



SM30

High-Power, Long-Range, Opposed-Mode Barrel Sensors

The SM30 is a powerful sensor with a long range. The stainless steel model can be used in abusive environments.

- Available with ac or dc supply voltages
- Ideal in equipment washdown environments
- Epoxy-encapsulated
- Sensing range up to 200 m

Opposed SM30 Emitters, 10-30 V DC or 12-240 V AC, Frequency A[†]

Infrared LED

Sensing Mode	Housing	Range	Connection	Output Type	Models
 OPPOSED	Plastic	150 m	2 m 3-Pin Mini QD	N/A	SMA30PEL SMA30PELQD
	Stainless Steel	150 m	2 m 3-Pin Mini QD	N/A	SMA30SEL SMA30SELQD

Opposed SM30 Receivers, 10-30 V DC Frequency A[†]

Infrared LED

Sensing Mode	Housing	Range	Connection	Output Type	Models
 OPPOSED	Plastic	150 m	2 m 4-Pin Mini QD	Bi-Modal™ NPN or PNP	SM30PRL SM30PRLQD
	Stainless Steel	150 m	2 m 4-Pin Mini QD	Bi-Modal™ NPN or PNP	SM30SRL SM30SRLQD

Opposed SM30 Receivers, 24-240 V AC, Frequency A[†]

Infrared LED

Sensing Mode	Housing	Range	Connection	Output Type	Models
 OPPOSED	Plastic	150 m	2 m 3-Pin Mini QD	LO	SM2A30PRL SM2A30PRLQD
	Stainless Steel	150 m	2 m 3-Pin Mini QD	LO	SM2A30SRL SM2A30SRLQD
	Plastic	150 m	2 m 3-Pin Mini QD	DO	SM2A30PRLNC SM2A30PRLNCQD
	Stainless Steel	150 m	2 m 3-Pin Mini QD	DO	SM2A30SRLNC SM2A30SRLNCQD


For more specifications see page 214.


Connection options: A model with a QD requires a mating cordset (see page 213).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **SMA30PEL W/30**).

[†] Modulation frequency "A" is standard; frequencies "B" and "C" are also available to minimize optical crosstalk potential between adjacent pairs and are specified by adding "B" or "C" at the end of the standard model number (example, **SMA30PELB** or **SMA30PELC**).


Cordsets

Mini QD		
See page 921		
	3-Pin	
Length	Threaded Straight	
1.83 m		SM30CC-306
3.66 m		SM30CC-312
9.14 m		-

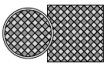

 Additional cordset information available.
See page 902.

Brackets

SM30			
See page 872	See page 872	See page 873	See page 873
SMB30A	SMB30FA..	SMB30SC	SMBAMS30P
			

 Additional brackets and information available.
See page 852.




Other Accessories

Reflectors	Apertures
See page 932	See page 958
	



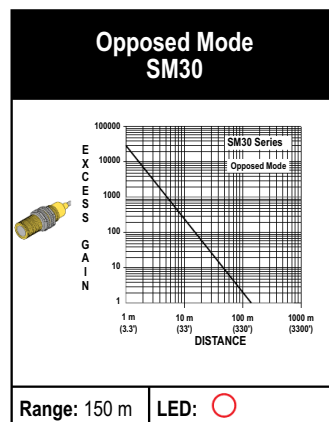
Opposed Models—All Frequencies
Suffix E and R
(Metal Housing Shown)

SM30 Specifications

Supply Voltage and Current	Emitters: 12 to 240 V ac (50/60 Hz) or 10 to 30 V dc (10% max. ripple) at 20 mA DC Receivers: 10 to 30 V dc (10% max. ripple) at 10 mA max, exclusive of load AC Receivers: 24 to 240 V ac (50/60 Hz)
Supply Protection Circuitry	Protected against reverse polarity and transient voltages
Output Configuration	DC Receivers: Bi-Modal™ output (PNP sourcing or NPN sinking). Selection of sourcing or sinking configuration depends upon receiver's power supply hookup polarity. Once wired, the unit performs as a solid-state switch. AC Receivers: Solid-state switch offer Light Operate (LO) or Dark Operate (DO) by model
Output Rating	DC Receivers: 250 mA continuous Output saturation voltage: (PNP & NPN configuration) less than 1 volt at 10 mA; less than 2 volts at 250 mA OFF-state leakage current: less than 10 µA AC Receivers: Max. steady-state load capability is 500 mA Inrush capability: 10 amps for 1 second (non-repeating) OFF-state leakage: current less than 1.7 mA rms ON-state voltage drop: less than 3.5 volts rms across a 500 mA load; less than 5 volts rms across a 15 mA load
Output Protection Circuitry	Outputs of dc receivers are short circuit protected
Output Response Time	10 milliseconds ON/OFF
Repeatability	"A" frequency units: 1 millisecond "B" frequency units: 1.5 milliseconds "C" frequency units: 2.3 milliseconds
Indicators	Internal Red LED, visible through the lens or from side of the sensor. Emitters: Red "Power ON" indicator LED DC Receivers: Lights whenever receiver sees its modulated light source AC Receivers: Lights whenever receiver's output is conducting
Construction	Fully epoxy-encapsulated tubular threaded housing, positive sealed at both ends, quad-ring sealed acrylic lens Plastic models: 30 mm diameter thermoplastic polyester housing and jam nuts Stainless Steel models: 30 mm diameter 303 stainless steel housing and jam nuts
Environmental Rating	Exceeds NEMA 6P; IEC IP67 standards
Connections	PVC-jacketed 2 m or 9 m cables or Mini-style quick-disconnect (QD) fitting are available. QD cordsets are ordered separately. See page 213.
Operating Conditions	Temperature: -40° to +70° C Relative humidity: 90% at 50° C (non-condensing)
Certifications	  

Excess Gain Curves

○ = Infrared LED



Beam Patterns

○ = Infrared LED

