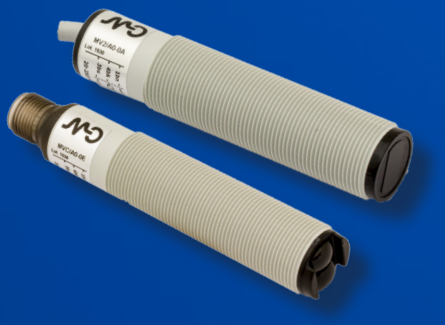
MV series

M18 AC multivoltage output photoelectric sensors

features

- **Wide range of models: diffuse, retro-reflective, polarized, through-beam**
- **Through-beam models with high sensing range**
- **Retro-reflective models with polarized light (with visible beam)**
- **M12 plug cable exit in axial or right angle shape**
- **Low leakage current and high output current**
- **IP67 protection degree**
- **Complete protection against electrical damage**



web contents

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

code description

MV 2 / A 0 - 0 A

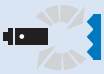
series	MV	M18 multivoltage photoelectric sensor
type	2	100 mm diffuse reflection
	4	200 mm diffuse reflection
	6	400 mm diffuse reflection
	C	4.5 m retro-reflective
	P	3.5 m polarized
	E	Emitter
	R	16 m standard receiver
	D	32 m high distance receiver
output	A	NO output state
	C	Uscita normalmente chiusa NC
	0	Emettitore
AC output	0	Uscita AC
NC output	0	NC output state
cable / plug output	A	Axial cable exit
	E	M12 plug cable exit

available models

M18 multitension photoelectric sensor

function	distance	housing	axial cable exit		M12 plug exit	
			3 wires N0	3 wires NC	3 wires N0	3 wires NC
diffuse reflection	100 mm	plastic	MV2/A0-0A	MV2/C0-0A	MV2/A0-0E	MV2/C0-0E
	200 mm		MV4/A0-0A	MV4/C0-0A	MV4/A0-0E	MV4/C0-0E
	400 mm		MV6/A0-0A	MV6/C0-0A	MV6/A0-0E	MV6/C0-0E
retro-reflective	4.5 m		MVC/A0-0A	MVC/C0-0A	MVC/A0-0E	MVC/C0-0E
polarized	3.5 m		MVP/A0-0A	MVP/C0-0A	MVP/A0-0E	MVP/C0-0E
through-beam	16 / 32 m		MVE/00-0A		MVE/00-0E	
	16 m		MVR/A0-0A	MVR/C0-0A	MVR/A0-0E	MVR/C0-0E
	32 m		MVD/A0-0A	MVD/C0-0A	MVD/A0-0E	MVD/C0-0E

technical specification

	diffuse reflection			retro-reflective	
	standard				polarized
	MV2/*0-0*	MV4/*0-0*	MV6/*0-0*	MVC/*0-0*	MVP/*0-0*
					
nominal sensing distance	100 mm (1)	200 mm (1)	400 mm (2)	4.5 m (3)	3.5 m (3)
emission	infrared (880 nm)				red (660 nm)
tollerance	+15...-5 % Sn				
hysteresis	≤ 10 %				
repeatability	5 %				
operating voltage	20...253 Vac / 50...60 Hz				
ripple	≤ 10 %				
no-load supply current	≤ 30 mA_{RMS}				
load current	5...300 mA_{RMS} (Ta = 50°C)				
inrush current	6 A (Ton = 10 ms)				
leakage current	1.5 mA_{RMS} max. (Voltaggio = 250 Vac)				
voltage drop	3 V max. IL = 300 mA				
output type	TRIAC				
switching frequency	25 Hz				
power on delay	200 ms				
temperature range	- 25°C...+ 70°C (without freeze)				- 25°C...+ 60°C
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	red				
housing material	PBT (plastic housing) / polycarbonate (cable exit)				
lenses material	PMMA				
tightening torque	1 Nm				
weight (approximate)	30 g connector / 100 g cable				

(1) With 100x100 mm white matt paper (2) With 200x200 mm white matt paper (3) With standard reflector Ø80 mm (RL110 supplied seperately) (4) Protection guaranteed only with plug cable well mounted

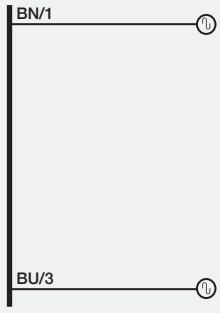
technical specification

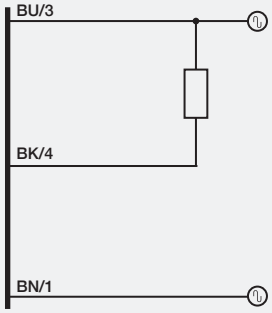
	through-beam	
	standard	high distance
	M*E/00-0* + M*R/*0-0*	M*E/00-0* + M*D/*0-0*
nominal sensing distance	16 m	32 m
emission	infrared (880 nm)	
minimum detectable object	Ø 7,5 mm	
tollerance	see Sr (glossary)	
hysteresis	≤ 10 %	
repeatability	5 %	
operating voltage	20...253 Vac / 50...60 Hz	
no-load supply current	≤ 30 mA_{RMS} (emitter), 15 mA_{RMS} (receiver)	
load current	5...300 mA_{RMS} (Ta = 50°C)	
inrush current	6 A (Ton = 10 ms)	
leakage current	1,5 mA_{RMS} max. (Voltaggio = 250 Vac)	
voltage drop	3 V max. IL = 300 mA	
output type	TRIAC	
switching frequency	25 Hz	
power on delay	200 ms	
temperature range	- 25°C...+ 70°C (without freeze)	
temperature drift	≤ 10 % Sr	
protection degree	IP67 (EN60529) (1)	
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) / polycarbonate (cable exit)	
lenses material	PMMA	
tightening torque	1 Nm	
weight (approximate)	30 g plug / 100 g cable	

(1) Protection guaranteed only with plug cable well mounted

electrical diagrams of the connections

emitter	AC exit

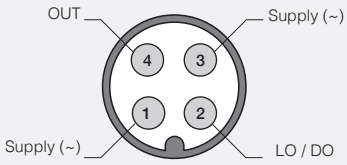




BN	brown
BU	blue
BK	black
WH	white
PK	pink
GY	gray

plug

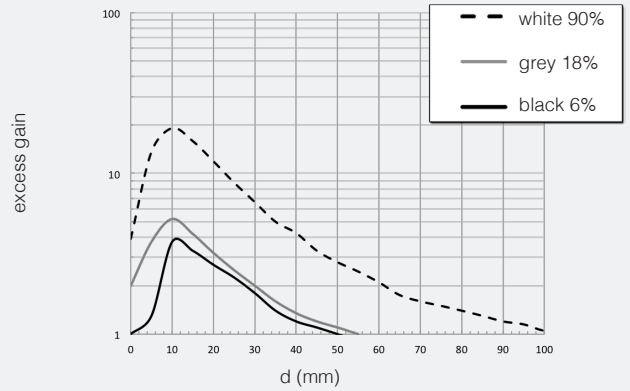
MQ background suppression



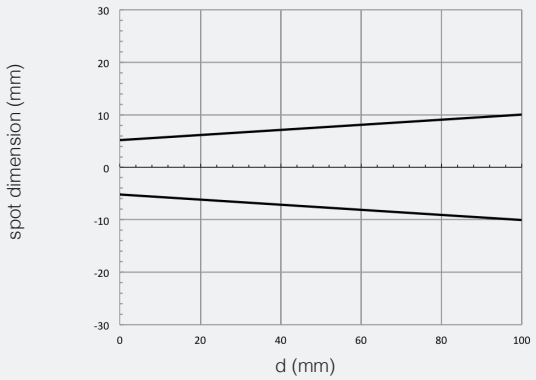
response diagrams

diffuse reflection models

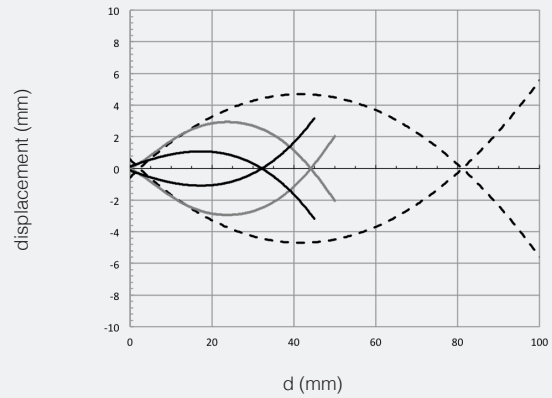
MV2/00-** excess gain



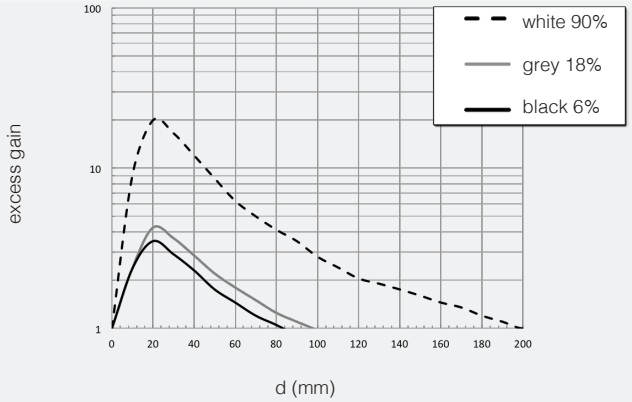
MV2/00-** spot dimension



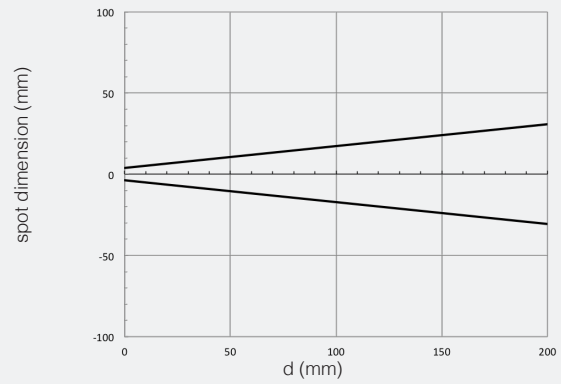
MV2/00-** parallel displacement



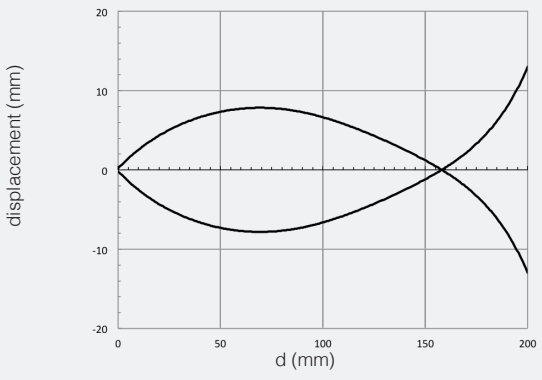
MV4/00-** excess gain



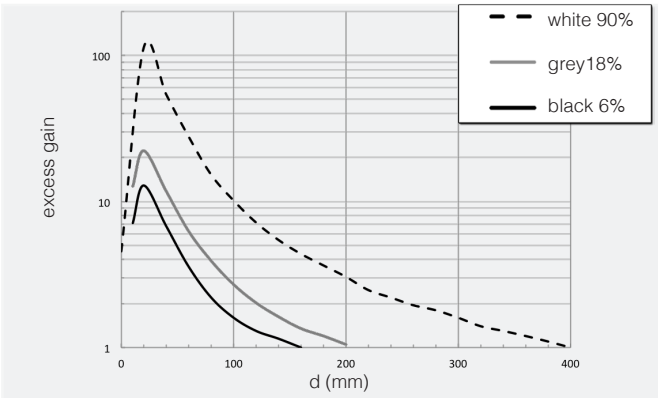
MV4/00-** spot dimension



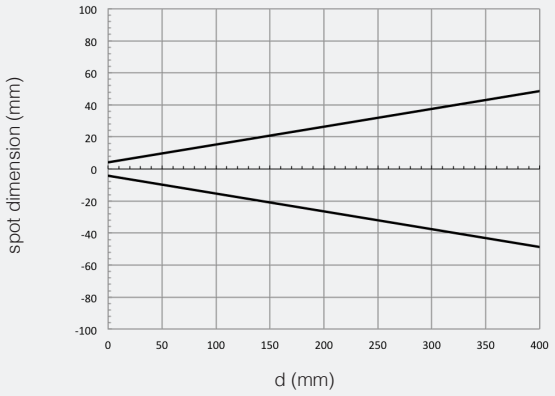
MV4/00-** parallel displacement



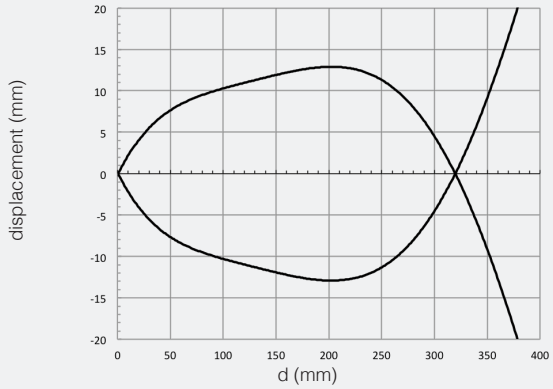
MV6/0*-** excess gain



MV6/0*-** spot dimension



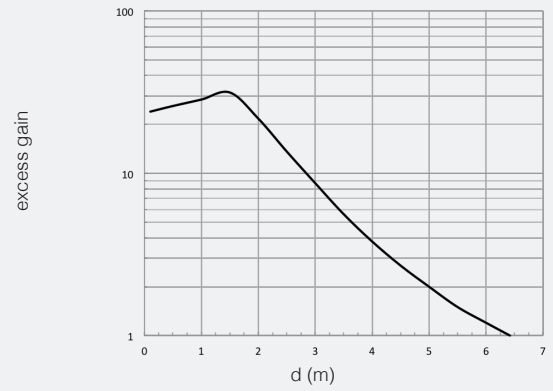
MV6/0*-** parallel displacement



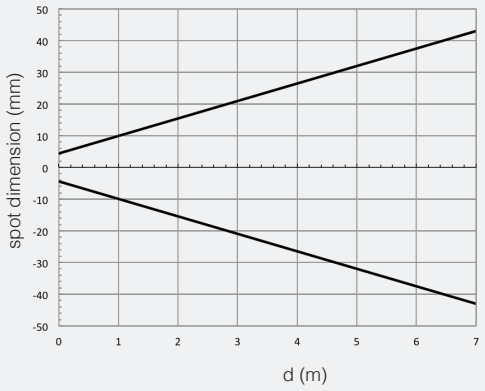
response diagrams

retro-reflective models (diagrams detected using RL110)

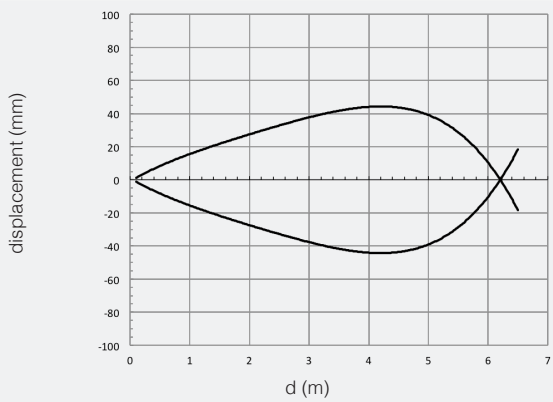
MVC/**-** excess gain



MVC/**-** spot dimension



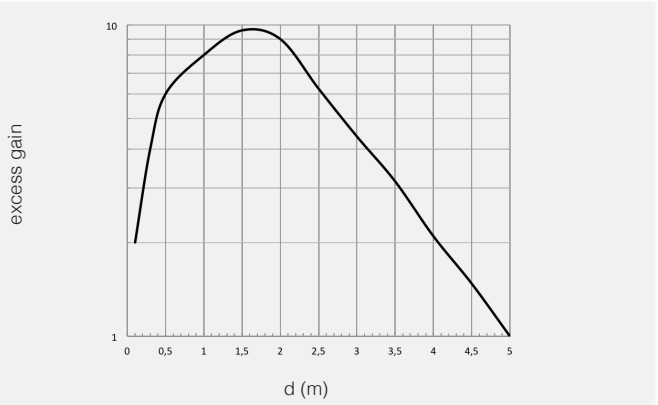
MVC/**-** parallel displacement



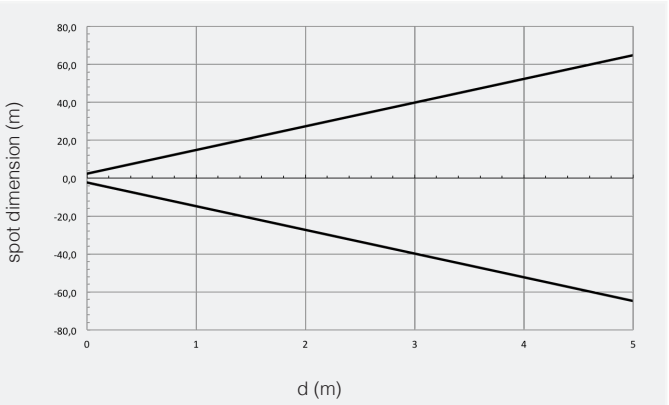
response diagrams

polarized models

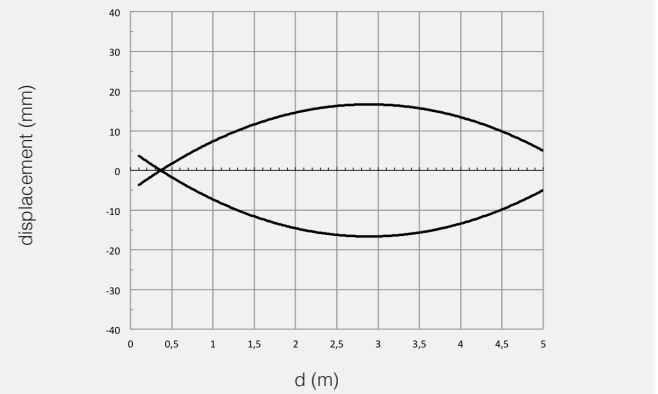
MVP/**-** excess gain



MVP/**-** spot dimension



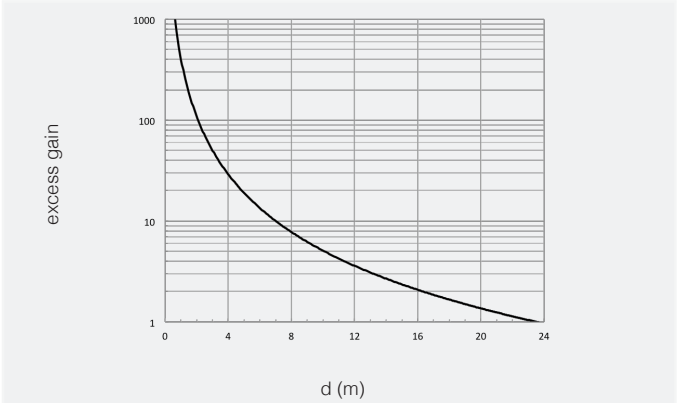
MVP/**-** parallel displacement



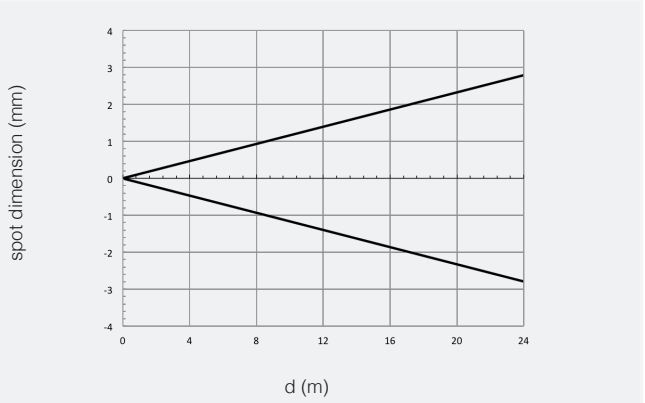
response diagrams

through-beam models

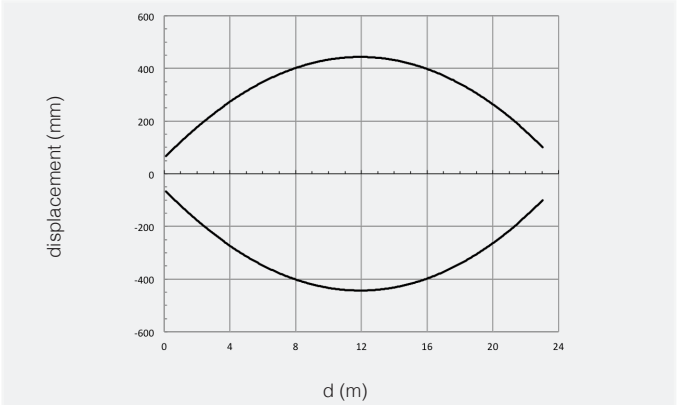
MVE/**-** - MVR/**-** excess gain



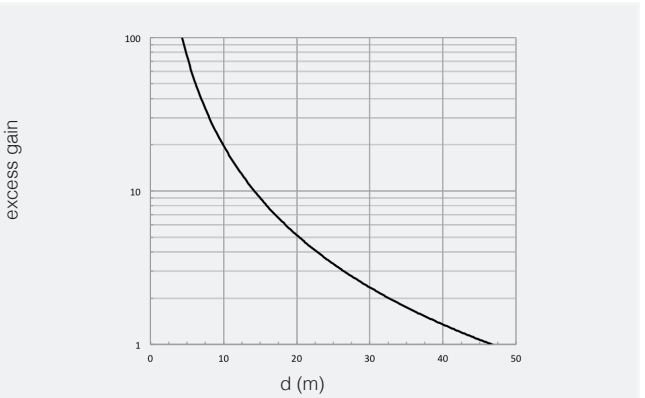
MVE/**-** - MVR/**-** spot dimension



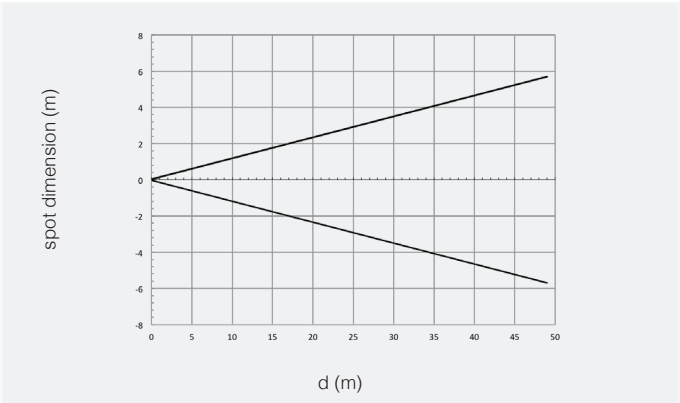
MVE/**-** - MVR/**-** parallel displacement



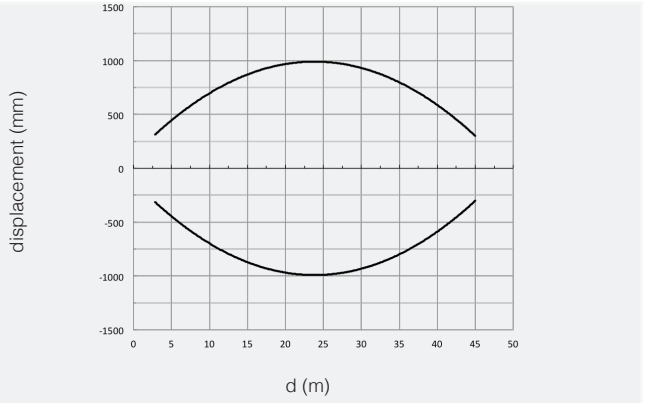
MVE/**-** - MVD/**-** excess gain



MVE/**-** - MVD/**-** spot dimension

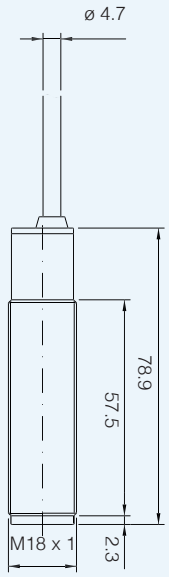
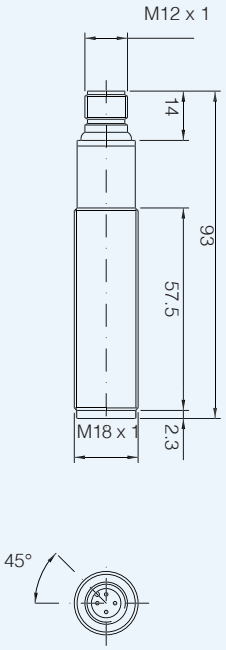


MVE/**-** - MVD/**-** parallel displacement



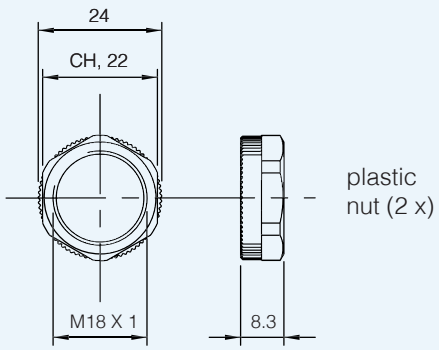
dimensions (mm)

axial models

MV*/*0-*A	MV*/*0-*E
	

dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models