Arc-Flash Detection Relays
D0920 Series

Arc Detection Unit

Description

The D0920 series arc-detection unit is a high-speed relay used for electrical power-distribution systems. It provides a simple and cost-effective solution for arc-flash monitoring. This device supports up to two A0220 point sensors mounted in a switchboard and requires a 230 V ac supply. The D0920 detects a fault and pulses the trip output in less than 1 ms. The fast trip time reduces the risk of personal injury and equipment damage. The A0220 features a 180° detection zone and can detect an arc as small as 3 kA within a 2 m half-sphere. These point sensors are available with 10 m cabling. The D0920 arc-detection unit provides superior protection against the damaging effects of arc flashes and improves the lifespan of electrical equipment as well as the protection of personnel. This unit holds both CCC and CE certifications.

Operation

The D0920 control power is typically supplied from the switchboard main power. The ac voltage may fail when an arc fault develops. The D0920 uses energy stored in an internal capacitor to trip the circuit breaker. The storage capacitor is an extremely long-life electrolytic capacitor with a specified lifetime of more than 30 years at an ambient temperature of 50 °C (121 °F). The trip energy stored is sufficient for circuit breakers with a 220/250 V dc shunt trip coil. The D0920 has one output indication relay with an isolated, normally-open contact, and one output indication relay with an isolated, normally-closed contact. Additional features include power and trip indication, test mode, and sensitivity adjustment.

Features & Benefits

FEATURES	BENEFITS
Compact size	Fits into wide range of arc-flash applications
Trip time <1 ms	Limits arc-flash damage and risk of injury
Flexible certification	CCC and CE compliance allowing installation in many locations
Sensor input handles one or two sensors	Single arc-flash relay can monitor 2 sensors
Adjustable light sensitivity	Allows operation in bright environments and maximum sensitivity in dark environments
Test mode	Allows relay and sensor test without tripping the system

Applications

- Electrical power-distribution systems

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Specifications

Supply Voltage	230 V ac +15, -30%
Thyristor Output	325 V dc from charged capacitor, nominal energy 3.5 J
Sensitivity	Adjustable 2–24 klux
Number of Sensors	Max. 2
Response Time	Less than 1 ms
Power Consumption	3.5 VA
Ambient Temperature	-25 °C to 70 °C
Dimensions	**H** 90 mm (3.5"); **W** 105 mm (4.1"); **D** 61 mm (2.4")

Certification & Compliance

CE	IEC/EN 60255-26:2013; IEC/EN 61010-1:2010 + AMD1:2016
CCC	2016010303865529

Accessories

A0220 Light Sensors
Line-of-sight light sensor detects an arc as small as 3 kA within a 2 m half-sphere. Available with 10 m cable.

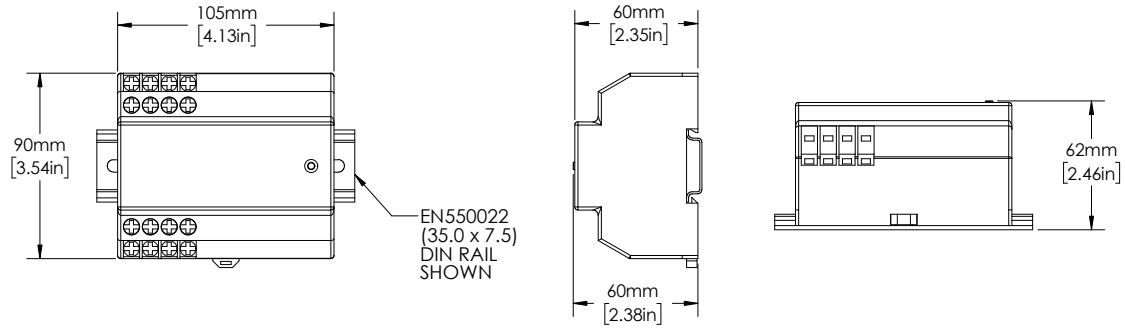
PGA-1100 Diode Logic Unit
For tripping one circuit breaker with multiple D0920 Relays.

Ordering Information

ORDERING NUMBER	DESCRIPTION
D0920.0060	Arc-Flash Relay

ACCESSORIES	REQUIREMENT
A0220.0010 Arc Detector V-Type; 10 m cable	Required: At least one sensor per monitored zone
PGA-1100 Diode Logic Unit	Optional

Dimensions Millimeters (inches)



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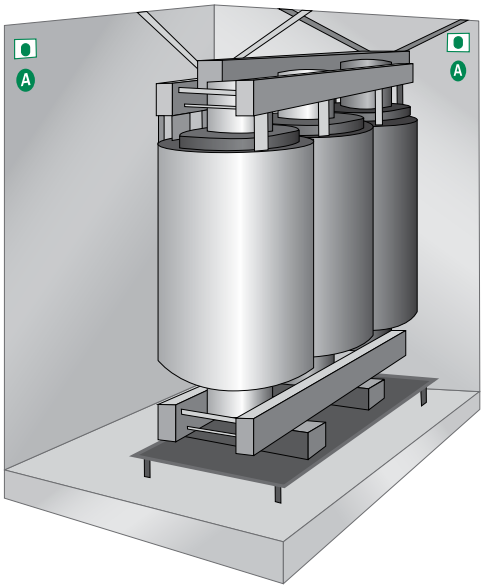
Installation Diagram



Install sensors in line of sight to possible arc faults.

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