Arc-Flash Detection Relays
AF0100 Series

Arc-Flash Monitoring Relay



Description

The AF0100 series arc-flash relay is a cost-effective, microprocessor-based protection relay that limits arc-flash damage by using light sensors to rapidly detect an arc and then trip a circuit breaker. Any combination of point and fiber-optic sensors can be connected to the relay to provide maximum protection. The AF0100 accepts PGA-LS10 point sensors and PGA-LS20/PGA-LS30 fiber-optic sensors. These sensors are designed with a wide detection angle and provide the correct sensitivity for an arc flash. LEDs on the relay and on the sensors indicate sensor health and which sensor(s) detected an arc fault. Sensors, inputs, and trip-coil voltage are monitored to ensure fail-safe operation. A solid-state redundant trip circuit provides an internal fail-safe mechanism and fast arc-flash response during power up.

The AF0100 unit comes with two isolated Form-C contacts for use in applications where multiple devices require tripping. This is especially useful for generator applications where the generator and breaker need to be tripped in case of an arc flash. The relay's compact size and DIN-rail or surface-mountable features make it ideal for equipment manufacturers.

Features & Benefits

FEATURES	BENEFITS
Compact size	Fits into a broad range of arc-flash applications
Works with two different optical sensor types	Point sensors or fiber-optic sensors can be used in any combination for maximum flexibility
Dual sensor inputs	One relay can monitor two arc-flash sensors
Adjustable light sensitivity	Allows for operation in bright environments and maximum sensitivity in dark environments
Discrete wire networking	Multiple AF0100 or AF0500 units can be interconnected to form a system
Fail-safe system	Continuous monitoring of optical sensors and inputs ensure maximum protection
USB interface	Configuration software is easy to use with no drivers or software installation
Unit health indication	Continuous protection with self-diagnostic and remote unit-health indication
LED indication	Trip and sensor status indication on the relay and sensors

Applications

- Switchgear cubicle
- Transformer compartment
- Generator control panel
- Motor control center bucket

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Specifications

Input Voltage	
AF0100-00	100–240 V ac/V dc, 24–48 V dc
AF0100-10	24–48 V dc
Dimensions	**H** 90 mm (3.5"); **W** 128 mm (5.0"); **D** 60 mm (2.4")
Trip, Error Relays	Form C, 250 V ac/30 V dc, 6 A resistive
Trip Time	5 ms (typical)
Sensitivity	10–25 klux programmable
Mounting	Surface, DIN rail
Operating Temperature	-40 °C to +70 °C (-40 °F to 158 °F)
Shipping Weight	1.0 kg (2.2 lb)
Applicable Standards	UL Listed (UL 508), CE, RCM, FCC
Warranty	5 years

Certification & Compliance

UL	UL508 Industrial Control Equipment
CE	CE, European Union. EMC directive 2014/30/EU: Certified to IEC/EN 60255-26:2013 Low voltage directive 2014/35/EU: Certified to IEC/EN 61010-1:2010 + AMD1:2016
RCM	Australia, Regulatory Compliance Mark (RCM)
FCC	FCC Part 15, Subpart B, Class A – Unintentional Radiators

Accessories

A PGA-LS10 Point Sensor
Line-of-sight light sensor detects an arc as small as 3 kA within a 2 m half-sphere. Includes sensor health and trip indication.

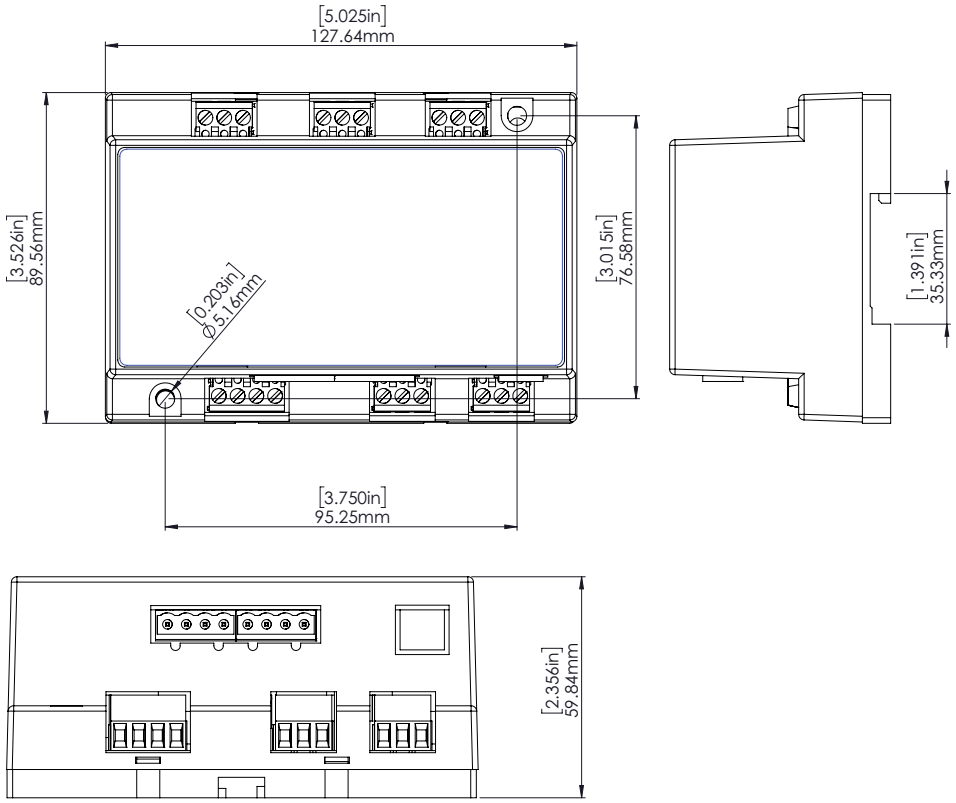
B PGA-LS20/PGA-LS30 Fiber-Optic Sensor
360° light sensor to run along bus bars. Includes sensor health and trip indication.

Ordering Information

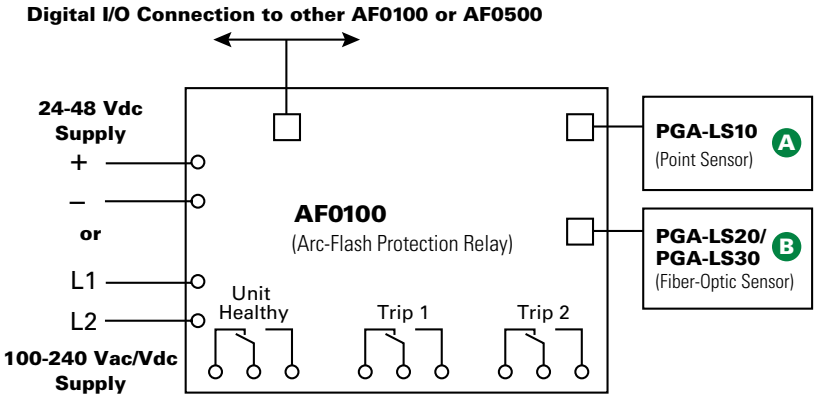
ORDERING NUMBER	DESCRIPTION
AF0100-00	Arc-Flash Relay, Universal Supply
AF0100-10	Arc-Flash Relay, 24–48 V dc

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Dimensions Inches (mm)



Simplified Circuit Diagram



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