QMT42 Series Long-Range Diffuse Sensors

Datasheet

Adjustable sensing distance up to 6 meters (20 inches)



- Powerful, collimated infrared light source and special lensing for reliable long-range detection of even the darkest objects
- Low-cost, compact, rugged sensors in metal die-cast housings
- Leakproof IP67 (NEMA 6) construction for reliable sensing in harsh environments
- Outstanding electrical noise immunity
- Dual LED system indicates sensor performance
- Choice of unterminated cable or quick-disconnect connector

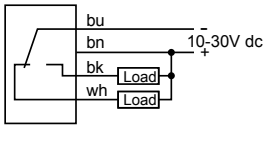
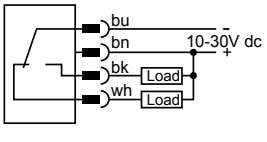
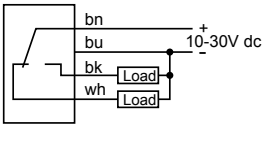
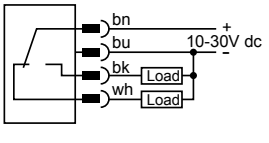
WARNING: Not To Be Used for Personnel Protection

Never use this device as a sensing device for personnel protection. Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Models

Models	Range	Cable	Supply Voltage	Output Type
QMT42VN6DX	10 mm (0.4 in) to 6 m (20 ft)	2 m (6.5 ft)	10 V dc to 30 V dc	NPN
QMT42VN6DXQ		4-pin Euro QD		
QMT42VP6DX		2 m (6.5 ft)		PNP
QMT42VP6DXQ		4-pin Euro QD		

Wiring

Sensors with NPN Outputs		Sensors with PNP Outputs	
Cabled Models	Quick-Disconnect Models	Cabled Models	Quick-Disconnect Models
			

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Specifications

Sensing Beam
Infrared, 880 nm

Supply Voltage and Current
10 to 30 V dc (10% max. ripple) at less than 40 mA

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

Output Configuration
SPDT (complementary) solid-state dc switch; choose NPN or PNP models
Light operate: N.O. output conducts when the sensor sees its own modulated light
Dark operate: N.C. output conducts when the sensor sees dark

Output Rating
100 mA maximum (each output)
OFF-state leakage current: < 5 microamps at 30 V dc
ON-state saturation voltage: < 1 V at 10 mA dc; < 1.5 V at 100 mA dc

Output Protection Circuitry
Protected against false pulse on power-up and continuous overload or short-circuit of outputs
Overload trip point ≥ 130 mA, typical, at 20 ºC

Output Response Time
1 millisecond on and off

NOTE: 100 millisecond delay on power-up; outputs are non-conducting during this time

Repeatability of Response
250 microseconds

Sensing Hysteresis
Less than 20% of set sensing distance

Adjustments
4-turn slotted Gain (sensitivity) adjustment potentiometer (clutched at both ends of travel)

Range
10 mm (0.4 in) to 6 m (20 ft)

Indicators
Two LEDs: Green and Amber
Green on steady = power to sensor is ON
Green flashing = output is overloaded
Amber on steady = light is sensed; normally open output ON
Amber flashing = marginal excess gain (1-1.5x) in light condition

Construction
Housings are die-cast zinc alloy with black acrylic polyurethane finish; lenses are acrylic

Environmental Rating
IEC IP67
NEMA 6

Connections
2 m (6.5 ft) or 9 m (30 ft) attached cable, or 4-pin M12/Euro-style quick-disconnect fitting; cables for QD models are purchased separately

Operating Conditions
−20 °C to +55 °C (−4 °F to +131°F)
90% at +50 °C maximum relative humidity (non-condensing)

Certification
CE

Performance

The performance is based on a 90% reflective white test card.

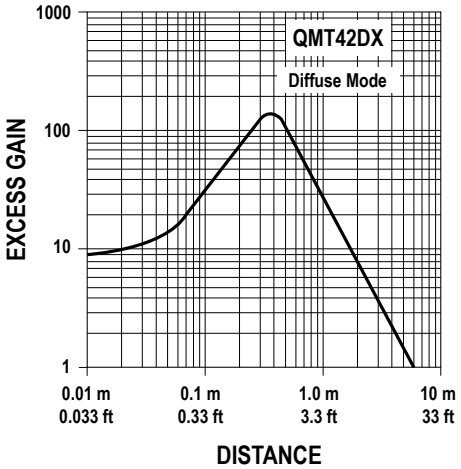


Figure 1. Excess Gain

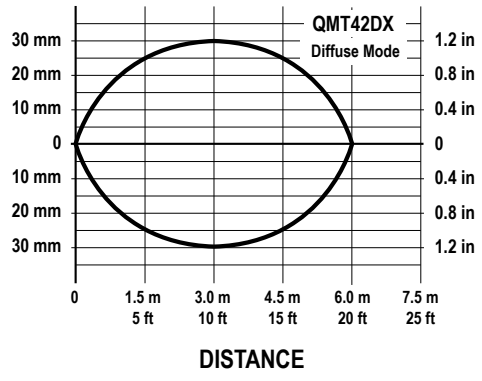


Figure 2. Beam Pattern

Dimensions

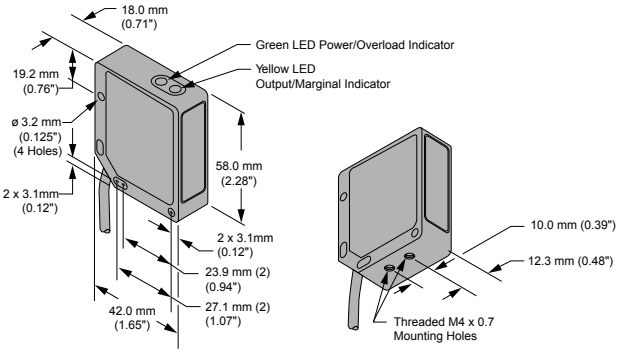


Figure 3. Cabled Models

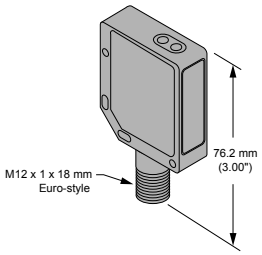


Figure 4. Quick-Disconnect Models

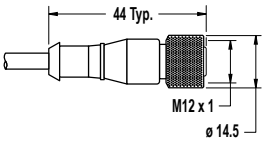
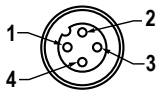
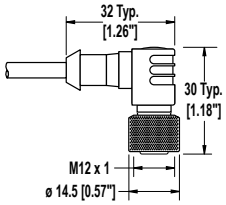


Figure 5. Sensitivity Control

All measurements are listed in millimeters (inches), unless noted otherwise.

Accessories

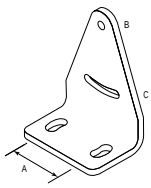
Quick-Disconnect (QD) Cables

4-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	1.83 m (6 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			
MQDC-406RA	1.83 m (6 ft)	Right-Angle		
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

Mounting Brackets

SMB42T

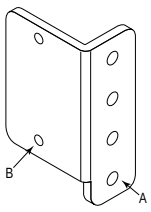
- Stainless steel 2-axis side-mounting bracket
- Nut strap included for replacing two M3 mounting nuts



Hole center spacing: A = 20.3, B to C = 24.1
Hole size: A = ø 4.3 × 20°, B = ø 3.0, C = ø 3.0 × 30°

SMB42L

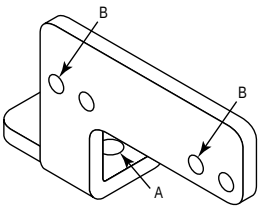
- 13-ga. stainless steel
- Hardware included



Hole center spacing: A = 10.0, B = 25.4
Hole size: A = ø 3.4, B = ø 2.5

SMB42F

- 13-ga. stainless steel
- Hardware included

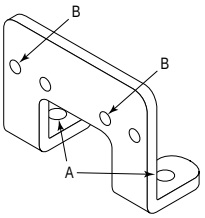


Hole center spacing: A = 10.0, B = 25.4

Hole size: A = ø 3.4, B = ø 2.5

SMB42U

- 13-ga. stainless steel
- Hardware included



Hole center spacing: A = 30.0, B = 25.4

Hole size: A = ø 3.4, B = ø 2.5

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