



QMT42 Right-Angle Sensor with Mounting Versatility

The QMT42 has a robust housing and is an ideal replacement for hundreds of other sensor styles. It is available in three modes with a compact housing for limited space setups.

- Versatile sensor with several mounting options
- Meets IP67 and NEMA 6 standards for harsh environment
- Universal housing design
- All-purpose, go-to sensor for many application needs
- Cordsets and brackets see page 151

Diffuse QMT42, 10-30 V DC

Infrared LED

| Sensing Mode | Range | Connection | Models NPN | Models PNP |
|--------------|-------------|---------------|-------------|-------------|
| DIFFUSE | 10 mm - 6 m | 2 m | QMT42VN6DX | QMT42VP6DX |
| | | 4-Pin Euro QD | QMT42VN6DXQ | QMT42VP6DXQ |

Fixed-Field QMT42, 10-30 V DC

Infrared LED

| Sensing Mode | Range | Connection | Models NPN | Models PNP |
|-----------------|------------------------|---------------|-----------------|-----------------|
| FIXED-FIELD | 50 - 500 mm Cutoff | 2 m | QMT42VN6FF500 | QMT42VP6FF500 |
| | | 4-Pin Euro QD | QMT42VN6FF500Q | QMT42VP6FF500Q |
| | 50 - 750 mm Cutoff | 2 m | QMT42VN6FF750 | QMT42VP6FF750 |
| | | 4-Pin Euro QD | QMT42VN6FF750Q | QMT42VP6FF750Q |
| | 50 - 1000 mm Cutoff | 2 m | QMT42VN6FF1000 | QMT42VP6FF1000 |
| | | 4-Pin Euro QD | QMT42VN6FF1000Q | QMT42VP6FF1000Q |
| | 50 - 1500 mm Cutoff | 2 m | QMT42VN6FF1500 | QMT42VP6FF1500 |
| | | 4-Pin Euro QD | QMT42VN6FF1500Q | QMT42VP6FF1500Q |
| | 50 - 2000 mm Cutoff | 2 m | QMT42VN6FF2000 | QMT42VP6FF2000 |
| | | 4-Pin Euro QD | QMT42VN6FF2000Q | QMT42VP6FF2000Q |

Adjustable-Field QMT42, 10-30 V DC

Visible Red LED

| Sensing Mode | Range | Connection | Models NPN | Models PNP |
|------------------------------------|--|---------------|-----------------|-----------------|
| LONG RANGE ADJUSTABLE-FIELD | 25 mm to Cutoff point (adjustable from 125 to 400 mm) | 2 m | QMT42VN6AFV400 | QMT42VP6AFV400 |
| | | 4-Pin Euro QD | QMT42VN6AFV400Q | QMT42VP6AFV400Q |

For more specifications see page 152.







Connection options: A model with a QD requires a mating cordset (see page 151).


For 9 m cable, add suffix **W/30** to the 2 m model number (example, **QM42VN6LP W/30**).

Cordsets

Euro QD (for Q models)

See page 906

| Length | Threaded 4-Pin | |
|--------|--|--|
| | Straight | Right-Angle |
| 1.83 m |  MQDC-406 |  MQDC-406RA |
| 4.57 m |  MQDC-415 |  MQDC-415RA |
| 9.14 m |  MQDC-430 |  MQDC-430RA |

 Additional cordset information available. See page 902.

Brackets


Q25

See page 866

See page 868

See page 868

| SMB30SK | SMB46S | SMB46L |
|---|---|---|
|  |  |  |

 Additional brackets and information available. See page 852.

Other Accessories

Reflectors

See page 932




Apertures

See page 958



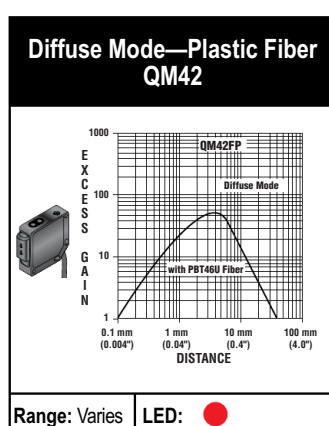
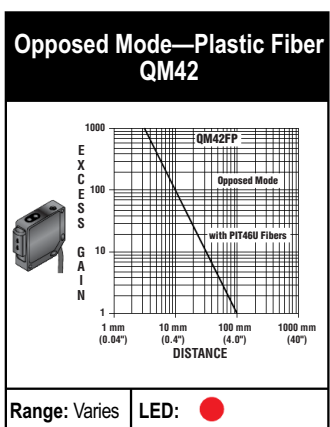
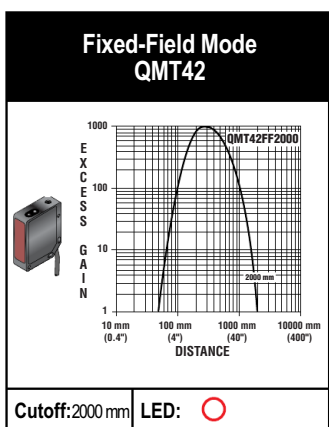
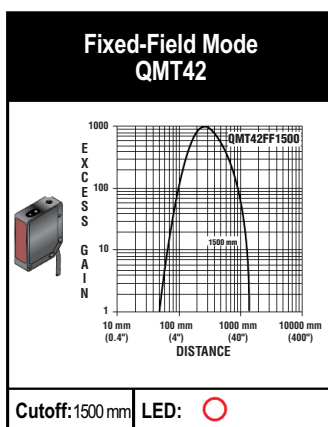
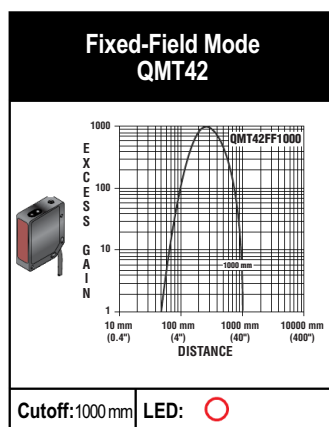
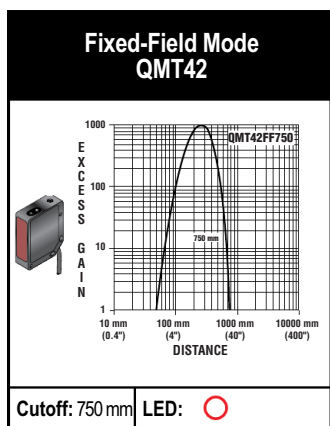
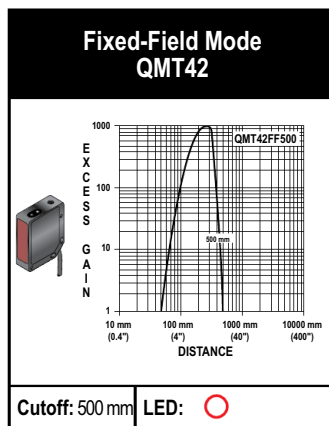
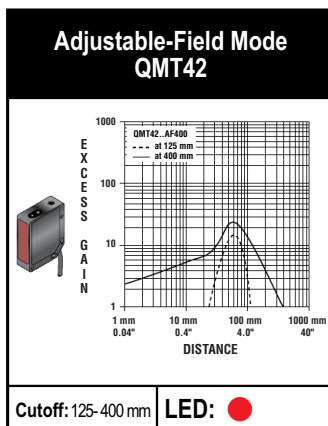
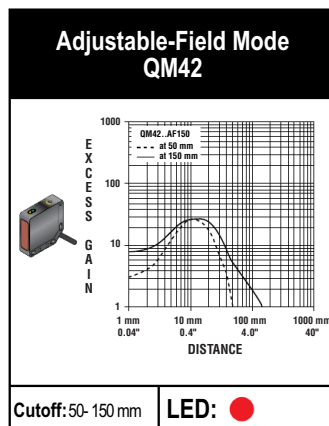
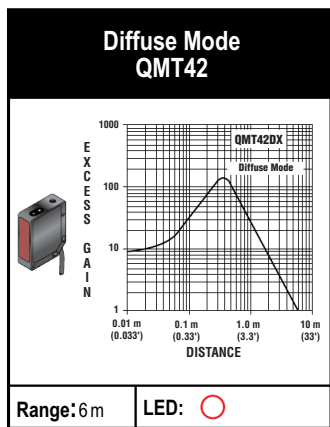
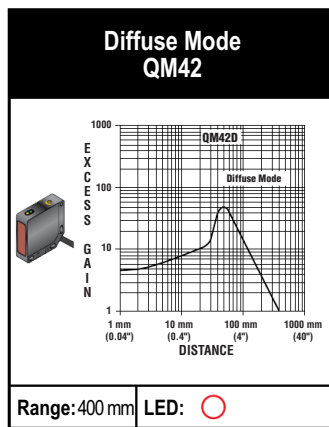
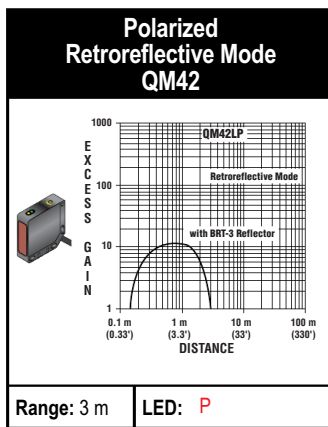
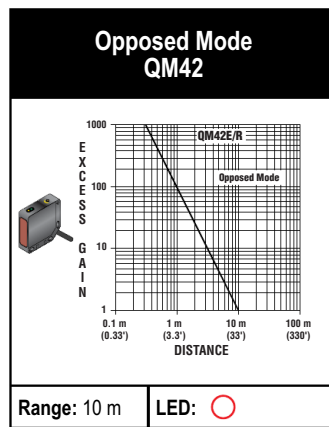
QMT42 Long-range Diffuse,
Fixed-Field and Adjustable-Field Model
Suffix DX, FF and AFV400

QM42 and QMT42 Specifications

| | |
|-----------------------------|---|
| Sensing Beam | Opposed, Diffuse, Retroreflective, Fixed-Field and Fiber Optic: Infrared, 880 nm; Visible Red, 660 nm Adjustable-Field: Visible Red, 680 nm |
| Supply Voltage and Current | 10 to 30 V dc (10% max. ripple) at less than: Opposed: 30 mA (emitter), 10 mA (receiver) Short-range diffuse and retroreflective: 20 mA Fiber optic: 30 mA Adjustable-Field: 50 mA Fixed-Field and long-range diffuse: 40 mA |
| Supply Protection Circuitry | Protected against reverse polarity and transient voltages |
| Output Configuration | Solid-state complementary; choose NPN (current sinking) or PNP (current sourcing) models |
| Output Rating | 100 mA max. (each output) OFF-state leakage current: less than 5 μ A at 30 V dc ON-state saturation voltage: less than 1 V at 10 mA dc; less than 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 \geq 150 mA, typical at 20° C |
| Output Response Time | Opposed: 1 millisecond ON; 0.5 millisecond OFF Diffuse, Retroreflective, Adjustable-Field and Fixed-Field: 1 millisecond ON/OFF Plastic Fiber Optic: 0.25 millisecond ON/OFF |
| Delay at Power-up | 100 milliseconds; outputs are non-conducting during this time |
| Repeatability | Opposed: 120 microseconds Diffuse, Retroreflective, Adjustable-Field and Fixed-Field: 250 microseconds Fiber Optic: 60 microseconds. Repeatability and response are independent of signal strength |
| Sensing Hysteresis | Long-range diffuse: less than 20% of set sensing distance Adjustable-Field: less than 7% of set cutoff distance Fixed-Field: 2000 mm models – less than 5% of set cutoff distance 1500 mm models – less than 4% of set cutoff distance 1000 mm models – less than 3% of set cutoff distance 750 mm models – less than 2% of set cutoff distance 500 mm models – less than 1% of set cutoff distance |
| Cutoff Point Tolerance | Fixed-Field: \pm 10% of nominal cutoff distance |
| Adjustments | All models (except emitters, Adjustable-Field, Fixed-Field and Long-range Diffuse): 15-turn slotted brass GAIN (sensitivity) adjustment potentiometer 150 mm Adjustable-Field: 12-turn slotted brass cutoff distance adjustment potentiometer 400 mm Adjustable-Field: 15-turn slotted brass cutoff distance adjustment potentiometer Long-range diffuse: 4-turn slotted GAIN (sensitivity) adjustment potentiometer Fixed-Field: No adjustments See datasheet for detailed information |
| Indicators | Two LEDs: Green and Yellow Solid Green: Power ON; Opposed emitters: Green power ON Solid Yellow: Light sensed; Light Operate (LO) See datasheet for detailed information Green Flashing: output overloaded Yellow Flashing: marginal excess gain |
| Construction | Housings are die-cast zinc alloy with black acrylic polyurethane finish; lenses are acrylic |
| Environmental Rating | IP67; NEMA 6 |
| Connections | 2 m or 9 m attached cable, or 4-pin Euro-style quick-disconnect fitting. QD cordsets are ordered separately. See page 151. |
| Operating Conditions | Temperature: Long-range Diffuse, Adjustable-Field and Fixed-Field: -20° to +55° C All others: -20° to +70° C Relative humidity: 90% at 50° C (non-condensing) |
| Certifications |  |

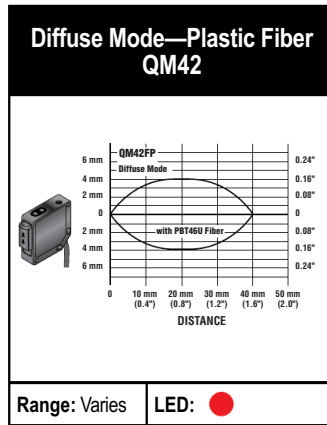
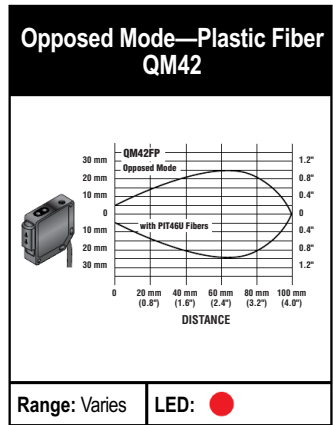
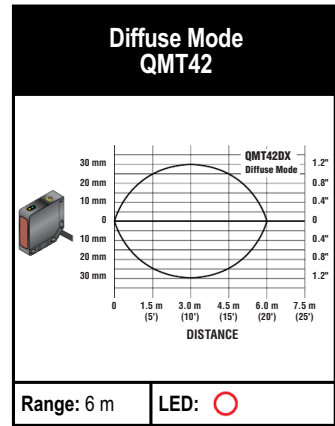
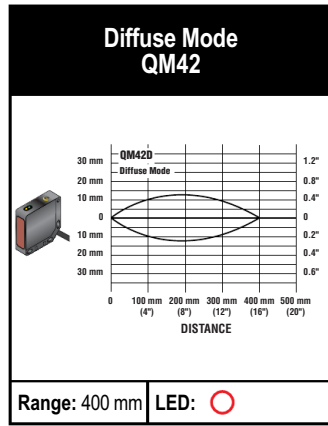
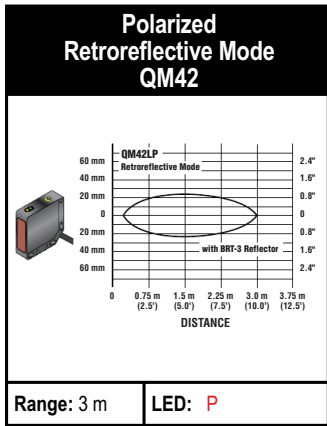
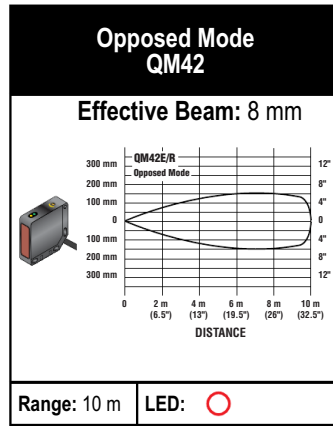
Excess Gain Curves (Diffuse, Adjustable-Field and Fixed-Field mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED P = Visible Red LED Polarized



Beam Patterns (Diffuse mode performance based on 90% reflectance white test card)

○ = Infrared LED ● = Visible Red LED P = Visible Red LED Polarized



Cutoff Point Deviations

