QM26 and QMH26 Series Sensor Product Manual

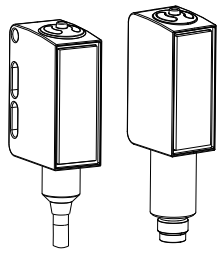
Original Instructions
p/n: 166534 Rev F
20-Apr-26

Contents

Chapter Contents

Chapter 1 Features

Stainless steel and hygienic stainless steel sensors for washdown and chemical compatibility



- **QM26:** Washdown rated with convenient 25.4 mm (1 in) mounting spacing and 3 mm (0.125 in) mounting hardware
- **QMH26:** Hygienic shape for superior cleaning performance
- Made from FDA compliant materials for worry-free use in food and pharmaceutical applications
- Chemically resistant, non-toxic 316L stainless steel housing
- Acrylic optical window with coating for resistance to hydrogen peroxide and alcohol
- IP69K rated for use in harsh 1500 psi washdown environments at 80° C (176° F)
- Withstands environmental temperature cycling from –30° to +60° C (–22° to +140° F)
- Sealed housing and smooth joints minimize cleaning time and reduce bacterial accumulation
- Sensor marking is chemically etched into the housing for long-lasting identification and to eliminate food contamination
- Push buttons and light pipes are overmolded to reduce crevices and provide excellent cleaning and sealing results
- High performance coaxial polarized retroreflective models for clear or transparent bottle and film detection
- Excellent background suppression performance with advanced ambient light suppression
- Bright, visible red light spot on adjustable background suppression models makes alignment easy
- Models have a hygienic design for easy cleaning and sanitizing

WARNING:

- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

QM26 Models

Stainless steel sensors for washdown and chemical compatibility

Model	Mode	Range	Output	Connector
QM26E-5M	Emitter	8.5 m (27.8 ft)	NA	5 m (16.25 ft) cable, 4 wire
QM26EQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VNR-5M	Receiver		Complementary NPN	5 m (16.25 ft) cable, 4 wire

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Model	Mode	Range	Output	Connector
QM26VNRQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VPR-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QM26VPRQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VNLP-5M	Polarized Retroreflective	3 m (9.8 ft) with BRT-60X40C	Complementary NPN	5 m (16.25 ft) cable, 4 wire
QM26VNLPQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VPLP-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QM26VPLPQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26ENXLPC-5M	*Expert*™ Coaxial Polarized Retroreflective	2.6 m (8.5 ft) with BRT-60X40C	NPN	5 m (16.25 ft) cable, 4 wire
QM26ENXLPCQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26EPXLPC-5M			PNP	5 m (16.25 ft) cable, 4 wire
QM26EPXLPCQ5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VNAF400-5M	Adjustable Field Background Suppression	5 to 400 mm (0.2 in to 15.7 in)	Complementary NPN	5 m (16.25 ft) cable, 4 wire
QM26VNAF400Q5				200 mm (7.5 in) PVC pigtail, M12 QD connector, 4-pin
QM26VPAF400-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QM26VPAF400Q5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VNAF200Q5	Adjustable Field Background Suppression (small light spot)	5 to 200 mm (0.2 in to 7.85 in)	Complementary NPN	200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector
QM26VPAF200-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QM26VPAF200Q5				200 mm (7.5 in) PVC cable with a 4-pin M12 QD connector

The following models are no longer available for order but are still covered by the information in this document.

Inactive models

Model	Sensing Mode	Range	Output	Connector
QM26VNAF200-5M	Adjustable Field Background Suppression (small light spot)	5 to 200 mm (0.2 in to 7.85 in)		5 m (16.25 ft) cable, 4 wire

QMH26 Models

Hygienic stainless steel sensors for washdown and chemical compatibility

Model	Sensing Mode	Range	Output	Connector
QMH26VNLP-5M	Polarized Retroreflective	3m (9.8 ft) with BRT-60X40C	Complementary NPN	5 m (16.25 ft) cable, 4 wire

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Model	Sensing Mode	Range	Output	Connector
QMH26VNLPQ7				M8 QD connector, 4-pin
QMH26VPLP-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QMH26VPLPQ7				M8 QD connector, 4-pin
QMH26ENXLPC-5M	*Expert*™ Coaxial Polarized Retroreflective	2.6 m (8.5 ft) with BRT-60X40C	NPN	5 m (16.25 ft) cable, 4 wire
QMH26ENXLPCQ7				M8 QD connector, 4-pin
QMH26EPXLPC-5M			PNP	5 m (16.25 ft) cable, 4 wire
QMH26EPXLPCQ7				M8 QD connector, 4-pin
QMH26VNAF400-5M	Adjustable Field Background Suppression	5 to 400 mm (0.2 in to 15.7 in)	Complementary NPN	5 m (16.25 ft) cable, 4 wire
QMH26VPAF400Q7			Complementary PNP	M8 QD connector, 4-pin
QMH26VNAF200Q7	Adjustable Field Background Suppression (small light spot)	5 to 200 mm (0.2 in to 7.85 in)	Complementary NPN	M8 QD connector, 4-pin
QMH26VPAF200-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QMH26VPAF200Q7				M8 QD connector, 4-pin

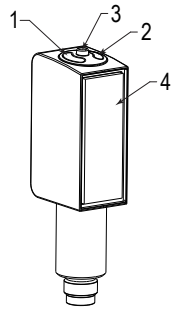
The following models are no longer available for order but are still covered by the information in this document.

Inactive models

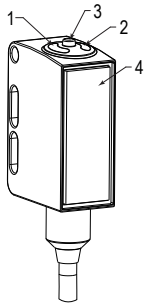
Model	Sensing Mode	Range	Output	Connector
QMH26VNAF400Q7	Adjustable Field Background Suppression	5 to 400 mm (0.2 in to 15.7 in)	Complementary NPN	M8 QD connector, 4-pin
QMH26VPAF400-5M			Complementary PNP	5 m (16.25 ft) cable, 4 wire
QMH26VNAF200-5M	Adjustable Field Background Suppression (small light spot)	5 to 200 mm (0.2 in to 7.85 in)	Complementary NPN	5 m (16.25 ft) cable, 4 wire

QMx26 Overview

QMH26



QM26



Key

1. Green Indicator
2. Amber Indicator
3. Push Button
   Adjustment Screw/Potentiometer (not shown)—AFxxx models
4. Optical Window

Specifications

Supply Voltage and Current

10 to 30 V DC (10% maximum ripple within specified limits); supply current (exclusive of load current) < 20 mA

For UL applications: For use in class 2 circuits only.

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

XLPC models: Single PNP or NPN on pin 4 (black wire) with remote input on pin 2 (white wire)

All other models: Complementary PNP or NPN by model number

Output Response Time

500 µs

Repeatability

QM26—Opposed Models: 110 µs

All other models: 150 µs

Indicators

Green on: Power ON and sensor ready

Amber on: Light sensed

Amber flashing (XLPC models): Light sensed but marginal signal

Output Rating

100 mA per output

Off-state leakage current for load = 1500 Ω:

NPN: < 200 µA

PNP: < 500 µA

ON-state saturation voltage: < 2 V at 100 mA

Output Protection Circuitry

Protected against false pulse at power up, and overload or short circuit of outputs

Emitter LED Wavelength

AF200 models: 660 nm

All other models: 620 nm

Construction

Housing: 316L stainless steel

Optical Window: Coated acrylic (PMMA)

Indicator and buttons: TPV - PE

Connection

4-wire 5 m (16.25 ft) cable or a 200 mm (7.5 in) PVC cable with a 4-pin M12 quick disconnect connector, depending on model

Banner recommends using the 4-Pin M12 Washdown, Stainless Steel cordsets listed in the *Accessories* section.

> **NOTE:** These proximity switches shall be used with UL Listed Cable assemblies rated 30 V, 0.24 A minimum, in the field installation.

Delay Before Power-Up

< 300 ms

Adjustments

QM26 Emitter—Beam Enable: Connect black wire to +V dc to activate emitter LED

AFxxx models—Adjustment Screw: Sets background suppression distance

XLPC models—Push Button: User set up

XLPC models—Remote Input Wire: Remote PLC set up and push button lock out

Environmental Rating

IP67 and IP69K per ISO 20653

Chemical Compatibility

ECOLAB® certified

Operating Conditions

Operating Temperature and Storage Temperature: –30 °C to +70 °C (–22 °F to +158 °F)

> **NOTE:** UL certified in the temperature range –30 °C to +55 °C (–22 °F to +131 °F).

Humidity: Periodic exposure to 100% humidity and washdown cleaning

Vibration and Shock

IEC60947-5-2

Certifications

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

with a class 2 power supply

Required Overcurrent Protection

> **WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

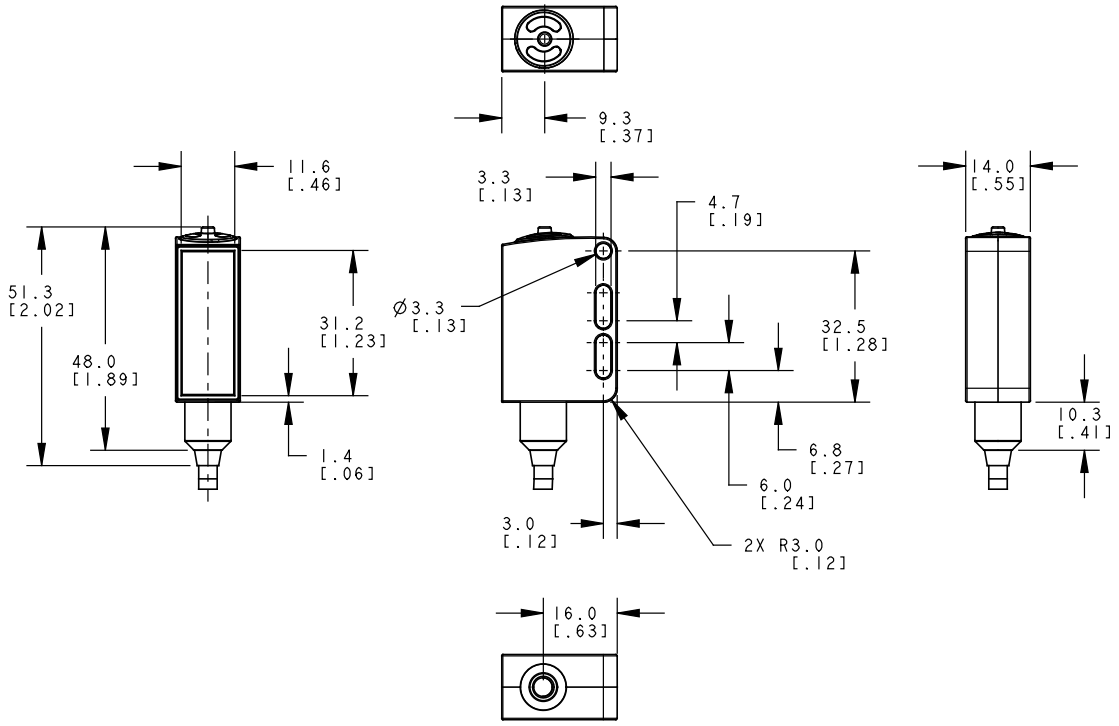
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

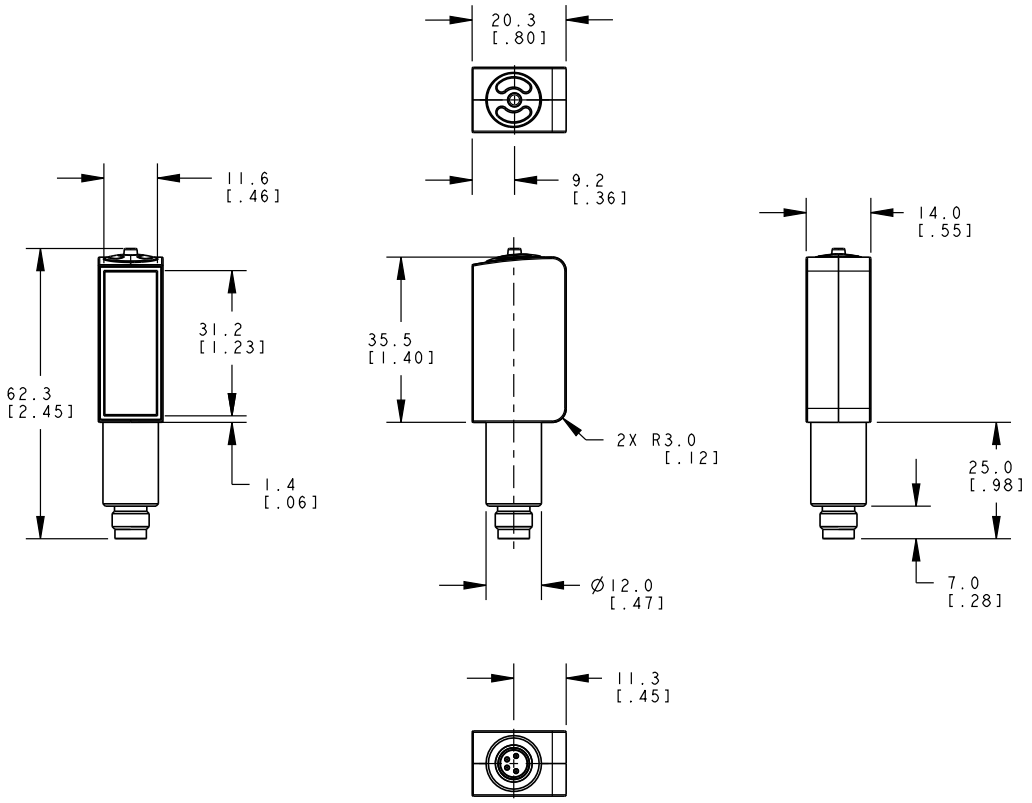
Supply Wiring (AWG)	Required Overcurrent Protection (A)	Supply Wiring (AWG)	Required Overcurrent Protection (A)
20	5.0	26	1.0
22	3.0	28	0.8
24	2.0	30	0.5

QM26 Dimensions



All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

QMH26 Dimensions



All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

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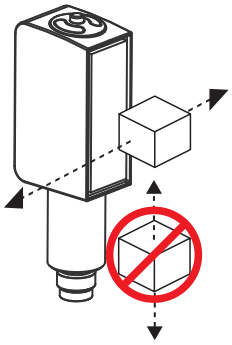
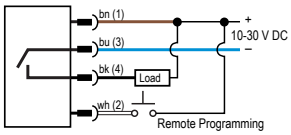
Chapter 2 Sensor Installation

Install the sensor so that the object to be detected moves horizontally to the sensor.

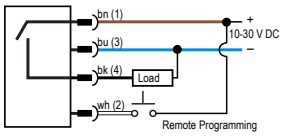


Wiring Diagrams

Expert™ NPN

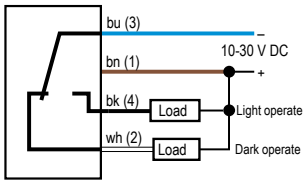


Expert™ PNP

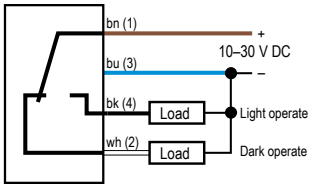


Wiring Key
1 = Brown
2 = White
3 = Blue
4 = Black

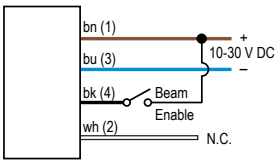
NPN



PNP



QM26 Emitters



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Chapter 3 Sensor Configuration

- Adjustable field background suppression models (AFxxx models) have an 8-turn adjustment screw (potentiometer) to set the background suppression distance.
- *Expert*™ coaxial polarized retroreflective models (XLPC models) are configurable using either the sealed push button or the remote input wire.
- Two-lens polarized retroreflective models (LP models) and opposed mode models require no user adjustments.

Sensor Setup - Background Suppression - AFxxx Models

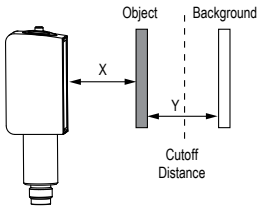
Background Suppression Mode: Objects beyond the set cutoff distance will not be detected.

Background suppression mode can be used in most situations with varying object colors and positions or with varying background conditions.

To ensure reliable background suppression, a minimum separation distance between the object and the background is necessary. See the *Minimum Separation Distance* figure in "Performance Curves" on page 15 to determine the minimum separation distance.

1. Mount the sensor with the darkest object at the longest application distance. The distance to the object must be less than shown in the *Minimum Separation Distance* figure in "Performance Curves" on page 15 for your object color.
2. Turn the adjustment potentiometer **counter-clockwise** until the amber indicator turns **off** (8 turns maximum).
3. Turn the adjustment potentiometer **clockwise** until the amber indicator turns **on**.
4. Replace the darkest object with the brightest background at the closest application distance.
5. Turn the adjustment potentiometer **clockwise**, counting the revolutions, until the amber indicator turns **on**.
6. Turn the adjustment potentiometer **counter-clockwise** half of the number of turns from step 5. This places the cutoff distance midway between the object and the background switchpoints. The sensor is ready for operation.

Set the cutoff distance approximately midway between the farthest object and the closest background



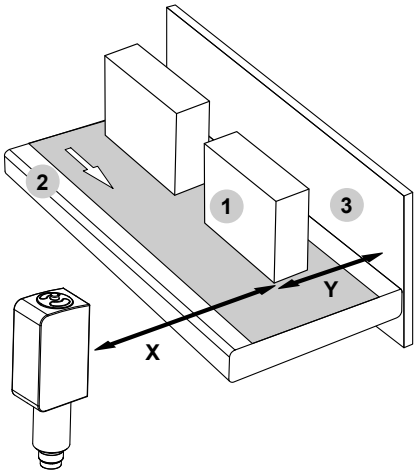
X: Distance to the Object

Y: Minimum Separation Between the Object and the Background

Sensor Setup Example

An object with a reflectivity similar to black paper is set 100 mm (3.9 in) away from the AF200 sensor. A background with a reflectivity similar to white paper is set away from the sensor. According to the *Minimum Separation Distance* figure in "Performance Curves" on page 15, the minimum separation distance between the object and the background is 24 mm (0.94 in). In this application, reliable detection is achieved when set up according to the procedure outlined in "Sensor Setup - Background Suppression - AFxxx Models" on page 10.

Background Suppression Mode Application Example



1. Object
2. Conveyor
3. Background

X: Distance to the Object = 100 mm (3.9 in)
Y: Minimum Separation Between the Object and the Background = 24 mm (0.94 in)

Remote Configuration—XLPC models

The remote input wire (pin 2/white wire) is used to lock the push button, select Light or Dark Operate, or perform the desired Light SET or Dark SET for the object. In contrast to other Banner Engineering sensors, the QM26 and QMH26 *Expert*™ coaxial polarized retroreflective sensors (XLPC models) use the duration between pull-high pulses on the remote input wire to both initiate the Light SET or Dark SET and to select the desired sensitivity simultaneously. See "Light SET for High Sensitivity" on page 12, "Light SET for Medium Sensitivity" on page 13, and "Dark SET for Maximum Operating Range" on page 13 for details.

NOTE: After the delay before startup has elapsed (≤ 300 ms), the remote input may be used.

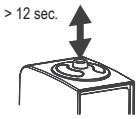
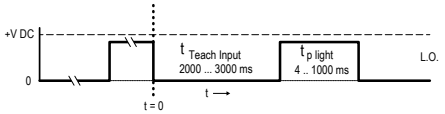
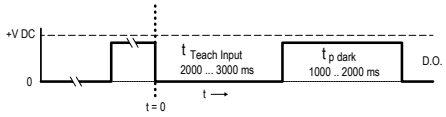
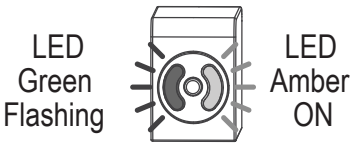
Push Button Lockout—XLPC Models

The remote input wire (pin 2/white wire) can be used to disable the sensor push button on the XLPC models to prevent unauthorized adjustment to the sensor. Connect the remote input wire (pin 2/white wire) of the sensor to the +V dc terminal to disable configuration adjustments using the push button.

Push Button	Remote Input Wire	Result
Not available	Connect the remote input wire to +V DC for 4 ms or longer.	The push button is disabled (locked).
Not available	Disconnect the remote input wire from +V DC.	The push button is enabled (unlocked).

Select Light Operate/Dark Operate—XLPC models

Change the sensor operation to light operate or dark operate for the desired application. Use either the button or the remote input wire procedure to configure the sensor.

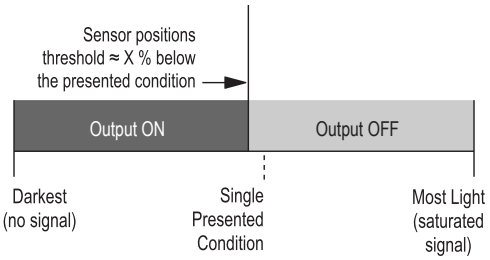
Push Button	Remote Input Wire	Result
Press and hold the button for longer than 12 s. Continue pressing the button until the desired operation is selected, then release the button. 	Pulse the remote input wire to +V DC, then pull the remote input wire to ground for 2000 to 3000 ms. **Light operate select:** Pulse the remote input wire to +V DC for 4 to 1000 ms, then pull the remote input wire to ground.  **Dark operate select:** Pulse the remote input wire to +V DC for 1000 to 2000 ms, then pull the remote input wire to ground. 	**Push button only:** The green LED flashes.  Amber LED ON = Light operate  Amber LED OFF = Dark operate  The sensor is configured for the desired mode and is ready.

Light SET—XLPC Models

A Light SET optimizes the sensor to provide reliable detection of various objects. For most applications, the factory default setting is appropriate. Perform the Light SET only if the desired object is not reliably detected. Stable mounting of both the sensor and the reflector is required for reliable detection.

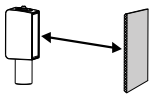
- High sensitivity (11% offset)—suitable for highly transparent bottles, thin films, and foils. See "Light SET for High Sensitivity" on page 12.
- Medium sensitivity (18% offset)—suitable for standard bottle types and translucent objects. See "Light SET for Medium Sensitivity" on page 13.

Light SET (Dark Operate Shown)



Light SET for High Sensitivity

Use High Sensitivity (11% sensitivity) for detecting highly transparent bottles, thin films, and foils with a thickness of more than 20 µm. Use either the button or the remote input wire procedure to configure the sensor.

Push Button	Remote Input Wire	Result
Clear the light path to the reflector.	Clear the light path to the reflector.	

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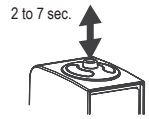
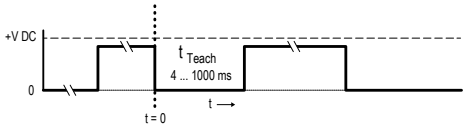
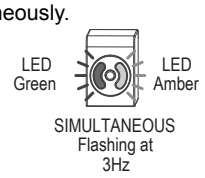
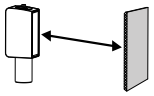
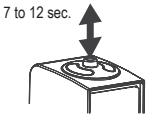
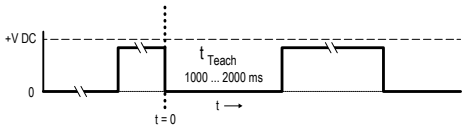
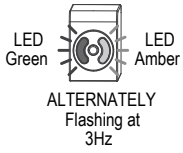
Push Button	Remote Input Wire	Result
Press the button for 2 to 7 seconds until the LEDs flash simultaneously, then release the button. 	Pulse the remote input wire to +V DC, then pull the remote input wire to ground for 4 to 1000 ms. Pulse the remote input wire to +V DC to complete the high sensitivity Light SET. 	**Push button only:** The green and amber LEDs flash simultaneously.  The sensor is configured for High Sensitivity and is ready for use.

Light SET for Medium Sensitivity

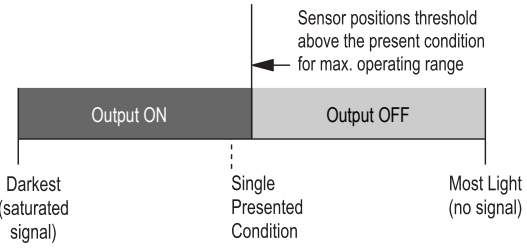
Use Medium Sensitivity (18% sensitivity) for detecting standard bottle types and translucent objects. Use either the button or the remote input wire procedure to configure the sensor.

Push Button	Remote Input Wire	Result
Clear the light path to the reflector.	Clear the light path to the reflector.	
Press the button for 7 to 12 seconds until the LEDs flash alternately, then release the button. 	Pulse the remote input wire to +V DC, then pull the remote input wire to ground for 1000 to 2000 ms. Pulse the remote input wire to +V DC to complete the medium sensitivity Light SET. 	**Push button only:** The green and amber LEDs flash alternately.  The sensor is configured for Medium Sensitivity and is ready for use.

Dark SET—XLPC Models

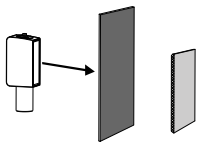
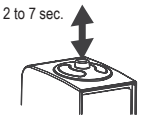
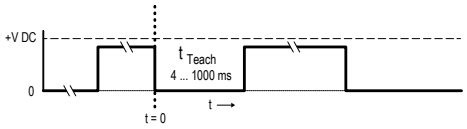
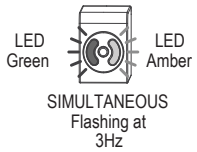
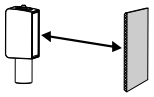
Dark SET (maximum operating range) is the factory default setting and provides maximum sensing range, ease of alignment, and reliable detection of brown or green bottles and opaque objects.

Dark SET (Dark Operate Shown)



Dark SET for Maximum Operating Range

Use either the button or the remote input wire procedure to configure the sensor.

Push Button	Remote Input Wire	Result
Block the light path to the reflector.	Block the light path to the reflector.	
Press the button for 2 to 7 seconds until the LEDs flash simultaneously, then release the button. 	Pulse the remote input wire to +V DC, then pull the remote input wire to ground for 4 to 1000 ms. Pulse the remote input wire to +V DC to complete the Dark SET. 	**Push button only:** The green and amber LEDs flash simultaneously.  The sensor is configured for Dark SET (maximum operating range).
Clear the light path to the reflector.	Clear the light path to the reflector.	 The sensor is ready for use.

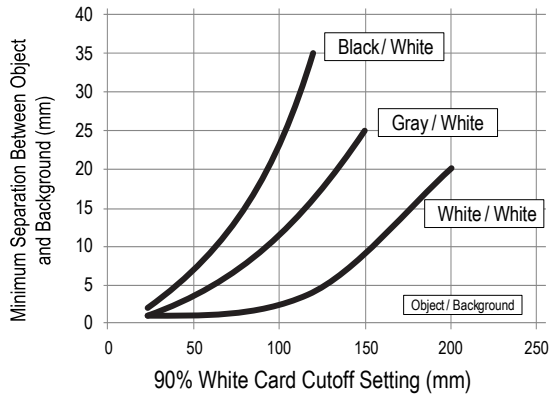
Chapter Contents

Chapter 4 Performance Curves

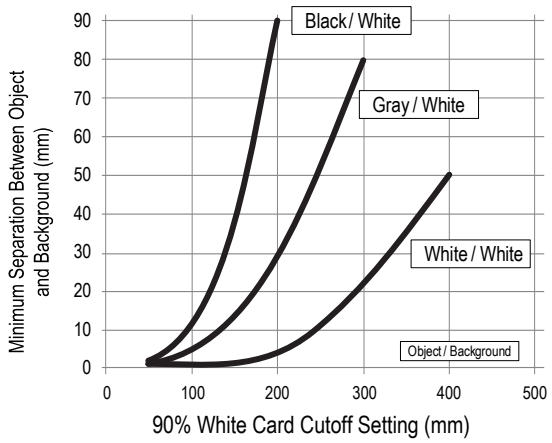
Minimum Separation Distance

Minimum separation distance

AF200 Models

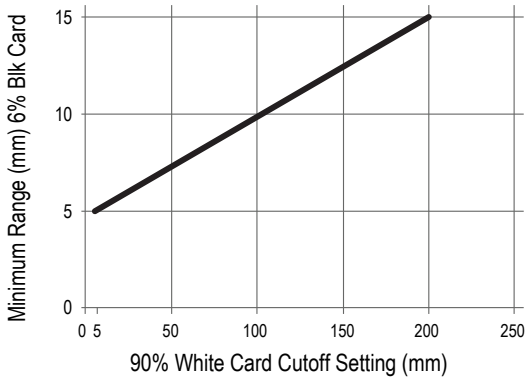
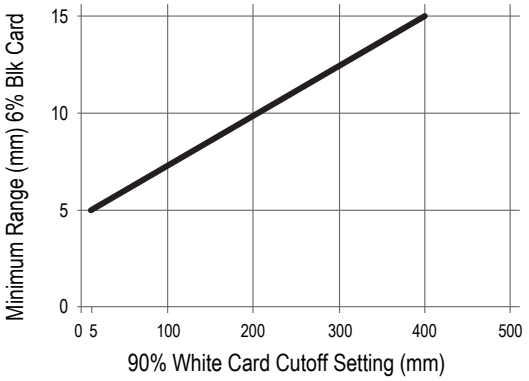


AF400 Models



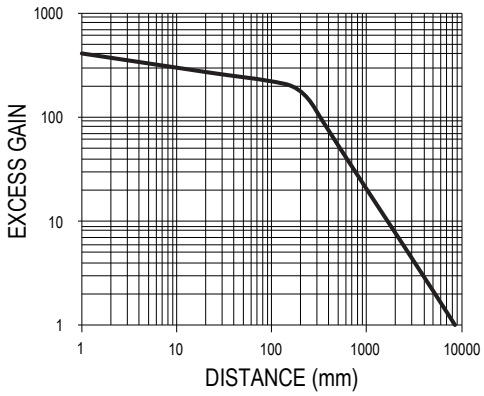
Minimum Sensing Range

Minimum sensing range (dead zone)

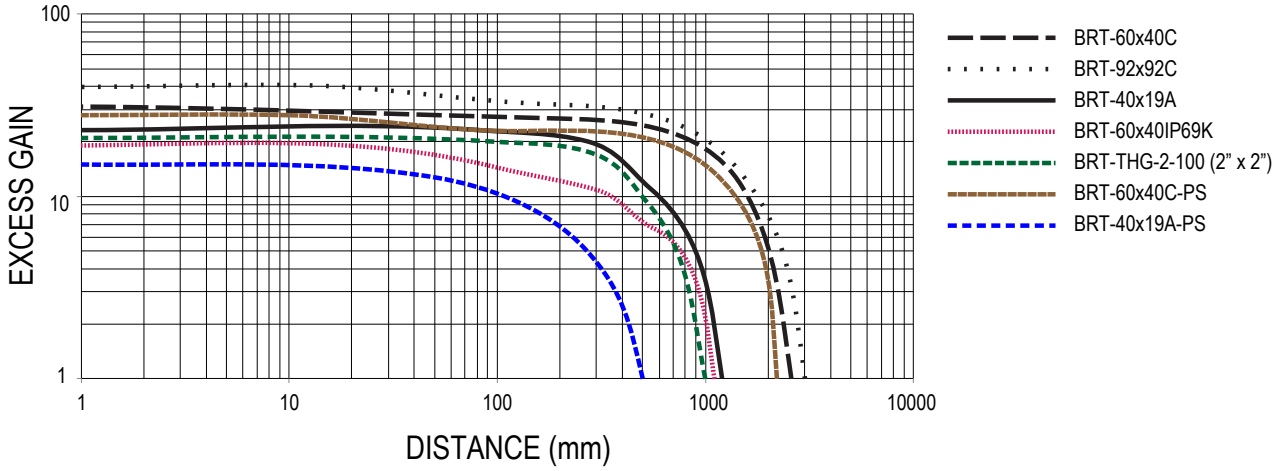
AF200 Models	AF400 Models
	

Excess Gain

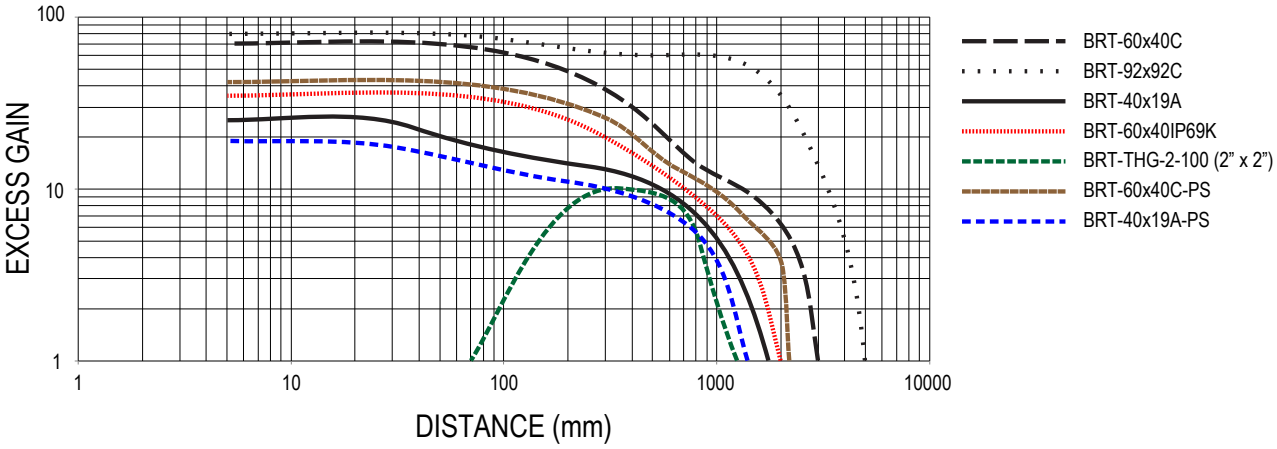
Opposed mode models



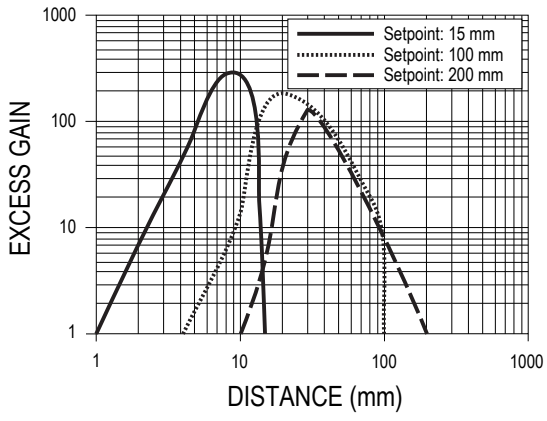
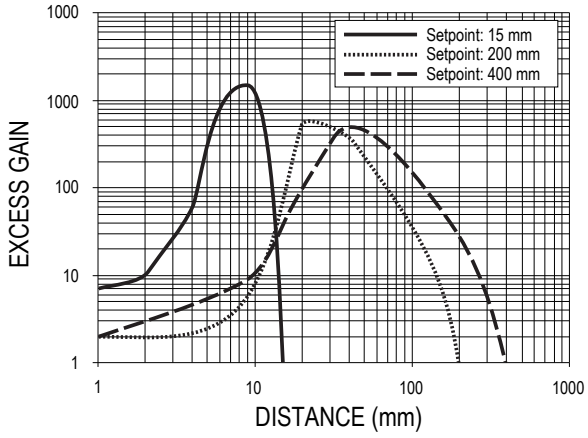
Expert™ retroreflective models (XLPC models)



Fixed gain retroreflective models (LP models)

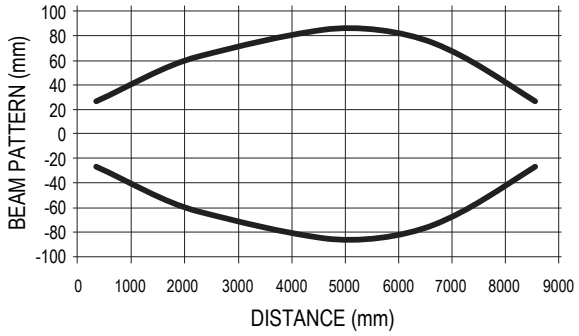


Adjustable field models (AFxxx models)

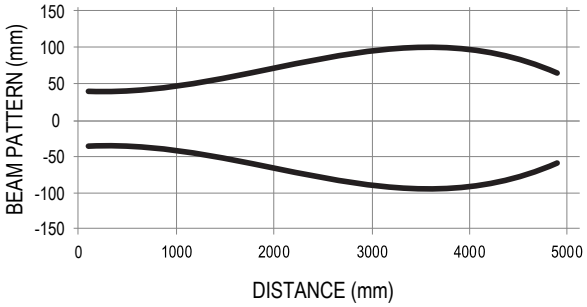
AF200 Models	AF400 Models
	

Beam Patterns

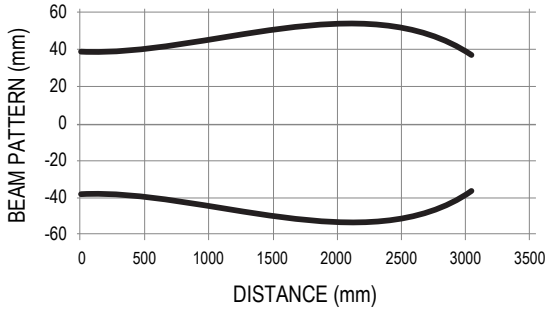
Opposed mode models



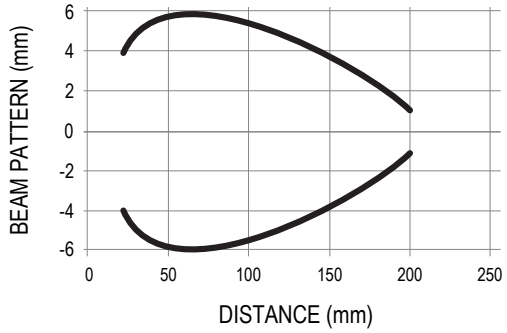
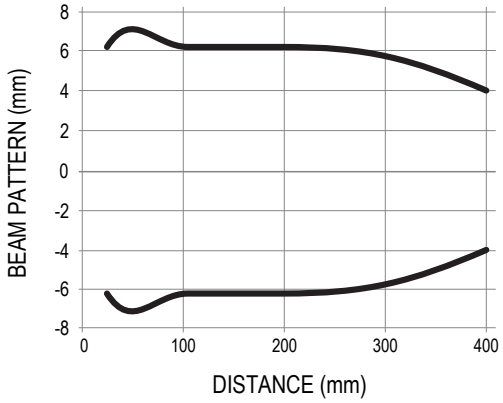
Fixed gain retroreflective (LP) models



Expert™ retroreflective (XLPC) Models

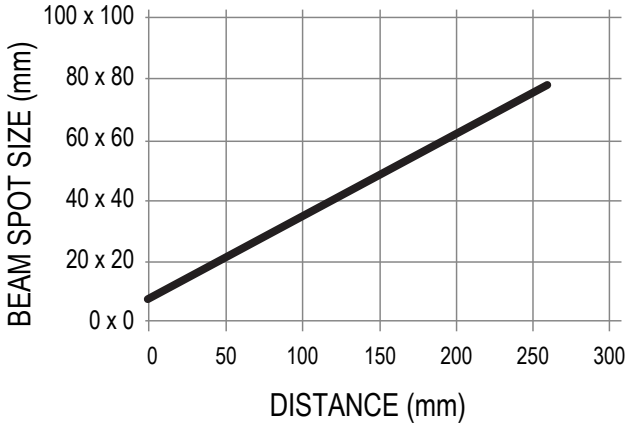


Adjustable field models (AFxxx models)

AF200 Models	AF400 Models
	

Spot Size Versus Distance

Clear object Expert retroreflective (XLPC) models



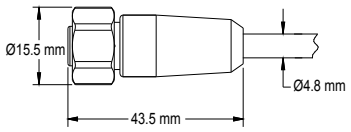
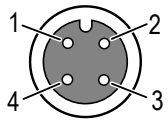
Chapter Contents

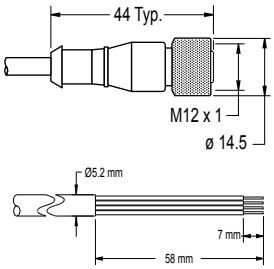
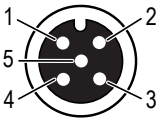
Chapter 5 Accessories

Cordsets for QM26 Models with Suffix Q5

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

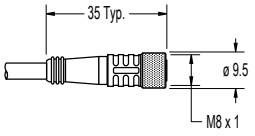
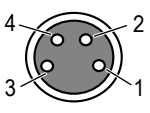
4-Pin Threaded M12 Cordsets (Washdown, Stainless Steel) (Recommended)

4-Pin Single-Ended M12 Female Washdown, Stainless Steel Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-WDSS-0406	2 m (6.56 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-WDSS-0415	5 m (16.4 ft)			
MQDC-WDSS-0430	9 m (29.5 ft)			

4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-403	1 m (3.28 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used
MQDC-406	2 m (6.56 ft)				
MQDC-410	3 m (9.8 ft)				
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				
MQDC-460	18.3 m (60 ft)				
MQDC-470	21 m (68.9 ft)				
MQDC-4100	30 m (98.43 ft)				

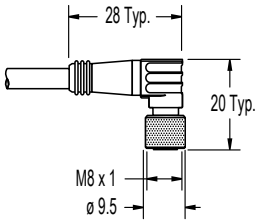
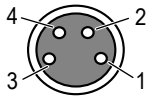
Cordsets for QMH26 Models with suffix Q7

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

4-Pin Single-Ended M8 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
PKG4M-2	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black
PKG4M-5	5 m (16.4 ft)				
PKG4M-9	9 m (29.52 ft)				

Continued on page 21

Continued from page 20

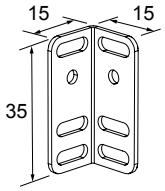
4-Pin Single-Ended M8 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
PKW4M-2	2 m (6.56 ft)	Right Angle			
PKW4M-5	5 m (16.4 ft)				
PKW4M-9	9 m (29.5 ft)				

Brackets for QM26 Models

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

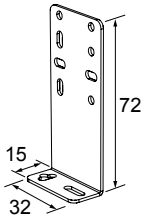
SMBLSTDLQ26

- Adjustable right-angle metal bracket
- 304 stainless steel
- CAD Files: DXF, PDF, IGS, STP



SMBLSTQ26

- Right-angle bracket
- 304 stainless steel
- CAD Files: DXF, PDF, IGS, STP

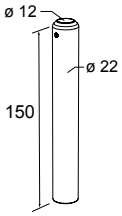


Brackets for QMH26 Models

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

SMBQMH26-SS-150

- Smooth surfaces for easy cleaning
- Setscrew adjustment of sensor
- 316L stainless steel



Retroreflectors

All measurements are listed in millimeters, unless noted otherwise. The measurements provided are subject to change.

BRT-60X40C and **BRT-60X40CM** (Microprism)

- Rectangular, acrylic target
- Reflectivity Factor: 1.4
- Temperature: –20 °C to +60 °C (–4 °F to +140 °F)
- Optional brackets are available
- Approximate size: 40 mm × 60 mm
- **BRT-60X40C** CAD Files: DXF, PDF, IGS, STP
- **BRT-60X40CM** CAD Files: DXF, PDF, IGS, STP

BRT-92X92C

- Square, acrylic target
- Reflectivity Factor: 3.0
- Temperature: –20 °C to +60 °C (–4 °F to +140 °F)
- Optional brackets are available
- Reflector size: 92 mm × 92 mm
- Approximate size: 100 mm × 100 mm × 9 mm
- Two 3.5 mm diameter mounting holes
- CAD Files: DXF, PDF, IGS, STP

BRT-40X19A

- Rectangular, acrylic target
- Reflectivity Factor: 1.3
- Temperature: –20 °C to +60 °C (–4 °F to +140 °F)
- Reflector size: 18 mm × 40 mm
- Approximate size: 18 mm × 60 mm × 7.3 mm
- Two 4 mm diameter mounting holes, 50 mm centers
- CAD Files: DXF, PDF, IGS, STP

BRT-60X40IP69K

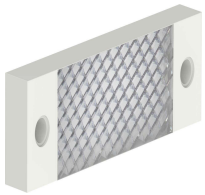
- Rectangular, acrylic target (color is amber)
- Reflectivity Factor: 0.7
- Temperature: –20 °C to +140 °C (–4 °F to +284 °F)
- Chemically resistant
- IP69K washdown rated
- Optional brackets are available
- Approximate size: 40 mm × 60 mm
- CAD Files: DXF, PDF, IGS, STP

BRT-60X40C-PS

- Rectangular, polystyrene target
- Reflectivity Factor: 1.1
- Temperature: –20 °C to +60 °C (–4 °F to +140 °F)
- Optional brackets are available
- Chemically compatible with hydrogen peroxide
- Yellow back
- Approximate size: 40 mm × 60 mm

BRT-40X19A-PS

- Rectangular, polystyrene target
- Reflectivity Factor: 1.0
- Temperature: –20 °C to +60 °C (–4 °F to +140 °F)
- Chemically compatible with hydrogen peroxide
- Yellow back
- Reflector size: 18 mm × 40 mm
- Approximate size: 18 mm × 60 mm × 7.3 mm
- Two 4 mm diameter mounting holes, 50 mm centers



Model	Reflectivity Factor	Maximum Temperature	Size
BRT-THG-2-100	0.7	+60 °C (+140 °F)	50 mm (2 in) wide, 2.5 m (100 in) long

Chapter Contents

Chapter 6 Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

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