

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

A 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

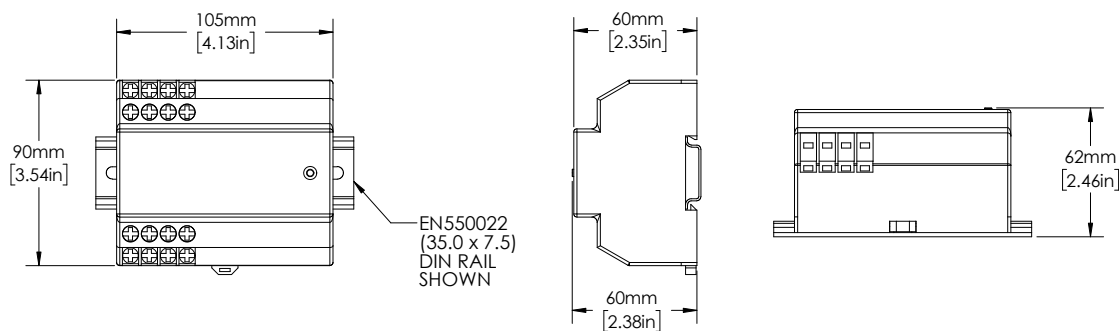
For tripping one circuit breaker with multiple D0920 Relays.

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 |

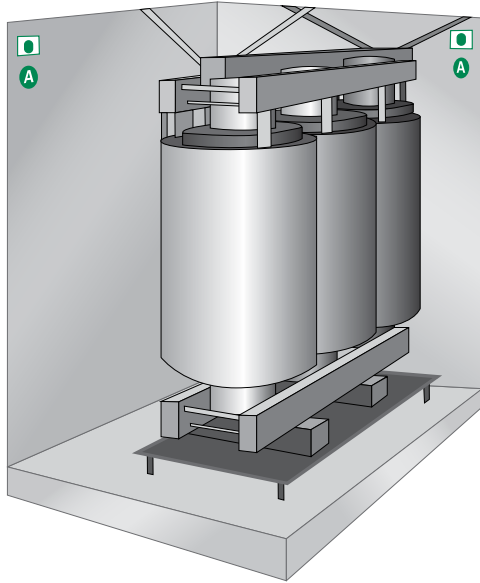
Dimensions Millimeters (inches)



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Installation Diagram



Install sensors in line of sight to possible arc faults.

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