



# QM

## QMRL/0N-0F

**Photo.Min**,NPN-NO/NC,M8 plug,Reflex  
MINIATURIZED PHOTOELECTRIC SENSORS WITH HIGH  
PERFORMANCE

## OVERVIEW

- Cubic miniaturized photoelectric high-performance sensors with long sensing distance
- 2 kHz switching frequency, background suppression with mechanical adjustment
- Wide range of models: diffuse reflection with short, medium and long sensing distance, polarized, reflective for transparent objects, through-beam and background suppression
- Available with cable and M8 plug exit or with M8-M12 pig-tail
- Selectable LO/DO output state
- Completely filled with resin (except background suppression models)
- Complete protection against electrical damages



## TECHNICAL FEATURES

### Detection properties

Nominal sensing distance	4m
Thermal drift of Sr	$\leq 10\%$ Sr
Repeat Accuracy	5%
Sensitivity adjustment	Trimmer

Minimum sensing distance (blind zone)	0,4m
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#### Application

Function Principle	Transparent objects
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Notes	On RL110 reflector
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Optic position	Radial 90°
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#### Outputs

Output type	NPN L/D Selectable
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Output Function	L/D Selectable
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Switching frequency	1Khz
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Response time	500µs
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#### Electrical data

Operating Voltage	10...30VDC
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No-Load supply current	≤ 30mA
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Load current	≤100mA
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Leakage current	≤10µA
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Output voltage drop	≤2V@Iload=100mA
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Max ripple content	≤10%
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LED indicators	Yellow (status output), green (stability)
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Time delay before availability	≤200ms
Short-circuit protection	Yes
Reverse Polarity Protection	Yes
Emission	LED Red (630nm)
Interference to external light	3000lux (incandescent lamp), 10000lux (sunlight)
Impulsive Overvoltage Protection	Yes

#### Mechanical data

Dimensions	40,6x21x13mm
Housing material	PA66
Weight	10g
Connections	M8 plug 4pin
Active Head Material	PMMA
Tightening torque	1Nm
Operating temperature	- 25°C...+ 70° C (Without freeze)
Storage temperature	- 30°C...+ 80° C (Without freeze)
Diameter/Dimension	Cubic

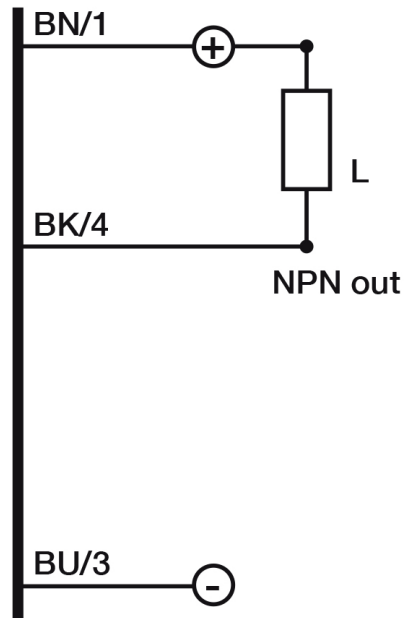
#### Test/Approvals

Approvals	CE cULus
EMC compatibility	EN 60947-5-2

Shocks and vibrations	Vibration IEC 60068-2-6 / Shock IEC 60068-2-27
Degree of protection	IP67
<b>Generical Data</b>	
Dimensions	40,6x21x13mm
Operating Temperature	- 25°C...+ 70°C (Without freeze)
Mechanical Protection	IP67

## CONNECTIONS

Electrical diagram

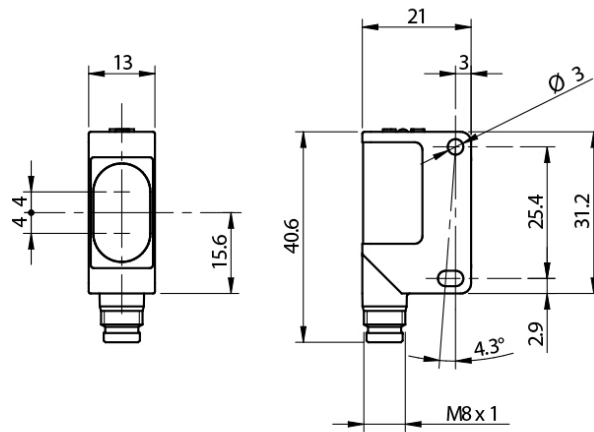


Connector

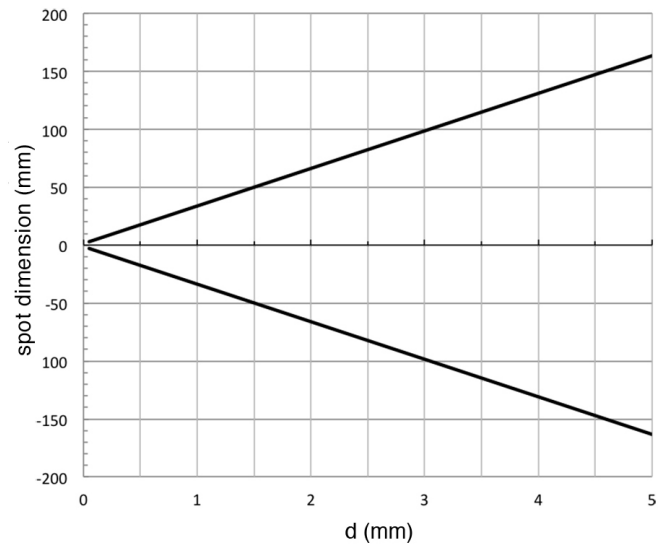


## OTHERS

### Dimensions



### Response curves



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**date of  
printing**  
13/06/2026  
11:42:53