



Omni 2 Radiation Alarm Annunciator

Model C1190A Alarm Warning Display for Airborne and Radiated Emissions.

DATASHEET

Features

- Separate Airborne and Radiation Visual Alerts
- Connects to multiple Radiation Monitors per alarm
- Bright solid state LED Alarm Display
- High reliability, fully dual redundant alarm circuits.
- IEC61508 SIL2 level safety rating
- Environmentally Protected to IP55
- Reset key switch to deactivate
- Repeat outputs provided per alarm
- Instrument failure output provided
- Aesthetic Wall-mount design
- Very low energy consumption while in standby
- 85-264Vac Powered



Overview

The Omni 2 alarm annunciator is a compact wall mounted visual alarm indicator designed for radiation hazard warning in high risk environments.

The Omni 2 is used to safeguard against personnel inadvertently entering plant areas where abnormal radiological conditions are present.

Typical Application

Position the Omni 2 on the wall adjacent to the entrance to an environmentally segregated area. Connect the Omni 2 to the area monitors, and if airborne contamination or high radiation conditions are present in the area, a large bright flashing visual warning of the nature of the hazard is displayed.

High Reliability Design

The Omni 2 features full dual redundant design for each of the two alarms, including power supply, solid state logic and visual display, providing a highly reliable alarm system, meeting or exceeding the functional safety requirements of these critical applications.

The Omni 2 is designed to meet the requirements of SIL2 safety systems as defined in IEC61508.

Operation

Once an alarm has occurred, the visual display will continue to flash, and the audible alert will continue to sound until reset by the key-switch, even if the hazard

condition has returned to normal. The alarm cannot be reset if the alarm condition is still present.

An internal audible warning can be enabled giving a warning of a dangerous condition, even if the display is out of sight of the personnel.

Testability

The Omni 2 provides features to allow easy routine testing of the alarm system. A green indicator light on the front of the unit provides indication that the unit is healthy. If a fault is detected in either of the dual redundant alarms, this indicator will extinguish, and the instrument failure output will activate warning of the failure.

In addition, the Reset key-switch can be used to test the alarm display. If the reset key-switch is activated while no alarm is present, the alarm displays will illuminate.

Installation

The Omni 2 is housed in an aesthetic low profile wall mount enclosure that has an IP55 protection rating (according to EN 60529).

Options for mechanical mounting include internal mounting holes or external mounting brackets (supplied).

Wiring entry is provided optionally through the bottom or rear of the unit via up to four 20mm glands.





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SPECIFICATIONS

Power Supply

Supply Voltage	85-264Vac 47-63Hz
Input Supply Current	< 0.1A
Switch-on Inrush current	< 1A (50Hz half cycle duration)

Alarm Inputs

Input Type	Volt Free Contacts
Action	Contacts normally closed. Contacts open for alarm.
Input Contact Quantity	Terminals provided for up to five input contacts wired in series per alarm. (see wiring diagram)
Input Open Circuit Voltage	15Vdc maximum
Input Short Circuit Current	5mA maximum
Maximum Closed Circuit Loop Resistance	<200 ohms total per alarm point.
Minimum Open Circuit Loop Resistance	>100kohms to guarantee open contact detection
Wire size	1.5mm2 (17SWG/15.5SWG) max.

Operator Controls

Type	One Spring loaded Key-switch for both alarm points.
Function	Alarm Reset. In addition, windows will light when key-switch is activated as test function.

Alarm Window Display

Quantity	2 Alarm windows
Lamp Type	Bright Yellow Backlit Solid State (LED)
Window Size	180mmx70mm
Window Legend	User printed on transparent film with laser/inkjet using template provided.

Audible Alert

Type	Internal Piezo Sounder
Audible Selection	User can enable/disable via link.

Relay Contact Outputs

Outputs provided	1 x Repeat Output Contact from Alarm 1 1 x Repeat Output Contact from Alarm 2. 1 x Instrument Fail Output Contact.
Contact Type	Potential free - Form A contact (Contact closed while normal, opens on alarm/fault)
Contact Rating	2A 30Vdc or 0.5A 230Vac
Isolation	1000Vac from contact to other circuits

Temperature Range

Operating Temperature	0°C – 60 °C (+32°F – 140°F)
Storage Temperature	-10°C – 70 °C (+14°F – 158°F)

Weight

Unpacked/Packed	1.5kg/2kg approx.
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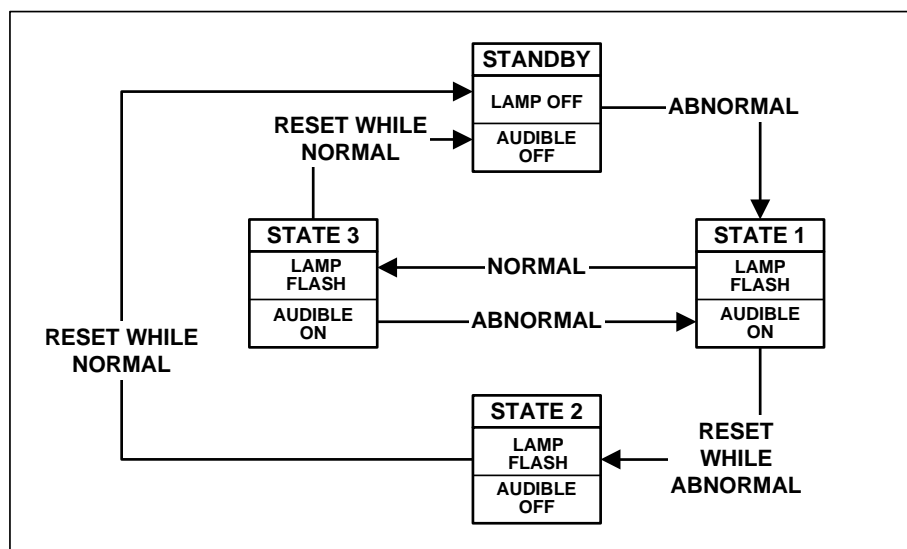
Compliance to Standards

Safety	EN 60950:1995
Emissions	EN55011 & EN50081-2:1994 Grp I Class A
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:1995, level 3
Immunity – Fast Transients	IEC 61000-4-4:1995 2 kV – AC power port 1 kV – input/output lines
Vibration	IEC60068-2-6: 1995 10-150Hz. 1g
Functional Safety	Designed to meet IEC61508 SIL2.

Ordering Information

Order Code	Description
C1190A	Omni 2 Radiation Alarm Annunciator

ALARM SEQUENCE STATE DIAGRAM



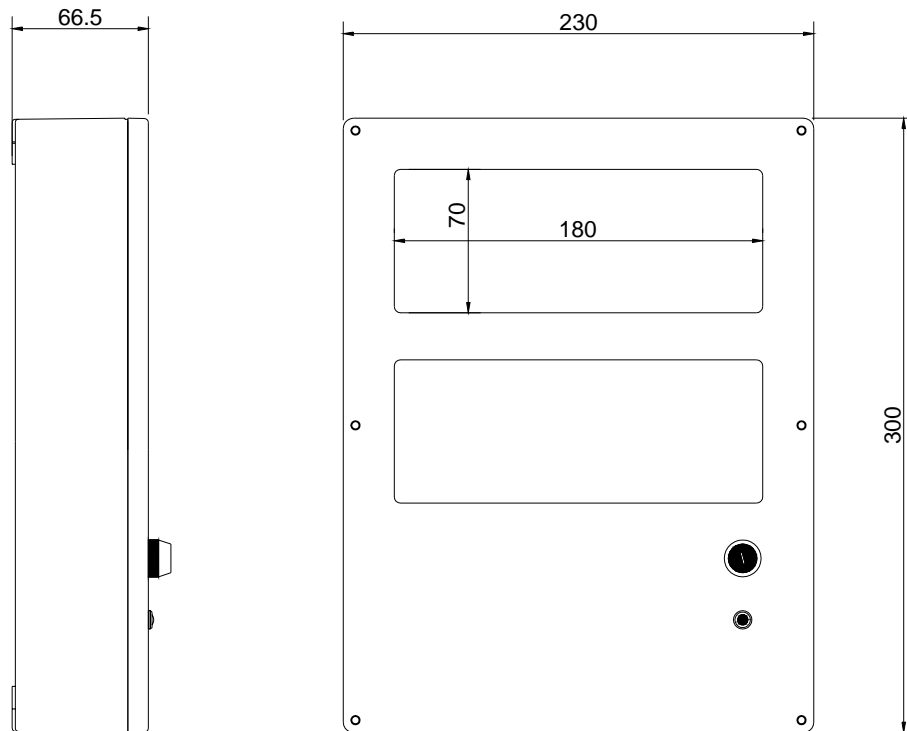
Alarm Flashing Sequence - Momentary (Fleeting) Alarm, Manual Reset



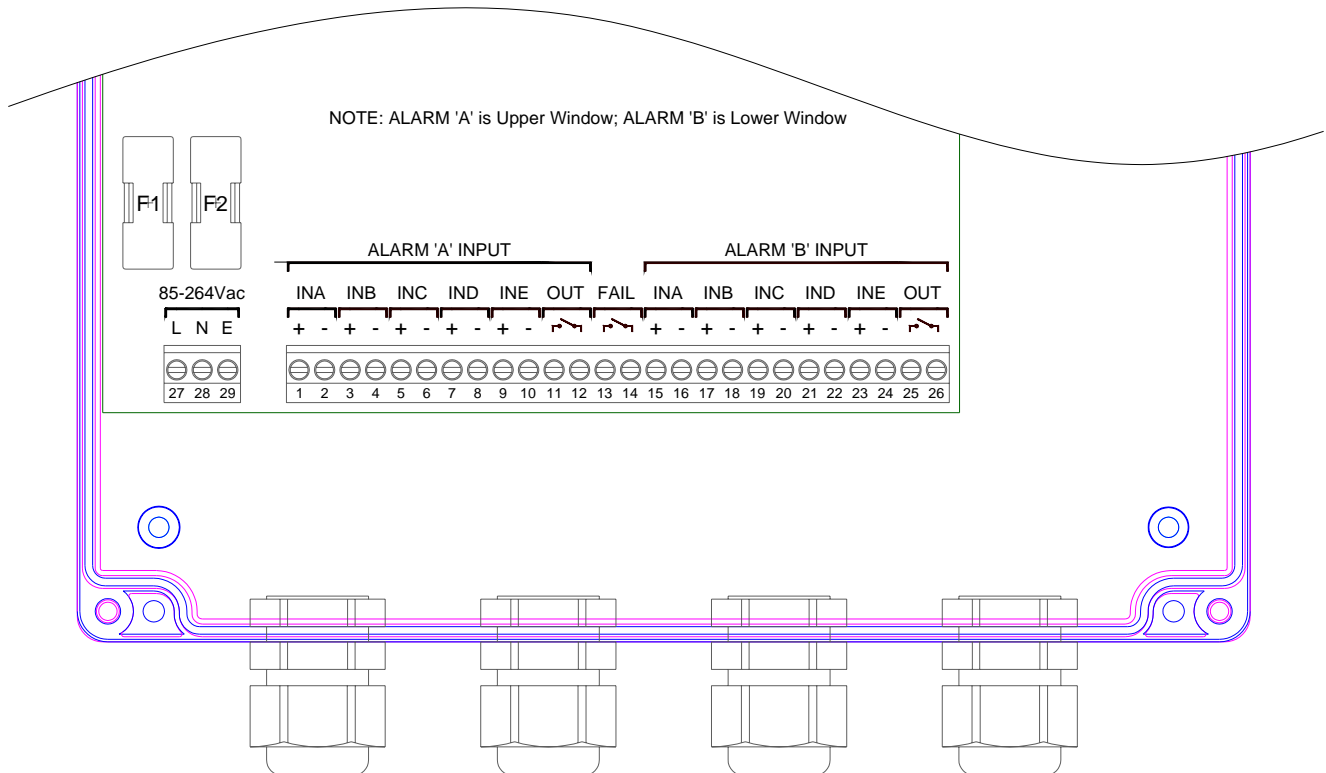
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MECHANICAL DETAILS



ELECTRICAL TERMINAL LAYOUT

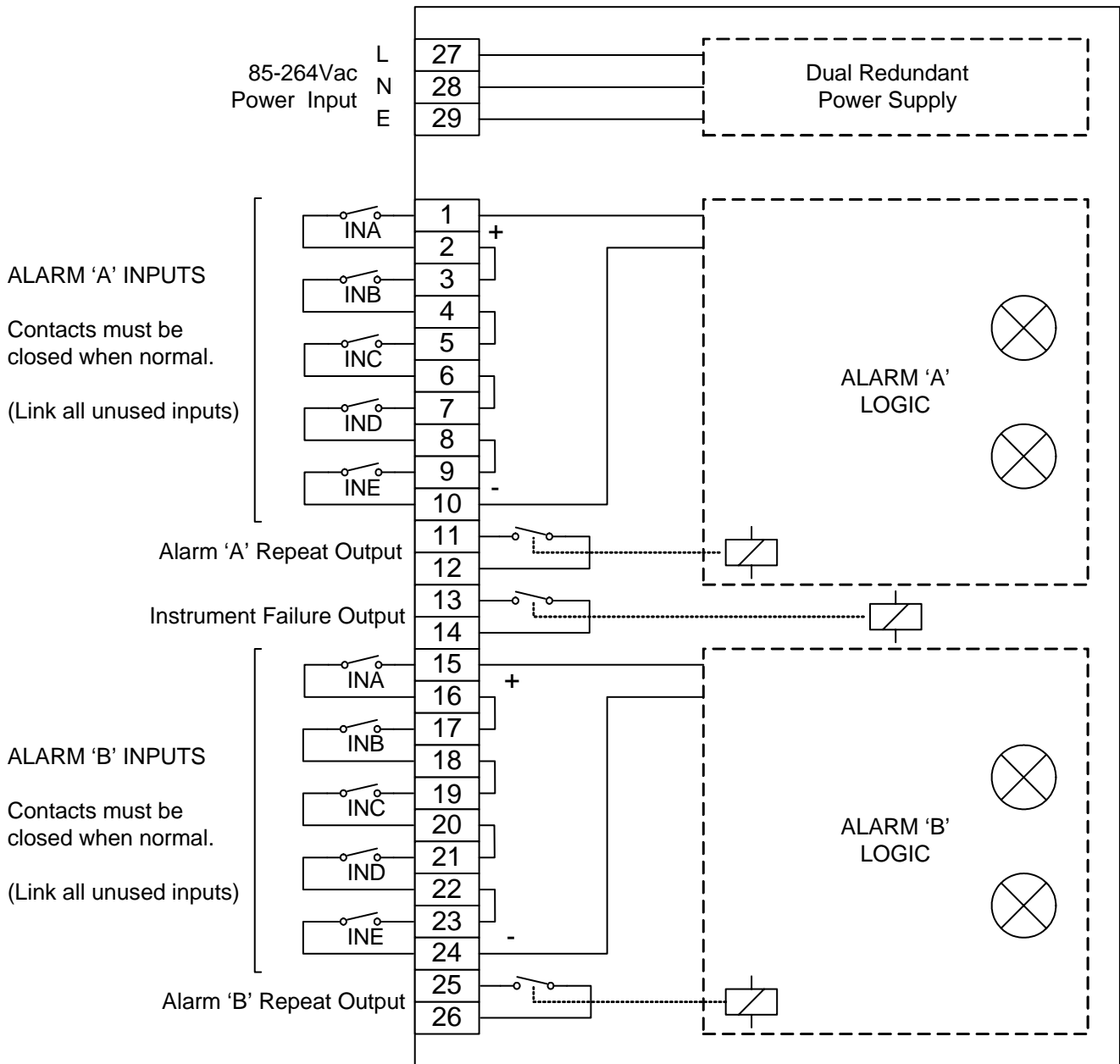




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ELECTRICAL CONNECTION DIAGRAM



NOTE: All output contacts are closed when normal