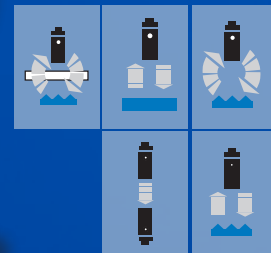




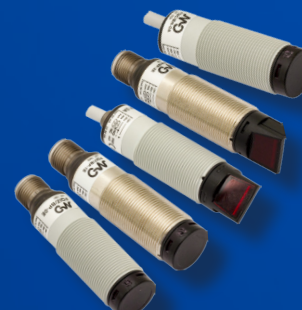
FQ series

M18 photoelectric sensors with short body



features

- Wide range of models: direct diffuse, retro-reflective, polarized and fixed-focus
- Direct diffuse models with short and long sensing distance, polarized and through beam
- Nickel brass or plastic housing
- NO+NC complementary output
- P67 protection degree
- Complete protection against electrical damages
- Approvals: CE



web contents



- Application notes
- Photos
- Catalogue / Manuals



M18 short body

code description

FQ I 7 / B P - 0 E

series	FQ	M18 photoelectric sensors with short body
emission	I	Infrared emission
	R	Visible red light emission
type	2	100 mm direct diffuse without sens. adj.
	3	100 mm direct diffuse with sens. adj.
	7	400 mm direct. diffuse with sens. adj.
	8	Direct reflection: 1200 mm (axial), 1000 mm (90°) with adj.
	C	6 m retro-reflective
	N	4.5 m retro-reflective with adj.
housing	L	Retroreflective for transparent objects 1.5 m
	H	Emitter without sens. adj.
	Z	20 m Receiver without sens. adj.
	0	Emitter without check
output logic	B	Complementary output NO+NC
	0	Emitter
	P	PNP output
housing material	N	NPN output
	0	Plastic housing, axial optic
	1	Metal housing, axial optic
	2	Plastic housing, right angle optic
cable / plug output	3	Metal housing, right angle optic
	E	M12 plastic plug cable exit
	A	2 m axial cable exit



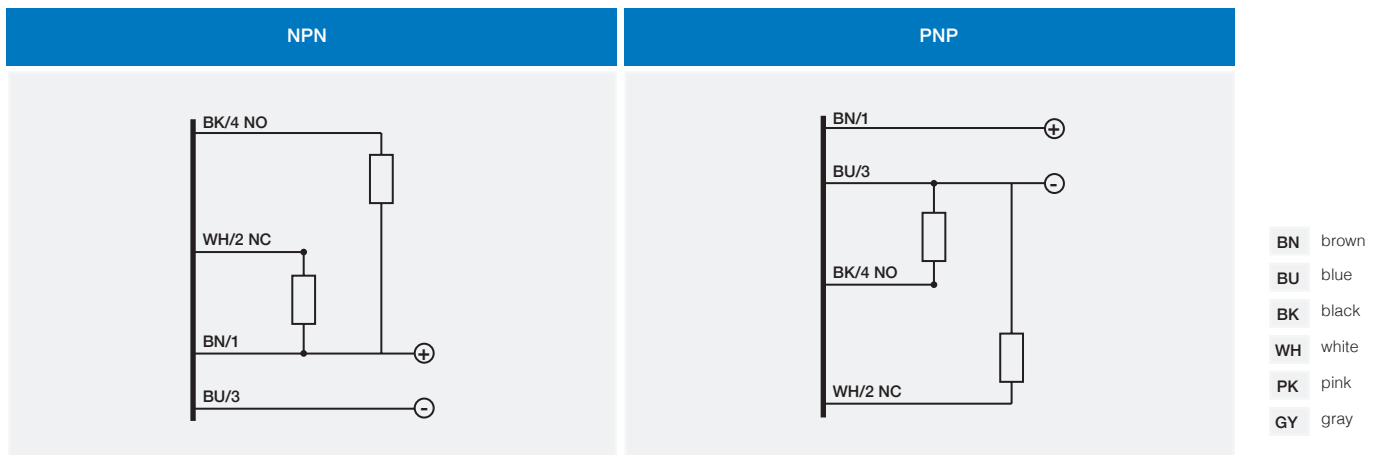
M18 short body

available models

function	distance	adjustment	output	housing	axial models		right angle models	
					PNP NO + NC	NPN NO + NC	PNP NO + NC	NPN NO + NC
direct diffuse	100 mm	●	cable	plastic	FQR2/BP-0A	-	-	-
			M12 plug		FQR3/BP-0E	-	-	-
			cable		FQI7/BP-0A	-	-	-
	M12 plug		FQI7/BP-0E		-	-	-	
	cable		metal		FQI7/BP-1A	-	-	-
	M12 plug				FQI7/BP-1E	-	-	-
	cable			-	FQI8/BN-0A	-	-	
	1,200 mm (A) 1,000 mm (R)		M12 plug	FQI8/BP-0E	FQI8/BN-0E	FQI8/BP-2E	-	
			cable	metal	FQI8/BP-1A	-	-	-
M12 plug		-	-		-	-		
retro-reflective	6 m	cable	plastic	FQIC/BP-0A	FQIC/BN-0A	FQIC/BP-2A	FQIC/BN-2A	
		M12 plug		FQIC/BP-0E	-	-	-	
polarized	4.5 m	cable		FQRN/BP-0A	-	FQRN/BP-2A	-	
		M12 plug		FQRN/BP-0E	-	FQRN/BP-2E	-	
		M12 plug	metal	FQRN/BP-1E	-	FQRN/BP-3E	-	
for transparent objects detection	1.5 m	cable		-	-	FQRL/BP-2A	-	
		M12 plug	plastic	FQRL/BP-0E	-	FQRL/BP-2E	-	
		M12 plug		metal	FQRL/BP-1E	-	-	-
emitter	20 m	-	cable		plastic	FQIH/00-0A	-	-
			M12 plug	FQIH/00-0E		-	FQIH/00-2E	-
			M12 plug	metal		FQIH/00-1E	-	-
receiver		-	cable		plastic	FQIZ/BP-0A	-	-
			M12 plug	FQIZ/BP-0E		-	FQIZ/BP-2E	-
			M12 plug	metal		FQIZ/BP-1E	-	-

electric diagrams of the connections

NO + NC complementary exit





	direct diffuse				retroreflective	polarized	for transparent objects	through beam		
	FQR2	FQR3	FQI7	FQI8	FQIC	FQRN	FQRL ⁽²⁾	FQIZ	FQIH	
nominal sensing distance	100 mm	400 mm	1,2 m 1 m (90°)	6 m 4 m (90°)	4.5 m 3 m (90°)	0.1...1.5 m	20 m 15 m (90°)			
emission	red (660 nm)		infrared (880 nm)			red (660 nm)		infrared (880 nm)		
differential travel						≤ 10 %				
repeatability						≤ 5 %				
operating voltage						10...30 Vcc				
ripple						≤ 10 %				
no-load supply current						≤ 30 mA				
load current						≤ 50 mA				
leakage current						≤ 10 µA				
output voltage drop						2 V max. @ IL = 50 mA				
output type						NPN or PNP NO + NC				
switching frequency						250 Hz				
power on delay						≤ 200 ms				
operating temperature range						- 25°C...+ 70°C (without freeze)				
power supply protections						polarity reversal, impulsive overvoltage				
output electrical protection						short circuit (autoreset), overvoltage				
temperature drift						≤ 10 % Sr				
protection degree						IP67 (EN60529) ⁽¹⁾				
EMC						in conformity with the EMC Directive according to EN 60947-5-2				
interference by external light						5,000 lux (incandescent lamp), 10,000 lux (sunlight)				
LEDs						yellow (Light status)				
housing material						PBT (plastic model) /nicked plated brass (metallic model) / PC (cable exit)				
optic material						PC/PMMA				
tightening torque						1 Nm (plastic), 25 Nm (metallic)				
weight (approx)						20 g plug (40 g metallic version) / 60 g cable				

⁽¹⁾ Protection guaranteed only with plug cable well mounted ⁽²⁾ With RL 113G or RL 116

plug



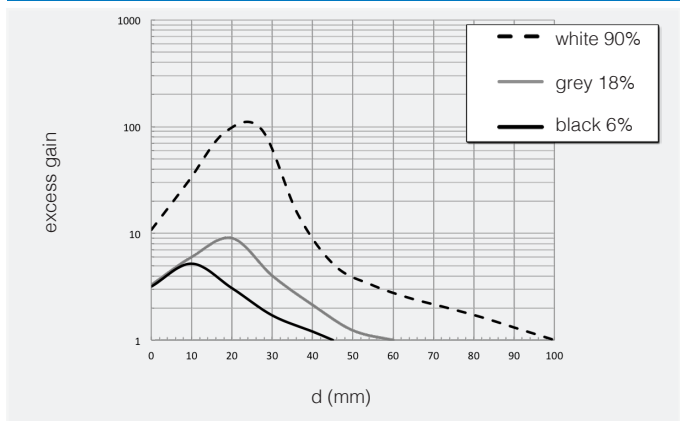


M18 short body

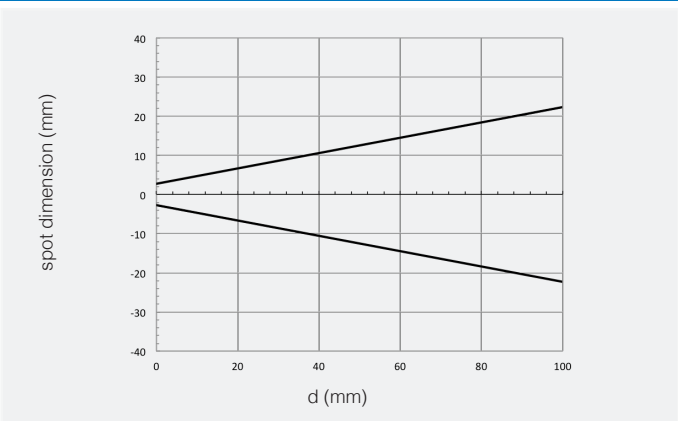
response diagrams

background suppression models

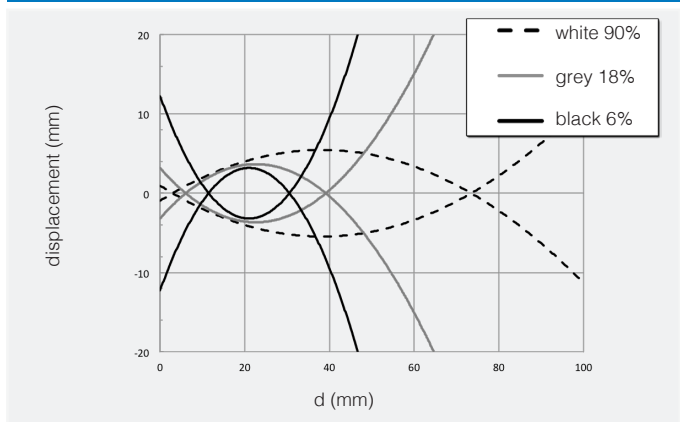
FQR2/FQR3 excess gain



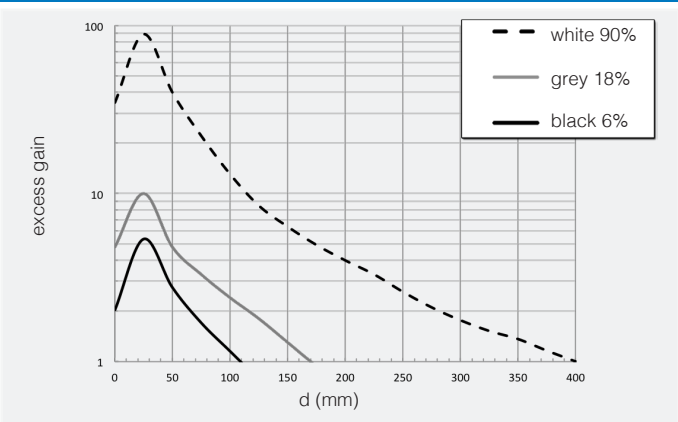
FQR2/FQR3 spot dimension



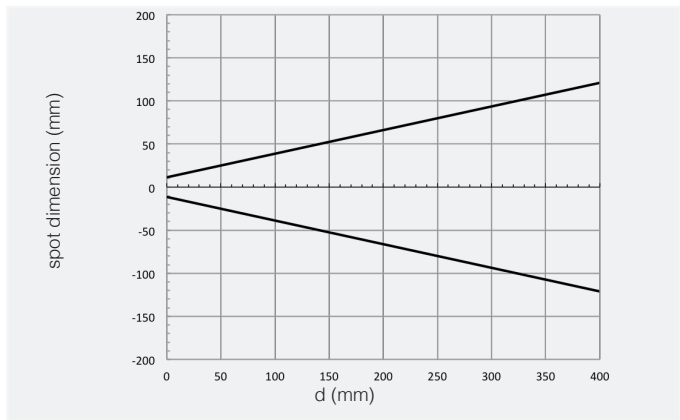
FQR2/FQR3 parallel displacement



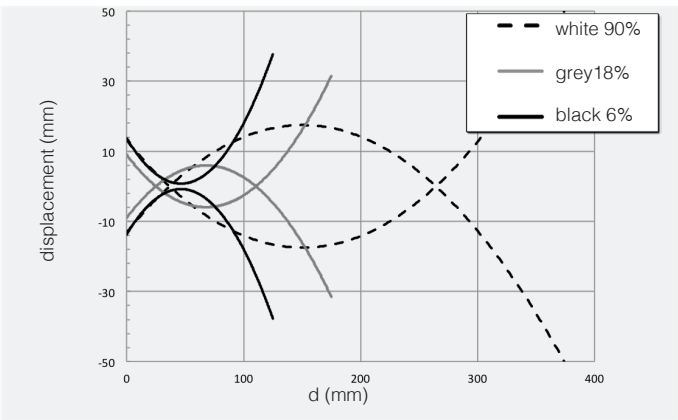
FQI7/B*-** excess gain



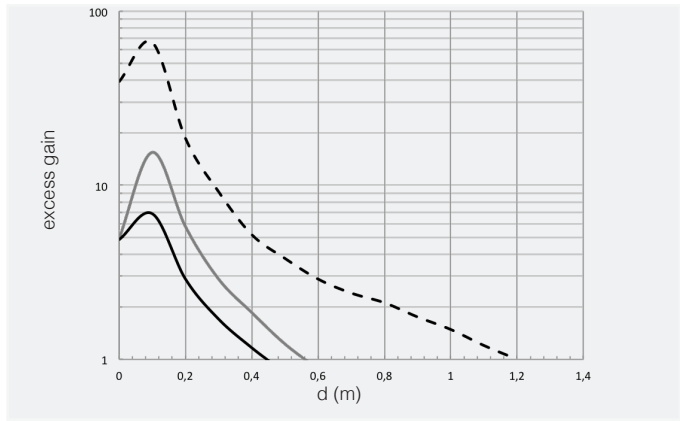
FQI7/B*-** spot dimension



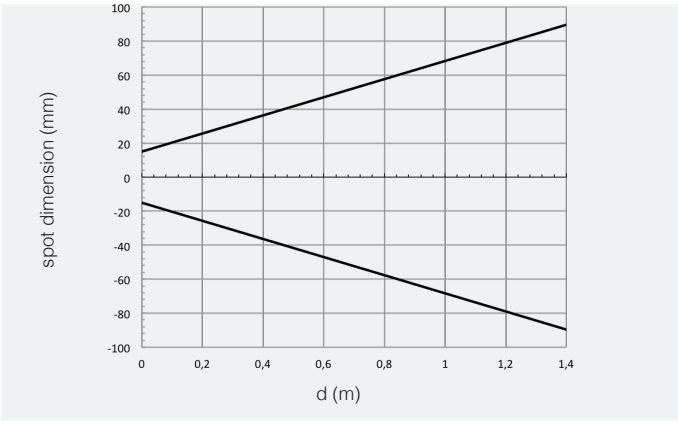
FQI7/B*-** parallel displacement



FQI8/B*-(0,1)* excess gain



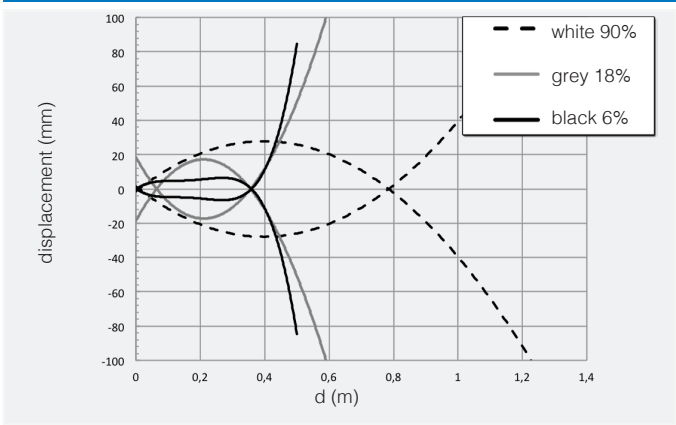
FQI8/B*-(0,1)* spot dimension



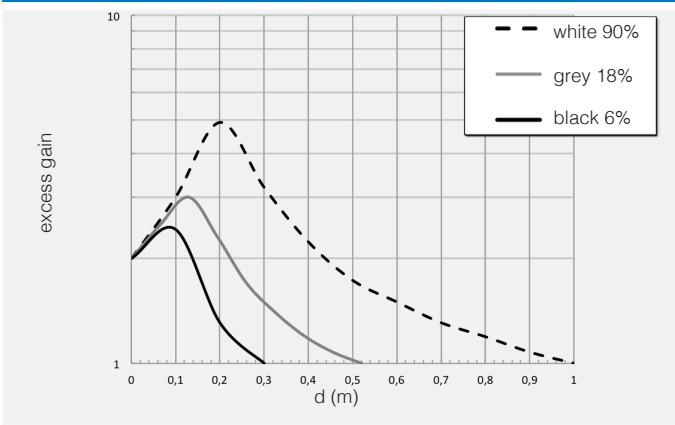
FQ



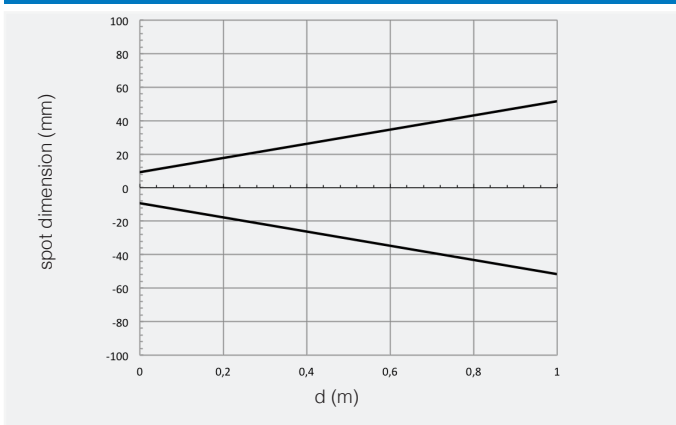
FQI8/B*-(0,1)* parallel displacement



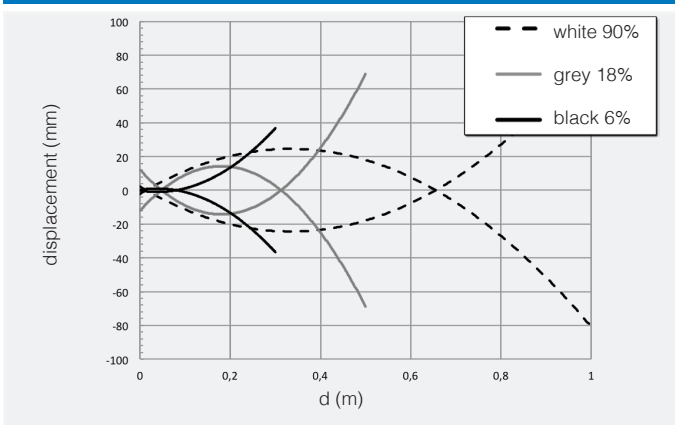
FQI8/B*-(2,3)* excess gain



FQI8/B*-(2,3)* spot dimension



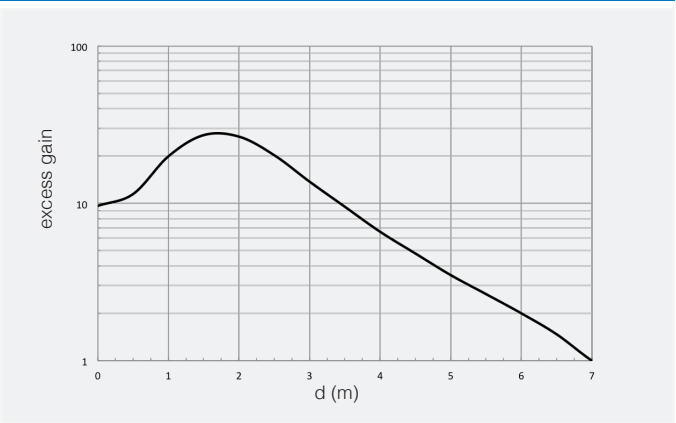
FQI8/B*-(2,3)* parallel displacement



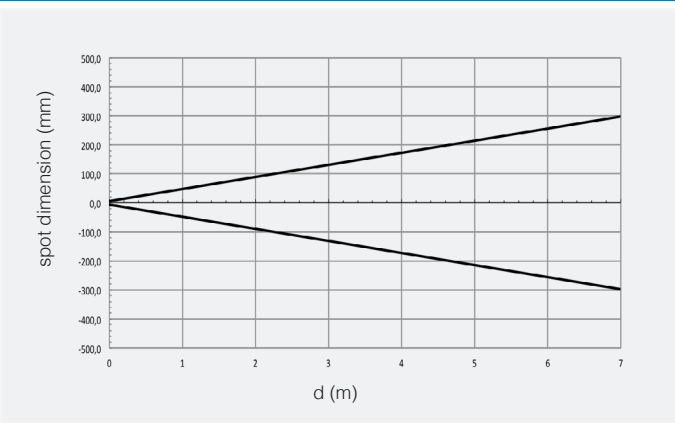
response diagrams

retro-reflective models (diagrams detected using RL110)

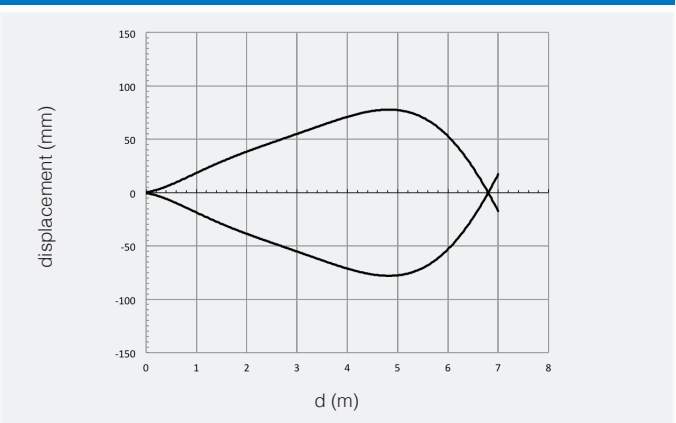
FQIC/B*-(0,1)* excess gain



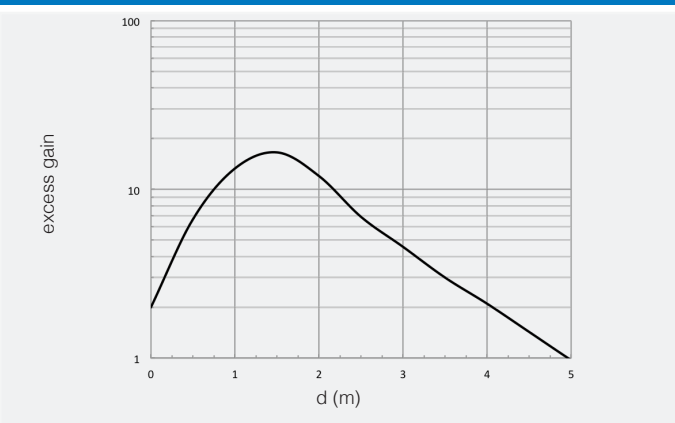
FQIC/B*-(0,1)* spot dimension



FQIC/B*-(0,1)* parallel displacement



FQIC/B*-(2,3)* excess gain



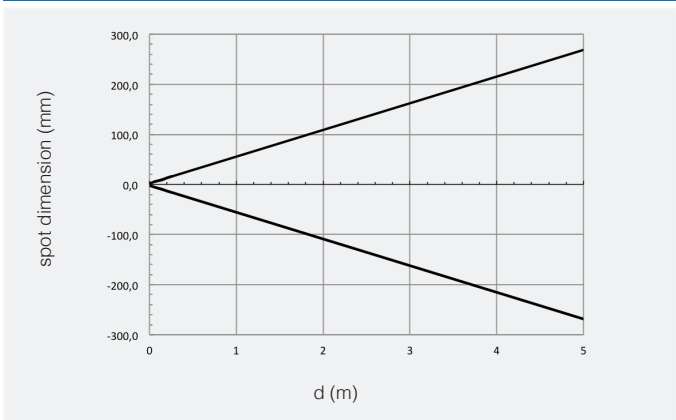


response diagrams

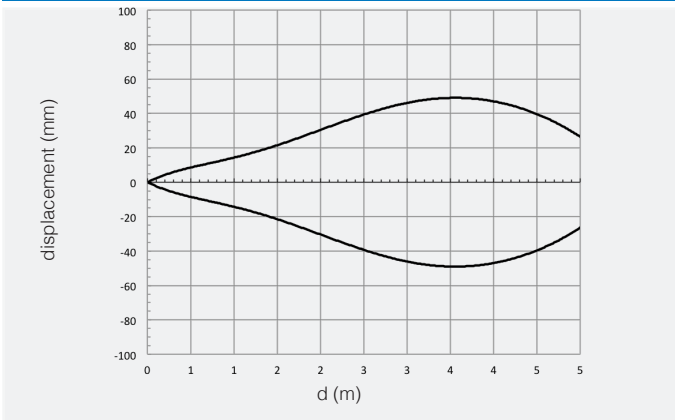
retro-reflective models

M18 short body

FQIC/B⁺-(2,3)* spot dimension



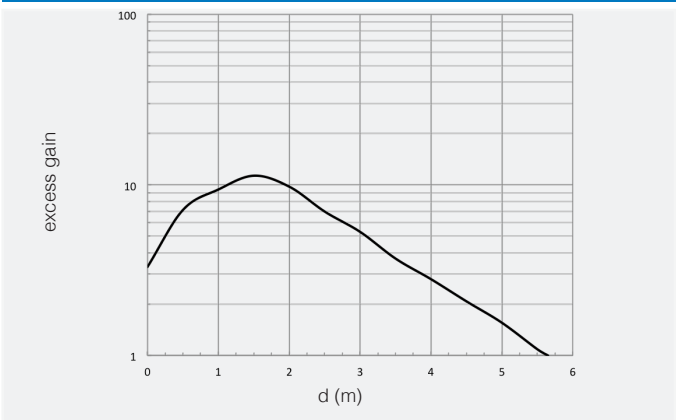
FQIC/B⁺-(2,3)* parallel displacement



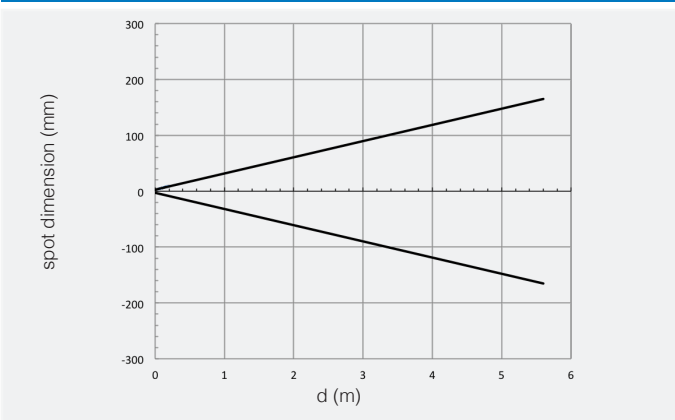
response diagrams

polarized models (diagrams detected using RL110)

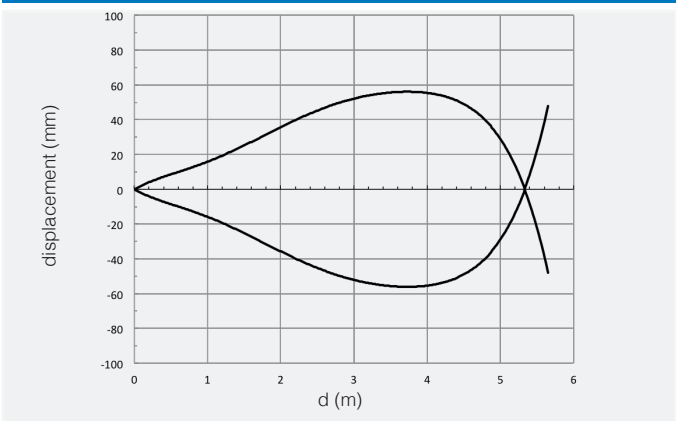
FQRN/B⁺-(0,1)* excess gain



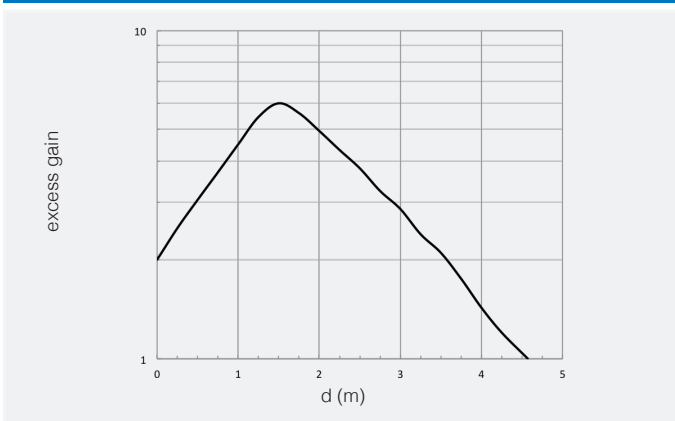
FQRN/B⁺-(0,1)* spot dimension



FQRN/B⁺-(0,1)* parallel displacement



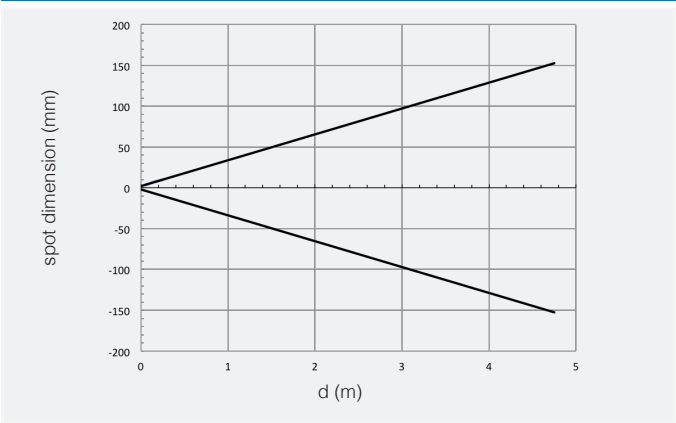
FQRN/B⁺-(2,3)* excess gain



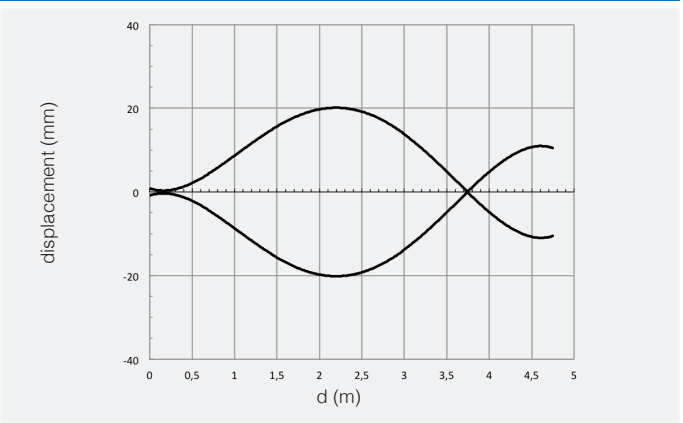
FQ



FQRN/B⁺-(2,3)⁺ spot dimension



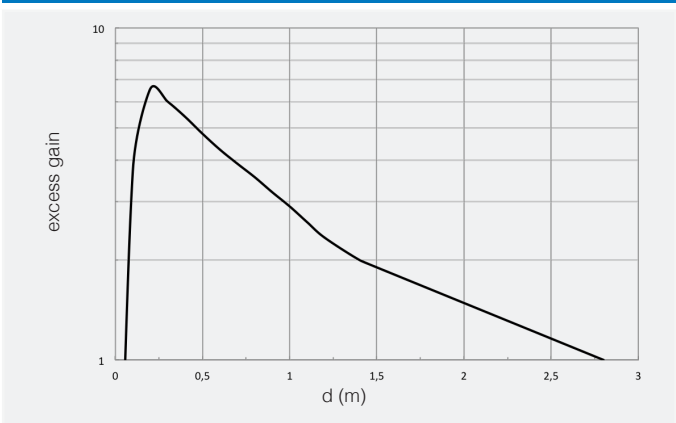
FQRN/B⁺-(2,3)⁺ parallel displacement



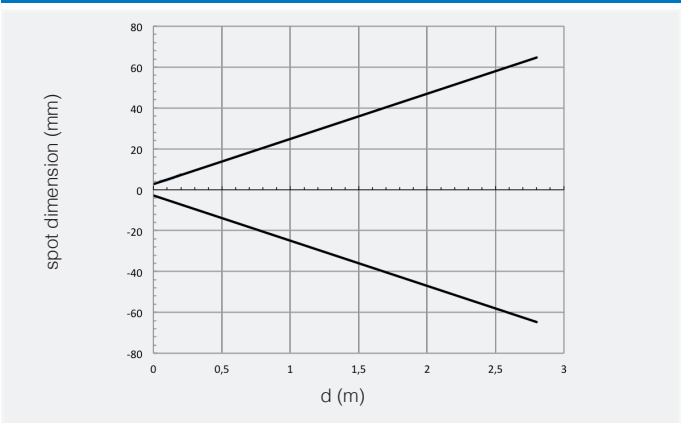
response diagrams

for transparent objects models (diagrams detected using RL110)

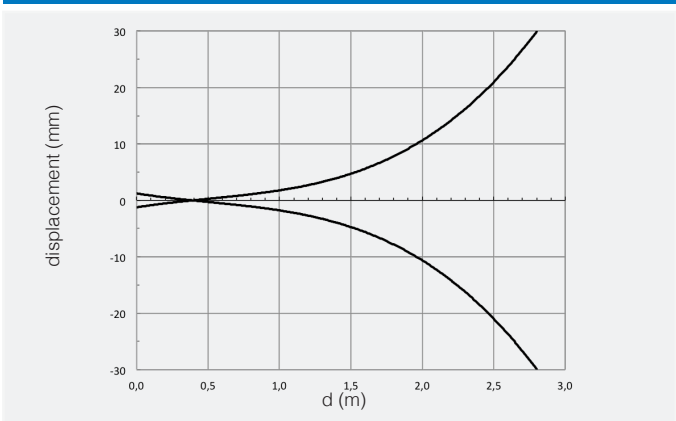
FQRL/B⁺-(0,1)⁺ excess gain



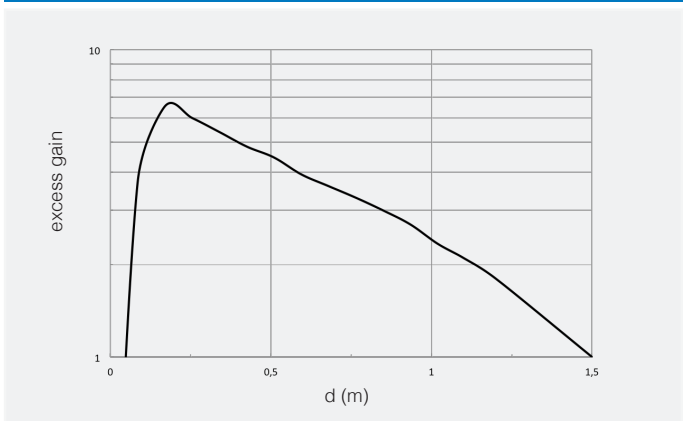
FQRL/B⁺-(0,1)⁺ spot dimension



FQRL/B⁺-(0,1)⁺ parallel displacement



FQRL/B⁺-(2,3)⁺ excess gain



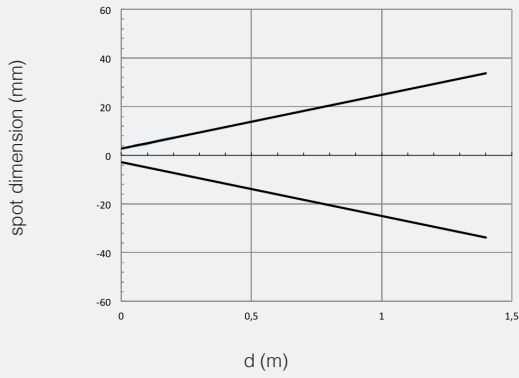


response diagrams

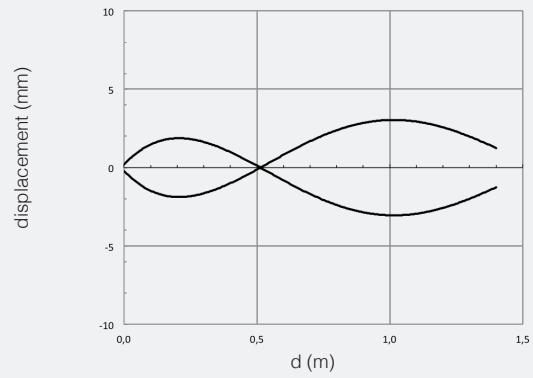
transparent models

M18 short body

FQRL/B*-(2,3)* spot dimension



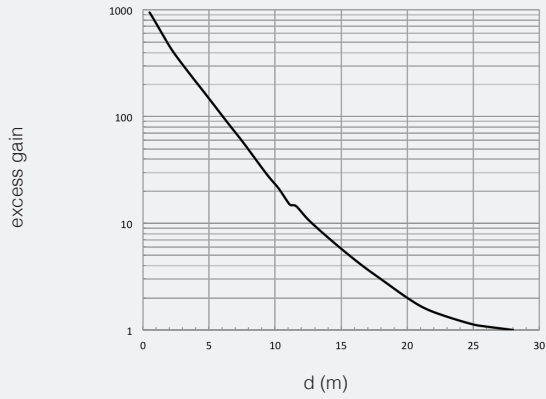
FQRL/B*-(2,3)* parallel displacement



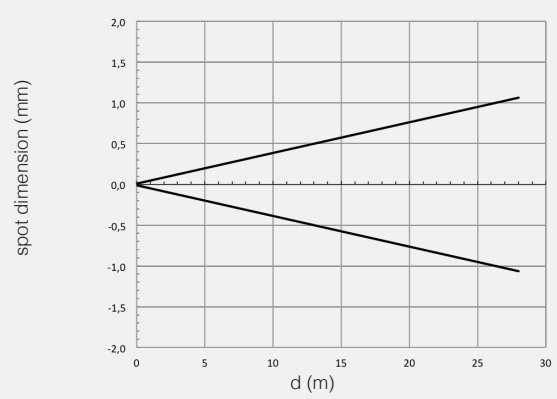
response diagrams

through-beam models

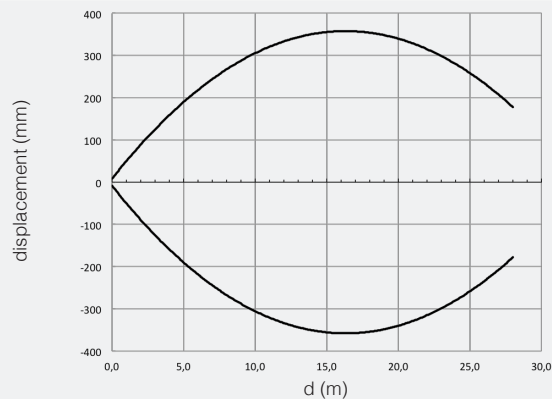
FQIH/00*-(0,1) - FQIZ/B*-(0,1) excess gain



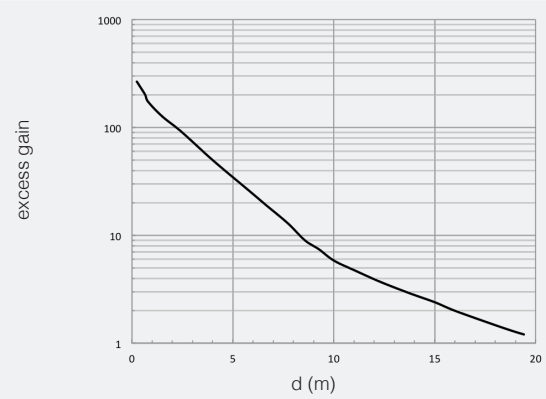
FQIH/00*-(0,1) - FQIZ/B*-(0,1) dimensione spot



FQIH/00*-(0,1) - FQIZ/B*-(0,1) parallel displacement

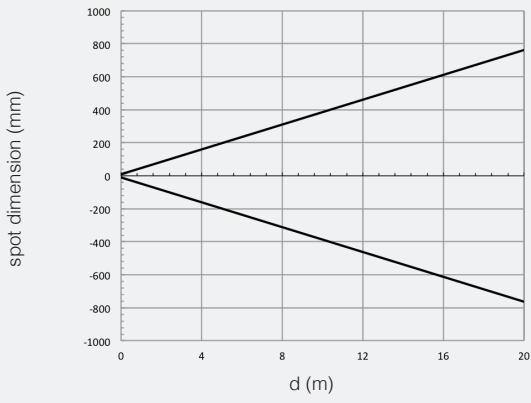


FQIH/00*-(2,3)* - FQIZ/B*-(2,3)* excess gain

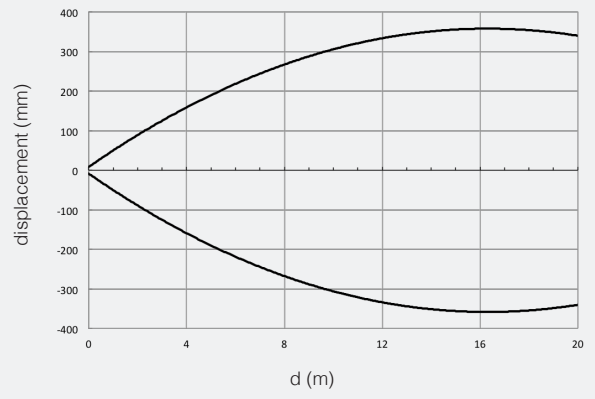


FQ

FQIH/00-*(0,1) - FQIZ/B*-(0,1) spot dimension

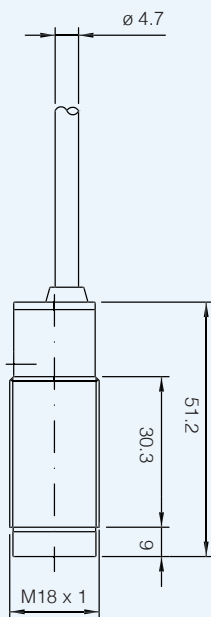


FQIH/00-*(0,1) - FQIZ/B*-(0,1) parallel displacement

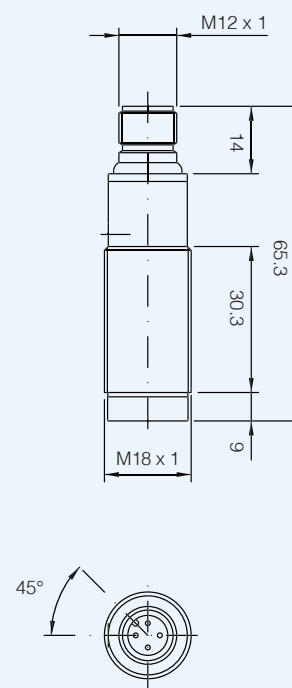


dimensions (mm)

FQ**/**-0A; FQ**/**-1A



FQ**/**-0E; FQ**/**-1E

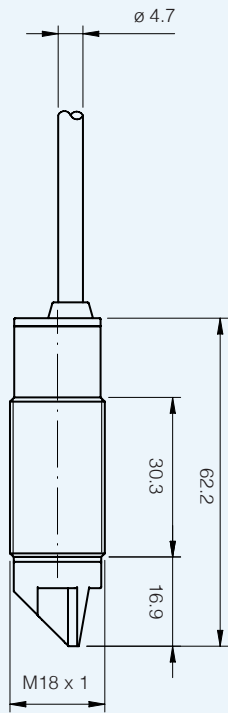




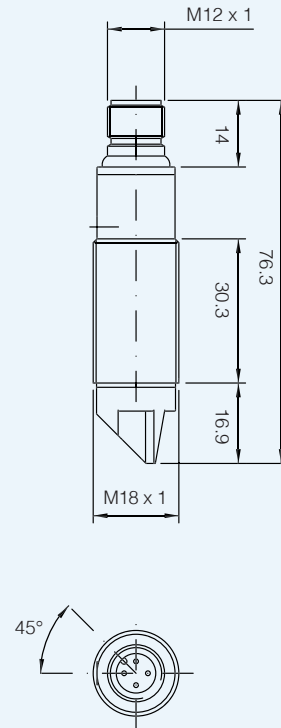
dimensions (mm)

M18 short body

FQ**/**-2A; FQ**/**-3A

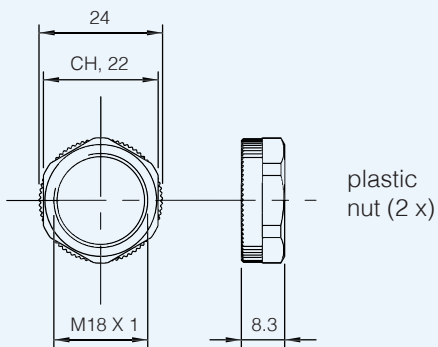


FQ**/**-2E; FQ**/**-3E



dimensions (mm)

accessories included in all plastic models



dimensions (mm)

accessories included in all metallic models

