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# Arc protection

## Optical arc detection for SIPROTEC 5

www.siemens.com/siprotec

### Description

Electric arcs are among the most dreaded fault scenarios in power supply engineering. They can be caused by a multitude of factors, such as going of the insulation, environmental conditions as well as operating errors. Electric arcs can cause heavy damage to switchgear and present a serious hazard to operating personnel.

The SIPROTEC 5 arc protection detects electric arcs through an optical sensor. Arcs are detected reliably and quickly as they develop, and the protective device can trip immediately and without delay times.

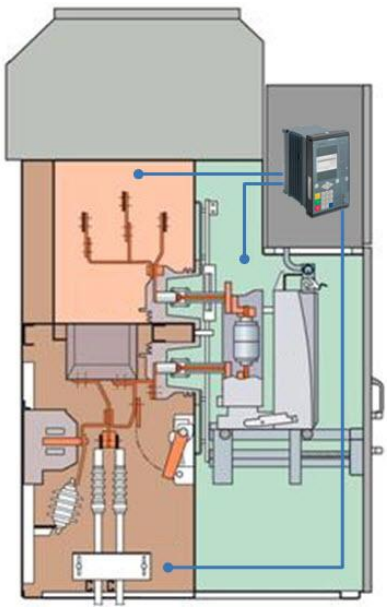
The arc protection module is part of the new SIPROTEC 5 series of modular, flexible and intelligent bay devices and can be used in the following device types:

- SIPROTEC 7SJ8
- SIPROTEC 7SA8
- SIPROTEC 7SD8
- SIPROTEC 7SL8
- SIPROTEC 7VK8
- SIPROTEC 7UT8
- SIPROTEC 7SK8
- SIPROTEC 7UM8


Arc protection module for SIPROTEC 5 devices

### Application and use

- Immediate detection of arcs in air-insulated switchgears by optical sensors
- Instantaneous trip in arc fault situations limits damage to switchgear
- The arc protection system is suited for use at all voltage levels



The above figure shows a cross-section of an NXAIR switchgear unit. The point sensors (shown in blue) and their connection cables are placed in such a way that arcs in the busbar compartment, the circuit breaker compartment and the cable connection department are reliably detected.

# Efficient and flexible

Up to 3 optical point or line sensors can be connected per plug-in module, which means a total of up to 15 sensors on modular SIPROTEC 5 devices.

Point sensors are available with connecting cable lengths - between 3 m and 35 m.

Line sensors detect arcs along the whole sensor length. They are available from 5 m to 40 m. Line sensors are connected through a supply line to the arc protection module. The supply lines are available from 3 m to 10 m.

Exchangeable plug-in modules

Detection of arcs is either purely optical, or optionally using an additional current criterion to avoid overfunctioning.

**Advantages**

- Reliable arc detection
- Extremely fast tripping time
- Minimization of thermal damage
- Higher personal safety
- Minimization of downtimes
- EMI safety thanks to purely optical sensors
- Quick and easy retrofitting

**Ordering versions**

| Description | Order number |
|---|---|
| Arc protection module | P1Z1966 |
| Point sensor 3m | P1X19 |
| Point sensor 35m | P1X82 |
| Line sensor 5m | P1X107 |
| Line sensor 40m | P1X143 |
| Supply line for line sensor 3m | P1X152 |
| Supply line for line sensor 10m | P1X170 |

Additional sensor lengths can be found in our price list.

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