



Q25 Right-Angle Base-Mount Rectangular Sensors

The Q25 sensor is completely epoxy-encapsulated for use in harsh sensing environments, including food and beverage applications.

- Available in opposed, retroreflective and fixed-field modes
- Wide operating range from -40° to +70° C
- Models rated to IP67 and IP69K to withstand harsh washdown environments
- Cordsets and brackets see page 106

Opposed Q25, 10-30 V DC

Infrared LED

Sensing Mode	Range	Connection	Models NPN	Models PNP
 OPPOSED	20 m	2 m		Q256E Emitter
		4-pin Euro QD		Q256EQ Emitter
		2 m	Q25SN6R	Q25SP6R
		4-pin Euro QD	Q25SN6RQ	Q25SP6RQ

Polar Retro Q25, 10-30 V DC

Visible Red LED

Sensing Mode	Range	Connection	Models NPN	Models PNP
 POLAR RETRO	2 m [†]	2 m	Q25SN6LP	Q25SP6LP
		4-pin Euro QD	Q25SN6LPQ	Q25SP6LPQ

Fixed-Field Q25, 10-30 V DC

Infrared LED

Sensing Mode	Range	Connection	Models NPN	Models PNP
 FIXED-FIELD	0 - 25 mm Cutoff	2 m	Q25SN6FF25	Q25SP6FF25
		4-pin Euro QD	Q25SN6FF25Q	Q25SP6FF25Q
	0 - 50 mm Cutoff	2 m	Q25SN6FF50	Q25SP6FF50
		4-pin Euro QD	Q25SN6FF50Q	Q25SP6FF50Q
	0 - 100 mm Cutoff	2 m	Q25SN6FF100	Q25SP6FF100
		4-pin Euro QD	Q25SN6FF100Q	Q25SP6FF100Q

For more specifications see page 107.

Connection options: A model with a QD requires a mating cordset (see page 106).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **Q25SN6LP W/30**).

[†] Retroreflective range is specified using one model BRT-3 retroreflector. Actual sensing range may differ, depending on the efficiency and reflective area of the retroreflector used. See Accessories section for more information.



Q25 AC

AC-Operated Rectangular Sensors

The Q25 sensor is completely epoxy-encapsulated for use in harsh sensing environments, including food and beverage applications.

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- Cordsets and brackets see page 106

Opposed Q25, 20-250 V AC

⇒ Infrared LED

Sensing Mode	Range	Connection	Models LO	Models DO
 OPPOSED	20 m	2 m		Q253E Emitter
		4-pin Micro QD		Q253EQ1 Emitter
		2 m	Q25AW3R	Q25RW3R
		4-pin Micro QD	Q25AW3RQ1	Q25RW3RQ1

Polar Retro Q25, 20-250 V AC

⇒ Visible Red LED

Sensing Mode	Range	Connection	Models LO	Models DO
 POLAR RETRO	2 m [†]	2 m	Q25AW3LP	Q25RW3LP
		4-pin Micro QD	Q25AW3LPQ1	Q25RW3LPQ1

Fixed-Field Q25, 20-250 V AC

⇒ Infrared LED

Sensing Mode	Range	Connection	Models LO	Models DO
 FIXED-FIELD	0 - 25 mm Cutoff	2 m	Q25AW3FF25	Q25RW3FF25
		4-pin Micro QD	Q25AW3FF25Q1	Q25RW3FF25Q1
	0 - 50 mm Cutoff	2 m	Q25AW3FF50	Q25RW3FF50
		4-pin Micro QD	Q25AW3FF50Q1	Q25RW3FF50Q1
	0 - 100 mm Cutoff	2 m	Q25AW3FF100	Q25RW3FF100
		4-pin Micro QD	Q25AW3FF100Q1	Q25RW3FF100Q1







For more specifications see page 108.


Connection options: A model with a QD requires a mating cordset (see page 106).







For 9 m cable, add suffix **W/30** to the 2 m model number (example, **Q25SN6LP W/30**).

[†] Retroreflective range is specified using one model BRT-3 retroreflector. Actual sensing range may differ, depending on the efficiency and reflective area of the retroreflector used. See Accessories section for more information.




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.

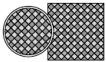

Micro QD (for Q1 models)			
See page 919			
Length	Threaded 4-Pin		
	Straight	Right-Angle	
1.83 m	 MQAC-406	 MQAC-406RA	
4.57 m	 MQAC-415	 MQAC-415RA	
9.14 m	 MQAC-430	 MQAC-430RA	

Brackets

Q25		
See page 864	See page 865	See page 865
SMB18A	SMB18FA	SMB18SF
		

 Additional brackets and information available.
See page 852.




Other Accessories

Reflectors	Apertures
See page 932	See page 958
	




Q25 Opposed, Retroreflective and Fixed-Field Models
Suffix E, R, LP, and FF

Q25 DC Specifications

Supply Voltage and Current	10 to 30 V dc (10% max. ripple); Supply current (exclusive of load current): Opposed Emitters: 25 mA Polarized Retroreflective: 30 mA Opposed Receivers: 20 mA Fixed-Field: 35 mA
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	Solid-state complementary dc switch; NPN (current sinking) or PNP (current sourcing), depending on model. The Dark Operate (DO) output may be wired as a normally open marginal signal alarm output, depending upon hookup to the power supply.
Output Rating	150 mA max. (each) in standard hookup. When wired for alarm output, the total load may not exceed 150 mA OFF-state leakage current: less than 1 μ A at 30 V dc ON-state saturation voltage: less than 1 V at 10 mA dc; less than 1.5 V at 150 mA dc
Output Protection Circuitry	Protected against false pulse on power-up and continuous overload or short circuit of outputs
Output Response Time	Opposed: 3 milliseconds ON, 1.5 milliseconds OFF Polarized Retroreflective and Fixed-Field: 3 milliseconds ON/OFF
Delay at Power-up	100 milliseconds; outputs do not conduct during this time
Repeatability	Opposed: 375 microseconds Polarized Retroreflective and Fixed-Field: 750 microseconds Repeatability and response are independent of signal strength
Indicators	Two LEDs: Green: Power ON Yellow: Light Operate (LO) output energized Green Flashing: output overload Yellow Flashing: marginal gain
Construction	Housings are thermoplastic polyester. Lenses are polycarbonate or acrylic; one jam nut included.
Environmental Rating	Leakproof design rated NEMA 6P, IP67. QD models rated IP69K per DIN 40050-9.
Connections	2 m or 9 m attached cable, or 4-pin Euro-style quick-disconnect fitting. QD cordsets are ordered separately. See page 106.
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% at 50° C (non-condensing)
Vibration and Mechanical Shock	All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max., double amplitude 0.06-inch acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)
Certifications	   ECOLAB® chemical compatibility pending on some models; contact Banner Engineering for details

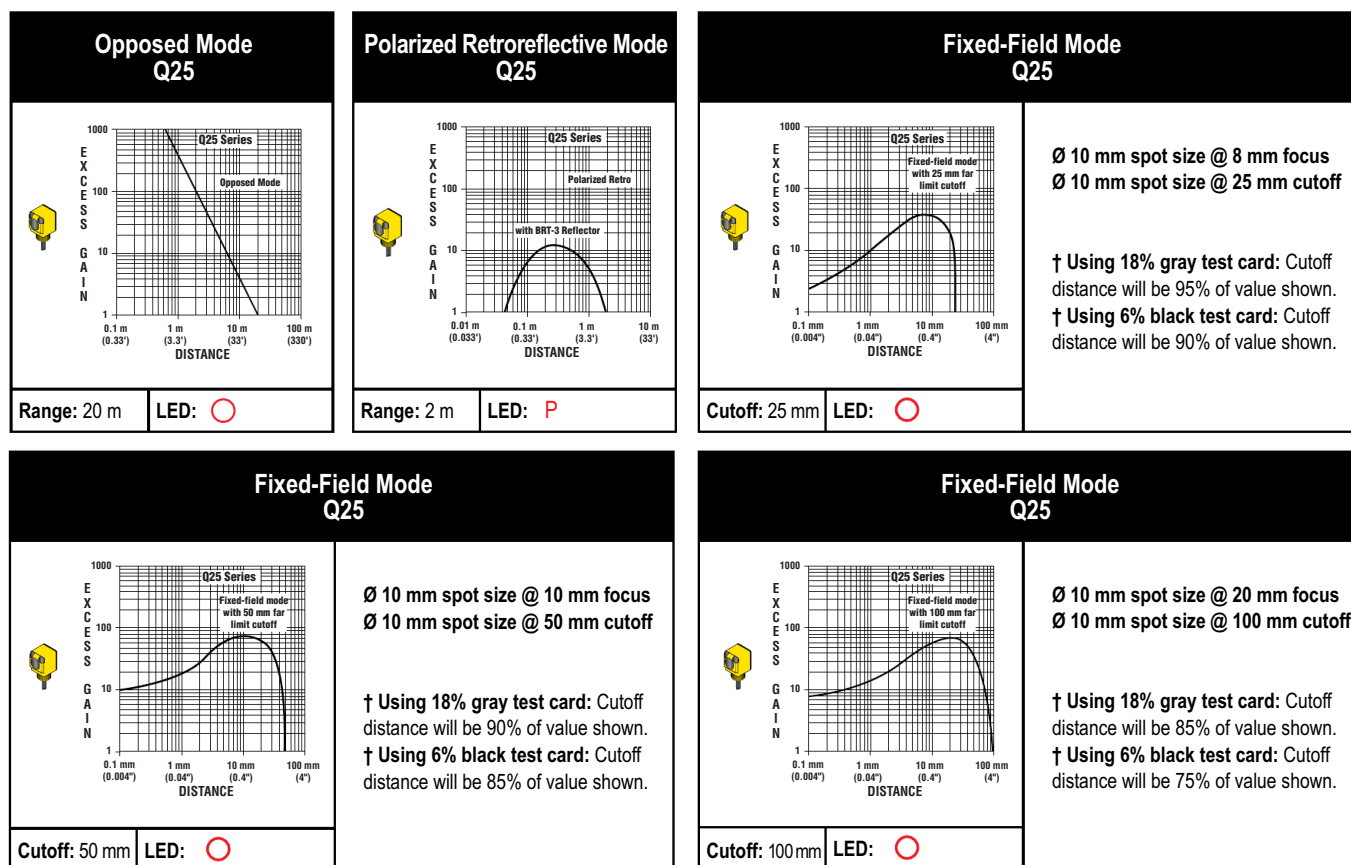
Q25 AC Specifications

Supply Voltage and Current	20 to 250 V ac (50/60 Hz) Average current: 20 mA Peak current: 200 mA at 20 V ac, 500 mA at 120 V ac, 750 mA at 250 V ac
Supply Protection Circuitry	Protected against transient voltages
Output Configuration	Solid-state ac switch; three-wire hookup; Choose Light Operate (LO) or Dark Operate (DO), depending on model Light Operate: Output conducts when the sensor sees its own (or the emitter's) modulated light Dark Operate: Output conducts when sensor sees dark
Output Rating	300 mA max. (continuous) Fixed-Field: derate 5 mA/° C above +50° C Inrush capability: 1 amp for 20 milliseconds, non-repetitive OFF-state leakage current: less than 100 µA ON-state voltage drop: 3 V at 300 mA ac; 2 V at 15 mA ac
Output Protection Circuitry	Protected against false pulse on power-up
Output Response Time	Opposed: 16 milliseconds ON, 8 milliseconds OFF Polarized Retroreflective and Fixed-Field: 16 milliseconds ON/OFF
Delay at Power-up	100 milliseconds
Repeatability	Opposed: 2 milliseconds; Polarized Retroreflective and Fixed-Field: 4 milliseconds Repeatability and response are independent of signal strength.
Indicators	Two LEDs: Green and Yellow Solid Green: Power ON Solid Yellow: Light sensed Yellow Flashing: marginal gain
Construction	Housings are thermoplastic polyester. Lenses are polycarbonate or acrylic; one jam nut included.
Environmental Rating	Leakproof design rated NEMA 6P, IP67. QD models rated IP69K per DIN 40050-9.
Connections	2 m or 9 m attached cable, or 4-pin Micro-style quick-disconnect fitting. QD cordsets are ordered separately. See page 106.
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% at 50° C (non-condensing)
Vibration and Mechanical Shock	All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max, double amplitude 0.06-inch acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)
Certifications	

Excess Gain Curves

(Fixed-Field mode performance based on 90% reflectance white test card*)

○ = Infrared LED P = Visible Red LED Polarized



Beam Patterns

○ = Infrared LED P = Visible Red LED Polarized

