



Refer to:
PICO-GUARD Controller Manual (p/n 69761)
and PICO-GUARD Application and Design
Guide (p/n 69763) for complete installation
and operation information.



WARNING ... Avoid Misapplication of this Product

PICO-GUARD optical elements must be properly installed and interfaced with a PICO-GUARD Fiber Optic Controller to be considered a safeguard.

See the PICO-GUARD Controller Instruction Manual (p/n 69761) and the PICO-GUARD Application and Design Guide (p/n 69763) for complete installation instructions, maintenance instructions, and application limitations.

Banner PICO-GUARD Fiber Optic Safety Point elements are generally not allowed:

- For use on any machine that cannot be stopped immediately after a stop signal is issued, such as single stroke (also known as "full-revolution") clutched machinery.
- For use on any machine with inadequate or inconsistent machine response time and stopping performance.
- For use on any machine that ejects materials or component parts through the defined area.
- To be used individually for hand or finger detection in point-of-operation guarding.
- Or in any environment that is likely to adversely affect photoelectric sensing system efficiency (for example, corrosive chemicals or fluids or unusually severe levels of smoke or dust).

Follow all installation and maintenance instructions with extreme care. **The user is responsible for following all local, state, and national laws, rules, codes, and regulations relating to the use of this safeguarding system in any particular application.**

These fiber optic safety elements are intended to be used with PICO-GUARD series controllers in personnel safety and equipment-protection applications.

Features and Description

- Compact, non-contact, fiber optic element for perimeter and access guarding
- Intended for one emitter/receiver pair for each fiber optic channel (up to 4 pairs per controller)
- Each Point element can function as emitter or receiver, depending on installation
- Integral 2.2 mm OD, 1 mm core, PE or PTFE-jacketed plastic optical fiber or 5 mm OD, 1 mm core, PVC-jacketed plastic optical fiber (see models)
- Impact-resistant polycarbonate plastic construction
- Environmental rating of IEC IP67
- Type 4 per IEC 61496-2 and Safety Category 4 per ISO 13849-1 applications
- Easy installation with multiple mounting bracket options

Models

Each PICO-GUARD Point is individually packaged with two mounting nuts, a test rod and data sheet. Two Points are required for each emitter/receiver pair, and may be used interchangeably as emitter or receiver. Models are available with three types of integral plastic optical fiber, in four lengths:

Model	Fiber Description	Fiber Length	Fiber Outer Diameter
SFP12PS8	Polished-End Integral Fiber, Polyethylene Coated	2.4 m (8')	2.2 mm (0.09")
SFP12PS15		4.5 m (15')	
SFP12PS25		7.5 m (25')	
SFP12PS50		15 m (50')	
SFP12PXP8	Polished-End Integral Fiber, PVC Coated	2.4 m (8')	5 mm (0.2")
SFP12PXP15		4.5 m (15')	
SFP12PXP25		7.5 m (25')	
SFP12PXP50		15 m (50')	
SFP12PXT8	Polished-End Integral Fiber, PTFE Coated	2.4 m (8')	2.2 mm (0.09")
SFP12PXT15		4.5 m (15')	
SFP12PXT25		7.5 m (25')	
SFP12PXT50		15 m (50')	

Mounting, Installation and Alignment

See the PICO-GUARD Controller Manual (p/n 69761) and PICO-GUARD Application and Design Guide (p/n 69763) for complete mounting, installation, alignment and operation information.

PICO-GUARD Points may be mounted using the two 12 mm threaded nuts provided. Optional mounting brackets are available, see the PICO-GUARD Application and Design Guide. Refer to the appropriate machine safety standards for proper safeguarding requirements and guidelines. The point of detection must be at a distance such that exposure to the hazard is prevented.

PICO-GUARD™ Fiber Optic Safety Point – 12 mm Plastic Barrel

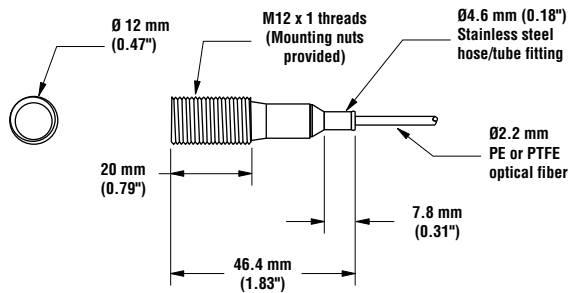
SFP12PS, SFP12PXP and SFP12PXT Series

Specifications

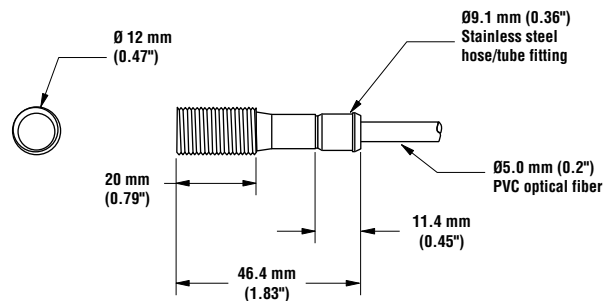
Operating Range	<p>Range information is based on use of the integral SFP12 Series polished fibers. The use of SFA-FS Fiber Splice will reduce range.</p> <p>Do not cut polished fiber ends unless absolutely necessary – if the end has been damaged, contaminated, or if it must be cut to length. Use only the Model PFC-2 Fiber Cutter to cut fibers, when necessary. If a polished end is cut, the excess gain will be reduced, the advantage of polishing will be lost, and the operating range will be reduced.</p> <p>Minimum Operating Range: 150 mm (6")</p> <p>Maximum Operating Range*: see table at right</p>	<table border="1"> <thead> <tr> <th colspan="5">Maximum Operating Range*</th> </tr> <tr> <th>Receiver \ Emitter</th> <th>SFP12..8</th> <th>SFP12..15</th> <th>SFP12..25</th> <th>SFP12..50</th> </tr> </thead> <tbody> <tr> <td>SFP12..8</td> <td>6.4 m (21')</td> <td>5.5 m (18')</td> <td>4.6 m (15')</td> <td>3 m (10')</td> </tr> <tr> <td>SFP12..15</td> <td>5.5 m (18')</td> <td>4.8 m (16')</td> <td>4 m (13')</td> <td>2.7 m (9')</td> </tr> <tr> <td>SFP12..25</td> <td>4.6 m (15')</td> <td>4 m (13')</td> <td>3.4 m (11')</td> <td>2.1 m (7')</td> </tr> <tr> <td>SFP12..50</td> <td>3 m (10')</td> <td>2.7 m (9')</td> <td>2.1 m (7')</td> <td>1.5 m (5')</td> </tr> </tbody> </table> <p>*In applications using SSM or MSM Series corner mirrors, range is reduced by approximately 8 percent for each mirror used.</p>	Maximum Operating Range*					Receiver \ Emitter	SFP12..8	SFP12..15	SFP12..25	SFP12..50	SFP12..8	6.4 m (21')	5.5 m (18')	4.6 m (15')	3 m (10')	SFP12..15	5.5 m (18')	4.8 m (16')	4 m (13')	2.7 m (9')	SFP12..25	4.6 m (15')	4 m (13')	3.4 m (11')	2.1 m (7')	SFP12..50	3 m (10')	2.7 m (9')	2.1 m (7')	1.5 m (5')
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Beam Diameter	9 mm (0.35")																															
Effective Aperture Angle (EAA)	Type 4 per IEC 61496-2; ±2.5° @ 3 m																															
Environmental Rating	IEC IP67																															
Temperature Range	0° to +70° C (+32° to 158°F)																															
Max. Relative Humidity	95% (non-condensing)																															
Construction	Housing: black polycarbonate plastic																															

Dimensions

SFP12PS and SFP12PXT Series Models



SFP12PXP Series Models



WARNING ... Not for Hand or Finger Detection

If the installation results in an object sensitivity of 64 mm (2.5") or greater, these devices can not reliably detect a finger or hand due to the large resolution (minimum object sensitivity), which results in a large depth penetration factor (Dpf) in the separation distance formula.

Do not use SFP series optical elements for hand or finger detection in point-of-operation guarding, if an individual can access the hazard by reaching around, over, under, or through the sensing field.

See the PICO-GUARD Application and Design Guide for complete information.



WARRANTY: Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.