



# DM series

M12 cylindrical photoelectric sensors



## features

- Models diffuse reflection, polarized and through-beam
- Local and remote teach-in function
- Light-on / Dark-on selectable outputs
- IP67 protection degree
- Multifunction LED status indicator
- Complete protection against electrical damages
- Approvals: CE and cULus listed



## web contents

- Application notes
- Photos
- Catalogue / Manuals



M12 cylindrical

## code description (\*)

DM 2 / 0 N - 1 A

series	DM	M12 cylindrical photoelectric sensor
type	2	Diffuse reflection 100 mm without sensitivity adjustment
	3	Diffuse reflection 100 mm with sensitivity adjustment
	7	Diffuse reflection 300 mm with sensitivity adjustment
	P	Polarized 2 m with sensitivity adjustment
	E	Emitter 4 m with power emission adjustment
	R	Receiver 4 m
emitter / receiver	0	Emitter without check - Receiver LO/DO selectable
	X	Emitter with check
function	0	Emitter
	N	NPN output
	P	PNP output
housing	1	Metal housing
cable	A	Axial cable exit
	H	M12 plug cable exit
version	25	DMP and DME without sensitivity adjustment
		Standard version

(\*) ATEX models available, contact our Sales Dept. for further information.


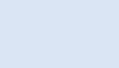




M12 cylindrical

## available models

model	distance	adjustment	4 wires LO / DO NPN		4 wires LO / DO PNP	
			cable	plug	cable	plug
direct diffuse	100 mm	-	DM2/0N -1A	DM2/0N -1H	DM2/0P -1A	DM2/0P -1H
	100 mm	●	DM3/0N -1A	DM3/0N -1H	DM3/0P -1A	DM3/0P -1H
	300 mm		DM7/0N -1A	DM7/0N -1H	DM7/0P -1A	DM7/0P -1H
polarized	2 m		DMP/0N -1A	DMP/0N -1H	DMP/0P -1A	DMP/0P -1H
emitter	4 m	-	DME/00 -1A	DME/00 -1H	DME/00 -1A	DME/00 -1H
receiver			DMR/0N -1A	DMR/0N -1H	DMR/0P -1A	DMR/0P -1H

## technical specification

	diffuse reflection			polarized	through-beam	
	DM2/0*-1*	DM3/0*-1*	DM7/0*-1*	DMP/0*-1*	DMR/0*-1*	DME/0*-1*
nominal sensing distance	 100 mm <sup>(1)</sup>		 300 mm <sup>(2)</sup>	 2.5 m <sup>(3)</sup>	 4 m	
emission	infrared (880 nm)			red (660 nm)	infrared (880 nm)	
tolerance	+ 15 % / - 5 %					
hysteresis	≤ 10 %			≤ 20 %		
repeatability	5 %					
operating voltage	10...30 Vdc					
ripple	≤ 10 %					
no-load current	≤ 30 mA					
load current	100 mA					
leakage current	≤ 10 μA					
output voltage drop	2 V max. IL = 100 mA					
output type	NPN o PNP - LO / DO selectable					
switching frequency	400 Hz			250 Hz		
response time	1.1 ms			2 ms		
power on delay	150 ms					
power supply protections	polarity reversal, transient					
EMC	in conformity with the EMC Directive according to EN 60947-5-2					
output protection	short circuit (autoreset)					
temperature range	- 25°C...+ 70°C					
temperature drift	10 % Sr					
protection degree	IP67 (EN60529) <sup>(4)</sup>					
check input	-			decoupled input supply 10...30 Vdc		
external light interference	3000 lux (incandescent lamp), 10000 lux (sunlight)					
LEDs	yellow					
sensitivity adjustment	-	●			-	●
housing material	nickel-plated brass					
optic material	plastic					
tightening torque	10 Nm					
weight (approximate)	28 g connector / 60 g cable					

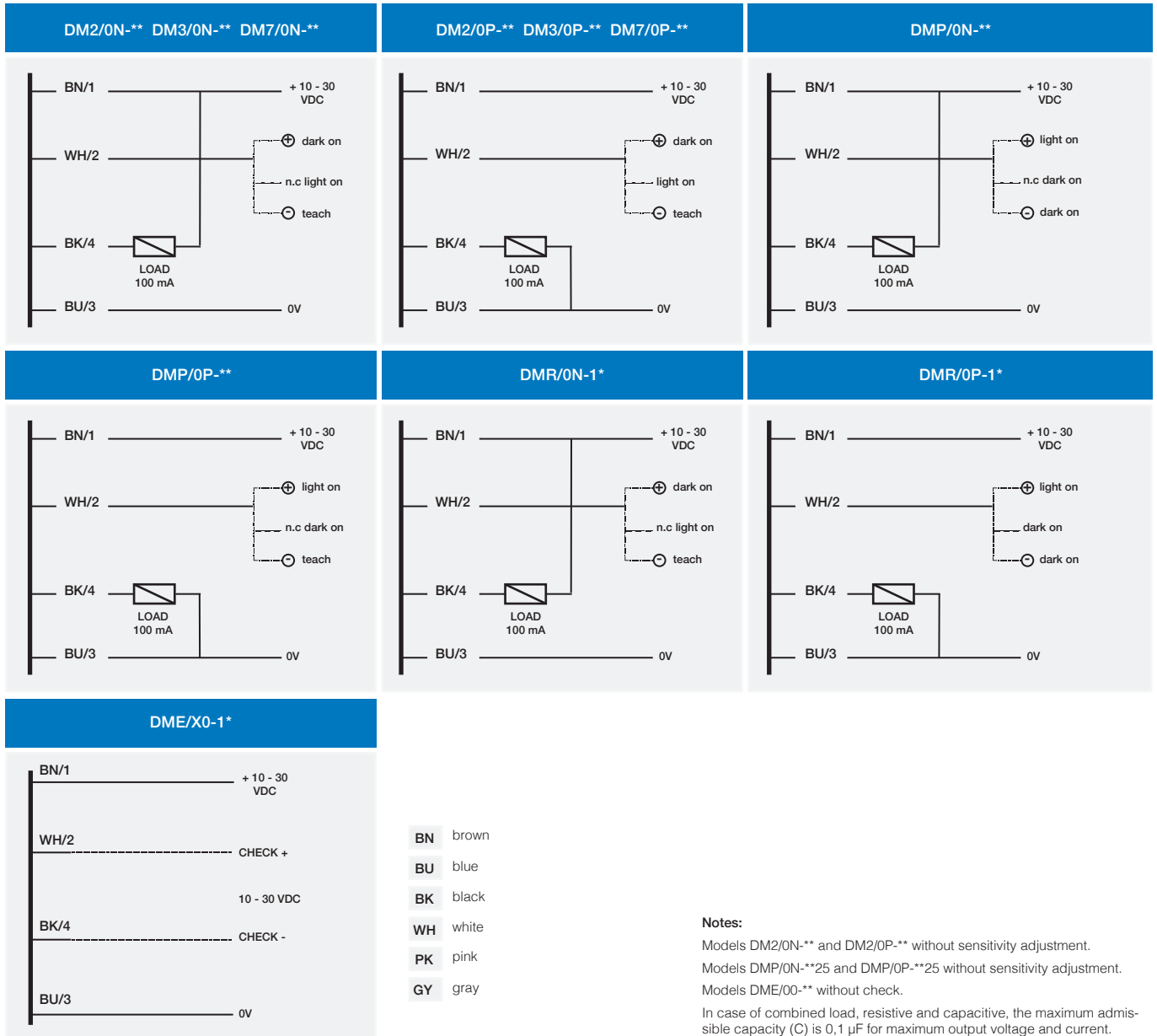
<sup>(1)</sup> With 100x100 mm white paper <sup>(2)</sup> With 200x200 mm white paper <sup>(3)</sup> With RL 110 reflector <sup>(4)</sup> Protection guaranteed only with plug cable well mounted

DM SERIES.

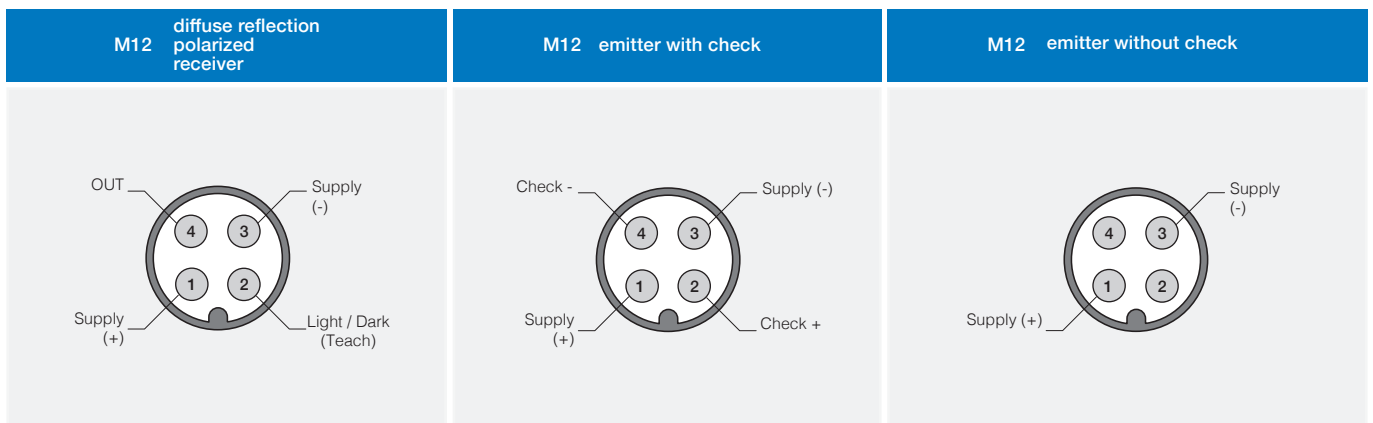
# electrical diagrams of the connections



M12 cylindrical



## plug



DM

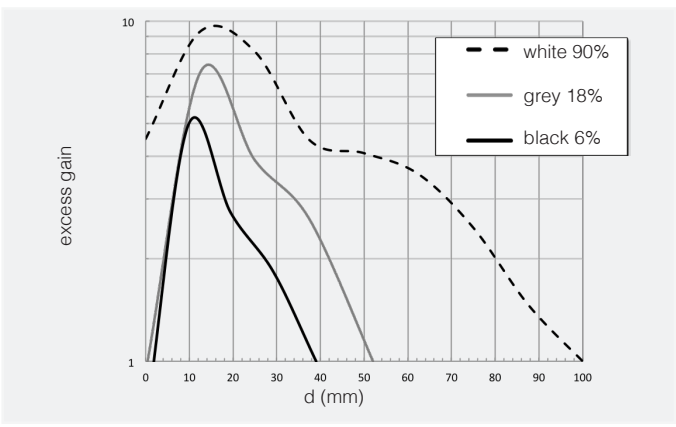


# response diagrams

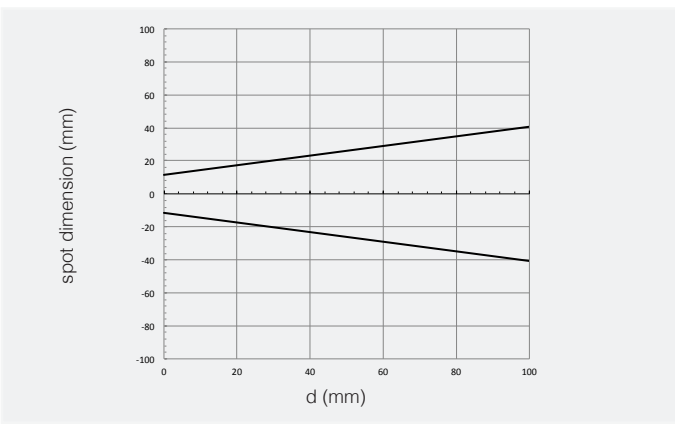
## direct reflection models

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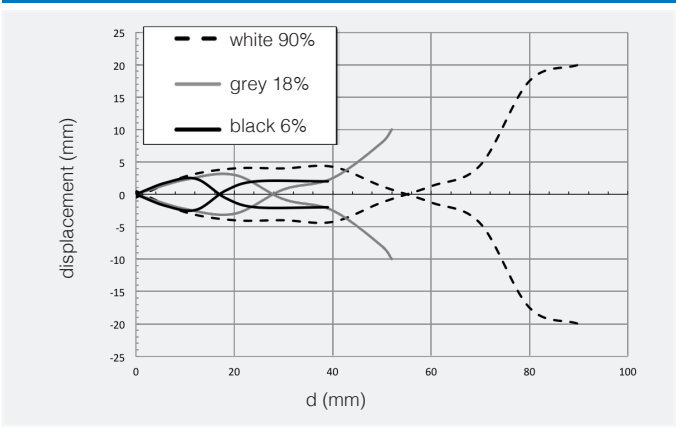
### DM2/\*\*-\*\* excess gain



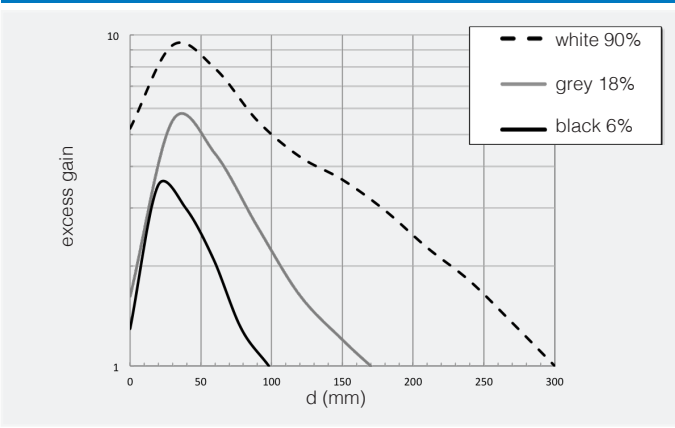
### DM2/\*\*-\*\* spot dimension



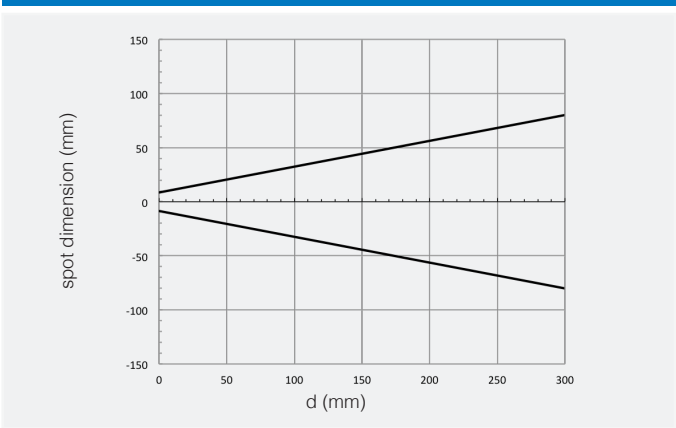
### DM2/\*\*-\*\* parallel displacement



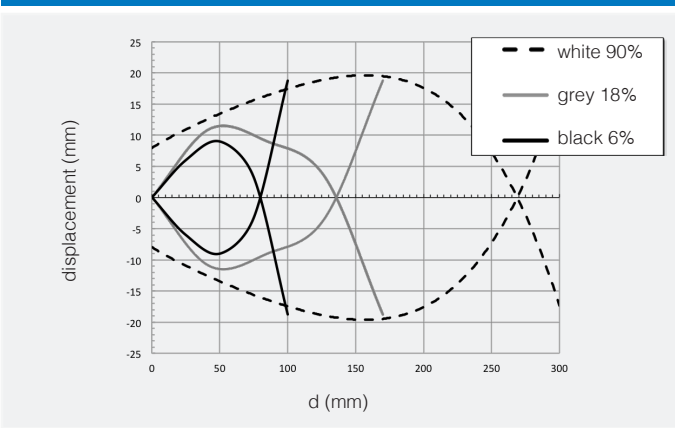
### DM5/\*\*-\*\* excess gain



### DM5/\*\*-\*\* spot dimension



### DM5/\*\*-\*\* parallel displacement



DM

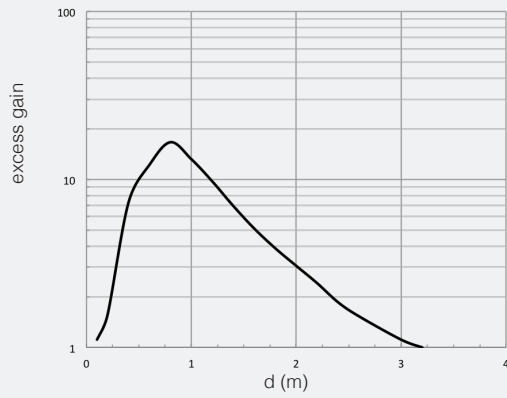
## response diagrams

polarized models (diagrams calculated with RL110)

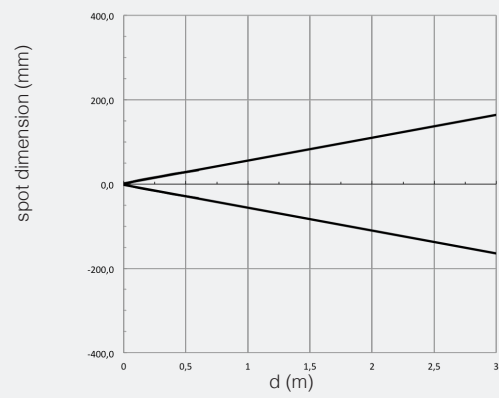


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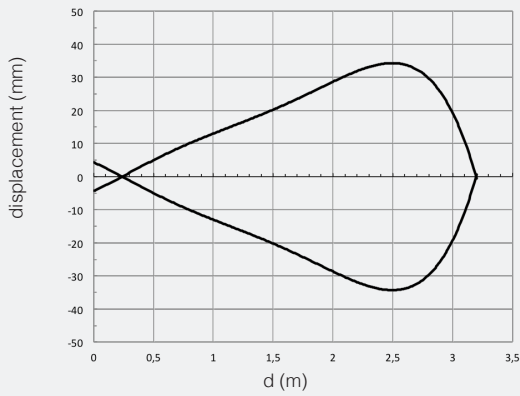
DM7/\*\*\_\*\* excess gain



DM7/\*\*\_\*\* spot dimension



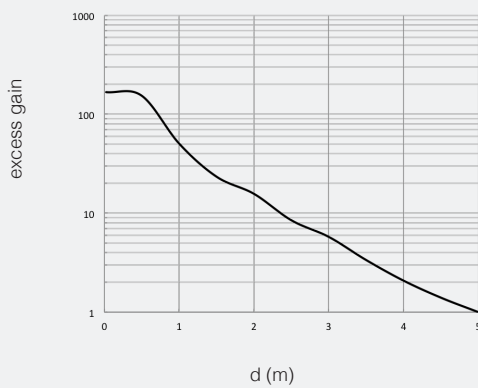
DM7/\*\*\_\*\* parallel displacement



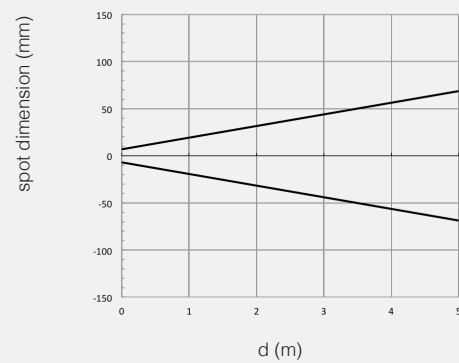
## response diagrams

through-beam models

DMP/\*\*\_\*\* excess gain



DMP/\*\*\_\*\* spot dimension



DM

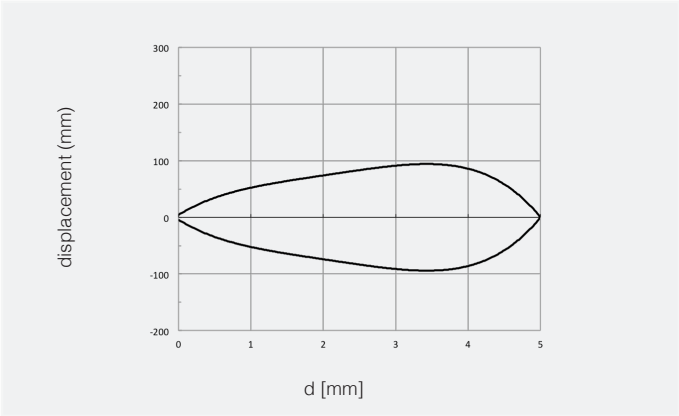


# response diagrams

through-beam models

M12 cylindrical

## DMP/\*\*-\*\* parallel displacement



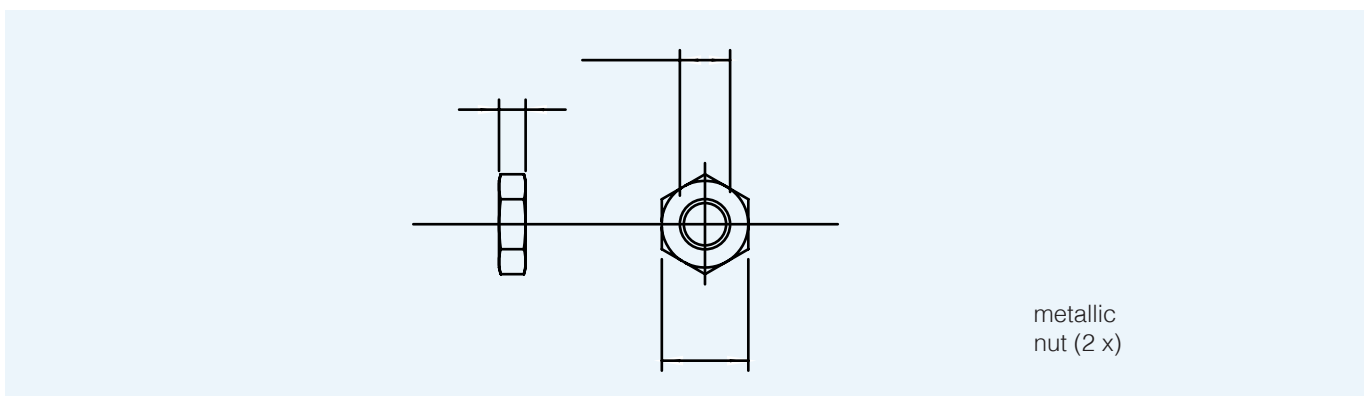
## dimensions (mm)

DMP/**-1A	DM/**-1A	DMP/**-1H	DM/**-1H

- 1 Teach-In button
- 2 LED

## dimensions (mm)

accessories included



metallic nut (2 x)

DM