



Micro Detectors

Italian Sensors Technology



Cubic Miniaturized Photoelectric Sensor QM



Photoelectric Sensors
Catalogue

Cod. CAT3EQM1375401

Datasheet - QM - english - Ed.01/2014





Products

QM
cubic

Series QM

Cubic



QM download area

www.microdetectors.com<http://www.microdetectors.com/ita/prodotti/dettaglioserie.aspx?idserie=110>

market sectors and applications

wood industry
logistics and automated warehouses
packaging industry
automotive industry
industrial automation
bottling industry



features

Cubic miniaturized photoelectric high-performance sensors with long sensing distance

2 kHz maximum switching frequency

Available with cable and M8 plug exit or with M8-M12 pig-tail

Wide range of models: diffuse reflection with short, medium and long sensing distance, polarized, reflective for transparent objects, through-beam and background suppression

Selectable LO/DO output state

Complete protection against electrical damages

Completely filled with resin (except background suppression models)

Background suppression with mechanical adjustment

approvals



protection degree

IP67





Products

QM
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Miniature cubic photoelectric sensor QM

A wide range of QM series' sensors is available: direct diffuse, reflective, polarized, for detecting transparent objects, background suppression and through-beam, high-intensity infrared and red light emission for an easy alignment. They can be adjusted with a trimmer for better sensitivity and have a switching frequency up to 2 kHz for a more precise reading.

QM sensors are also available with NPN or PNP, NO/NC selectable output and either cable or M8 plug or M8/M12 pig-tail. QM sensors have an IP67 protection degree and are completely resin-filled, except background suppression models with mechanical adjustment. A wide range of mounting brackets is also available.

pack content

Installation manual (english + italian) : CAT8BFG1260501 (QM*S model).

Product packed in bag.

further commercial and technical documents available

High resolution photos

Data sheet:

- miniature cubic photoelectric sensor QMRG for the detection of transparent objects
(italian:CAT3EQM1260001, english: CAT3EQM1260001 and spanish:CAT3EQM1260001)

customization already tested

QMRG/0*-*LP - Model for the detection of transparent objects up to 600 mm

minimum order quantity

1 piece

	QM	R	8	/	0	P	-	0	A	VE	80
QM Miniaturized cubic photoelectric sensor 12.8x21x31.2 mm											
R RED emission											
I Infrared emission											
B Direct diffuse with sens. adj. 100 mm (R)											
7 Direct diffuse with sens. adj. 400 mm (R - IR)											
8 Direct diffuse with sens. adj. 1,000 mm (R)											
9 Direct diffuse with sens. adj. 1,500 mm (IR)											
N 5 m polarized with sensitive adjustment											
C 7 m reflective with sensitive adjustment											
G 0.05...1.5 m (R) or 0.05...1.0 m (IR) for transparent objects with adjustment											
L 0.4...4 m for transparent objects with adjustment											
HD 20 m (R) or 30 m (IR) emitter + receiver kit with adjustment											
H Emitter with adjustment ⁽¹⁾											
D 20 m (R) or 30 m (IR) receiver without adjustment ⁽¹⁾											
S 30...200 mm (R) or 30...400 mm (IR) background suppression											
0 Emitter without check, LO/DO selectable											
0 Emitter											
P PNP output											
N NPN output											
0 Plastic housing											
A 2 m cable exit											
F M8 4 pin plug cable exit											
Standard model											
VE M12 pig-tail output ⁽¹⁾											
VF M8 3 pin pig tail output ⁽¹⁾											
VG M8 4 pin pig tail output ⁽¹⁾											
80 20 cm cable length (pig-tail models) ⁽¹⁾											
Standard model											

⁽¹⁾ These products may have limitations in terms of delivery or on the quantities to be ordered



Products

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available models

function	distance	emission	adjustment	output type	housing	Models		
						PNP + NO/NC	NPN + NO/NC	
Direct diffuse	100 mm	Red	yes	cable	plastic	QMRB/0P-0A	QMRB/0N-0A	
				M8 connector		QMRB/0P-0F	QMRB/0N-0F	
	400 mm	Red		cable		QMR7/0P-0A	QMR7/07-0A	
				M8 connector		QMR7/0P-0F	QMR7/0N-0F	
	1,000 mm	Red		cable		QMI7/0P-0A	QMI7/07-0A	
				M8 connector		QMI7/0P-0F	QMI7/0N-0F	
	1,500 mm	IR		cable		QMR8/0P-0A	QMR8/0N-0A	
				M8 connector		QMR8/0P-0F	QMR8/0N-0F	
	Polarized	5 m		Red		cable	QMI9/0P-0A	QMI9/0N-0A
						M8 connector	QMI9/0P-0F	QMI9/0N-0F
	Retroreflection	7 m		IR		cable	QMRN/0P-0A	QMRN/0N-0A
						M8 connector	QMRN/0P-0F	QMRN/0N-0F
For transparent objects	0.05 - 1.5 m	Red	cable	QMIG/0P-0A	QMIG/0N-0A			
			M8 connector	QMIG/0P-0F	QMIG/0N-0F			
	0.05 - 1.0 m	IR	cable	QMIG/0P-0A	QMIG/0N-0A			
			M8 connector	QMIG/0P-0F	QMIG/0N-0F			
	0.4 - 4 m	Red	cable	QMRL/0P-0A	QMRL/0N-0A			
			M8 connector	QMRL/0P-0F	QMRL/0N-0F			
Emitter	20 m	Red	cable	QMRH/00-0A				
Receiver			M8 connector	QMRH/00-0F				
Emitter + Receiver			cable	QMRD/0P-0A	QMRD/0N-0A			
			M8 connector	QMRD/0P-0F	QMRD/0N-0F			
Emitter			30 m	IR	cable	QMRHD/0P-0A	QMRHD/0N-0A	
					M8 connector	QMRHD/0P-0F	QMRHD/0N-0F	
Receiver	no	cable	QMIH/00-0A					
Emitter + Receiver		M8 connector	QMIH/00-0F					
Background suppression	30 - 200 mm	Red	yes	cable	QMID/0P-0A	QMID/0N-0A		
				M8 connector	QMID/0P-0F	QMID/0N-0F		
	30 - 400 mm	IR		cable	QMIHD/0P-0A	QMIHD/0N-0A		
				M8 connector	QMIHD/0P-0F	QMIHD/0N-0F		
					cable	QMRS/0P-0A	QMRS/0N-0A	
					M8 connector	QMRS/0P-0F	QMRS/0N-0F	
			cable	QMIS/0P-0A	QMIS/0N-0A			
			M8 connector	QMIS/0P-0F	QMIS/0N-0F			

technical specifications (direct diffuse models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

			
models	QMRB/0*-0*	QMR7/0*-0*	QMR8/0*-0*
			
nominal sensing distance S_n	100 mm ⁽¹⁾	400 mm ⁽¹⁾	1,000 mm ⁽²⁾
minimum working distance	-		
sensitivity adjustment	yes		
emission	red (630 nm)		
differential travel	≤ 10%		
repeat accuracy	5%		
light-dark selection	yes		
U_e operating voltage	10 ... 30 Vdc		
ripple	≤ 10%		
no-load supply current	≤ 10 µA		
load current	≤ 100 mA		
supply current	≤ 30 mA		
output voltage drop U_d	2 V max @ 100 mA		
maximum load current	≤ 100 mA		
output type	PNP or NPN NO or NC		
switching frequency f	1 kHz	2 kHz	1 kHz
time delay before availability	≤ 100 ms		
supply electrical protections	polarity reversal, over voltage pulses		
output electrical protection	short circuit (auto reset) , over voltage pulses		
operative temperature range	- 25 ...+ 70° C (without freeze)		
thermal drift	- 30 ...+ 80° C		
LED indicators	yellow (LO/DO output state) green (Excess gain)		
interference external light	10.000 Lux (sunlight) 3.000 Lux (incandescence lamp)		
protection degree	IP67 (EN60529) ⁽³⁾		
housing material	PA66		
optic material	PMMA		
tightening torque	1 Nm ⁽⁴⁾		
weight (approx)	52 g cable, 10 g M8 plug		

⁽¹⁾ White target *Kodak* 90% 200 x 200 mm ⁽²⁾ White target *Kodak* 90% 400 x 400 mm

⁽³⁾ Protection guaranteed only with plug cable well mounted

⁽⁴⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)

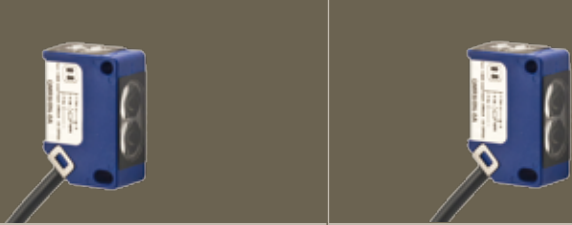



Products

QM
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technical specifications (direct diffuse models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

		
models	QMI7/0*-0*	QMI9/0*-0*
		
nominal sensing distance S_n	400 mm ⁽¹⁾	1,500 mm ⁽²⁾
minimum working distance	-	
sensitivity adjustment	yes	
emission	Infrared (850 nm)	
differential travel	≤ 10%	
repeat accuracy	5%	
light-dark selection	yes	
U_e operating voltage	10 ... 30 Vdc	
ripple	≤ 10%	
no-load supply current	≤ 45 mA	
load current	≤ 100 mA	
leakage current	≤ 10 μA	
output voltage drop U_d	2 V max @ 100 mA	
maximum load current	≤ 100 mA	
output type	PNP or NPN NO or NC	
switching frequency f	2 kHz	1 kHz
time delay before availability	≤ 100 ms	
supply electrical protections	polarity reversal, over voltage pulses	
output electrical protection	short circuit (auto reset) , over voltage pulses	
operative temperature range	- 25 ... + 70° C (without freeze)	
thermal drift	- 30 ... + 80° C	
LED indicators	yellow (output state LO/DO) green (Excess gain)	
interference external light	10,000 lux sunlight	
protection degree	3,000 lux incandescent lamp (EN60529) ⁽³⁾	
housing material	PA66	
optic material	PMMA	
tightening torque	1 Nm ⁽⁴⁾	
weight (approx)	52 g cable, 10 g M8 plug	

⁽¹⁾ White target *Kodak* 90% 200 x 200 mm ⁽²⁾ White target *Kodak* 90% 400 x 400 mm

⁽³⁾ Protection guaranteed only with plug cable well mounted

⁽⁴⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)

technical specifications (background suppression models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

		
models	QMR5/0*-0*	QMIS/0*-0*
		
nominal sensing distance S_n	30...200 mm ⁽¹⁾	30...400 mm ⁽¹⁾
minimum working distance	5 mm	
sensitivity adjustment	yes (4 turns)	
emission	red (630 nm)	infrared (850 nm)
differential travel	≤ 10%	
repeat accuracy	5%	
light-dark selection	yes	
U_e operating voltage	10 ... 30 Vdc	
ripple	≤ 10%	
no-load supply current	≤ 30 mA	≤ 45 mA
load current	≤ 100 mA	
leakage current	≤ 10 μA	
output voltage drop U_d	2 V max @ 100 mA	
maximum load current	≤ 100 mA	
output type	PNP or NPN NO or NC	
switching frequency f	1 kHz	
time delay before availability	≤ 100 ms	
supply electrical protections	polarity reversal, over voltage pulses	
output electrical protection	short circuit (auto reset) , over voltage pulses	
operative temperature range	- 25 ...+ 70° C (without freeze)	
thermal drift	- 30 ...+ 80° C	
LED indicators	Yellow (output state LO/DO)	
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp	
protection degree	IP67 (EN60529) ⁽²⁾	
housing material	PA66	
optic material	PMMA	
tightening torque	1 Nm ⁽³⁾	
weight (approx)	52 g cable, 10 g M8 plug	

⁽¹⁾ White target *Kodak* 90% 200 x 200 mm ⁽²⁾ White target *Kodak* 90% 400 x 400 mm

⁽³⁾ Protection guaranteed only with plug cable well mounted

⁽⁴⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)



Products

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technical specifications (models for transparent objects)



according to IEC EN 60947-5-2 and IEC EN 60947-5-7

models	QMRG/0*-0*	QMIG/0*-0*	QMRL/0*-0*
nominal sensing distance S_n	1,5 m	1 m	4 m
minimum working distance	0.05 m		0.4 m
sensitivity adjustment	yes		
emission	red (630 nm)	infrared (850 nm)	red (630 nm)
differential travel	$\leq 10\%$		
repeat accuracy	5%		
light-dark selection	yes		
U_e operating voltage	10 ... 30 Vdc		
ripple	$\leq 10\%$		
no-load supply current	≤ 30 mA	≤ 45 mA	≤ 30 mA
load current	≤ 100 mA		
leakage current	≤ 10 μ A		
output voltage drop U_d	2 V max @ 100 mA		
maximum load current	≤ 100 mA		
output type	PNP or NPN NO or NC		
switching frequency f	2 kHz		
time delay before availability	≤ 100 ms		
supply electrical protections	polarity reversal, over voltage pulses		
output electrical protection	short circuit (auto reset) , over voltage pulses		
operative temperature range	- 25 ...+ 70° C (without freeze)		
thermal drift	- 30 ...+ 80° C		
LED indicators	yellow (output state LO/DO)		
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp		
protection degree	IP67 (EN60529) ⁽⁵⁾		
housing material	PA66		
optic material	PMMA		
tightening torque	1 Nm ⁽⁶⁾		
weight (approx)	52 g cable, 10 g M8 plug		

⁽³⁾ With RL 110 reflector EG = 2⁽⁴⁾ With RL 110 reflector EG = 2, use RL113G and RL116⁽⁶⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)⁽⁵⁾ Protection guaranteed only with plug cable well mounted⁽⁷⁾ Not included in model QMRG/**-**

technical specifications (polarized models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

	
models	QMRN/0*-0*
	
nominal sensing distance S_n	5 m ⁽¹⁾
minimum working distance	0.02 m @ RL 110
sensitivity adjustment	yes
emission	red (630 nm)
differential travel	≤ 10%
repeat accuracy	5%
light-dark selection	yes
U_e operating voltage	10 ... 30 Vdc
ripple	≤ 10%
no-load supply current	≤ 30 mA
load current	≤ 100 mA
leakage current	≤ 10 μA
output voltage drop U_d	2 V max @ 100 mA
maximum load current	≤ 100 mA
output type	PNP or NPN NO or NC
switching frequency f	2 kHz
time delay before availability	≤ 100 ms
supply electrical protections	polarity reversal, over voltage pulses
output electrical protection	short circuit (auto reset), over voltage pulses
operative temperature range	- 25 ...+ 70° C (without freeze)
thermal drift	- 30 ...+ 80° C
LED indicators	yellow (output state LO/DO) green (Excess gain)
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp
protection degree	IP67 (EN60529) ⁽⁵⁾
housing material	PA66
optic material	PMMA
tightening torque	1 Nm ⁽⁶⁾
weight (approx)	52 g cable, 10 g M8 plug

⁽³⁾ With RL 110 reflector EG = 2

⁽⁵⁾ Protection guaranteed only with plug cable well mounted

⁽⁶⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)





Products

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technical specifications (retroreflection models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7





models	QMIC/0*-0*
	
	
nominal sensing distance S_n	7 m ⁽¹⁾
minimum working distance	0.02 m @ RL 110
sensitivity adjustment	yes
emission	infrared (850 nm)
differential travel	≤ 10%
repeat accuracy	5%
light-dark selection	yes
U_e operating voltage	10 ... 30 Vdc
ripple	≤ 10%
no-load supply current	≤ 45 mA
load current	≤ 100 mA
leakage current	≤ 10 μA
output voltage drop U_d	2 V max @ 100 mA
maximum load current	≤ 100 mA
output type	PNP or NPN NO or NC
switching frequency f	2 kHz
time delay before availability	≤ 100 ms
supply electrical protections	polarity reversal, over voltage pulses
output electrical protection	short circuit (auto reset) , over voltage pulses
operative temperature range	- 25 ...+ 70° C (without freeze)
thermal drift	- 30 ...+ 80° C
LED indicators	yellow (output state LO/DO) green (Excess gain)
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp
protection degree	IP67 (EN60529) ⁽⁵⁾
housing material	PA66
optic material	PMMA
tightening torque	1 Nm ⁽⁶⁾
weight (approx)	52 g cable, 10 g M8 plug

⁽⁵⁾ Protection guaranteed only with plug cable well mounted

⁽⁶⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)

technical specifications (through beam models)

according to IEC EN 60947-5-2 and IEC EN 60947-5-7

		
models	QMRH/0*-0*	QMRD/0*-0*
		
nominal sensing distance S_n	20 m ⁽¹⁾	
minimum working distance	-	
sensitivity adjustment	yes	-
emission	red (630 nm)	
differential travel	$\leq 10\%$	
repeat accuracy	5%	
light-dark selection	yes	
U_e operating voltage	10 ... 30 Vdc	
ripple	$\leq 10\%$	
no-load supply current	≤ 30 mA	
load current		≤ 100 mA
leakage current		≤ 10 μ A
output voltage drop U_d		2 V max @ 100 mA
maximum load current		≤ 100 mA
output type		PNP or NPN NO or NC
switching frequency f	2 kHz	
time delay before availability	≤ 100 ms	
supply electrical protections		polarity reversal, over voltage pulses
output electrical protection		short circuit (auto reset), over voltage pulses
operative temperature range	- 25 ...+ 70° C (without freeze)	
thermal drift	- 30 ...+ 80° C	
LED indicators	yellow (output state LO/DO) green (Excess gain)	
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp	
protection degree	IP67 (EN60529) ⁽⁵⁾	
housing material	PA66	
optic material	PMMA	
tightening torque	1 Nm ⁽⁶⁾	
weight (approx)	52 g cable, 10 g M8 plug	

⁽⁵⁾ Protection guaranteed only with plug cable well mounted

⁽⁶⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories)







Products

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specifiche (through beam models)

in accordo con IEC EN 60947-5-2 e IEC EN 60947-5-7

		
models	QMIH/0*-0*	QMID/0*-0*
		
nominal sensing distance S_n	30 m ⁽¹⁾	
minimum working distance	-	
sensitivity adjustment	yes	-
emission	infrared (850 nm)	
differential travel	$\leq 10\%$	
repeat accuracy	5%	
light-dark selection	yes	
U_e operating voltage	10 ... 30 Vdc	
ripple	$\leq 10\%$	
no-load supply current	≤ 45 mA	
load current	≤ 100 mA	
leakage current	≤ 10 μ A	
output voltage drop U_d	2 V max @ 100 mA	
maximum load current	≤ 100 mA	
output type	PNP or NPN NO or NC	
switching frequency f	2 kHz	
time delay before availability	≤ 100 ms	
supply electrical protections	polarity reversal, over voltage pulses	
output electrical protection	short circuit (auto reset) , over voltage pulses	
operative temperature range	- 25 ...+ 70° C (without freeze)	
thermal drift	- 30 ...+ 80° C	
LED indicators	yellow (output state LO/DO) green (Excess gain)	
interference external light	10,000 lux sunlight 3,000 lux incandescent lamp	
protection degree	IP67 (EN60529) ⁽⁵⁾	
housing material	PA66	
optic material	PMMA	
tightening torque	1 Nm ⁽⁶⁾	
weight (approx)	52 g cable, 10 g M8 plug	

⁽¹⁾ White target *Kodak* 90% 200 x 200 mm ⁽²⁾ White target *Kodak* 90% 400 x 400 mm ⁽³⁾ With RL 110 reflector EG = 2

⁽⁴⁾ With RL 110 reflector EG = 2, use RL113G and RL116 ⁽⁵⁾ Protection guaranteed only with plug cable well mounted

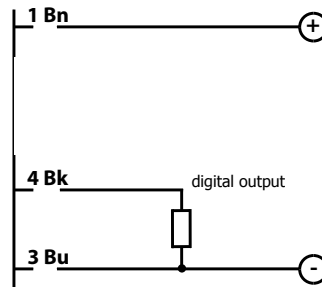
⁽⁶⁾ Screws, nuts and mounting brackets are not included with the sensor (accessories) ⁽⁷⁾ Not included in model QMRG/**-**

- BN** brown
- BU** blue
- BK** black
- WH** white

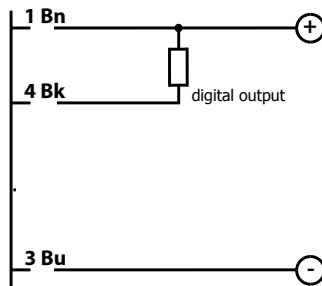
electrical diagrams of connections

<p style="text-align: center;">output</p> <p style="text-align: center;">Supply (+) Supply (-)</p>	<p>M8 - 4 pin</p> <p>QMR*/0*-0F & QMR*/0*-0AVG80</p> <p>QMI*/0*-0F & QMI*/0*-0AVG80</p>
<p style="text-align: center;">Supply (+) Supply (-)</p>	<p>QMRH/0*-0F & QMRH/0*-0AVG80</p> <p>QMIH/0*-0F & QMIH/0*-0AVG80</p>
<p style="text-align: center;">output Supply(-)</p> <p style="text-align: center;">Supply (+)</p>	<p>M12-pig tail</p> <p>QMR*/0*-0F & QMR*/0*-0AVG80</p> <p>QMI*/0*-0F & QMI*/0*-0AVG80</p>
<p style="text-align: center;">Supply (-)</p> <p style="text-align: center;">Supply (+)</p>	<p>QMRH/0*-0F & QMRH/0*-0AVG80</p> <p>QMIH/0*-0F & QMIH/0*-0AVG80</p>
<p style="text-align: center;">output</p> <p style="text-align: center;">Supply (+) Supply (-)</p>	<p>M8 - 3 pin - pig-tail</p> <p>QMR*/0*-0F & QMR*/0*-0AVG80</p> <p>QMI*/0*-0F & QMI*/0*-0AVG80</p>
<p style="text-align: center;">Supply (+) Supply (-)</p>	<p>QMRH/0*-0F & QMRH/0*-0AVG80</p> <p>QMIH/0*-0F & QMIH/0*-0AVG80</p>

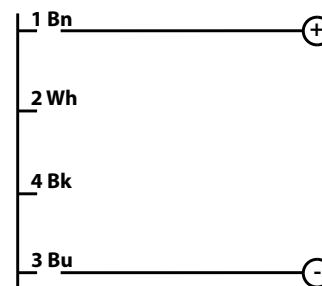
Background suppression, polarized, retroreflection, for transparent, diffuse reflection and receiver with PNP output



Background suppression, polarized, retroreflection, for transparent, diffuse reflection and receiver with NPN output



Emitter



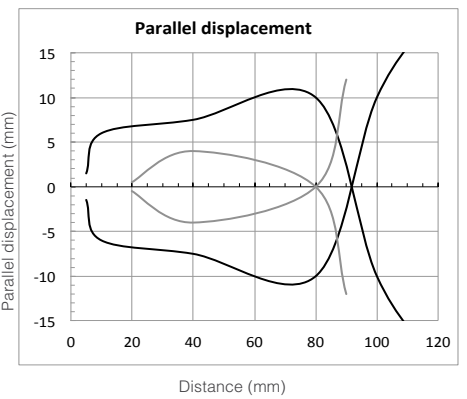
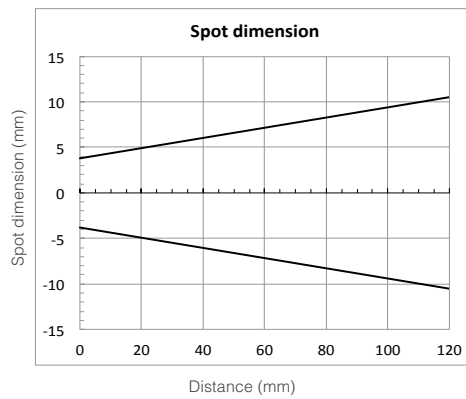
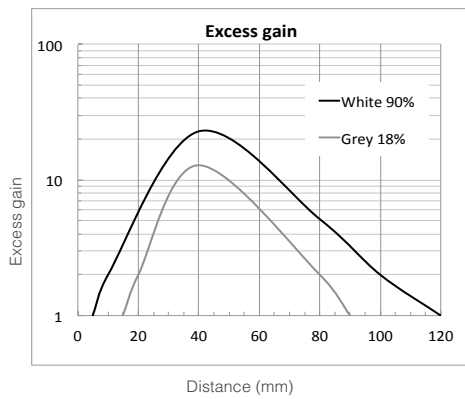


Products

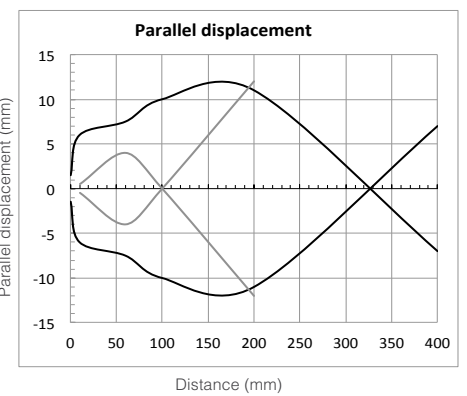
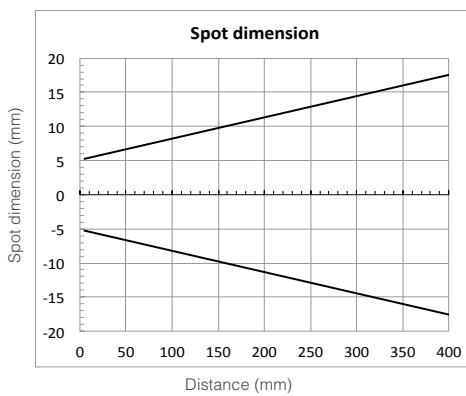
QM
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response diagrams

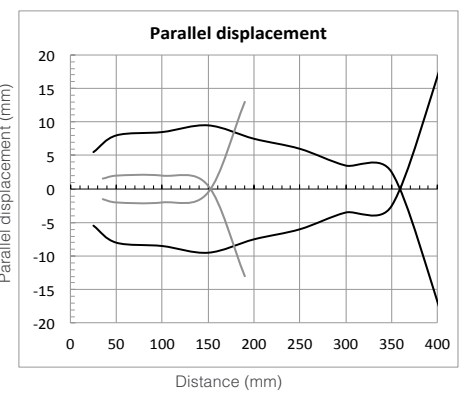
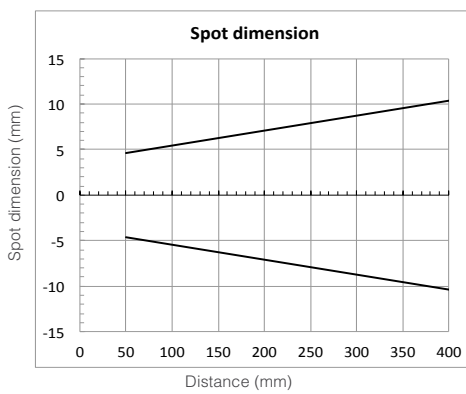
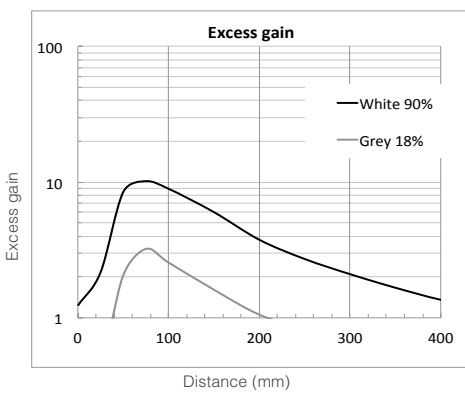
QMRB/0⁺-0⁺⁺⁺



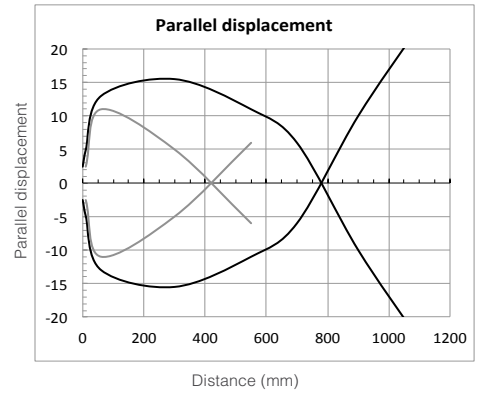
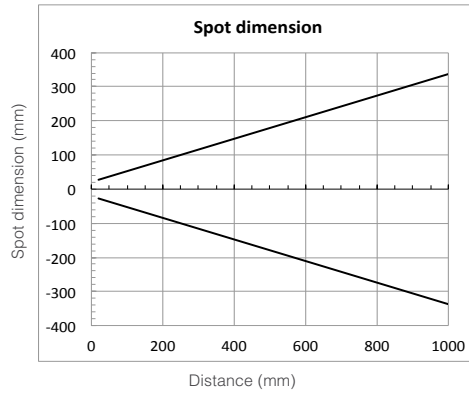
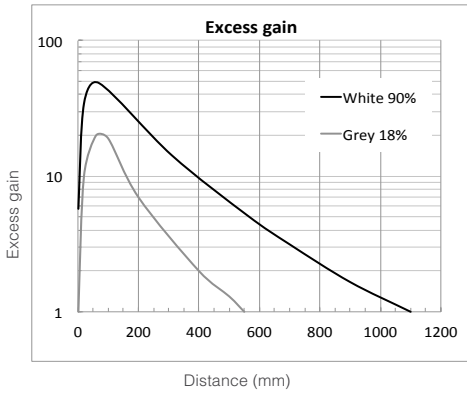
QMR7/0⁺-0⁺⁺⁺



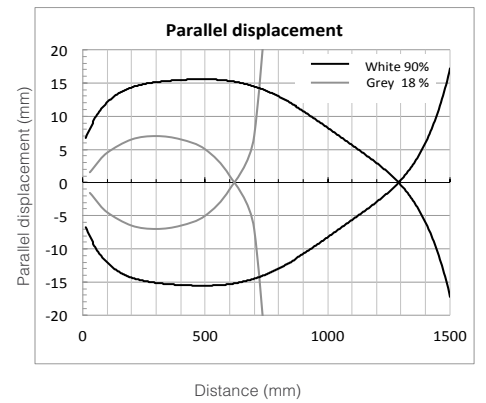
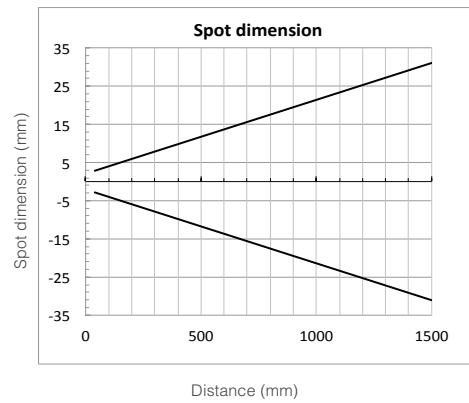
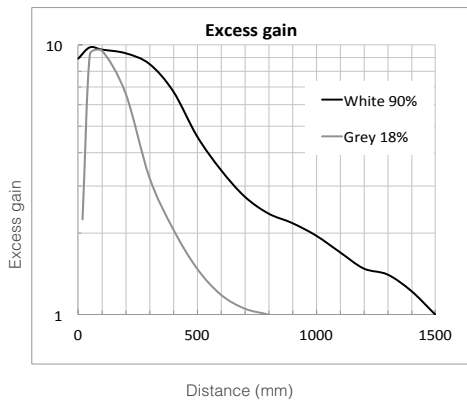
QMI7/0⁺-0⁺⁺⁺



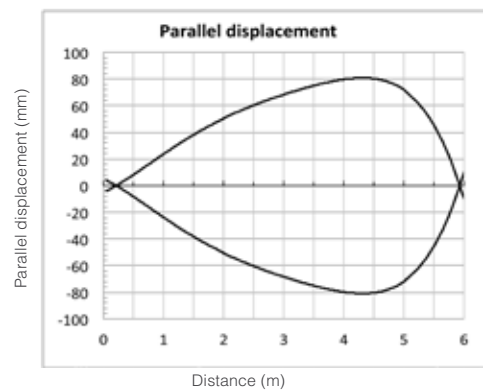
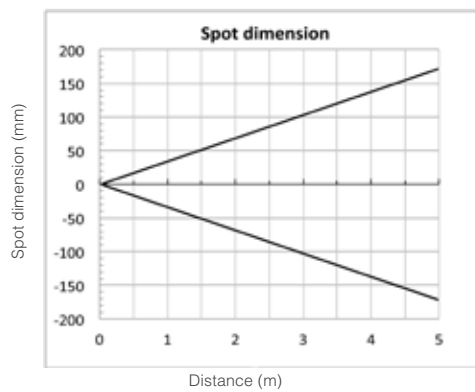
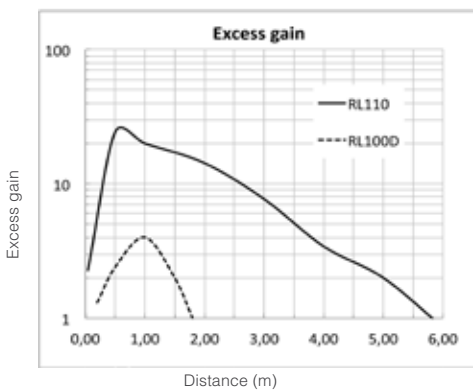
QMR8/0*-0***



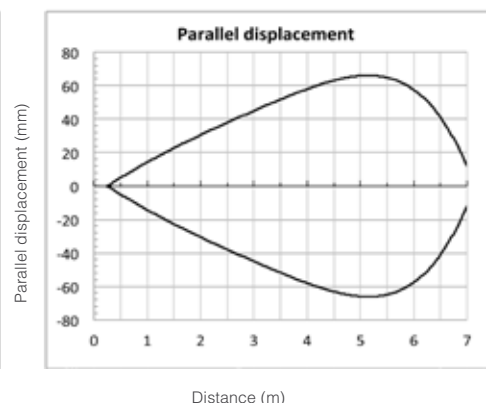
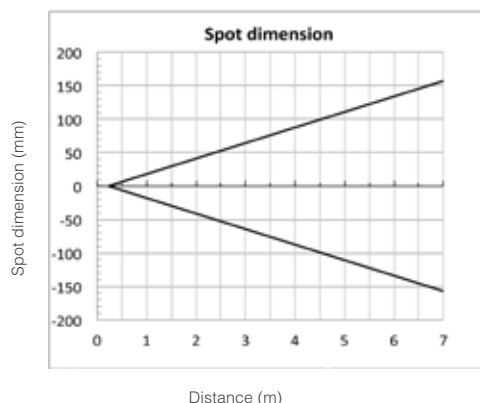
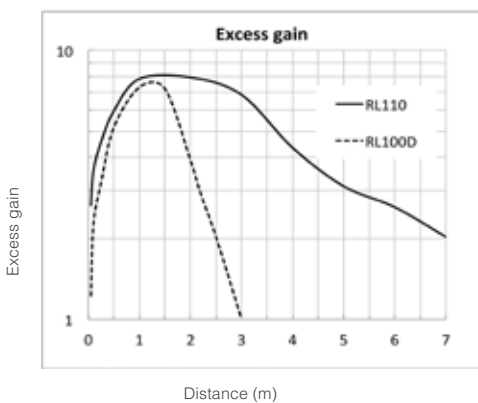
QMI9/0*-0***



QMRN/0*-0***



QMIC/0*-0***

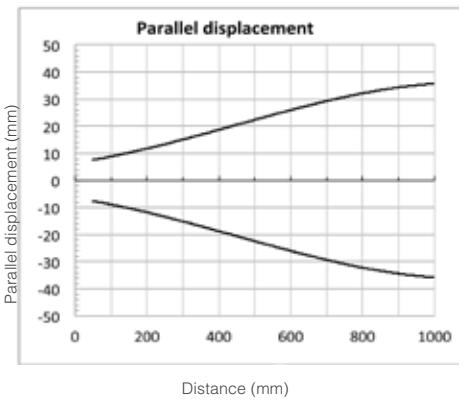
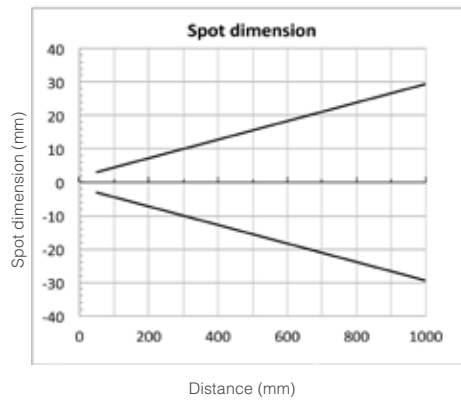
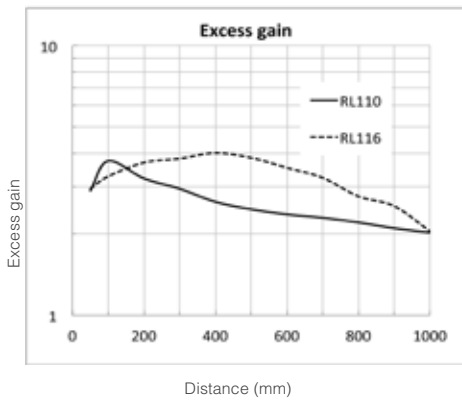




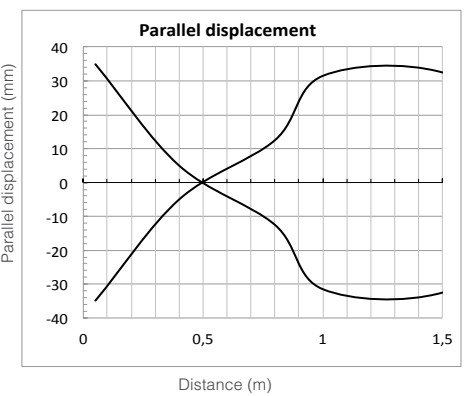
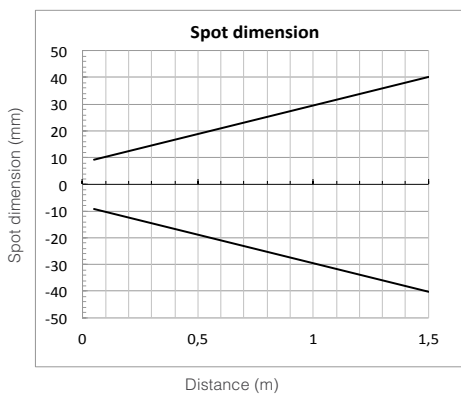
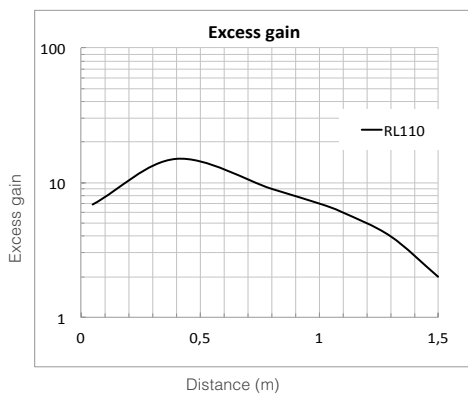
Products

QM
cubic

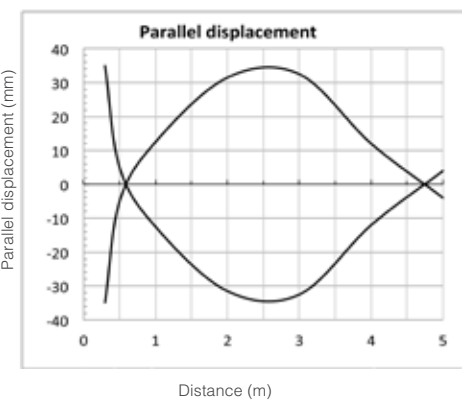
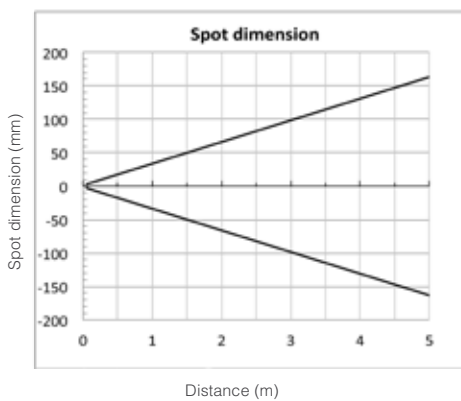
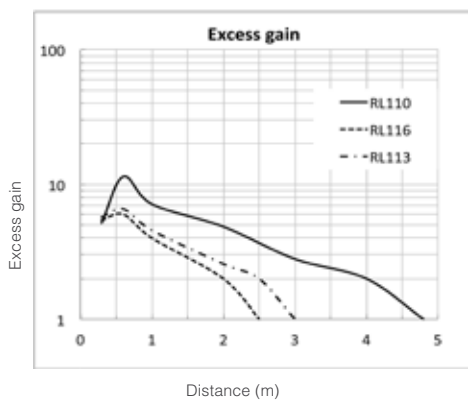
QMIG/0°-0***

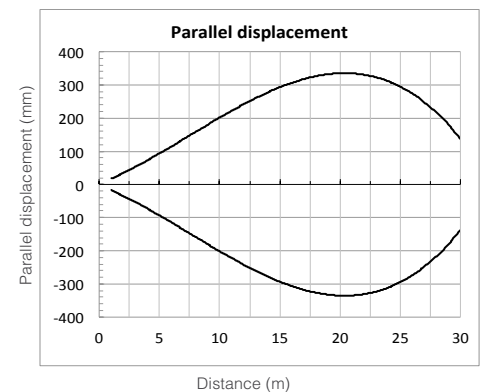
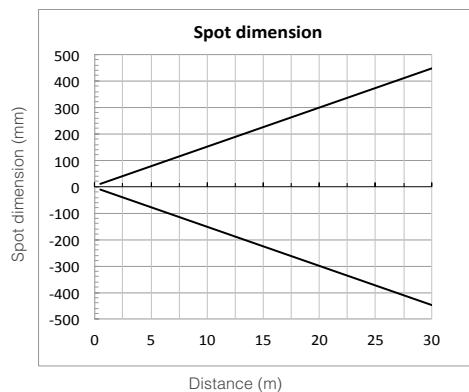
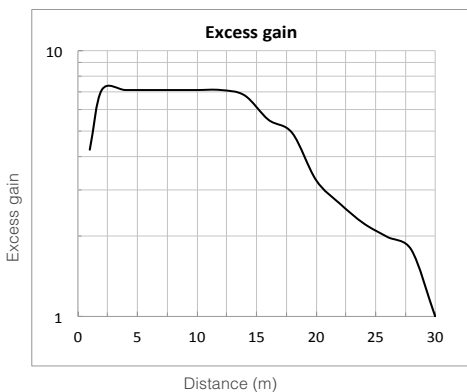
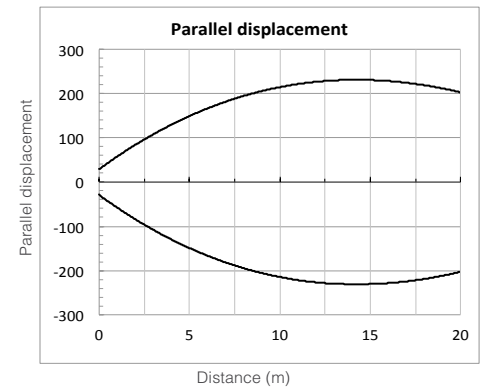
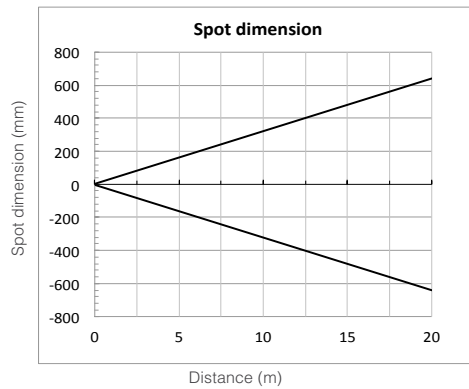
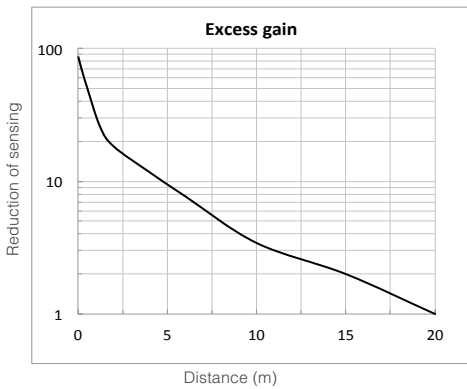
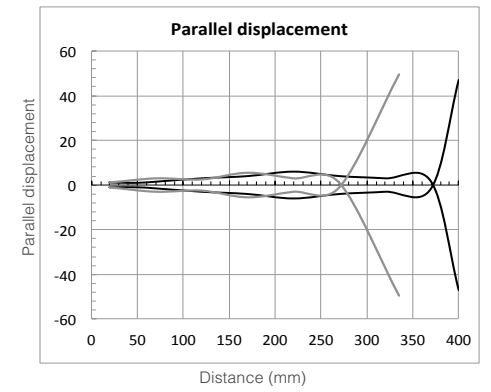
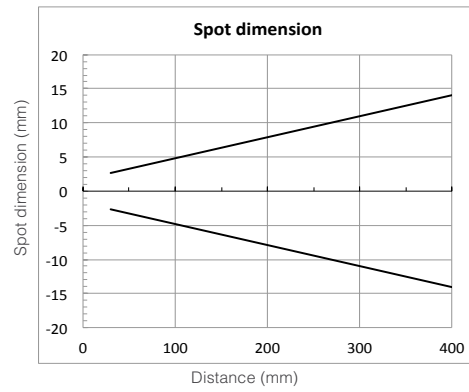
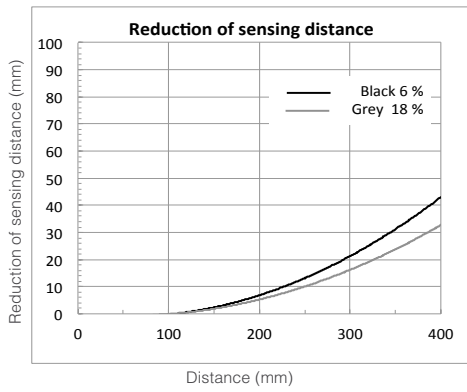
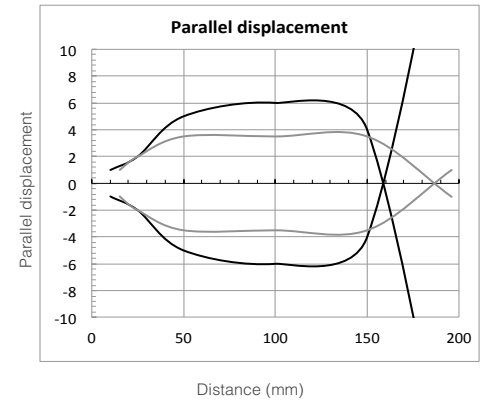
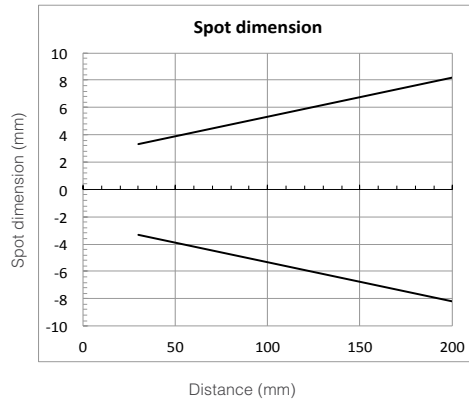
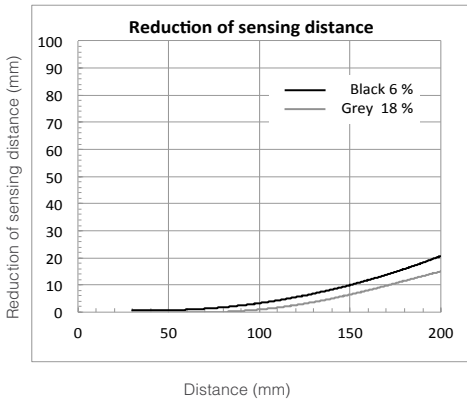


QMRG/0°-0***



QMRL/0°-0***







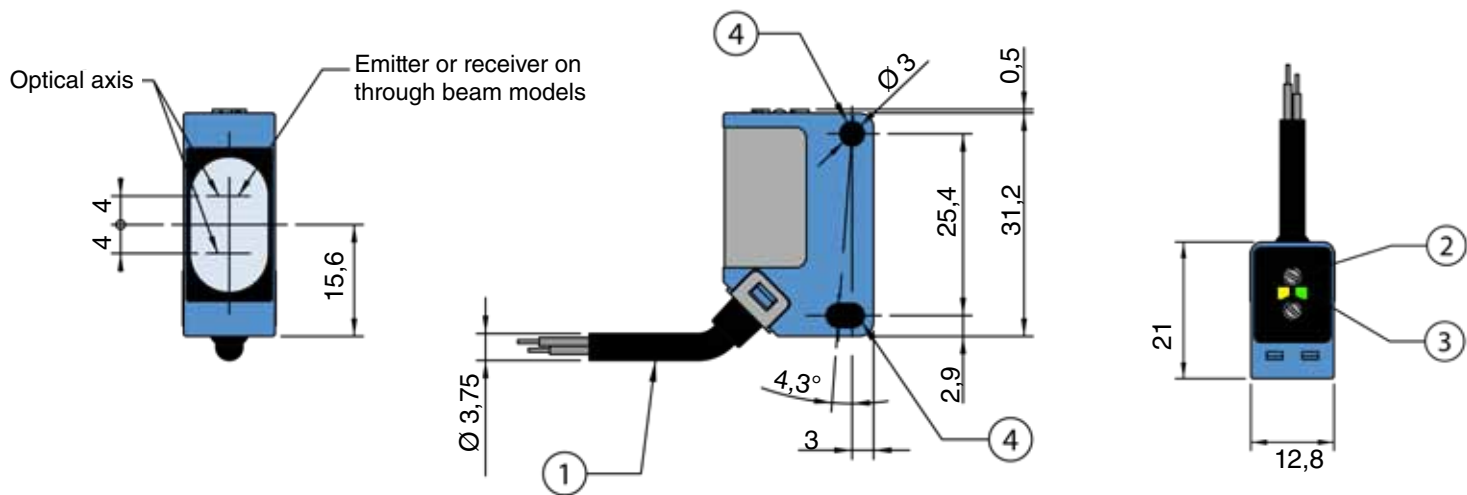
Products

QM
cubic

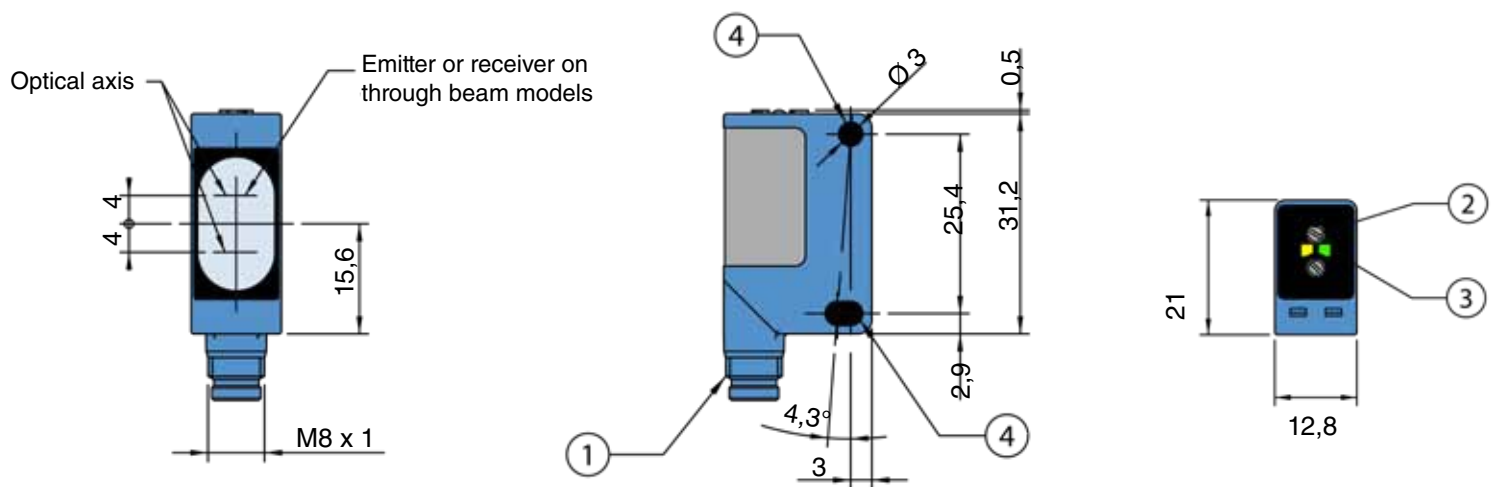
dimensions

- ① Cable exit
 ② Trimmer
 ③ Led
 ④ Mounting holes

Cable exit QM

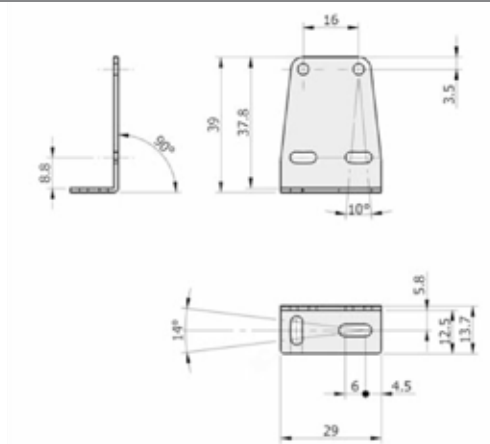


Connector exit QM

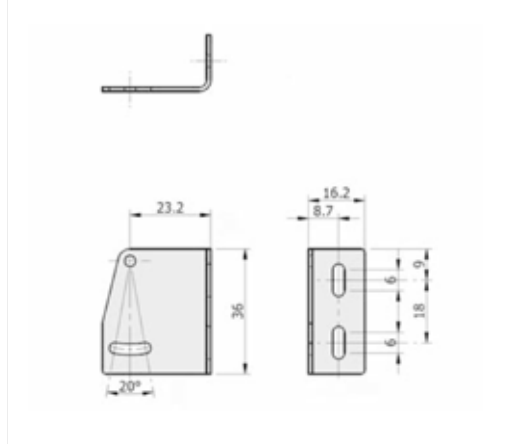


model	description
ST 101	L vertical mounting bracket
ST 102	L side mounting bracket
ST 103	vertical mounting bracket with protective cover
ST 104	horizontal mounting bracket with protective cover
STQM0	vertical and horizontal shutters
STQMS	screws - nuts - lockwashers

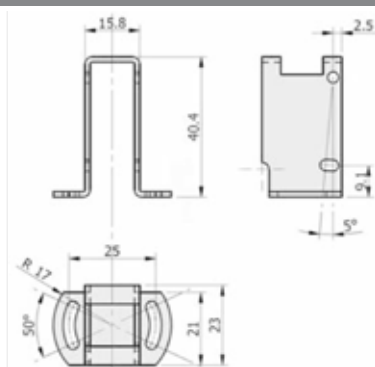
ST 101



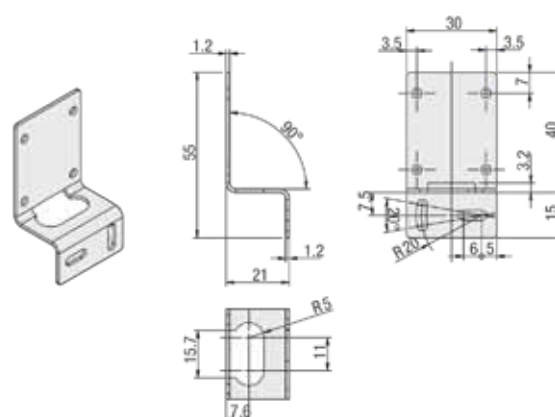
ST 102



ST 103⁽¹⁾



ST 104⁽¹⁾



STQM0



Vertical and horizontal diaphragms (0.5 - 1.2)
Packing units 2

Dia.	0,5	1	2
Sn (EG=1)	1,5 m	2 m	4,5 m
Sn (EG=2)	1 m	1,5 m	4 m
Min Ø	0,8 mm	1,5 mm	2,5 mm

STQMS⁽²⁾



20 Cross-slotted screw M3x20
20 Hexagon nuts M3
20 Lockwashers Ø3

⁽¹⁾ Can be used only for cable or pig-tail exit models

⁽²⁾ Components not present in standard sensors packaging