

Fotocellule M18 con uscita DECOUT® DC serie MS-MP

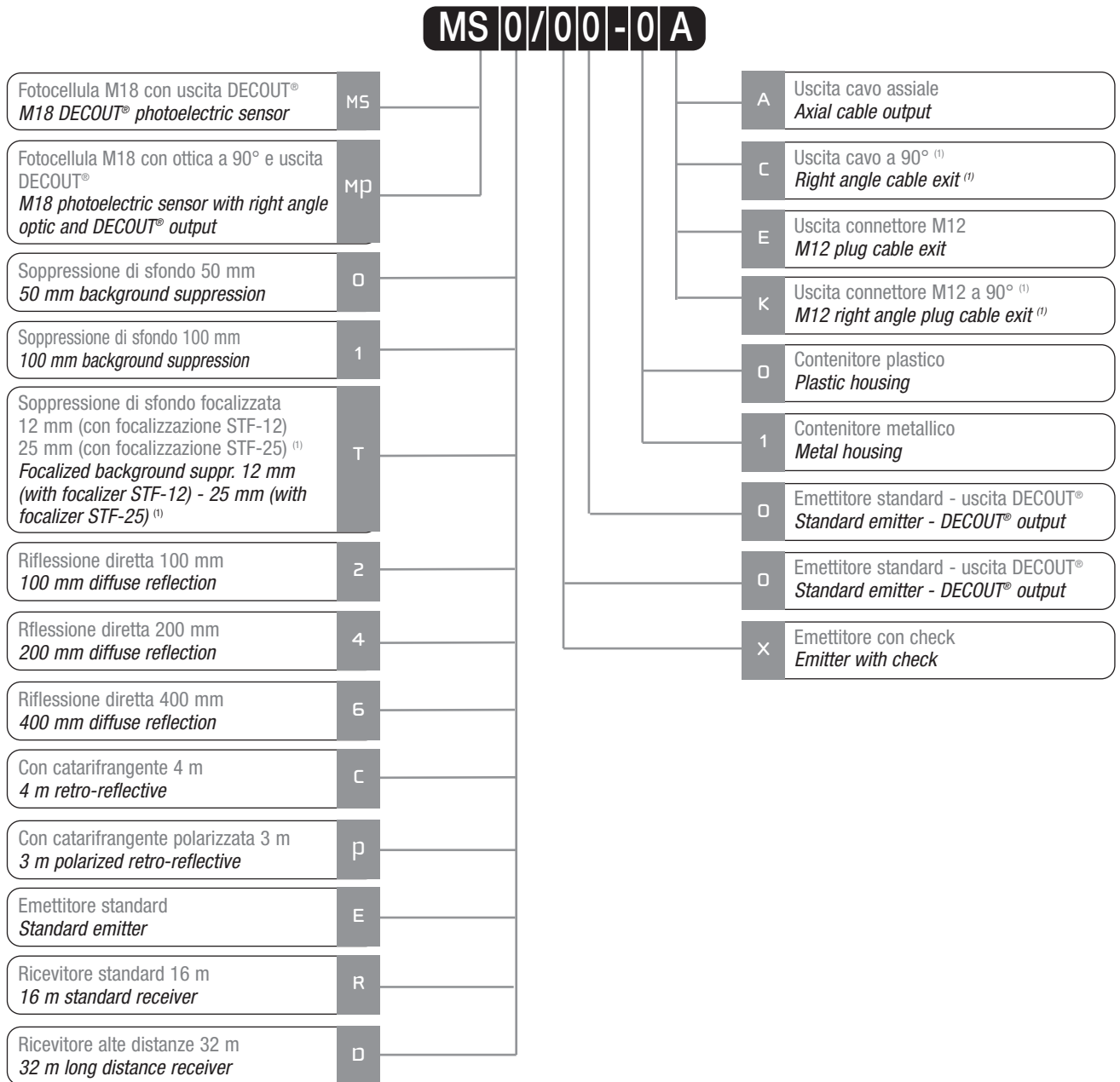
M18 photoelectric sensors DECOUT®
DC MS-MP series



Caratteristiche principali Main features

- > Vasta gamma di modelli: riflessione diretta, catarifrangente, polarizzata, barriera e soppressione di sfondo
- > *Wide range of models: diffuse, retro-reflective, polarized, through-beam detection and background suppression*
- > Modelli barriera con elevata distanza di rilevazione
- > *Through-beam models with high sensing range*
- > Modelli con catarifrangente polarizzata e luce rossa visibile
- > *Retro-reflective models with red visible polarized light*
- > Modelli con ottica a 90° (MP)
- > *Models with right angle optic (MP)*
- > Modelli a soppressione di sfondo con distanza fissa
- > *Background suppression models with fixed distance*
- > Funzione di check disponibile per tutti i tipi di barriera
- > *Check function available for all through-beam models*
- > Grado di protezione IP67
- > *IP67 protection degree*
- > Totalmente protetto contro danneggiamenti di tipo elettrico
- > *Complete protection against electrical damage*
- > Vasta gamma di connettori, accessori e catarifrangenti
- > *Wide range of plugs, accessories and reflectors available*
- > Approvazioni: CE e cURus
- > *Approvals: CE and cURus*

Descrizione del codice - Code structure



⁽¹⁾ Non disponibile sulla serie MP / *Not available on MP series*

Modelli disponibili - Available models

> Fotocellule con ottica assiale - Photoelectric sensors with axial optic

Funzione Model	Portata Distance	Uscita a cavo assiale 4 fili PNP/NPN - NO/NC Axial cable exit 4 wires PNP/NPN - NO/NC		Uscita a connettore assiale 4 fili PNP/NPN - NO/NC Axial plug exit 4 wires PNP/NPN - NO/NC		Uscita a cavo radiale 4 fili PNP/NPN - NO/NC Radial cable exit 4 wires PNP/NPN - NO/NC		Uscita a connettore radiale 4 fili PNP/NPN - NO/NC / Radial plug exit 4 wires PNP/NPN - NO/NC	
		Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing
Soppressione di sfondo Background suppression	50 mm	MS0/00-0A	MS0/00-1A	MS0/00-0E	MS0/00-1E	MS0/00-0C	MS0/00-1C	MS0/00-0K	MS0/00-1K
	100 mm	MS1/00-0A	MS1/00-1A	MS1/00-0E	MS1/00-1E	MS1/00-0C	MS1/00-1C	MS1/00-0K	MS1/00-1K
	Focalizzata / Focalized	MST/00-0A	MST/00-1A	MST/00-0E	MST/00-1E	MST/00-0C	MST/00-1C	MST/00-0K	MST/00-1K
Diffusione diretta Direct diffuse	100 mm	MS2/00-0A	MS2/00-1A	MS2/00-0E	MS2/00-1E	MS2/00-0C	MS2/00-1C	MS2/00-0K	MS2/00-1K
	200 mm	MS4/00-0A	MS4/00-1A	MS4/00-0E	MS4/00-1E	MS4/00-0C	MS4/00-1C	MS4/00-0K	MS4/00-1K
	400 mm	MS6/00-0A	MS6/00-1A	MS6/00-0E	MS6/00-1E	MS6/00-0C	MS6/00-1C	MS6/00-0K	MS6/00-1K
Catarifrangente Retro-reflective	4 m	MSC/00-0A	MSC/00-1A	MSC/00-0E	MSC/00-1E	MSC/00-0C	MSC/00-1C	MSC/00-0K	MSC/00-1K
Polarizzata / Polarized	3 m	MSP/00-0A	MSP/00-1A	MSP/00-0E	MSP/00-1E	MSP/00-0C	MSP/00-1C	MSP/00-0K	MSP/00-1K
Barriera / Through beam	Emettitore / Emitter	MSE/00-0A	MSE/00-1A	MSE/00-0E	MSE/00-1E	MSE/00-0C	MSE/00-1C	MSE/00-0K	MSE/00-1K
	Emettitore con check Emitter with check	MSE/X0-0A	MSE/X0-1A	MSE/X0-0E	MSE/X0-1E	MSE/X0-0C	MSE/X0-1C	MSE/X0-0K	MSE/X0-1K
	Ricevitore / Receiver 16 m	MSR/00-0A	MSR/00-1A	MSR/00-0E	MSR/00-1E	MSR/00-0C	MSR/00-1C	MSR/00-0K	MSR/00-1K
	Ricevitore / Receiver 32 m	MSD/00-0A	MSD/00-1A	MSD/00-0E	MSD/00-1E	MSD/00-0C	MSD/00-1C	MSD/00-0K	MSD/00-1K

> Fotocellule con ottica radiale - Photoelectric sensors with radial optic

Funzione Model	Portata Distance	Uscita a cavo assiale 4 fili PNP/NPN - NO/NC Axial cable exit 4 wires PNP/NPN - NO/NC		Uscita a connettore assiale 4 fili PNP/NPN - NO/NC Axial plug exit 4 wires PNP/NPN - NO/NC		Uscita a cavo radiale 4 fili PNP/NPN - NO/NC Radial cable exit 4 wires PNP/NPN - NO/NC		Uscita a connettore radiale 4 fili PNP/NPN - NO/NC / Radial plug exit 4 wires PNP/NPN - NO/NC	
		Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing	Corpo plastico Plastic housing	Corpo metallico Metal housing
Soppressione di sfondo 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	-	-	-	-
Diffusione diretta Direct diffuse	100 mm	MP2/00-0A	MP2/00-1A	MP2/00-0E	MP2/00-1E	-	-	-	-
	200 mm	MP4/00-0A	MP4/00-1A	MP4/00-0E	MP4/00-1E	-	-	-	-
	400 mm	MP6/00-0A	MP6/00-1A	MP6/00-0E	MP6/00-1E	-	-	-	-
Catarifrangente Retro-reflective	4 m	MPC/00-0A	MPC/00-1A	MPC/00-0E	MPC/00-1E	-	-	-	-
Polarizzata / Polarized	3 m	MPP/00-0A	MPP/00-1A	MPP/00-0E	MPP/00-1E	-	-	-	-
Barriera Through beam	Emettitore / Emitter	MPE/00-0A	MPE/00-1A	MPE/00-0E	MPE/00-1E	-	-	-	-
	Emettitore con check Emitter with check	MPE/X0-0A	MPE/X0-1A	MPE/X0-0E	MPE/X0-1E	-	-	-	-
	Ricevitore / Receiver 16 m	MPR/00-0A	MPR/00-1A	MPR/00-0E	MPR/00-1E	-	-	-	-
	Ricevitore / Receiver 32 m	MPD/00-0A	MPD/00-1A	MPD/00-0E	MPD/00-1E	-	-	-	-

Specifiche (In accordo con IEC EN 60947-5-2) - Specifications (According to IEC EN 60947-5-2)

Modello / Model	M*0/00-**	M*1/00-**	MST/00-**	M*2/00-**	M*4/00-**	M*6/00-**
Tipo / Type	Soppressione di sfondo / Background suppression			Riflessione diretta / Diffuse reflection		
Distanza di rilevazione nominale (Sn) <i>Nominal sensing distance (Sn)</i>	50 mm ⁽¹⁾	100 mm ⁽¹⁾	12/25 mm	100 mm ⁽¹⁾	200 mm ⁽¹⁾	400 mm ⁽²⁾
Emissione <i>Emission</i>	Infrarosso / Infrared (880 nm)		Rosso / Red (660 nm)	Infrarosso / Infrared (880 nm)		
Tolleranza / Tolerance	0...+10% Sn					+15...-10% Sn
Corsa differenziale / Differential travel	≤ 5%		≤ 10%	≤ 5%		≤ 10%
Ripetibilità / Repeat accuracy	5%					
Tensione di alimentazione / Operating voltage	10 - 30 Vdc					
Ondulazione residua / Ripple	≤ 10 %					
Corrente assorbita / No-load supply current	40 mA		30 mA	40 mA		30 mA
Corrente di uscita / Load current	≤ 100 mA					
Corrente di perdita / Leakage current	≤ 10 µA					
Caduta di tensione in uscita / Voltage drop	1,2V max. I _L =100 mA					
Tipo uscita / Output type	DECOUT® (NPN, PNP, NO, NC)					
Frequenza di commutazione / Switching frequency	80 Hz		1 kHz	80 Hz		
Ritardo alla disponibilità / Time delay before availability	200 ms					
Protezioni elettriche alimentazione <i>Supply electrical protections</i>	Sovratensioni impulsive <i>Transient</i>					
Protezioni elettriche uscita <i>Output electrical protections</i>	al cortocircuito (con memoria) <i>short circuit (with hold)</i>					
Limiti di temperatura / Temperature range	-25°C...+70°C (senza condensa) / (without freeze)					
Deriva termica / Temperature drift	5% Sr		10% Sr	5% Sr		
Interferenza alla luce esterna <i>Interference to external light</i>	3000 lux (lampada ad incandescenza), 10000 lux (luce solare) <i>3000 lux (incandescent lamp), 10000 lux (sunlight)</i>					
Grado di protezione / Protection degree	IP67 (EN60529) ⁽¹⁾					
Indicatori LED <i>LED indicators</i>	Rosso (uscita attivata) <i>Red (output energized)</i>		Giallo <i>Yellow</i>	Rosso (uscita attivata) <i>Red (output energized)</i>		
Materiale contenitore <i>Housing material</i>	PBT (plastico), ottone nichelato (metallico), policarbonato (passacavo) <i>PBT (plastic housing), nickel-plated brass (metal housing), polycarbonate (cable exit)</i>					
Materiale ottica / Lenses material	Plexiglass 7N		Plastico / Plastic	Plexiglass 7N		
Coppia di serraggio / Tightening torque	40 Nm (corpo metallico) / (metal housing)					
Peso (appross.) / Weight (approx.)	150 g					

⁽¹⁾ Protezione garantita solo con il cavo a connettore correttamente montato / Protection guaranteed only with plug cable well mounted

SENSORI FOTOELETTRICI CILINDRICI - SERIE MS-MP

MS-Mp series - cylindrical photoelectric sensors

Modello / Model	M*C/00_**	M*P/00_**	M*E/**_** M*R/**_**	M*E/**_** M*D/**_**
Tipo / Type	Con catarifrangente / Retro-reflective		Barriera / Through-beam	
	Standard	Polarizzata Polarized	Standard	Lunga distanza Long distance
Distanza di rilevazione nominale (Sn) / Nominal sensing distance (Sn)	4 m ⁽³⁾	3 mm ⁽³⁾	16 m	32 m
Emissione Emission	Infrarosso Infrared (880 nm)	Rosso Red (660 nm)	Infrarosso Infrared (880 nm)	
Tolleranza / Tolerance	+15... -10% Sn		Vedi Sr (glossario)	
Corsa differenziale / Differential travel	≤ 10%			
Ripetibilità / Repeat accuracy	5%			
Tensione di alimentazione / Operating voltage	10 - 30 Vdc			
Ondulazione residua / Ripple	≤ 10%			
Corrente assorbita / No-load supply current	30 mA		15 mA (emettitore / emitter) 35 mA (emettitore con check / emitter with check) 25 mA (ricevitore / receiver)	
Corrente di uscita / Load current	≤ 100 mA			
Corrente di perdita / Leakage current	≤ 10 µA			
Caduta di tensione in uscita / Voltage drop	1,2V max. IL=100 mA			
Tipo uscita / Output type	DECOUT® (NPN, PNP, NO, NC)			
Frequenza di commutazione / Switching frequency	80 Hz		30 Hz	
Ritardo alla disponibilità / Time delay before availability	200 ms			
Protezioni elettriche alimentazione / Supply electrical protections	Sovratensioni impulsive / Transient			
Protezioni elettriche uscita / Output electrical protections	Al cortocircuito (con memoria) / Short circuit (with hold)			
Limiti di temperatura / Temperature range	-25°C...+60°C (senza condensa / without freeze)		-25°C...+70°C (senza condensa / without freeze)	
Deriva termica / Temperature drift	≤ 10% Sr			
Interferenza alla luce esterna Interference to external light	3000 lux (lampada ad incandescenza), 10000 lux (luce solare) 3000 lux (incandescent lamp), 10000 lux (sunlight)			
Grado di protezione / Protection degree	IP67 (EN60529) ⁽⁴⁾			
Indicatori LED / LED indicators	Rosso (uscita attivata) / Red (output energized)			
Materiale contenitore / Housing material	PBT (plastico), ottone nichelato (metallico), policarbonato (passacavo) PBT (plastic housing), nickel-plated brass (metal housing) polycarbonate (cable exit)			
Materiale ottica / Lenses material	Plexiglass 7N			
Coppia di serraggio / Tightening torque	40 Nm (corpo metallico / metal housing)			
Peso (appross.) / Weight (approx.)	150 g		250 g	

(1) Con carta bianca opaca 100x100 mm / with 100x100 mm white matt paper

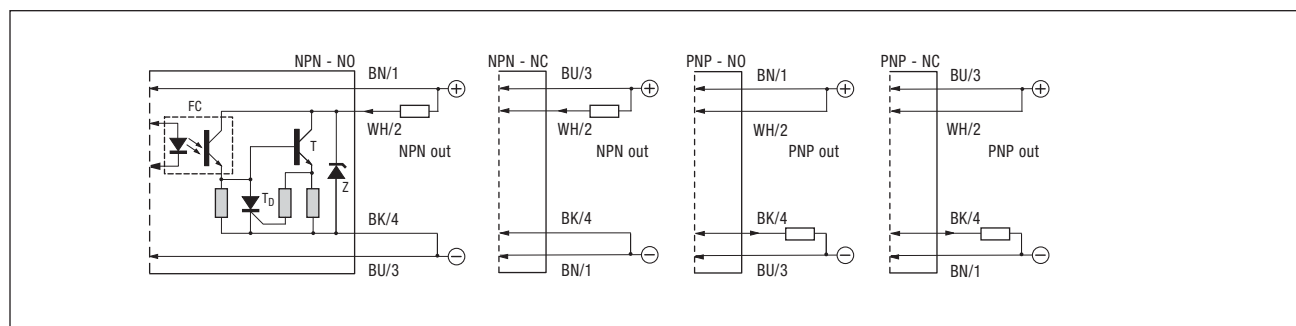
(2) Con carta bianca opaca 200x200 mm / with 200x200 mm white matt paper

(3) Con catarifrangente standard Ø80 mm (RL110 fornito separatamente) / with standard reflector Ø80 mm (RL110 supplied separately)

(4) Protezione garantita solo con il cavo a connettore correttamente montato / Protection guaranteed only with plug cable well mounted

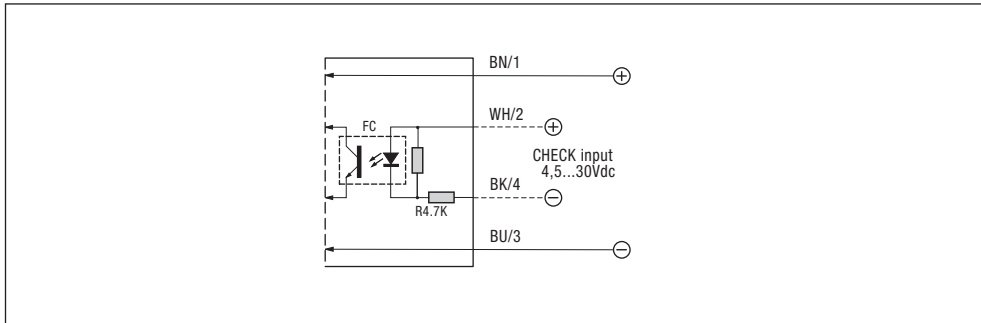
Schemi elettrici delle connessioni - Electrical diagrams of the connections

Uscita DECOUT® / DECOUT® output



In caso di carico misto, la massima capacità ammissibile $C = 68\text{nF}$, per tensioni e correnti di uscite massime
In case of combined load, the maximum admissible capacity $C = 68\text{nF}$, for max. output voltage and current

Emettitore con check / Emitter with check

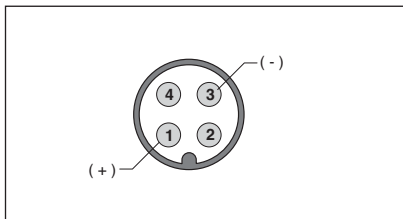


Legenda Key

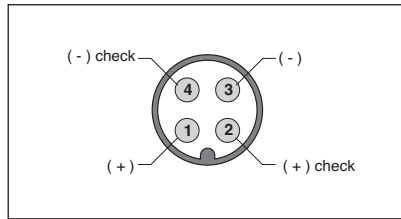
- BN → marrone/*brown*
- BK → nero/*black*
- PK → rosa/*pink*
- BU → blu/*blue*
- WH → bianco/*white*
- GY → grigio/*gray*

Connettore - Plug

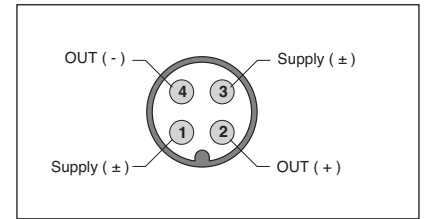
M12 Emittitore
Emitter



M12 Emittitore con check
Emitter with check

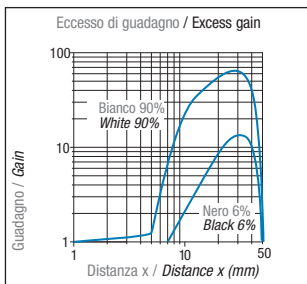


M12

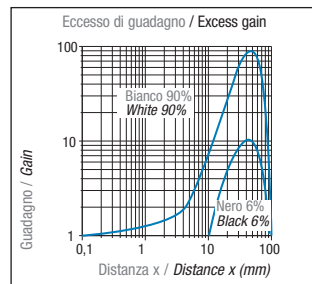


Curva di risposta - Response diagram

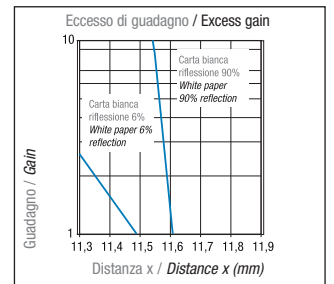
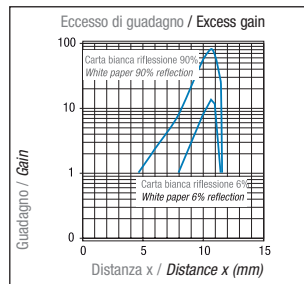
M*0/00-**



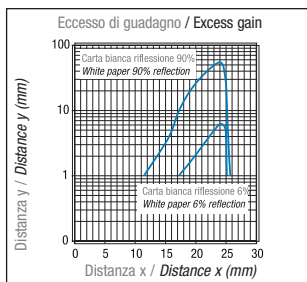
M*1/00-**



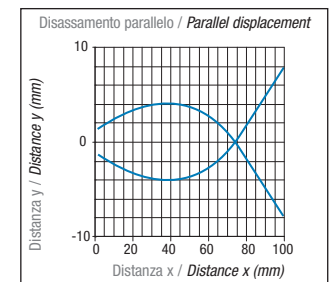
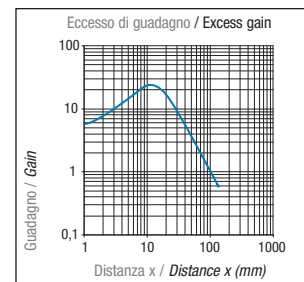
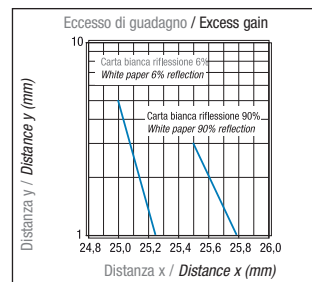
MST/**-** + STF-12



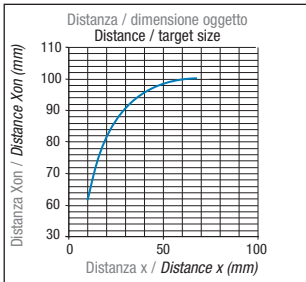
MST/**-** + STF-25



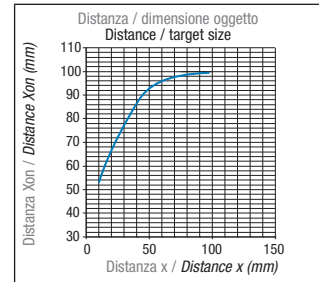
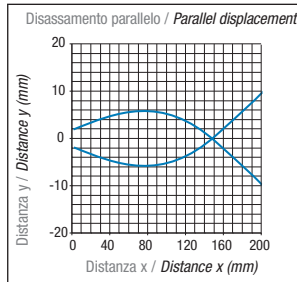
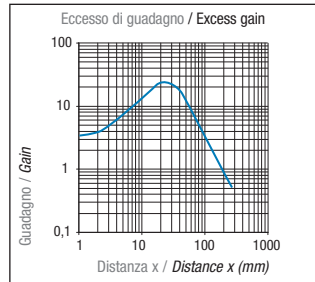
M*2/00-**



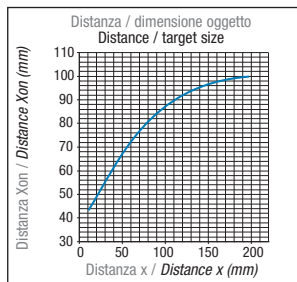
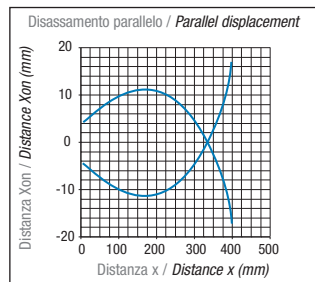
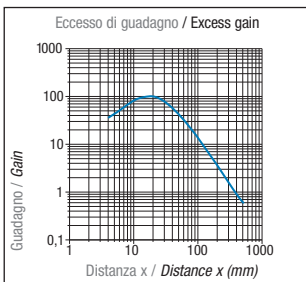
M*2/00-**



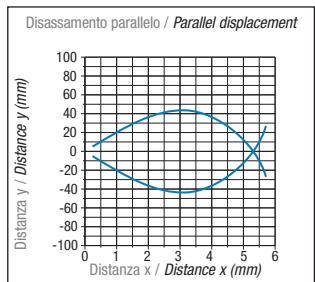
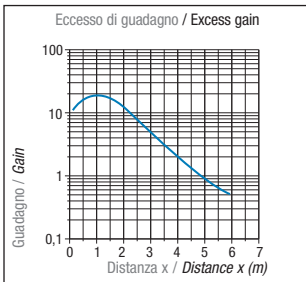
M*4/00-**



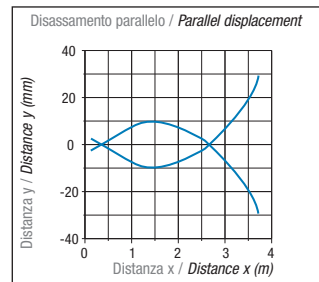
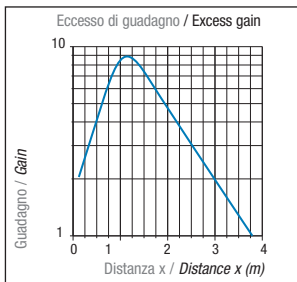
M*6/00-**



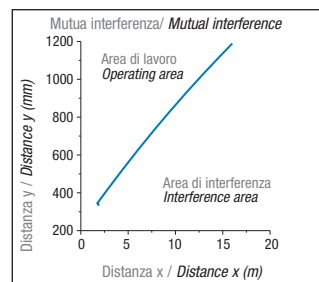
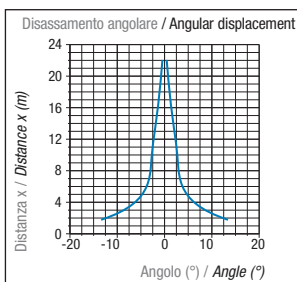
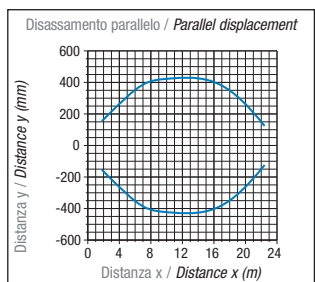
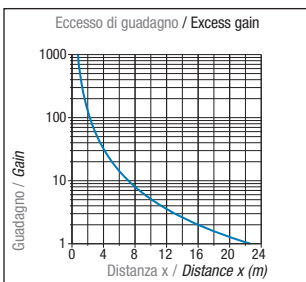
M*C/00-**



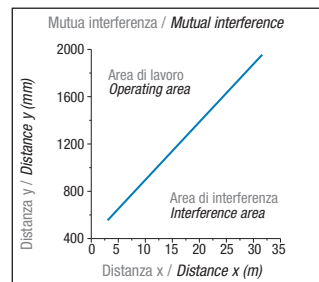
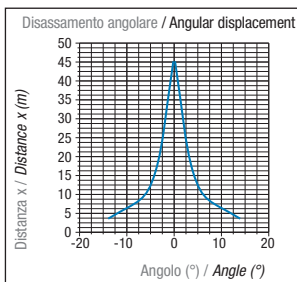
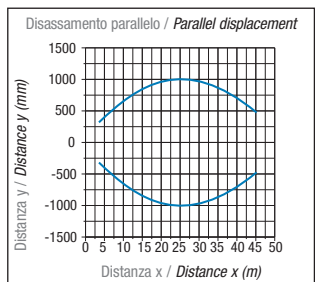
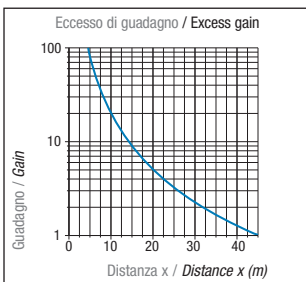
M*P/00-**



M*E/*0-** + M*R/00-**



M*E/*0-** + M*D/00-**

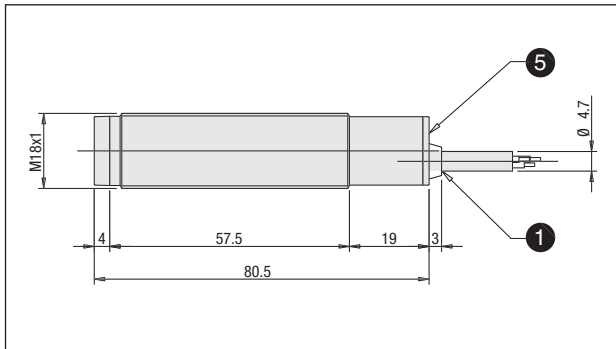


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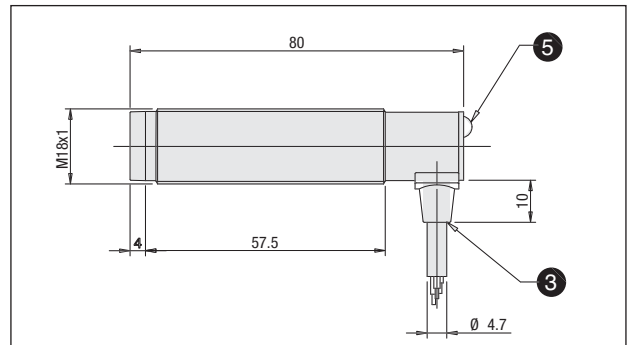
Dimensioni - Dimensions

> Modelli assiali - Axial models

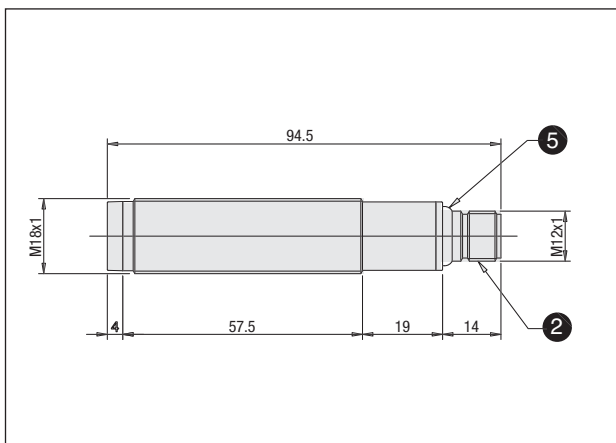
Uscita a cavo / Cable exit



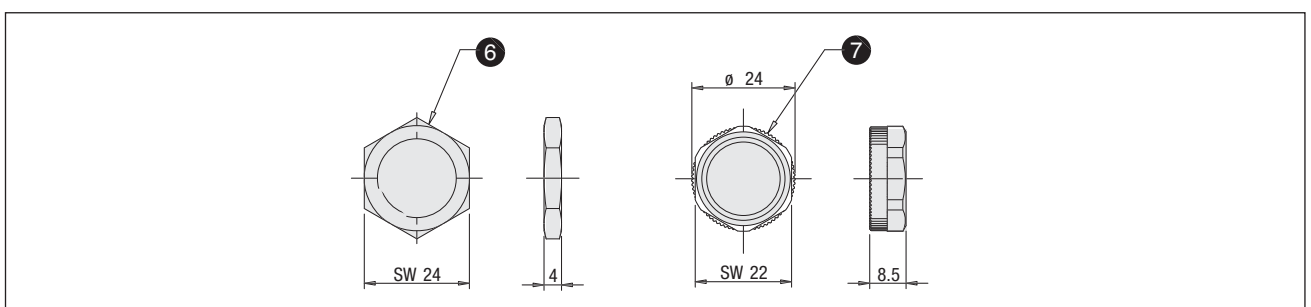
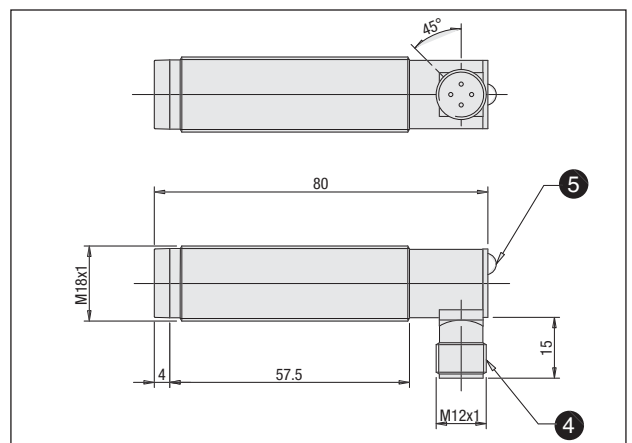
Uscita a cavo radiale / Right angle cable exit



Uscita a connettore M12 assiale M12 axial plug cable exit



Uscita a connettore M12 radiale M12 radial plug cable exit



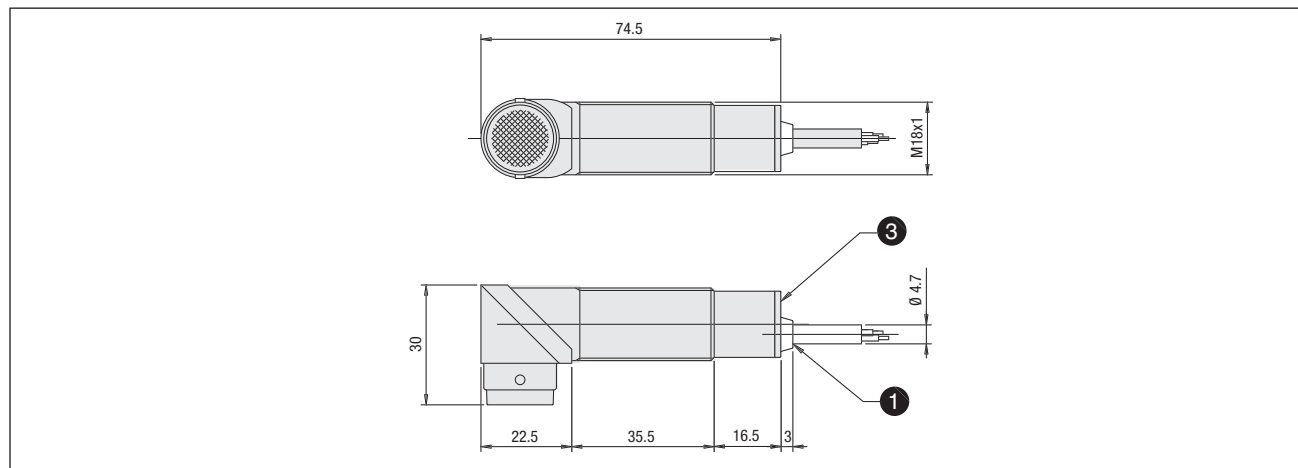
Legenda / Key

- ① Uscita a cavo assiale / Axial cable exit
- ② Uscita connettore M12 / M12 plug cable exit
- ③ Uscita a cavo radiale / Right angle cable exit
- ④ Uscita a connettore M12 radiale
Right angle M12 plug cable exit
- ⑤ LED / LED
- ⑥ Ghiera metallica / Metal tightening nut
- ⑦ Ghiera plastica / Plastic tightening nut

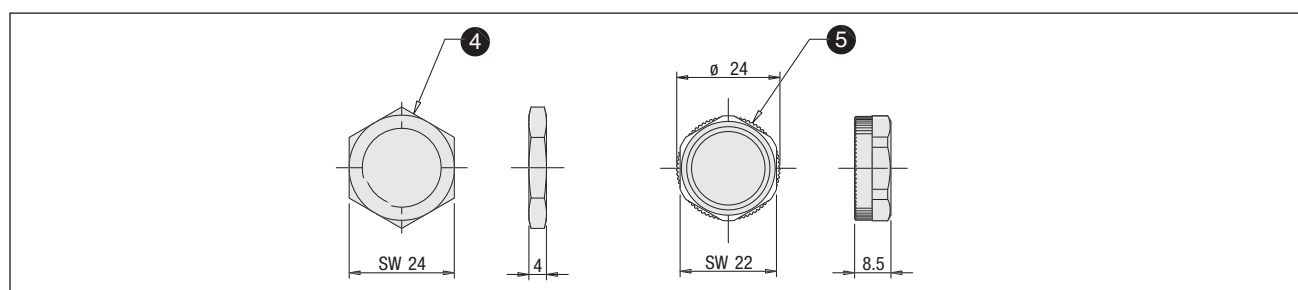
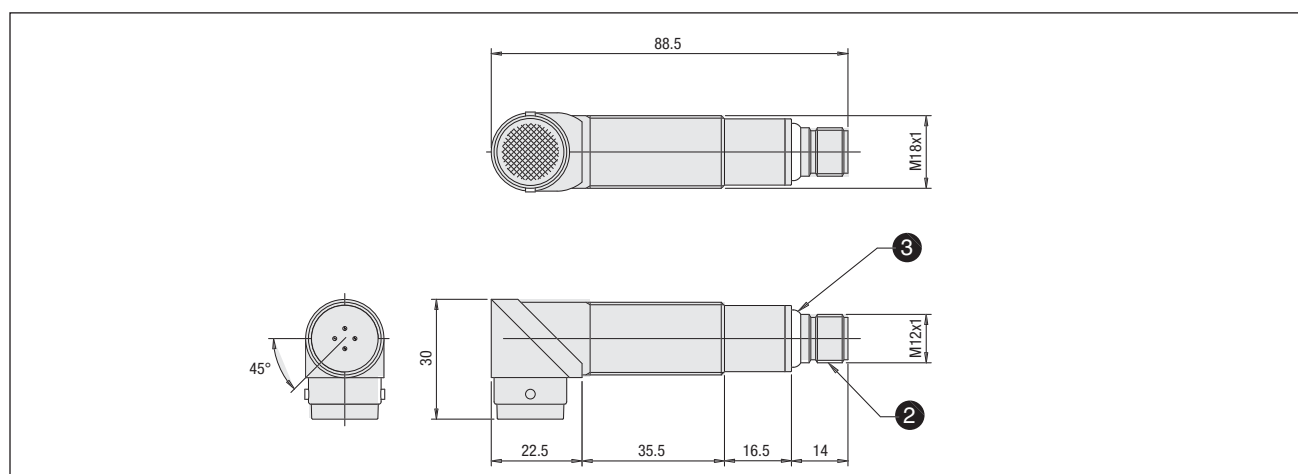
Connettori serie CD - Accessori serie ST / Plugs CD series - Accessories ST series

> Modelli radiali a soppressione di sfondo - *Background suppression radial models*

Uscita a cavo / Cable exit



Uscita a connettore M12 / M12 plug cable exit

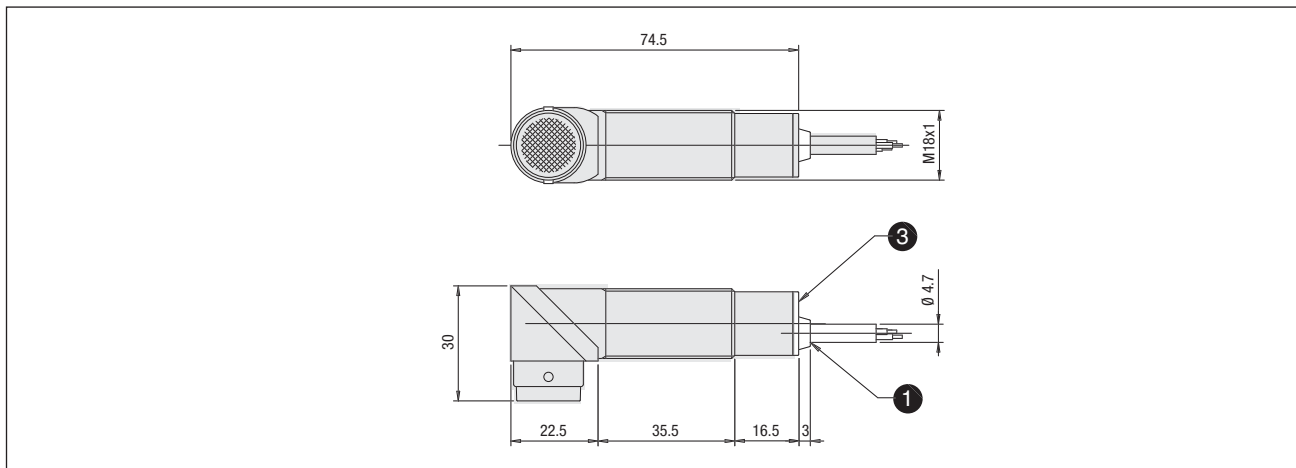


Legenda / Key

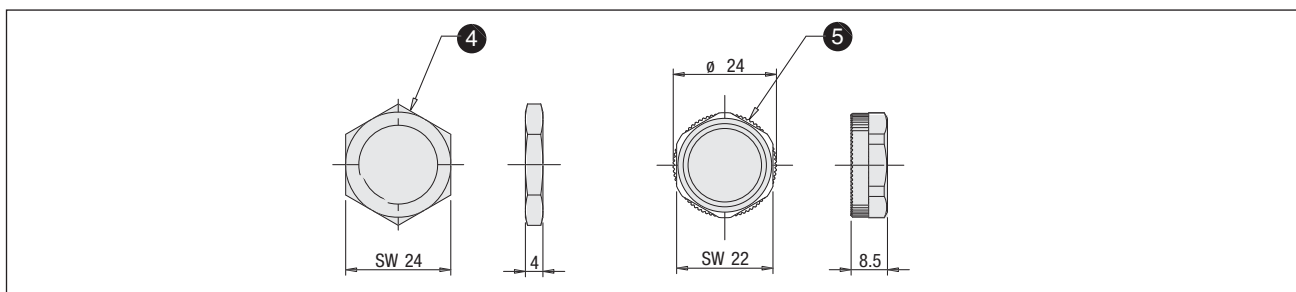
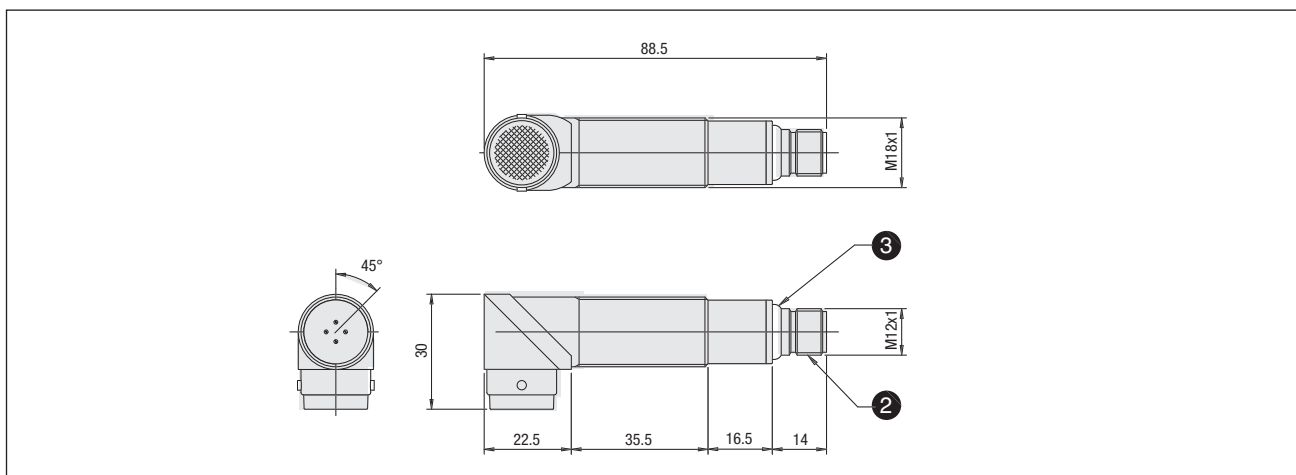
- | | |
|---|--|
| ① Uscita a cavo assiale
<i>Axial cable exit</i> | ④ Ghiera metallica
<i>Metal tightening nut</i> |
| ② Uscita connettore M12
<i>M12 plug cable exit</i> | ⑤ Ghiera plastica
<i>Plastic tightening nut</i> |
| ③ LED
<i>LED</i> | |

> Modelli radiali a riflessione diretta, polarizzati, a barriera
 Diffuse reflection, retroreflective, polarized, through beam radial models

Uscita a cavo / Cable exit



Uscita a connettore M12 / M12 plug cable exit



Legenda / Key

- | | |
|--|---|
| ① Uscita a cavo assiale
Axial cable exit | ④ Ghiera metallica
Metal tightening nut |
| ② Uscita connettore M12
M12 plug cable exit | ⑤ Ghiera plastica
Plastic tightening nut |
| ③ LED
LED | |