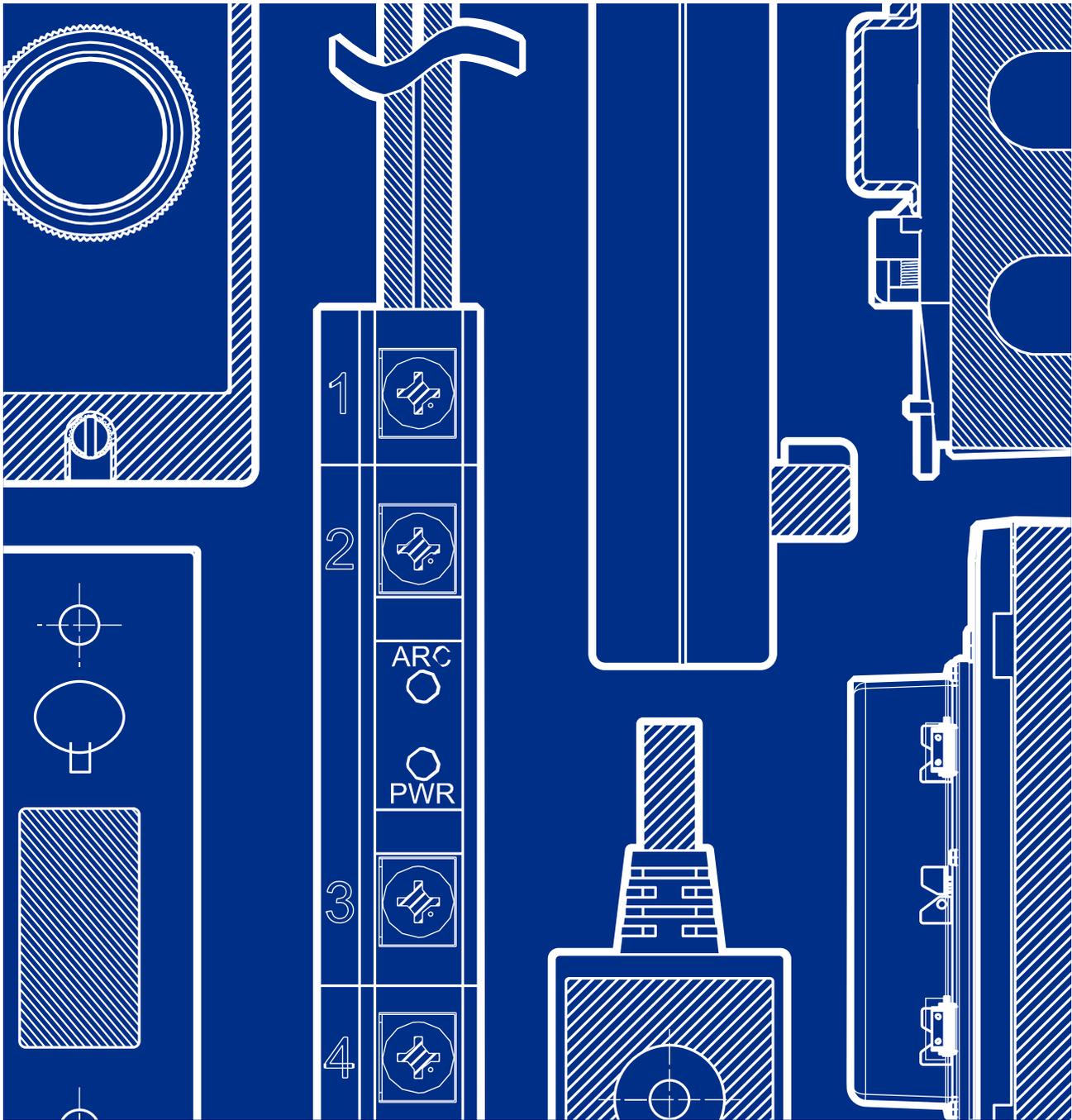
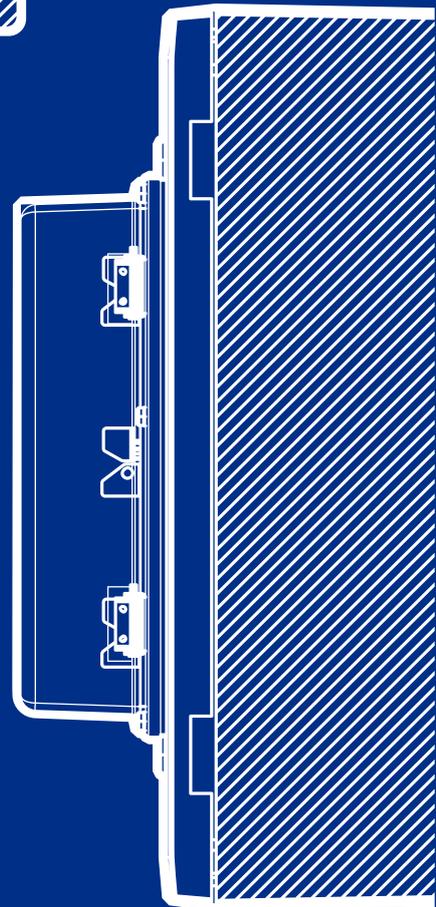
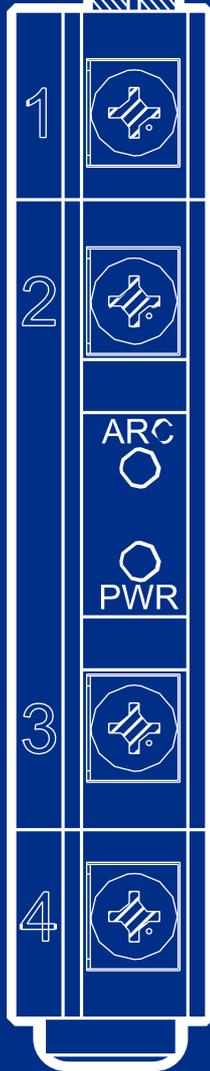
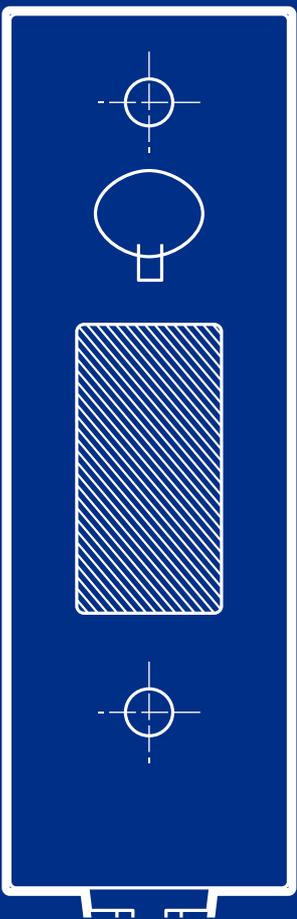
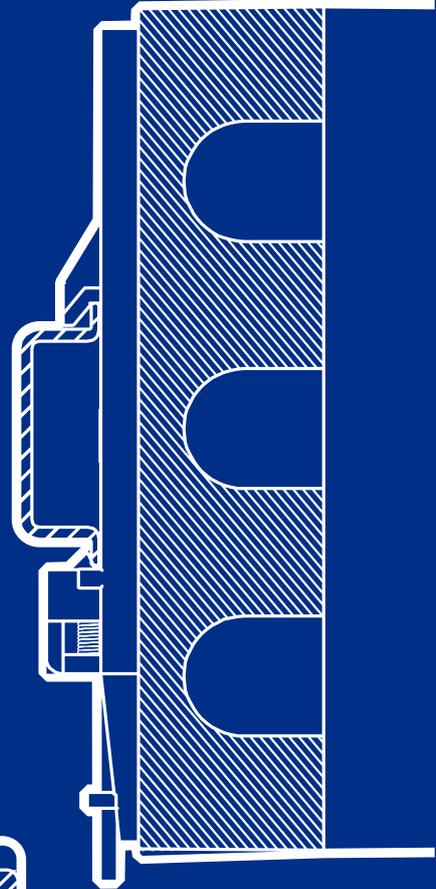
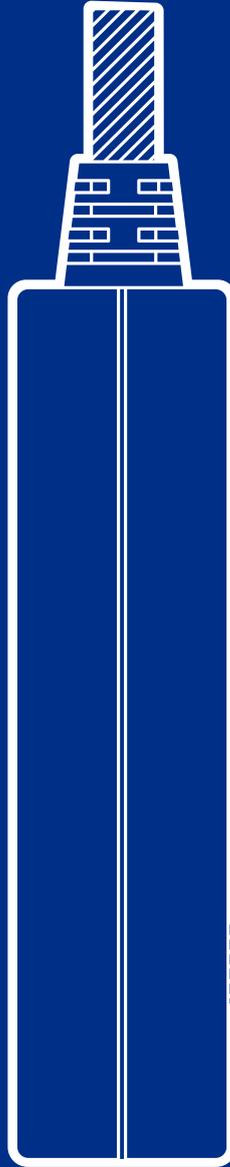
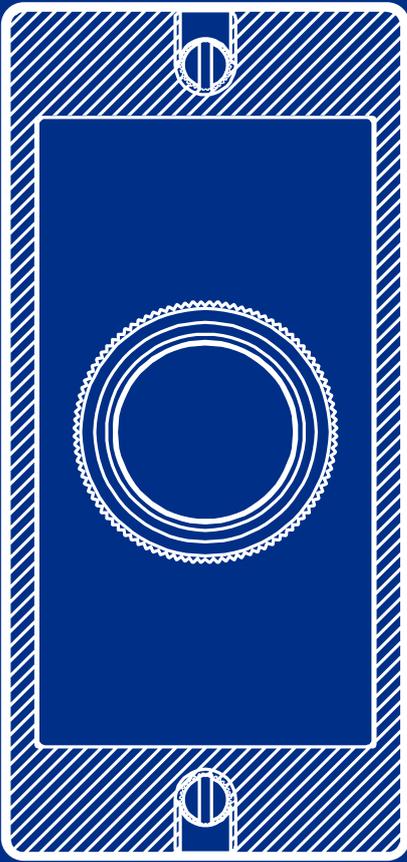
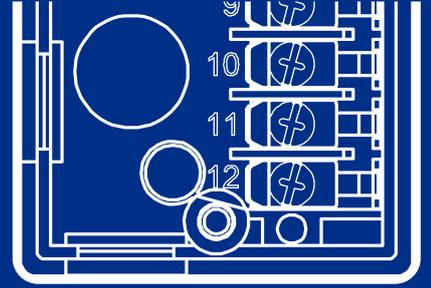
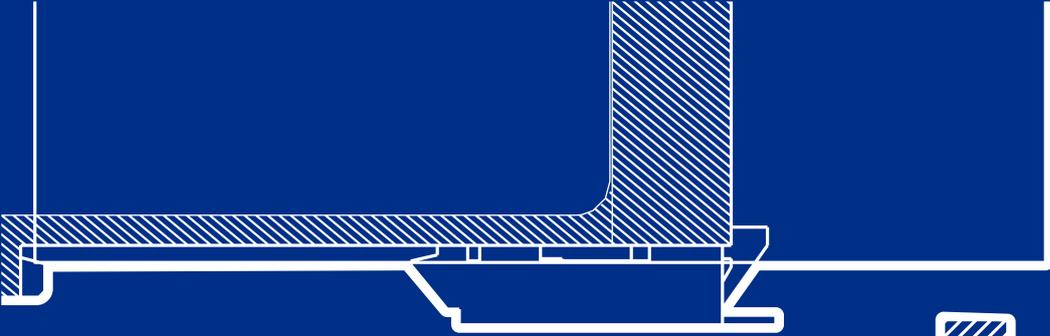


Power Distribution and Protection

Circuit Protection



Arc Logix



7 Arc LogiX

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Arc LogiX™ Optical

The Arc LogiX™ optical relays are a cost-effective range designed to limit arc-fault damage. These relays use fiber optic light sensors to rapidly detect an arc fault event and trip a circuit breaker. The compact body is ideal for new and retrofit installations, suitable for MV and LV switchgear cubicles, transformer compartments, generator control panels or motor control centers.



Arc LogiX™ Optical range

The Arc LogiX™ Optical product range includes three different core arc flash relay technologies that are designed to meet performance, technology and cost requirements.

Arc LogiX™ Optical SS (ARCL0-SS)

Super high speed, cost competitive basic arc fault protection for switchgear utilising two optical point sensors. Perfect for use in small one or two ACB switchboards or in a panelboard.

Arc LogiX™ Optical RS (ARCL0-RS)

High speed arc fault protection for switchgear with multiple arc protection zones utilising four optical point sensors and one optical linear sensor. Ideal for use in main switchboards with multiple ACBs and multiple monitoring zones, especially if there is a busway to monitor.

Arc LogiX™ Optical GM (ARCL0-GM)

High speed arc fault protection for simple and complex switchboard architectures utilising twelve optical point sensors and two optical linear sensor. Typically used in MV applications with IEC 61850 communications specified.



Arc LogiX™ Optical sensors (ARCLOPS and ARCLOLS)

The Arc LogiX™ Optical relays are designed to monitor remote optical sensors that respond to the flash of light emitted during the incidence of an arcing fault. Onset of the light flash and detection by the sensors occurs in a few milliseconds.

Point Sensor

This is an electrically wired point sensor suitable for application in discrete compartments in metal clad switchgear and cable ducts. When an arc is detected, the resistance presented by the drops to a level where the current flow increases to approximately 20 mA. This increased current flow is instantaneously detected by the ARCLO-RS relay and its trip output contacts closed.

Linear Sensor

The linear sensor may be applied to protect large volumes where multiple point sensors would otherwise be required. A separate linear sensor is required for each segregated protection zone.





Optical Arc Flash Relay Selection Guide

ARCLO-SS



ARCLO-PB



Response time		< 2 ms (Flash to trip output contacts)	< 10 ms (Flash to trip output contacts)
Auxiliary voltage		24 V DC	24 V DC
Maximum number of sensor inputs	Point sensor	2	3
	Linear sensor	-	-
Number of high speed trip output contacts		1	2
Output type		Solid-State NPN ¹⁾	Volt-Free Contact
Communication protocol		-	-
Communication response time		-	-
Configuration options		-	Dip Switch
Functionality		Trip Supervision and Indication	Trip Supervision and Indication
Mounting options		DIN Rail	DIN Rail / Surface
Compatible optical sensor		Point Sensor	Point Sensor
Page Number		8	10

Optical Arc Flash Relay Sensor Selection Guide

Sensor type	Point sensor	ARCLOPS ²⁾	ARCLOPS ²⁾
	Linear sensor	-	-



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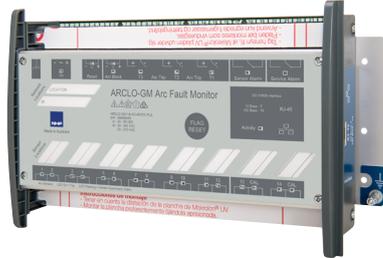
Notes: ¹⁾ For ARCLO-RS, the sensor ARCLOLS10M is a compulsory selection.
 For 12/24 V DC shunt coil voltage, order NHP relay part number 3930902424VDC
 For 125/220 V DC shunt coil voltage, order NHP relay part number RD3501D
 For 12/230 V AC shunt coil voltage, order NHP relay part number 3930824024VDC



ARCLO-RS ²⁾



ARCLO-GM



< 7 ms (Flash to trip output contacts)	< 2.2 ms (Flash to trip output contacts)
24 V DC	24 V DC
4	12
1	2
4	3
Volt-Free Contact	Volt-Free Contact
-	IEC61850 GOOSE and MMS
-	< 4.5 ms (GOOSE response from Flash)
Rotary Switch	Web Server
Trip Supervision and Indication	Trip Supervision and Indication
DIN Rail / Surface	DIN Rail / Surface
Point Sensor and Linear Sensor	Point Sensor and Linear Sensor

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ARCLOPS

ARCLOLS10M

ARCLOPS

ARCLOLS10M



16

16

Notes: ²⁾ The ARCLO-SS requires a suitable interposing relay to match the shunt coil control voltage in an upstream breaker.
³⁾ One (1) optical point sensor only. Refer to the selection guide for the **Maximum number of sensor inputs** per relay type. ARCLO-SS requires 2 x ARCLOPS connected at all times.
⁴⁾ Parts number refers to 10 m optical fibre length.

NHP Arc LogiX™ Optical ARCLO-SS



- ✓ Improve personnel safety - Can greatly reduce the danger from an arc flash within a switchroom
- ✓ Reduce potential power shutdowns – Can limit the damage to switchboard infrastructure
- ✓ Recognised methodology - Validated method of arc flash mitigation as outlined in AS/NZS 3000:2018 clause 2.5.5.3
- ✓ Compact, simple, rugged and economic design
- ✓ Simple wiring and DIN rail mounting
- ✓ Interface for two-point sensors
- ✓ High speed arc fault tripping output to interface with protection relay status inputs
- ✓ Continuous arc fault sensor supervision
- ✓ Arc fault pick up and supervision healthy indication

Ratings (Auxiliary Supply)

Nominal Voltage Rating	24 V DC
Operating Range	±20% of Nominal Rating

Attributes

High Speed Status Input	<5 ms pick up
-------------------------	---------------

Outputs

Flash to Trip Duration	2.2 ms
Fixed Arc Trip Output Pulse Duration	110 ms ± 10 ms
Supervision Output	Self-resetting
Arc Trip Output Rating: Open circuit voltage Maximum current	125% of nominal 3.1 A

Maximum Number of Sensors

Zones	1
Point	2
Linear	-

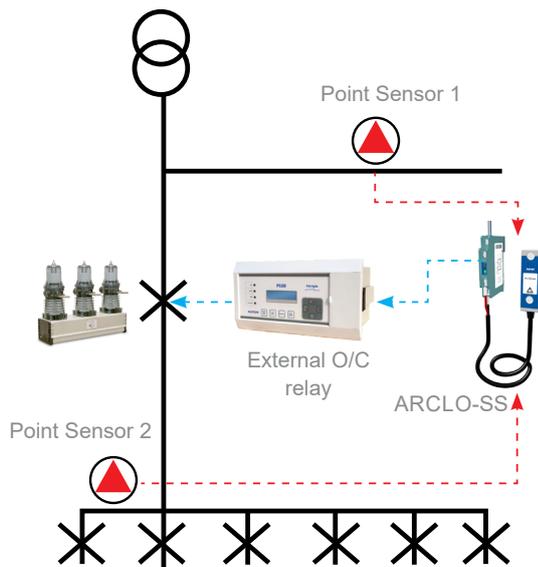
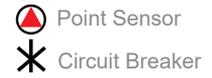
Physical

Operating Temperature Range	-10 to +55° C
Storage Temperature Range	-25 to +70°C

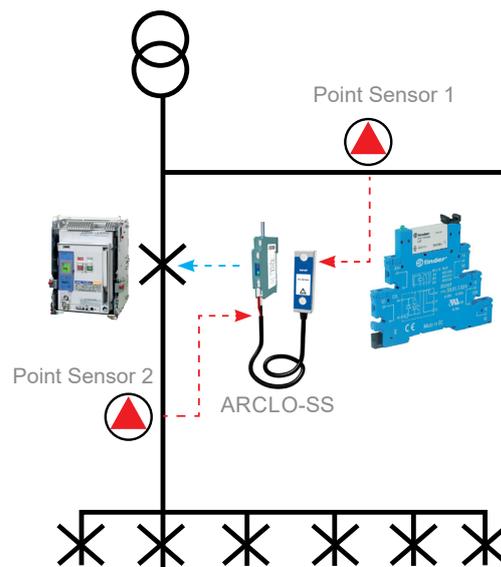


Application

- For new installations or as a simple retrofit in existing installations
- Interfaced with the binary inputs of existing protection relays that serve to trip a circuit breaker

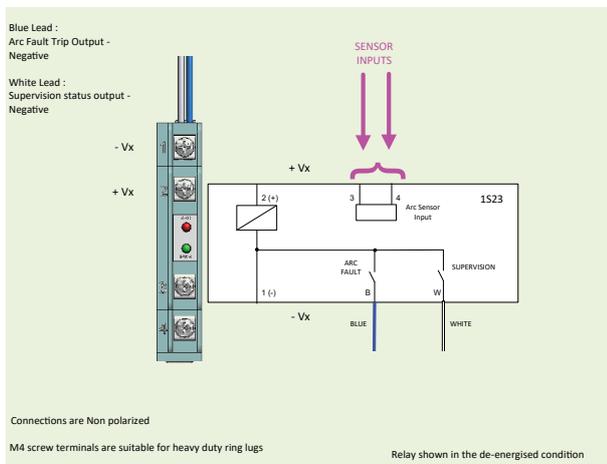


Above: SS relay + external protection relay (typical MV application)



Above: SS relay + external interposing relay to directly drive the ACB shunt (typical LV application)

Connection

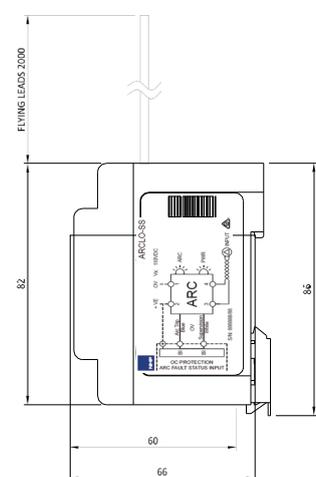


Dimensions

Front View
Suitable for mounting on 35 mm Top Hat Din Rail



Side View



Description

ARC LogiX Optical SS Arc Detection Relay 2I / 10 24 V DC

Catalogue No.

ARCLOSS211024VDCPS

NHP Arc LogiX™ Optical ARCLO-PB



- ✓ Improve personnel safety - Can greatly reduce the danger from an arc flash within a switchroom
- ✓ Reduce potential power shutdowns – Can limit the damage to switchboard infrastructure
- ✓ Recognised methodology - Validated method of arc flash mitigation as outlined in AS/NZS 3000:2018 clause 2.5.5.3
- ✓ Locally proven - Performance confirmed by a NATA approved Australian test laboratory
- ✓ Compact, economic design
- ✓ Simple panel mounting for retrofit applications
- ✓ Two or three-point sensor inputs
- ✓ Two high speed tripping duty arc sense output contacts
- ✓ Push button reset
- ✓ Continuous arc sensor supervision
- ✓ Integrated self-supervision
- ✓ Fail alarm contact
- ✓ 48 V AC / V DC
- ✓ AC / DC auxiliary

Ratings (Auxiliary Supply)

Nominal Voltage Rating	48 V DC
Operating Range	19-65 V AC 19-85 V DC

Outputs

Type	Volt-free Contact
Flash to Trip Duration	<10 ms
Supervision Output	Self-resetting

Supervision Alarm Output

Type	Volt-free Contact
Current	0.5 A continuous at 125 V AC
Maximum Voltage	250 V AC / 220 V DC

Maximum Number of Sensors

Zones	2
Point	3
Linear	-

Physical

Operating Temperature Range	-10 to +55°C
Storage Temperature Range	-25 to +70°C

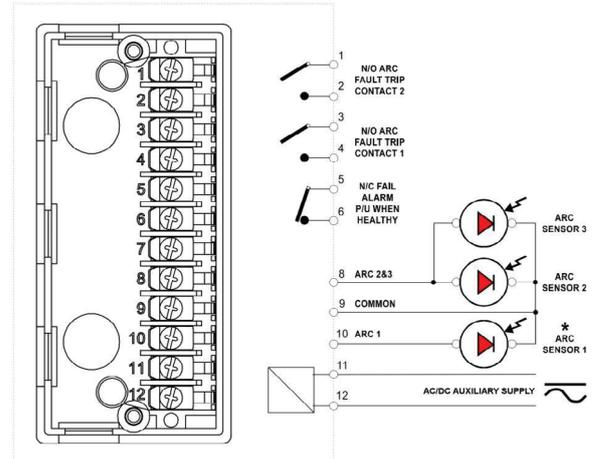


Application

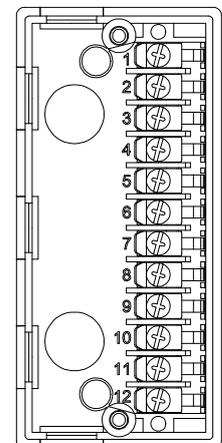
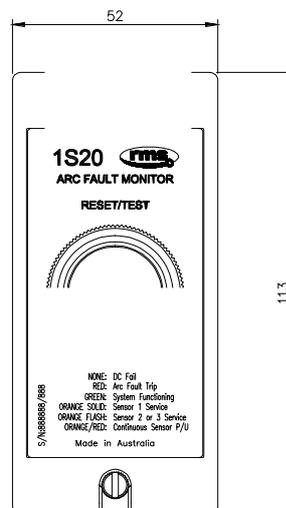
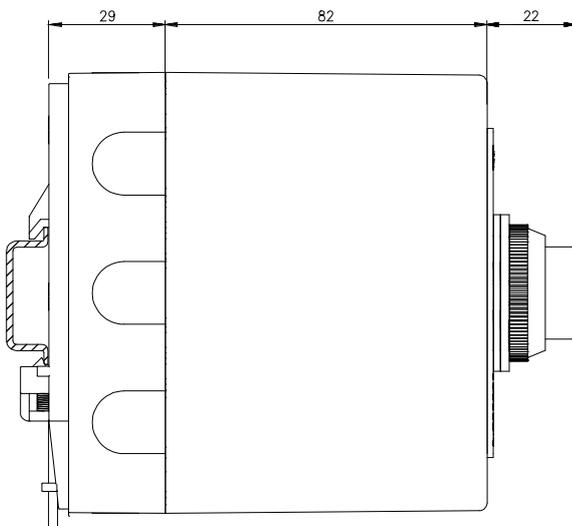
- For new installations or as a simple retrofit in existing installations
- Provides high-speed detection and signalling of arc flash hazards for application in air insulated metal enclosed switchgear



Connection



Dimensions



Description

Catalogue No.

ARC LogiX Optical PB Arc Detection Relay 3I / 2O 24 V DC

ARCLOPB3I2O24VDCPS

NHP Arc LogiX™ Optical ARCLO-RS



- ✓ Improve personnel safety - Can greatly reduce the danger from an arc flash within a switchroom
- ✓ Reduce potential power shutdowns – Can limit the damage to switchboard infrastructure
- ✓ Recognised methodology - Validated method of arc flash mitigation as outlined in AS/NZS 3000:2018 clause 2.5.5.3
- ✓ Locally proven - Performance confirmed by a NATA approved Australian test laboratory
- ✓ Four-point sensor inputs + One Linear sensor input
- ✓ Three high speed tripping zone outputs
- ✓ Front panel reset
- ✓ Continuous arc sensor supervision
- ✓ Integrated self-supervision with fail alarm contact
- ✓ Surface or DIN rail mount
- ✓ Plug-in terminal block
- ✓ M4 screw terminals

Ratings (Auxiliary Supply)

Nominal Voltage Rating	24 V DC
Operating Range	19-65 V AC 19-85 V DC

Outputs

Type	Volt-free Contact
Flash to Trip Duration	<7 ms
Supervision Output	Self-resetting

Supervision Alarm Output

Type	Volt-free Contact
Current	0.5 A continuous at 125 V AC
Peak Inrush Current	2 A
Maximum Voltage	250 V AC / 220 V DC

Maximum Number of Sensors

Zones	2
Point	4
Linear	1 ¹⁾

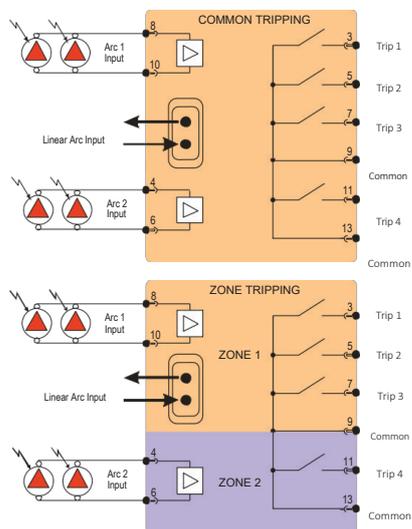
Physical

Operating Temperature Range	-10 to +55°C
Storage Temperature Range	-25 to +70°C

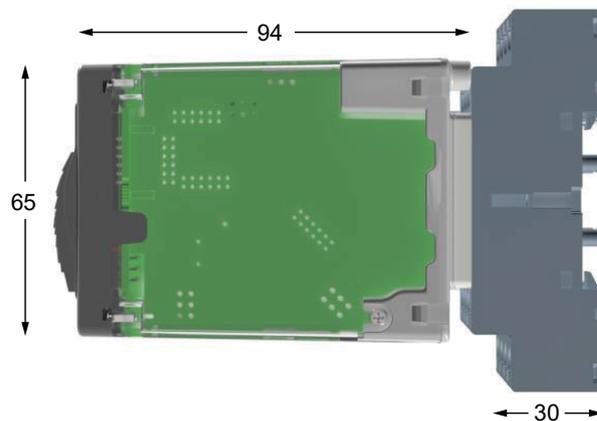
Note: 1) Can only be configured for Zone 1.



Connection



Dimensions



Description

Catalogue No.

ARC LogiX Optical RS Arc Detection Relay 5I / 30 DIN Mount

ARCLORS5I3O24VDCPLS

ARC LogiX Optical RS Arc Detection Relay 5I / 30 Panel Mount

ARCLORS5I3O24VDCPLP

NHP Arc LogiX™ Optical ARCLO-GM



- ✓ Improve personnel safety - Can greatly reduce the danger from an arc flash within a switchroom
- ✓ Reduce potential power shutdowns – Can limit the damage to switchboard infrastructure
- ✓ Recognised methodology - Validated method of arc flash mitigation as outlined in AS/NZS 3000:2018 clause 2.5.5.3
- ✓ Locally proven - Performance confirmed by a NATA approved Australian test laboratory
- ✓ Up to 16 optical point sensors
- ✓ 16 points or 12 points + 2 linear arc sensor version
- ✓ High speed arc fault tripping duty contacts
- ✓ Trip indication LED for each arc fault sensor
- ✓ Arc sensor supervision with sensor fail LED for each zone
- ✓ 10Base-T / 100Base-TX port
- ✓ Optional 100Base-FX port fibre
- ✓ System configuration via web browser
- ✓ IEC61850 GOOSE and MMS capable
- ✓ Up to 16 independent arc fault SARC logic nodes
- ✓ Self-supervision watchdog with healthy LED and alarm contact
- ✓ Wide range auxiliary supply
- ✓ Surface mount or flush mount options

Ratings (Auxiliary Supply)

Nominal Voltage Rating	48 V DC
Absolute Operating Range	20-70 V AC

Outputs

Supervision Alarm Output Type	Hybrid High Speed Trip - Solid State Polarised Switches
Flash to Trip Duration	<2.2 ms
Supervision Output	Self-resetting

Communications

Communication Protocol	IEC 61850
GOOSE Response Transfer Time	Type 1A, Class P1
End to end timing (From flash to ARCLO-GM GOOSE publication to Omicron CMC356 GOOSE subscription)	Single SARC GOOSE 5.5 ms

Maximum Number of Sensors

Zones	2
Point	12
Linear	2

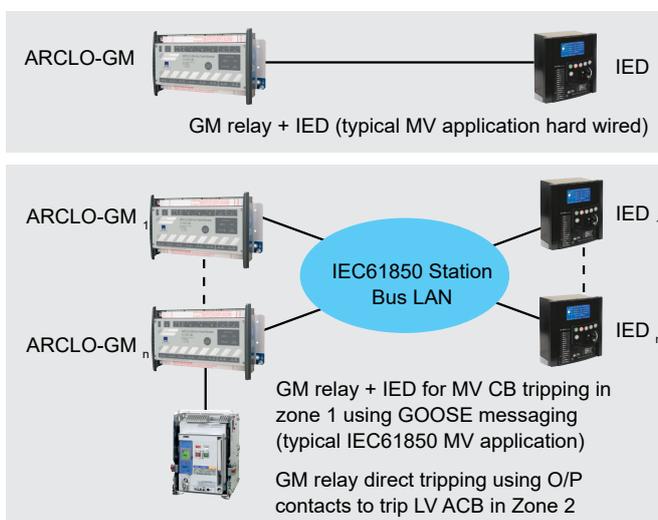
Physical

Operating Temperature Range	-10 to +55°C
Storage Temperature Range	-25 to +70°C

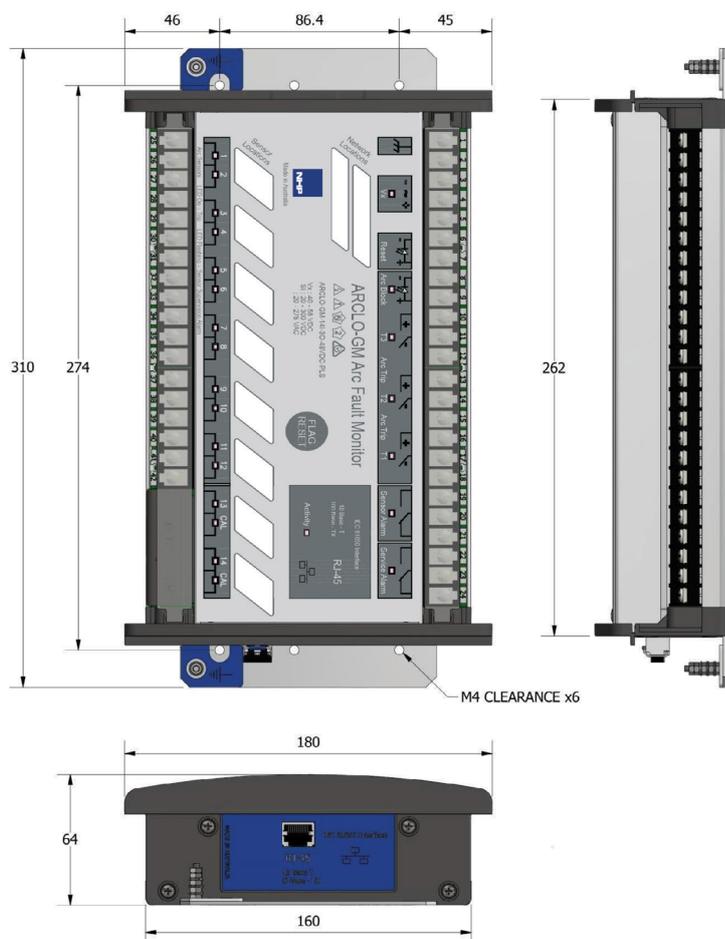


Application

- For new installations or as a simple retrofit in existing installations
- Provides high-speed detection and signalling of arc flash hazards for application in air insulated metal enclosed switchgear



Dimensions



Arc Logix

Description

Catalogue No.

ARC LogiX Optical GM Arc Detection Relay 14I / 30 48 V DC

ARCLOGM14I3048VDCPLS

Sensors

Point Sensors

Optical sensors that responds to the flash of light emitted during the incidence of an arcing fault.



Item Description

Catalogue No.

Arc LogiX Optical Point Sensor Dual Detection

ARCLOPS

Linear Sensors

Optical sensor that is used to transmit the flash of light transmitted during the incidence of an arcing fault back to an arc fault monitor such that detection of arcing faults can be achieved in as little as a few milliseconds.



Item Description

Catalogue No.

Arc LogiX Optical Linear Sensor 10 m

ARCLOLS10M

Included:

- Black link fibre optic cable (Qty. 1) - pre-terminated to the dual fibre connector ready to plug in to the ARCLO-RS or ARCLO-GM Arc Fault Monitor
- Translucent sensor fibre optic cable (Qty. 1) - 2.2 mm OD
- Optical fibre cable cutter (Qty. 1) - allows preparation of the link fibre and sensor fibre to the required length
- Optical fibre cable coupler (Qty. 2) - couplers to achieve in-line connection

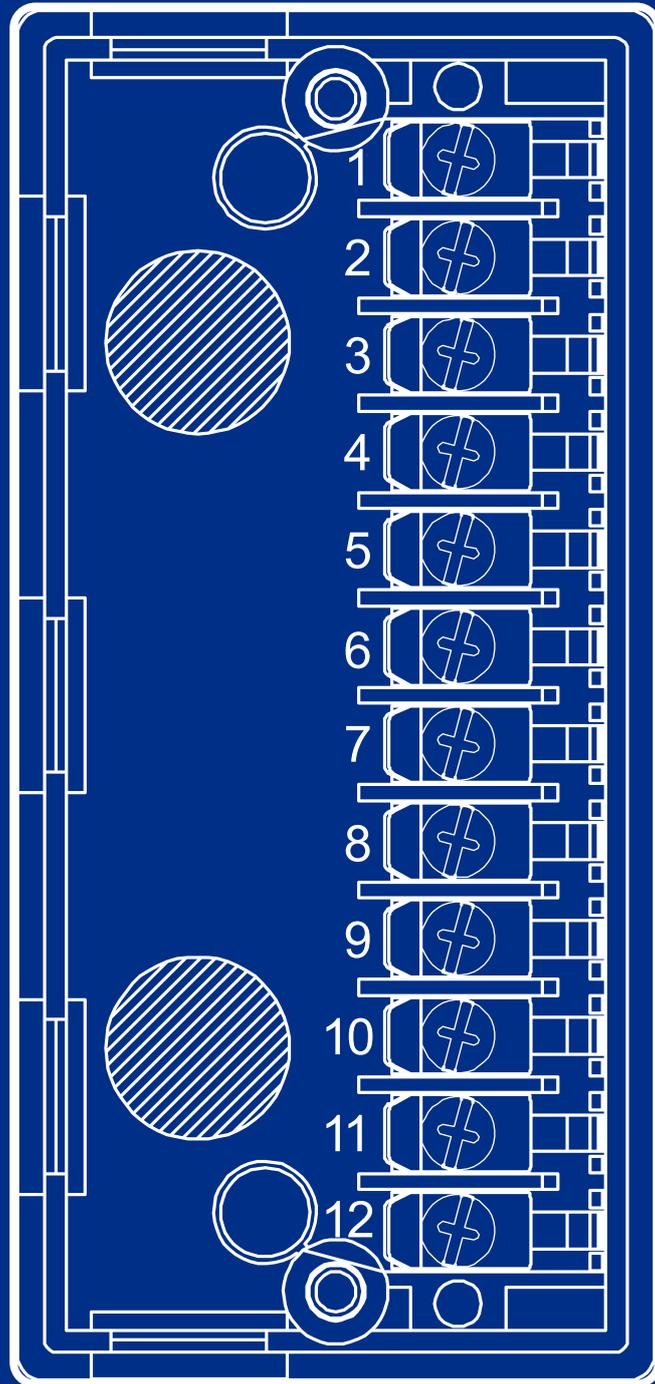


Catalogue Number

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ARCLORS5I3O24VDCPLS	13
ARCLOSS2I1O24VDCPS	9



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