

# 45FVL Visible Red, Blue, Green or White Plastic Fiber Optic

Self-Teach with Digital Display



## General Specifications

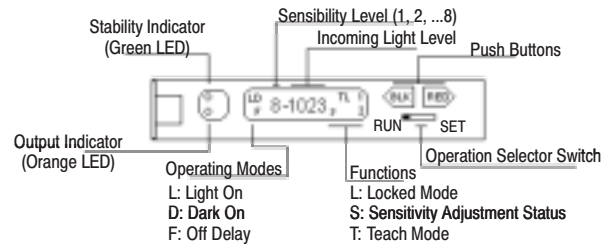
<b>Light Source</b>	Red, green, blue, or white by model
<b>Unit Protection</b>	Overload, short circuit, reverse polarity, false pulse
<b>Supply Voltage</b>	12–24V DC
<b>Current Consumption</b>	NPN Type <39mA/PNP Type <50mA
<b>Output Type</b>	NPN or PNP by model
<b>Output Mode</b>	Light/dark operate selectable
<b>Output Rating</b>	100mA @ 30V DC
<b>Max Leakage Current</b>	0.5ma
<b>Response Time</b>	Channel 1 = 600µs, Channel 2 = 700µs
<b>Housing Material</b>	ABS resin
<b>Lens Material</b>	Not applicable
<b>LED Indicators</b>	See User Interface below
<b>Connection Types</b>	2m 3 conductor 24AWG cable; 4-pin pico QD, Power Bus cables
<b>Optional Accessories</b>	Cordsets—see page R1–79
<b>Operating Environment</b>	NEMA 1, IP 40
<b>Vibration</b>	10–55Hz, 1mm amplitude, Meets or exceeds IEC 60947–5–2
<b>Shock</b>	50g, 3 directions, 3 times
<b>Operating Temperature</b>	–25°C to +55°C (–13°F to +131°F)
<b>Relative Humidity</b>	35...85%
<b>Approvals</b>	CE marked for all applicable directives

## Features

- Choose from, red, green, blue, white light source
- Self-teach capability
- Manual or automatic sensitivity adjustment
- Back-lit LCD display
- Selectable 40ms off delay output timer
- DIN rail mountable
- “Power-Bus” option
- Dual channel interference protection
- Reverse polarity, false pulse and transient noise protection (500V)

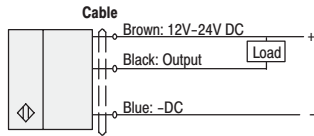
## User Interface Panel

LED	State	Condition
Green	OFF ON	Unstable light signal Stable light signal
Orange	OFF ON	Output OFF Output ON

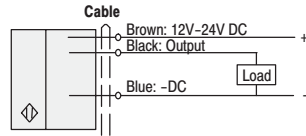


## Wiring Diagrams

### Cable NPN Output



### Cable PNP Output

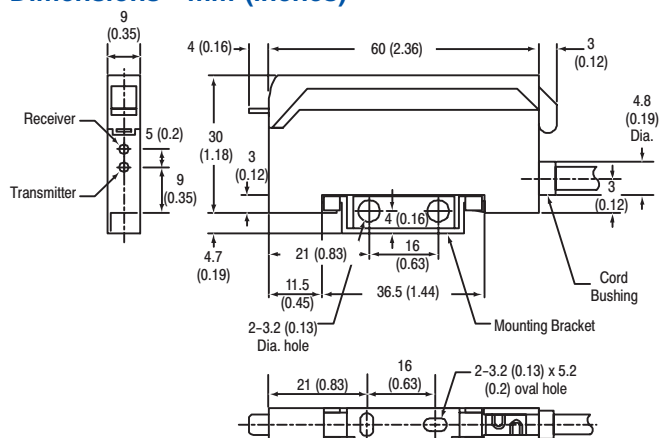


### Quick-Disconnect



PHOTOSWITCH® Photoelectric Sensors  
**45FVL Visible Red, Blue, Green or White Plastic Fiber Optic**  
 Self-Teach with Digital Display

**Dimensions—mm (inches)**



**Typical Response Curves**

Contact Rockwell Automation product support at 1.440.646.5800.

**Color Contrast Sensing**

For the Light Source Selector Guide, please refer to page R1-22.

**Typical Plastic Fiber Optic Cable Selection—mm (in)**

LED	Sensing Mode	Plastic Fiber Diameter	Typical Fiber Model	Maximum Range
Red	Diffuse (Bifurcated Fiber)	1 (0.040)	43PR-NES57ZS	Contact Rockwell Automation product support at 1.440.646.5800.
		0.5 (0.020)	43PR-NJS53ZM	
	Transmitted Beam (Individual Fiber)	1 (0.040)	43PT-NJS56FS	
		0.5 (0.020)	43PT-NBS52FM	
Green	Diffuse (Bifurcated Fiber)	1 (0.040)	43PR-NES57ZS	
	Transmitted Beam (Individual Fiber)		43PT-NJS56FS	
Blue	Diffuse (Bifurcated Fiber)		43PR-NES57ZS	
	Transmitted Beam (Individual Fiber)		43PT-NJS56FS	
White	Diffuse (Bifurcated Fiber)		43PR-NES57ZS	
	Transmitted Beam (Individual Fiber)		43PT-NJS56FS	

**Product Selection**

Sensing Mode	Operating Voltage	Response Time	Output Characteristics		LED	Catalog Number		
			Type	Max Load Current		Cable	Pico	Power Bus (QD required)
<p><b>Field of View:</b> Refer to Plastic Fiber Optic section page R1-208  <b>Emitter LED:</b> Visible red 660nm, Visible green 565nm, Visible blue 470nm, Visible white  <b>Indicators:</b> Orange: Output, Green: Stability</p>	12-24V DC +/- 10%	600µs	PNP	Output: 100ma Stability: 50ma	Red	45FVL-2LHE-A2	45FVL-2LHE-P4	45FVL-2LHE-C4 ①
					Green	45FVL-3LHE-A2	45FVL-3LHE-P4	45FVL-3LHE-C4 ①
					Blue	45FVL-6LHE-A2	45FVL-6LHE-P4	45FVL-6LHE-C4 ①
					White	45FVL-5LHE-A2	45FVL-5LHE-P4	45FVL-5LHE-C4 ①
					Red	45FVL-2LGE-A2	45FVL-2LGE-P4	45FVL-2LGE-C4 ①
			NPN		Green	45FVL-3LGE-A2	45FVL-3LGE-P4	45FVL-3LGE-C4 ①
					Blue	45FVL-6LGE-A2	45FVL-6LGE-P4	45FVL-6LGE-C4 ①
					White	45FVL-5LGE-A2	45FVL-5LGE-P4	45FVL-5LGE-C4 ①

① PowerBus master/3 conductor QD = 45F-A3C-A2. PowerBus slave/1 conductor QD = 45F-A1C-A2

**Cordsets and Accessories**

Description	Catalog Number	Description	Catalog Number	Description	Catalog Number
Pico QD Cordset, Straight, 4-pin, 2m	889P-F4AB-2	PowerBus slave/1 conductor QD	45F-A1C-A2	Fiber Optic Adaptor Replacements 1.25mm-2.2mm O.D. 1.00mm-2.2mm O.D.	61-6731 61-6742
Fiber Optic Cables	R1-169	PowerBus master/3 conductor QD	45F-A3C-A2		Mounting Assembly