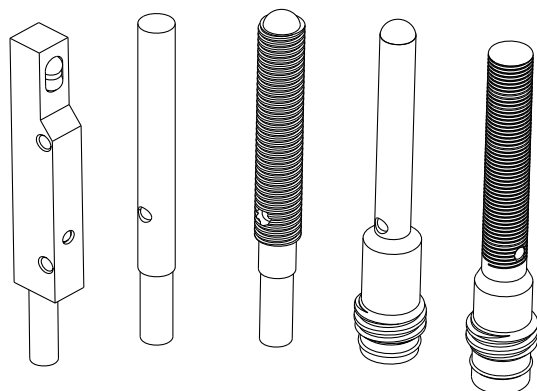


VSM Series Micro Sensors

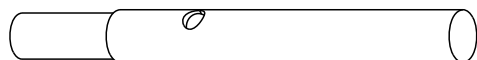
Miniature self-contained sensors in stainless steel housing



- Tough - 300 series stainless steel body with sapphire lens withstands a wide variety of chemicals and cutting fluids
- Tiny sensors are available as small as a 4 mm barrel (about the size of a single optical fiber assembly)
- Economical, self-contained sensors are available in convergent or opposed sensing modes; no separate amplifier required
- Advanced convergent optical design provides high performance, and very repeatable sensing
- Well-focused, narrow beam allows the entire barrel sensor to be recessed into fixtures (excluding 50 mm range models)
- Smooth, stainless steel barrel is perfect for hygienic applications that require routine cleaning
- A choice of threaded or smooth barrel housings or flat-pack side-looking housing

Models

Table 1: Housing Style: 4 mm Smooth Barrel



NPN Models	PNP Models	Sensing Mode	Range	Output Type	Connection	
VSM46E Emitter		<p>OPPOSED</p>	250 mm	—	2 m	
VSM46EQ7 Emitter					3-Pin Pico QD	
VSM4RN6R	VSM4RP6R			DO	2 m	
VSM4RN6RQ7	VSM4RP6RQ7				3-Pin Pico QD	
VSM4AN6CV10	VSM4AP6CV10	<p>CONVERGENT</p>	10 mm	LO	2 m	
VSM4AN6CV10Q7	VSM4AP6CV10Q7				3-Pin Pico QD	
VSM4AN6CV20	VSM4AP6CV20				20 mm	2 m
VSM4AN6CV20Q7	VSM4AP6CV20Q7				3-Pin Pico QD	
VSM4AN6CV50	VSM4AP6CV50				50 mm	2 m
VSM4AN6CV50Q7	VSM4AP6CV50Q7					3-Pin Pico QD

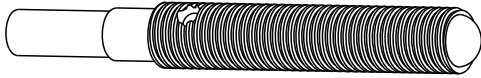


WARNING: Not To Be Used for Personnel Protection

Never use this product as a sensing device for personnel protection. Doing so could lead to serious injury or death. This product 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.

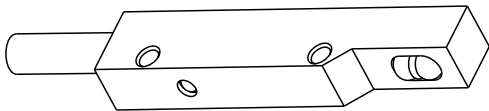


Table 2: Housing Style: 5 mm Threaded Barrel



NPN Models	PNP Models	Sensing Mode	Range	Output Type	Connection
VSM56E Emitter		<p>OPPOSED</p>	250 mm	—	2 m
VSM56EQ7 Emitter					3-Pin Pico QD
VSM5RN6R	VSM5RP6R			DO	2 m
VSM5RN6RQ7	VSM5RP6RQ7				3-Pin Pico QD
VSM5AN6CV10	VSM5AP6CV10	<p>CONVERGENT</p>	10 mm	LO	2 m
VSM5AN6CV10Q7	VSM5AP6CV10Q7		3-Pin Pico QD		
VSM5AN6CV20	VSM5AP6CV20		20 mm		2 m
VSM5AN6CV20Q7	VSM5AP6CV20Q7		3-Pin Pico QD		
VSM5AN6CV50	VSM5AP6CV50		50 mm		2 m
VSM5AN6CV50Q7	VSM5AP6CV50Q7				3-Pin Pico QD

Table 3: Housing Style: Flat-Pack Side-Looker



NPN Models	PNP Models	Sensing Mode	Range	Output Type	Connection
VSMQAN6CV20	VSMQAP6CV20	<p>CONVERGENT</p>	20 mm	LO	2 m
VSMQAN6CV50	VSMQAP6CV50		50 mm		
VSMQAN6CV90	VSMQAP6CV90		90 mm		

Specifications

Supply Voltage and Current

10 to 30V dc (10% maximum ripple)

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Output Configuration

Single-output: 1 NPN or 1 PNP; light operate (LO) or dark operate (DO), depending on model

Output Rating:

100 mA max

OFF-state leakage current: less than 100 mA

ON-state saturation voltage: less than 2V @ 100 mA

Output Protection Circuitry

Protected against false pulse on power-up and continuous overload or short circuit of outputs

Overload trip point \geq 100 mA

Response Time

2.5 milliseconds

Delay at Power-Up

20 milliseconds

Repeatability

1 millisecond

Indicators

Yellow LED: light sensed

Construction

300 series stainless steel with sapphire lens and PVC cable

Environmental Rating

IP67

Connections

2 m PVC-jacketed cable or 3-pin Pico-style integral QD (Q7), depending on model.

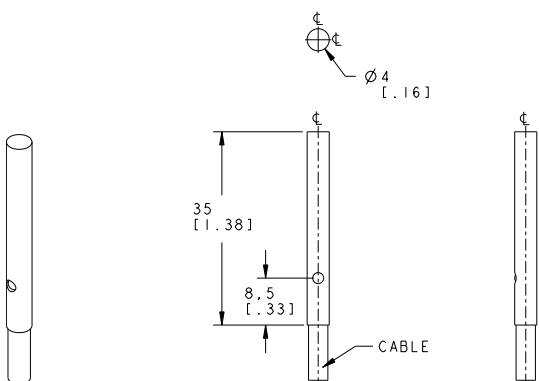
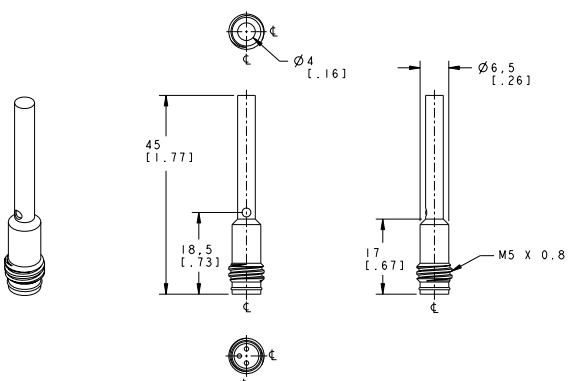
Operating Conditions

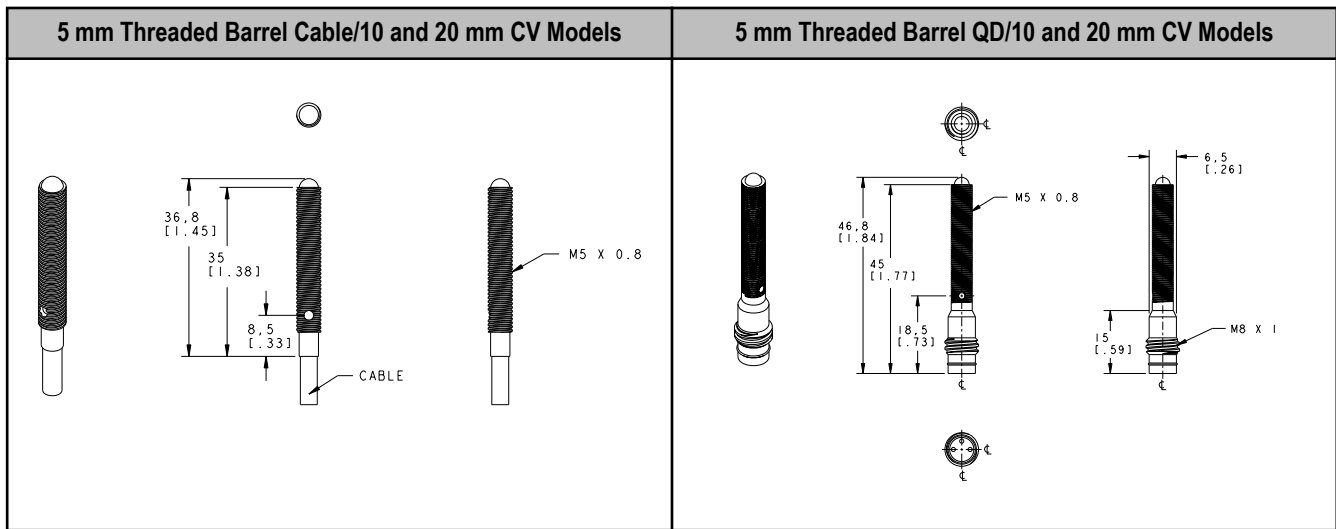
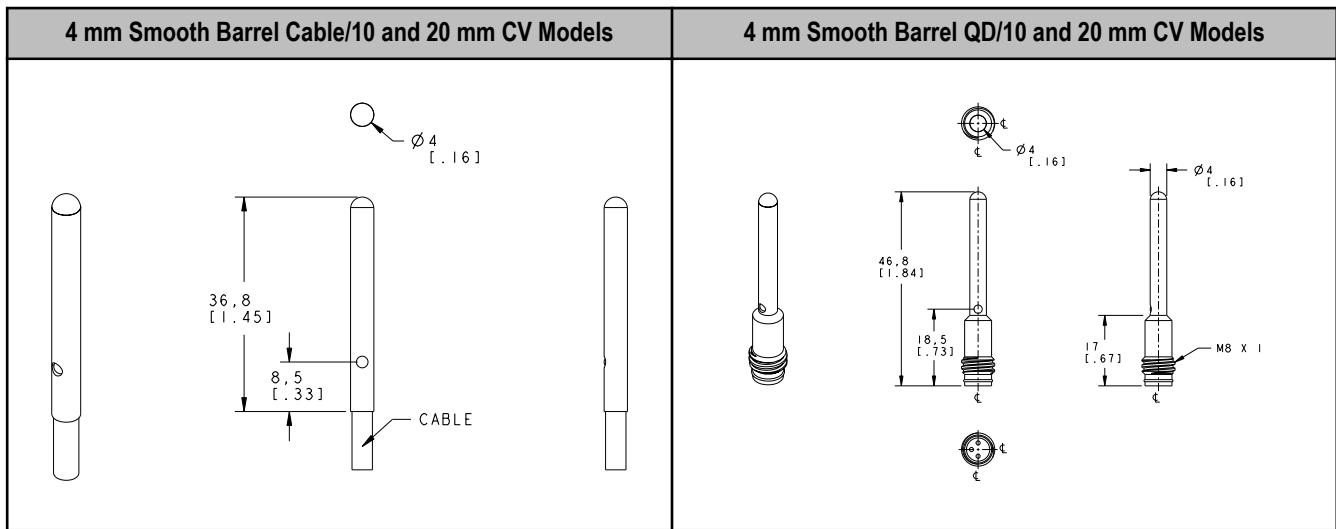
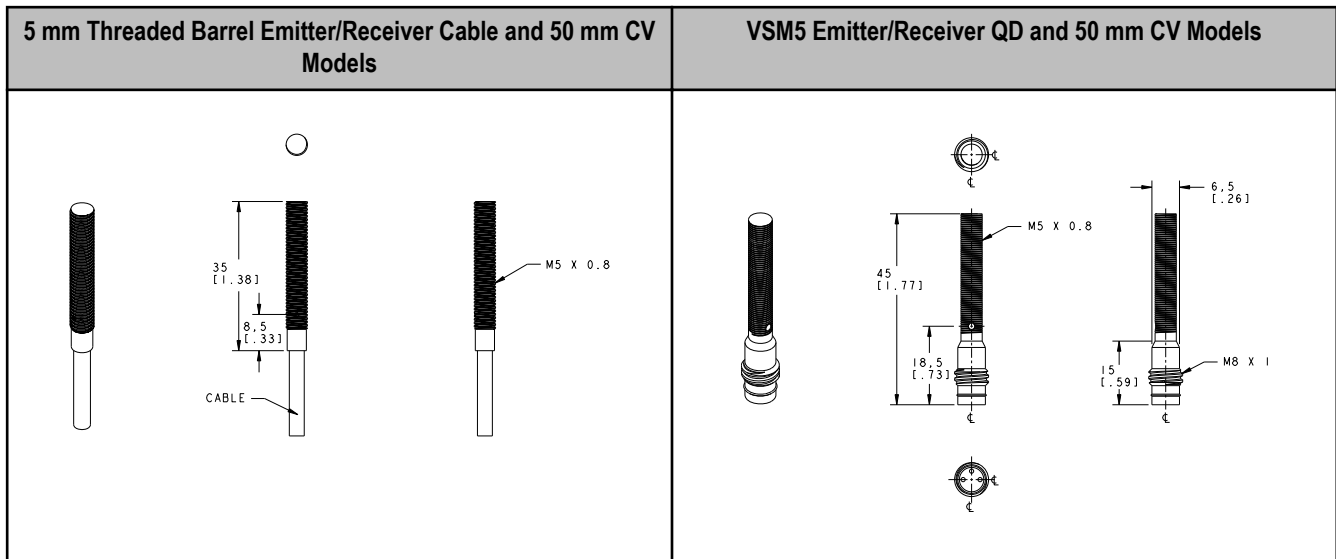
Operating Temperature: 0° to +55° C (32° to +131° F)

Certifications

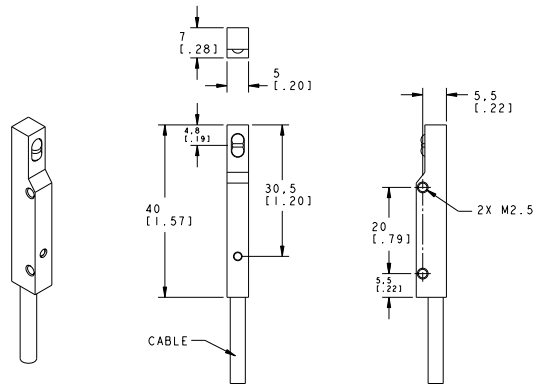
CE  US LISTED (pending)

Dimensions

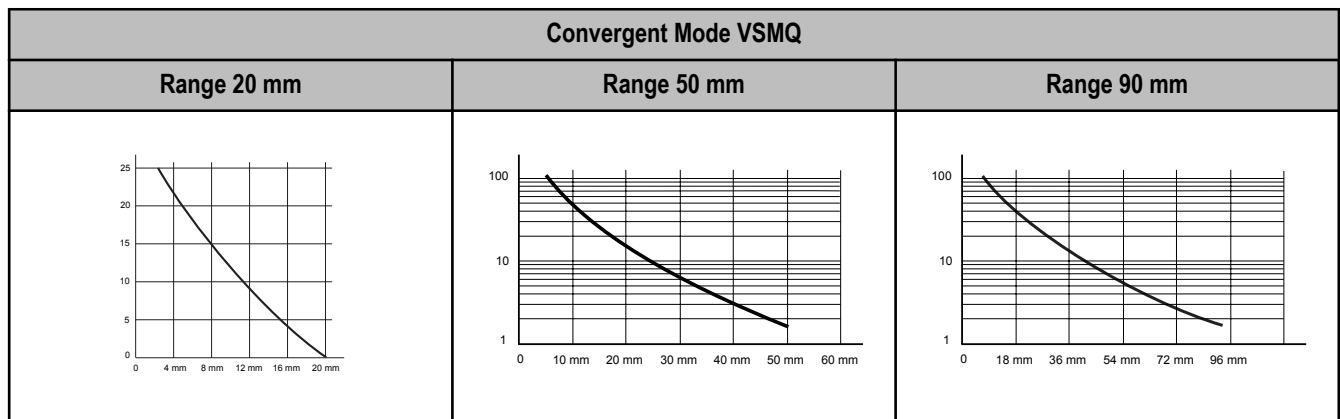
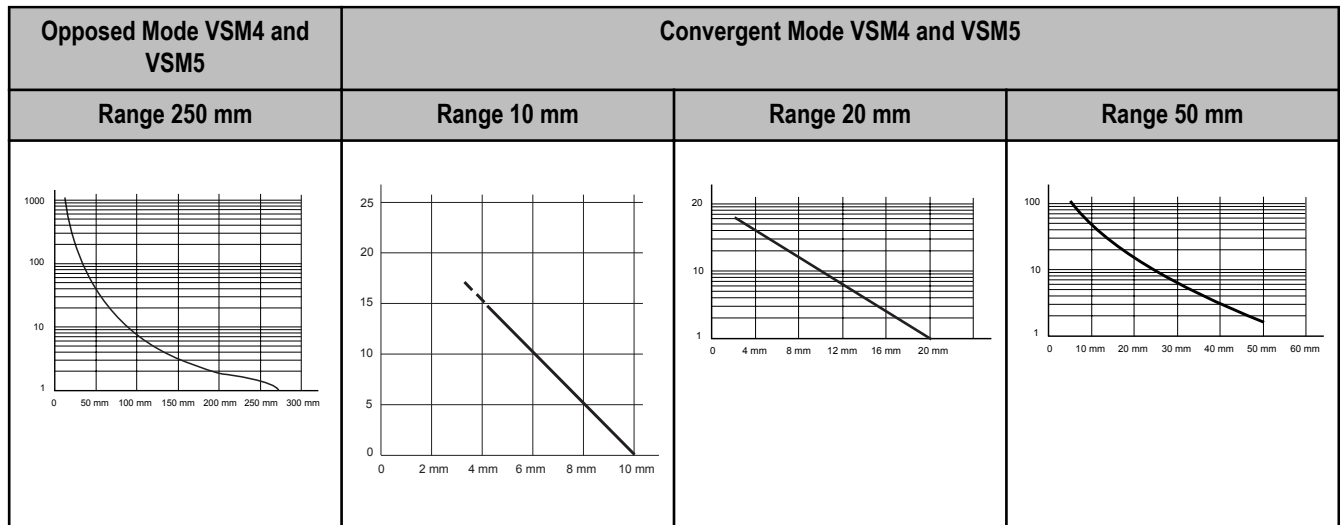
4 mm Smooth Barrel Emitter/Receiver Cable and 50 mm CV Models	4 mm Smooth Barrel Emitter/Receiver QD and 50 mm CV Models
	



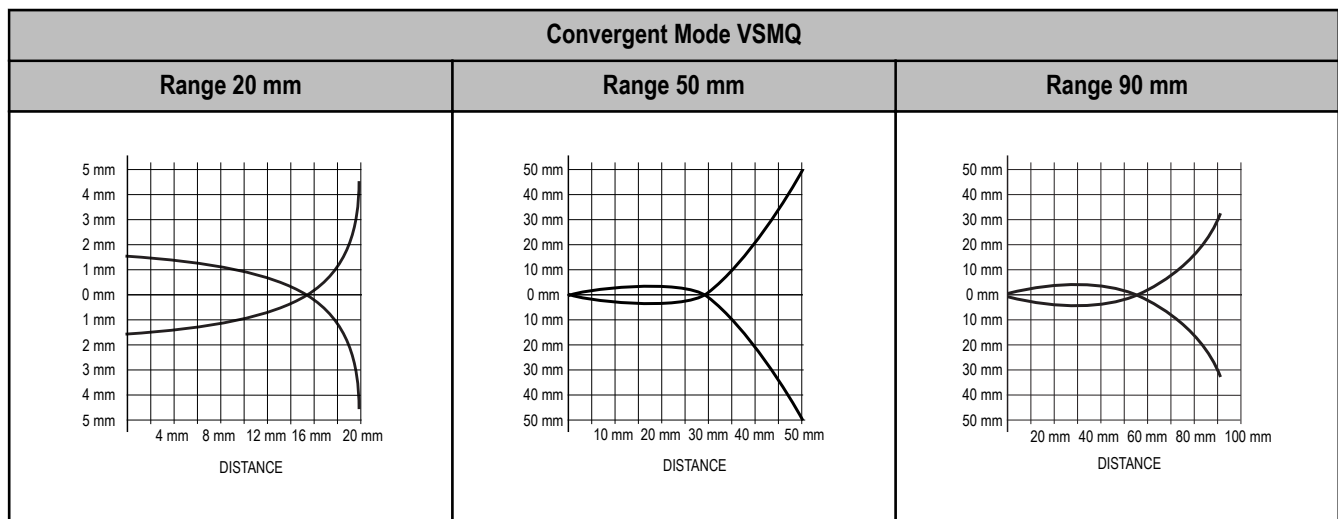
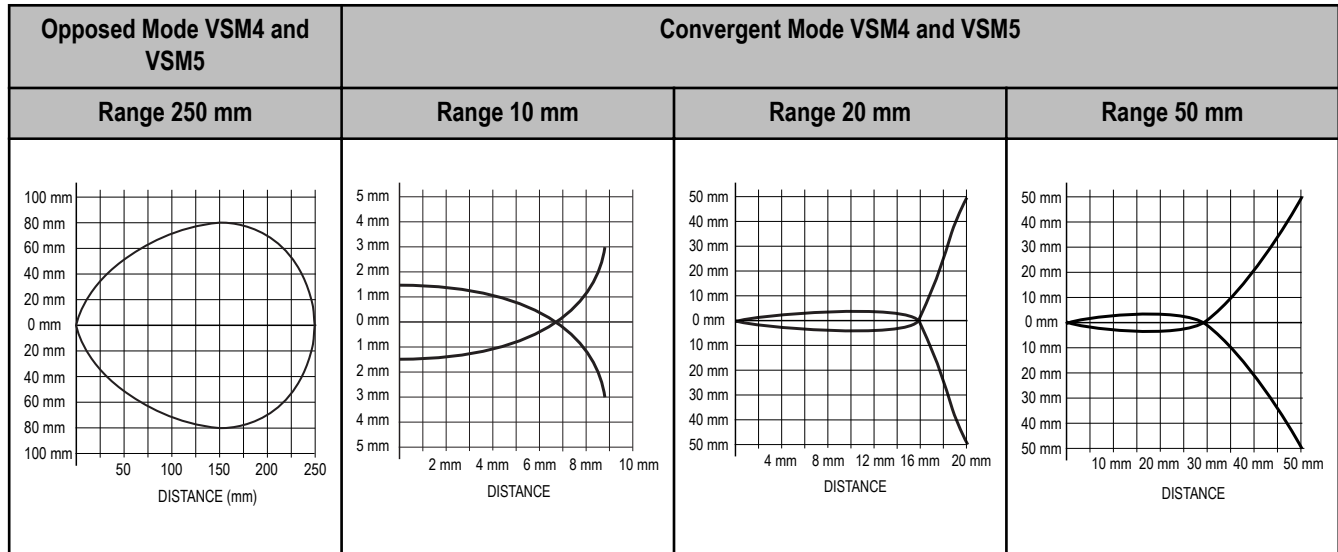
Flat-Pack Side-Looker



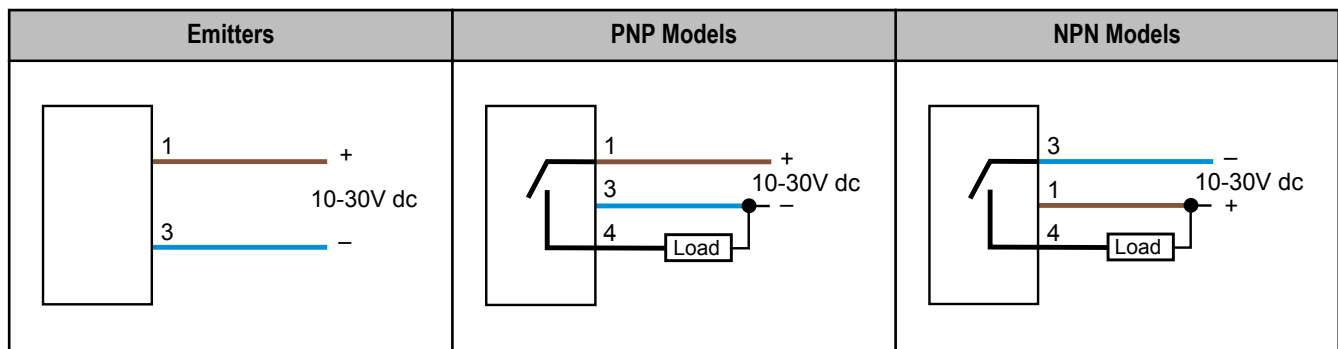
Excess Gain Curves



Beam Patterns



Wiring

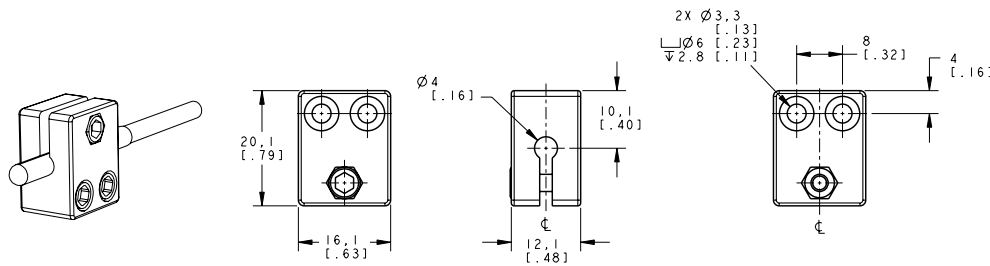


Cordsets

Length	Threaded 3-Pin	
	Straight	Right-Angle
2.00 m	PKG3M-2	PKW3M-2
5.00 m	PKG3M-5	PKW3M-5
9.00 m	PKG3M-9	PKW3M-9

Brackets

SMBVSM4



Contact Us

For more information: Contact your local Banner representative or Banner Corporate Offices around the world.

Banner Corporate Headquarters
Banner Engineering Corp.
 9714 Tenth Ave. North
 Mpls., MN 55441
 Tel: 763-544-3164
www.bannerengineering.com
sensors@bannerengineering.com

Asia — China
Banner Engineering China
 Shanghai Rep Office
 Rm. G/H/I, 28th Flr.
 Cross Region Plaza
 No. 899, Lingling Road
 Shanghai 200030 CHINA
 Tel: 86-21-54894500, Fax:
 86-21-54894511
www.bannerengineering.com.cn
sensors@bannerengineering.com.cn

Europe
Banner Engineering Europe
 Park Lane
 Culliganlaan 2F
 Diegem B-1831
 BELGIUM
 Tel: 32-2 456 07 80, Fax:
 32-2 456 07 89
www.bannereurope.com
mail@bannereurope.com

Asia — Taiwan
Banner Engineering Taiwan
 8F-2, No. 308
 Section 1, Neihu Road
 Taipei 114
 Tel: 886-2-8751-9966, Fax:
 886-2-8751-2966
www.bannerengineering.com.tw
info@bannerengineering.com.tw

Latin America
 Contact Banner Engineering Corp. (US) or e-mail:
Mexico: mexico@bannerengineering.com
Brazil: brasil@bannerengineering.com

Asia — Japan
Banner Engineering Japan
 Cent-Urban Building 305
 3-23-15, Nishi-Nakajima
 Yodogawa-Ku, Osaka
 532-0011 JAPAN
 Tel: 81-6-6309-0411, Fax:
 81-6-6309-0416
www.bannerengineering.co.jp
mail@bannerengineering.co.jp

Asia — India
Banner Engineering India
 Pune Head Quarters
 Office No. 1001
 Sai Capital Opp. ICC
 Senapati Bapat Road
 Pune 411016 INDIA
 Tel: 91-20-66405624, Fax:
 91-20-66405623
www.bannerengineering.co.in
india@bannerengineering.com



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