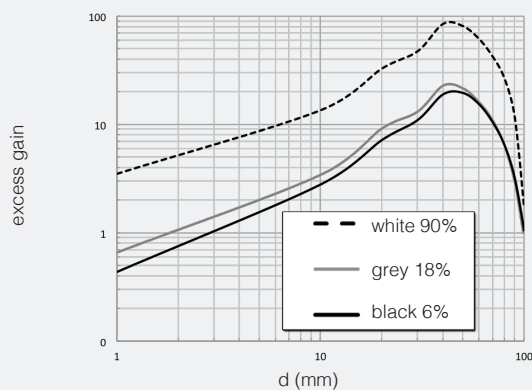




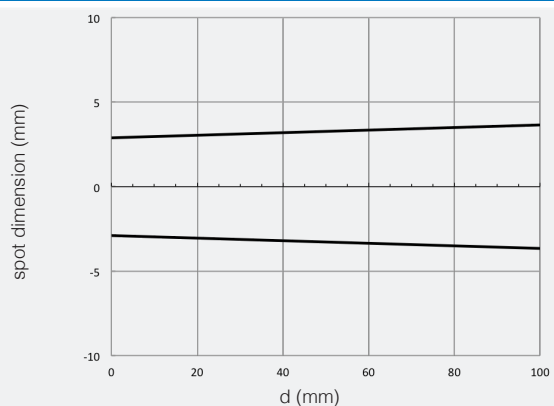
M*0/**-** parallel displacement



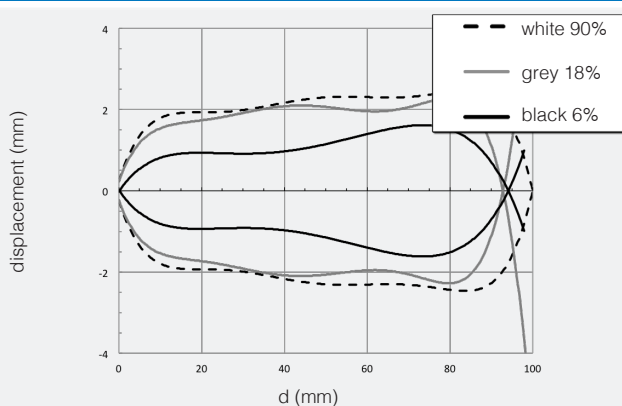
M*1/**-** excess gain



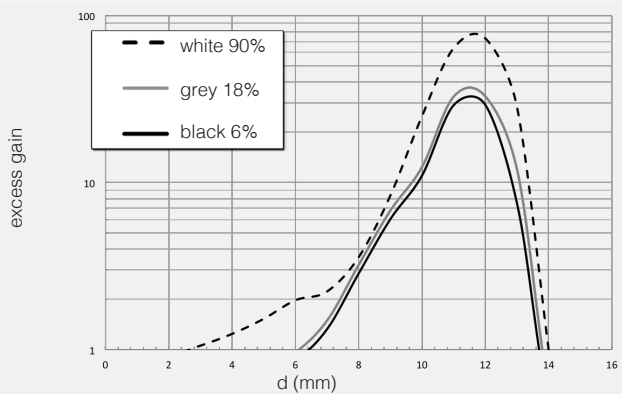
M*1/**-** spot dimension



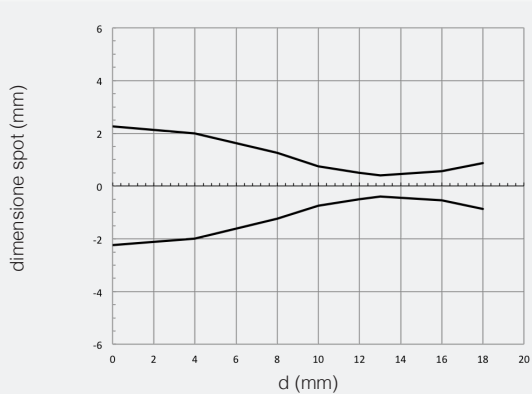
M*1/**-** parallel displacement



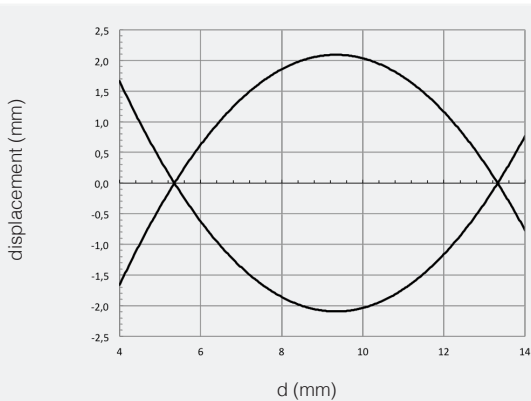
MST/00-** + STF12 excess gain



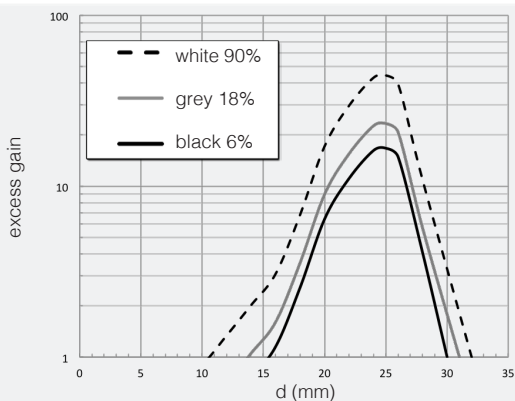
MST/00-** + STF12 spot dimension



MST/00-** + STF12 parallel displacement



MST/00-** + STF25 excess gain



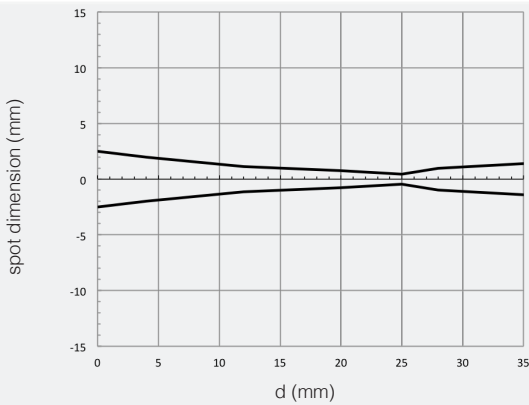


response diagrams

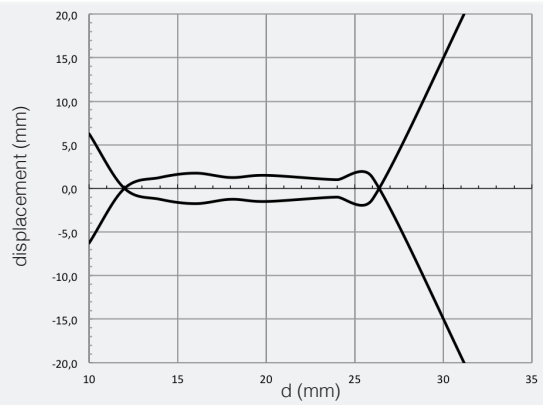
direct diffuse models

M18 DECOULT
DC output

MST/00-** + STF25 spot dimension



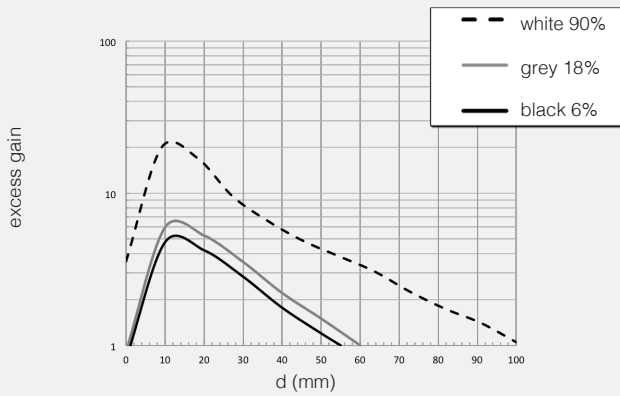
MST/00-** + STF25 parallel displacement



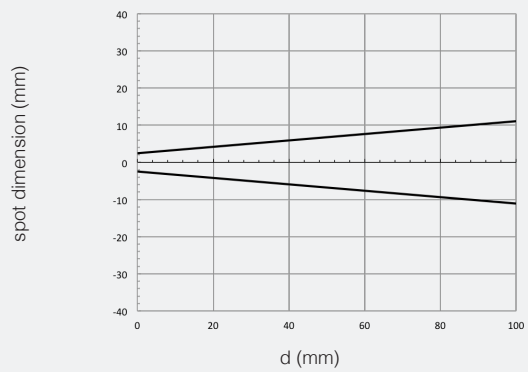
response diagrams

direct diffuse models

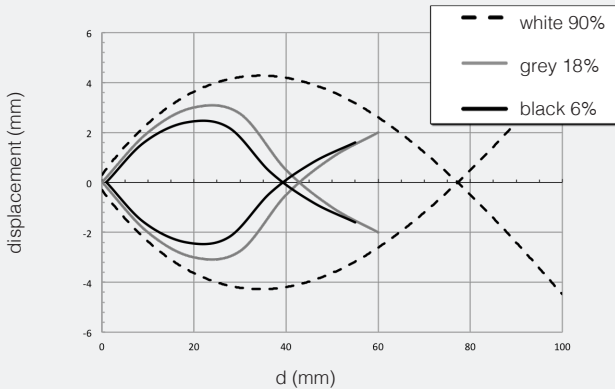
M*2, M*3/00-** excess gain



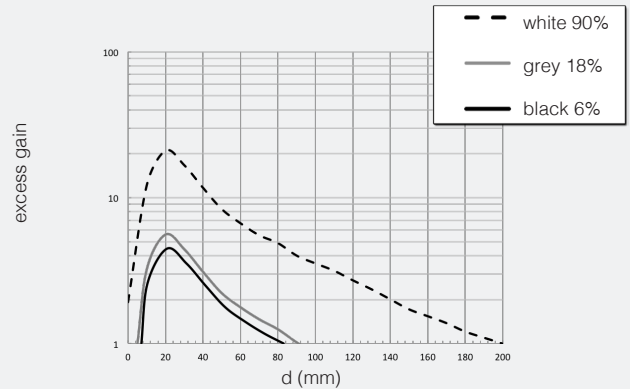
M*2, M*3/00-** spot dimension



M*2, M*3/00-** parallel displacement

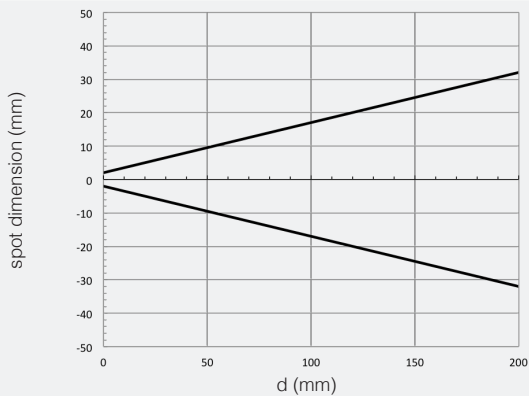


M*4/00-** excess gain

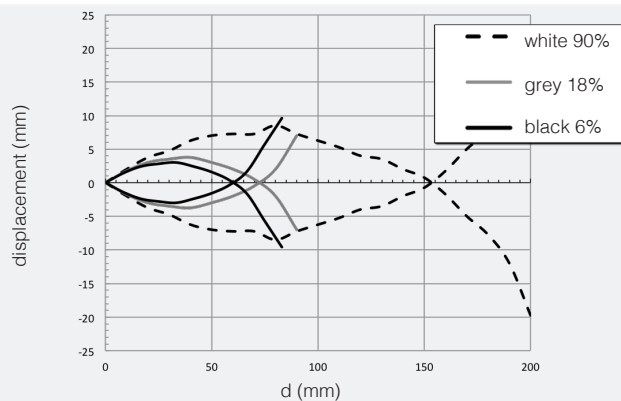


MS - MP

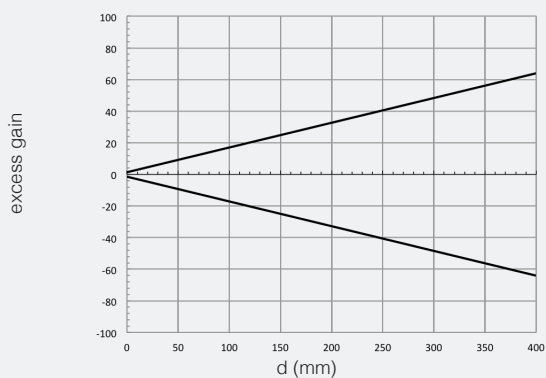
M*4/00-** dimensione spot



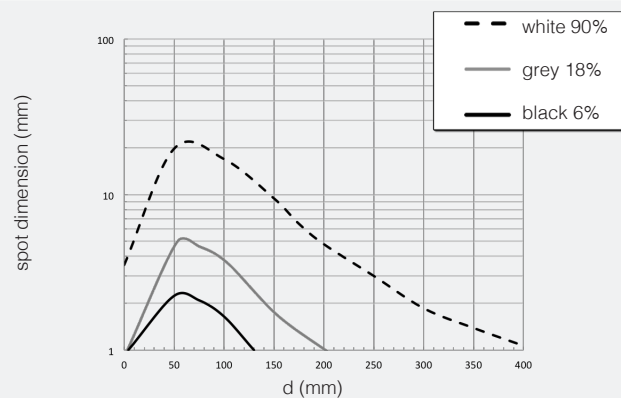
M*4/00-** parallel displacement



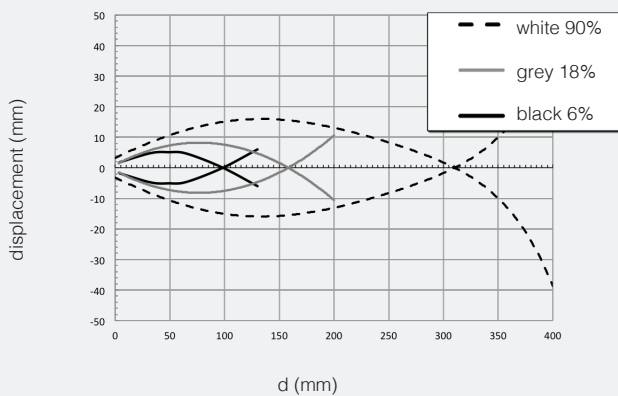
M*6, M*7**/00-** excess gain



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



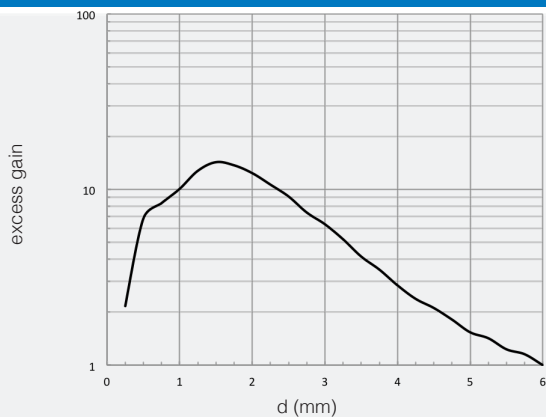
M*6, M*7**/00-** parallel displacement



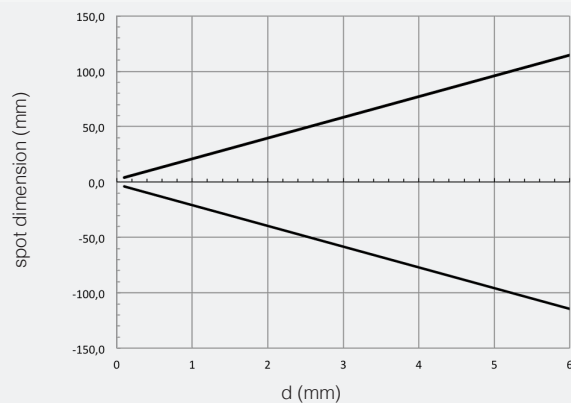
response diagrams

retro-reflective standard and polarized models

MSC/**-** excess gain



MSC/**-** spot dimension



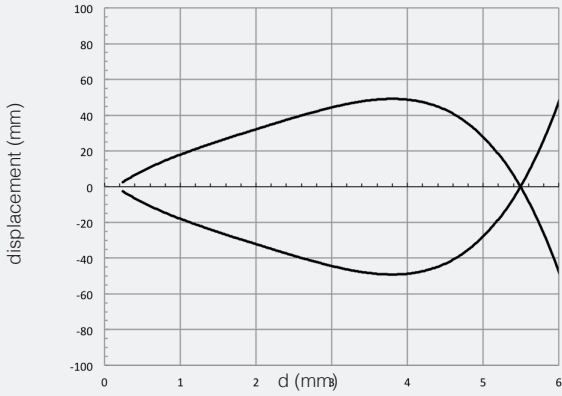


response diagrams

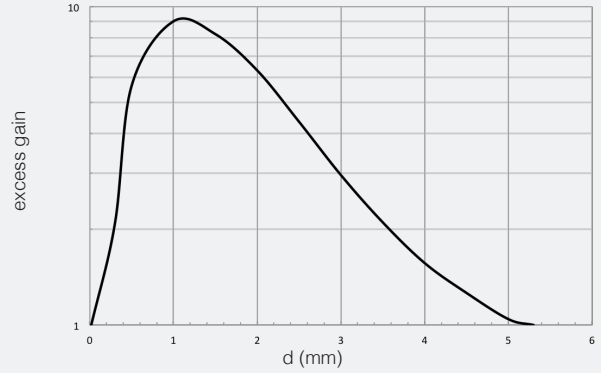
retro-reflective polarized models (diagrams measured using RL100)

M18 DECOULT®
DC output

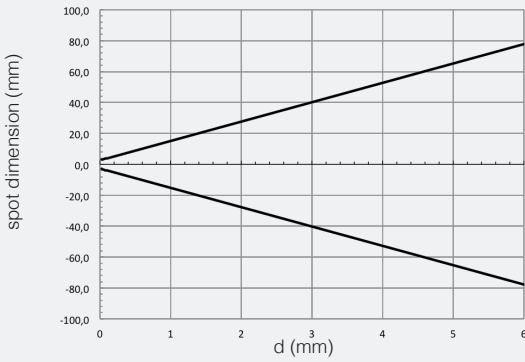
MSC/**-** parallel displacement



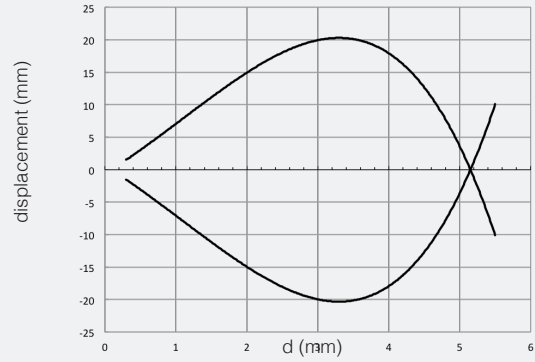
MSP, MSN/**-** excess gain



MSP, MSN/**-** spot dimension



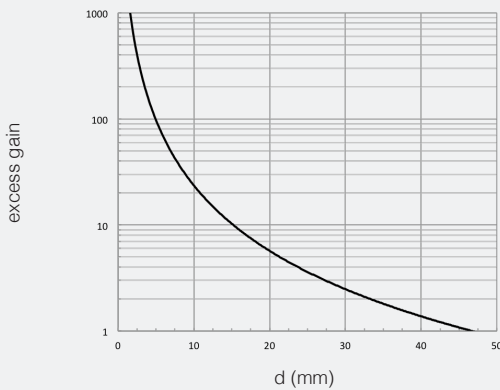
MSP, MSN/**-** parallel displacement



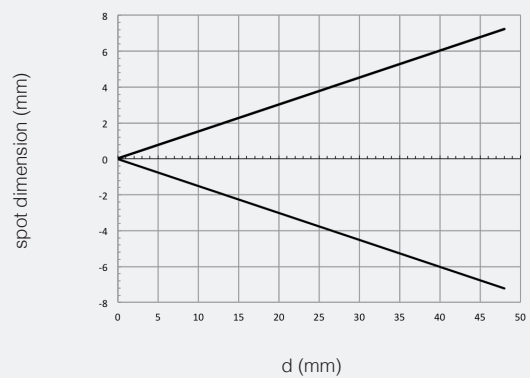
response diagrams

through-beam standard and long distance models

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



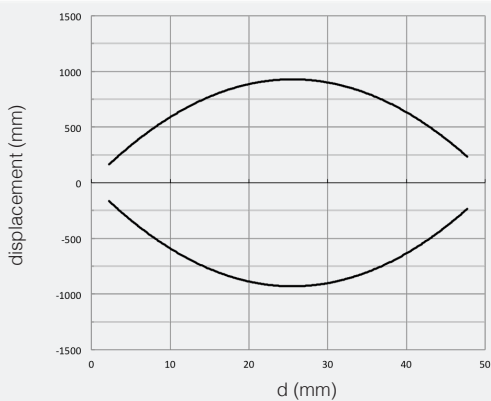
MSE/**-** - MSD/**-** spot dimension



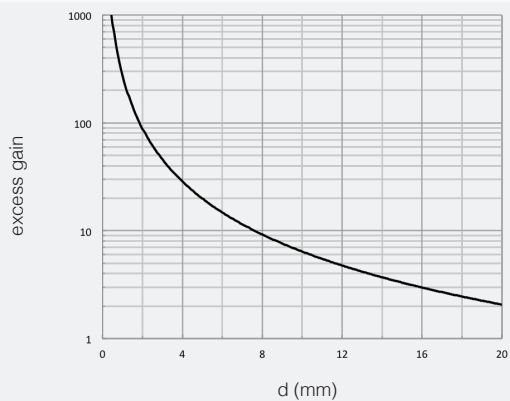
MS - MP



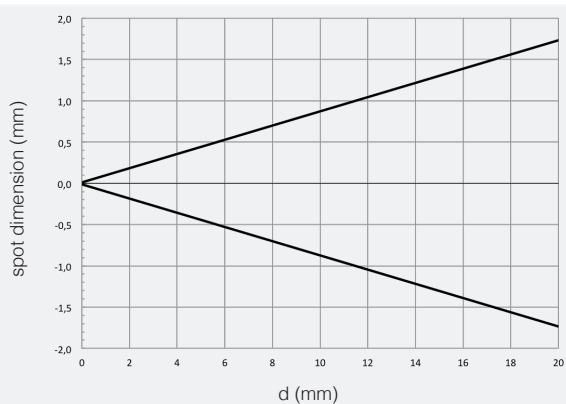
MSE/**_** - MSD/**_** parallel displacement



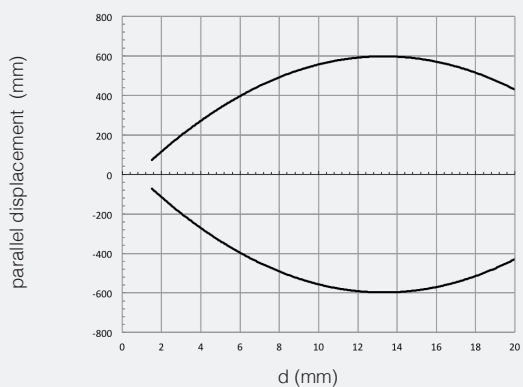
MSE/**_** - MSR/**_** excess gain



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



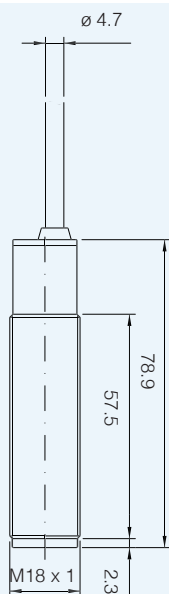
MSE/**_** - MSR/**_** parallel displacement



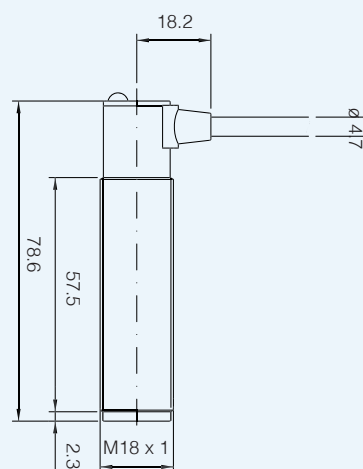
dimensions (mm)

axial models

MS*/00-*A



MS*/00-0C

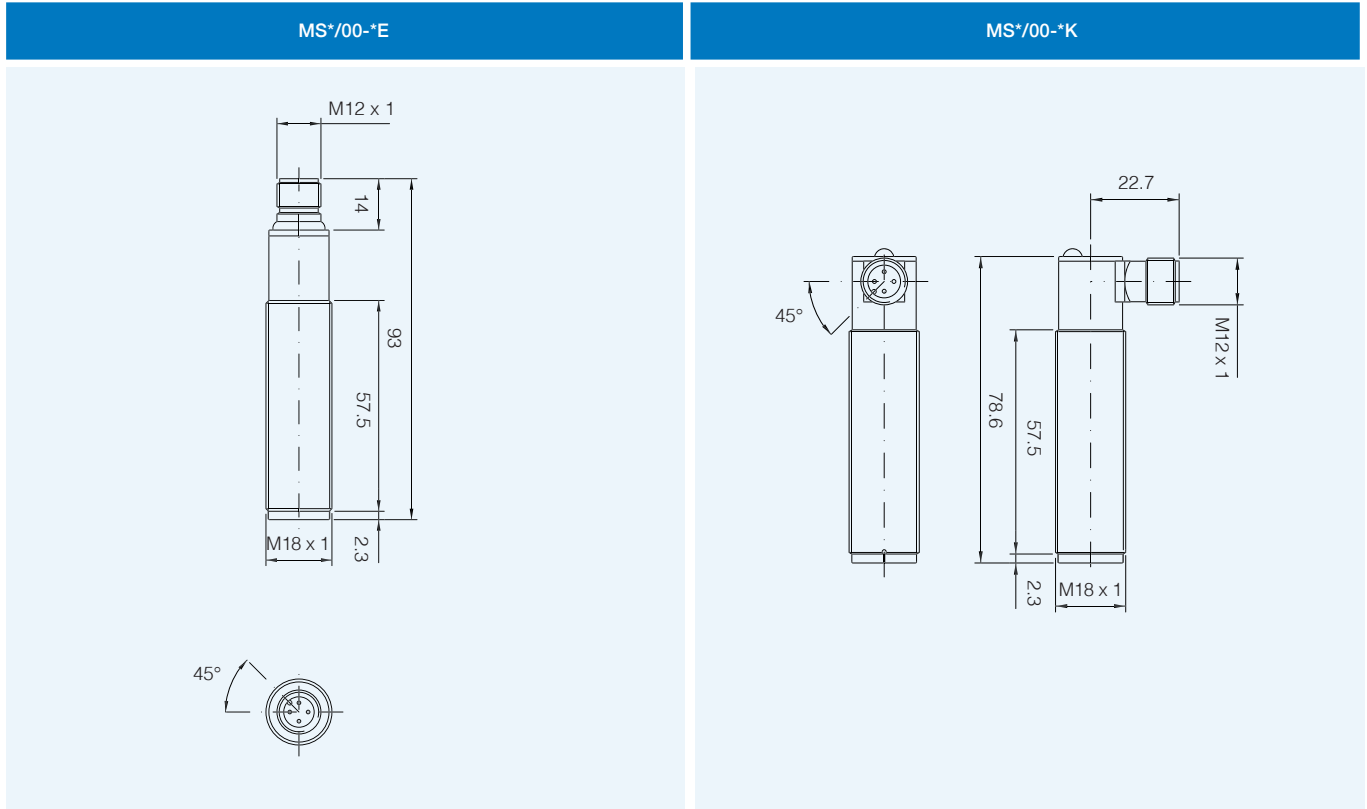




M18 DECOUT®
DC output

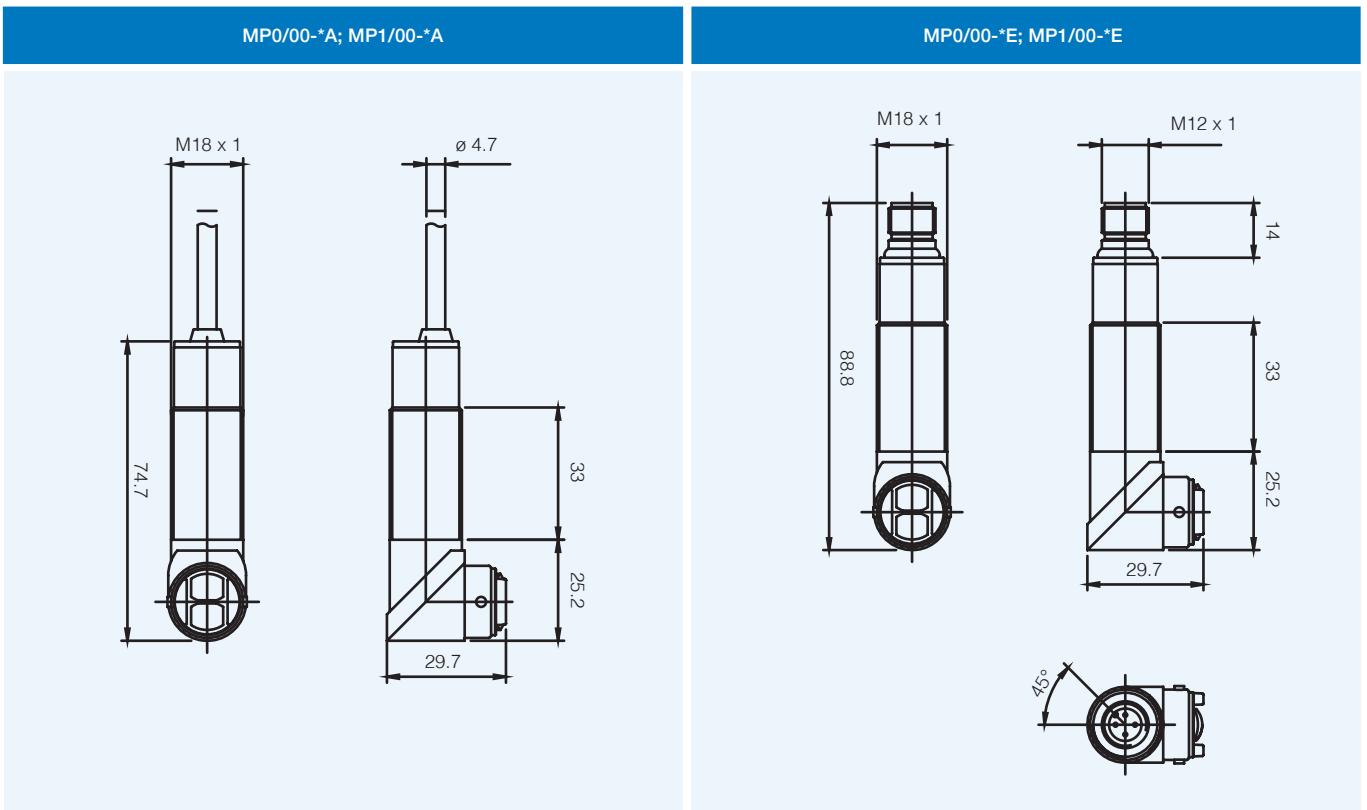
dimensions (mm)

axial models



dimensions (mm)

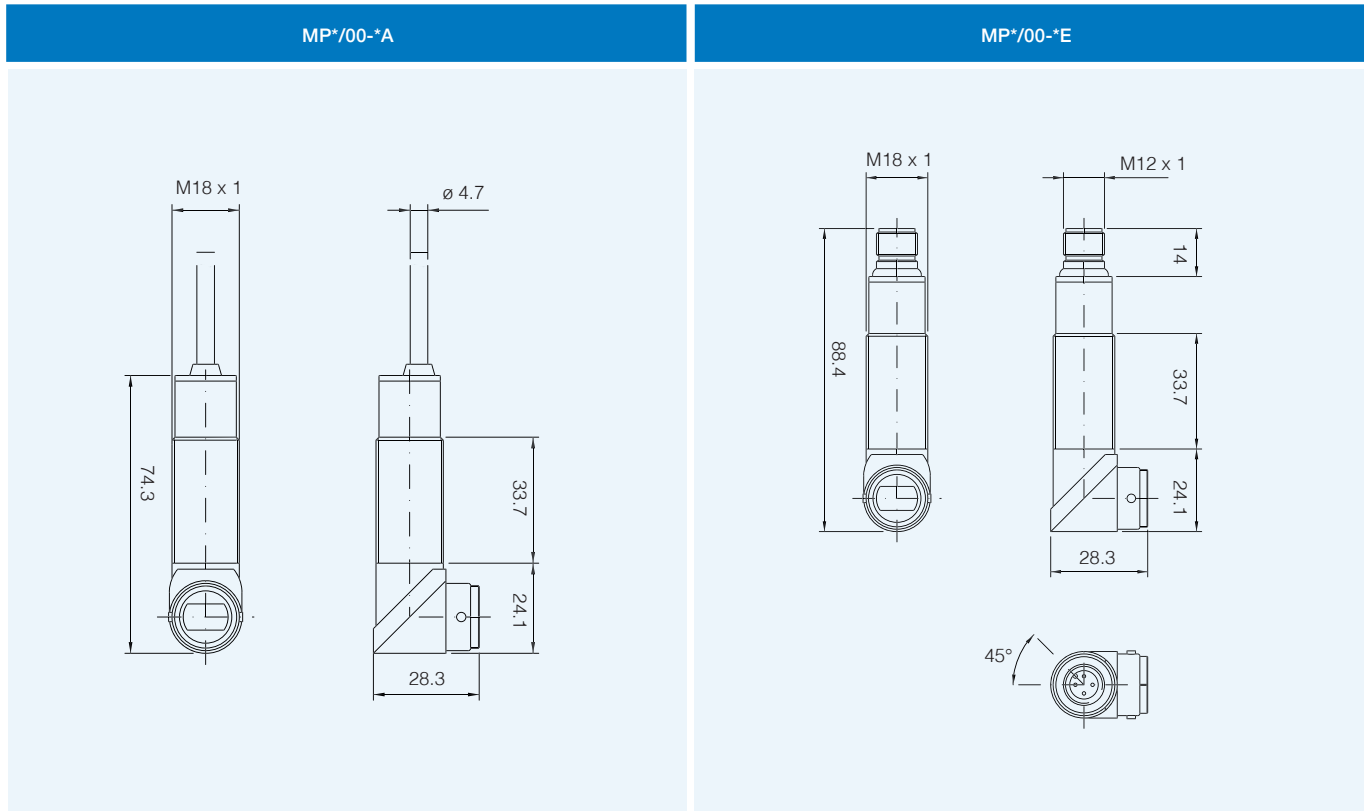
background suppression radial models



MS - MP

dimensions (mm)

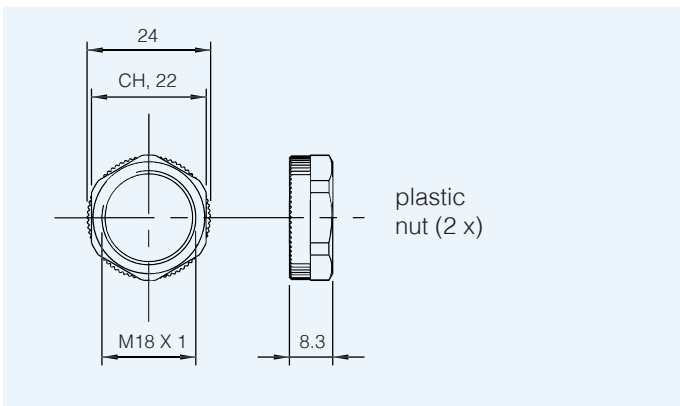
diffuse reflection, retroreflective, polarized, through beam radial models



M18 DECOULT®
DC output

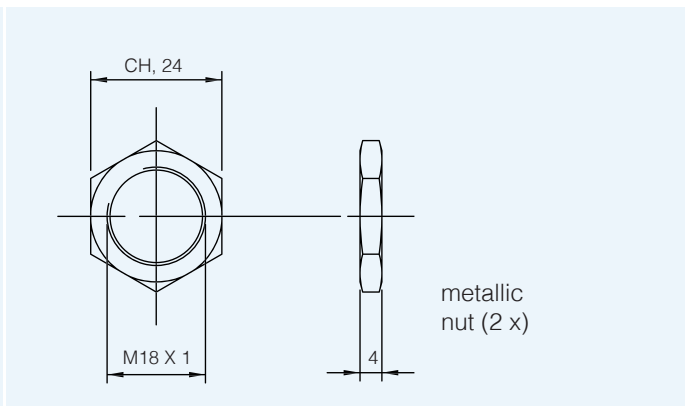
dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models





Blank lined area for notes, consisting of 20 horizontal light blue lines.