



Omni 2 Door Warning Alarm Annunciator

Model C1190A Alarm Annunciator

DATASHEET

Features

- Connects to multiple sensing instruments.
- One/Two Channel Device.
- Bright solid state LED Alarm Display.
- Audible Alert (internal and external).
- High reliability, fully dual redundant alarm circuits.
- IEC61508 SIL2 level safety rating.
- Environmentally Protected to IP55 (IP65 Optional).
- Reset/Test/Mute key switch.
- Remotely Mute and Reset Alarms
- Repeat outputs provided per alarm.
- Instrument failure output provided.
- Aesthetic wall-mount design.
- Low power consumption.
- 85-264Vac powered (with duplicate terminals)
- Battery backup option.

Overview

The Omni 2 alarm annunciator is a compact wall mounted visual alarm indicator designed to safeguard against personnel inadvertently entering plant areas where abnormal conditions are present.

Typical Applications Include:

- Warning of airborne contamination & high radiation conditions in the nuclear industry
- Warning of Oxygen deficiency
- Warning of other hazardous environments and unsafe conditions.

Position the Omni2 on the wall adjacent to the entrance to an environmentally segregated area & connect the Omni2 to the monitoring instrument. If hazardous conditions are present in the area, a large bright flashing visual warning of the hazard is displayed, to deter entry to the area.

High Reliability Design

The Omni 2 features full dual redundant design for each of the two alarms, 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. The alarm cannot be reset if the alarm condition is still present. The internal audible will give 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 (IP65 Optional) protection rating (according to EN 60529).

Options for mechanical mounting include internal mounting holes or external mounting brackets (supplied). Wiring entry is provided 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/230V < 0.15A/115V
Switch-on Inrush current	< 1A (50Hz half cycle duration)

Alarm Inputs

Input Type	Volt Free Contacts
Action	Normally closed; Open to 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	2.5mm ² (17SWG/15.5SWG) max.

Operator Controls

Type	One spring-loaded Key-switch for both alarm points.
Function	Reset / Test / Mute

Alarm Window Display

Quantity	2 Alarm windows
Lamp Type	Bright Backlit Solid State (LED)
Window Size	180mm x 70mm
Window Legend	Standard legend. (Legend can be specified when ordering)

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.
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Contact Type	Potential free - Form A contact (Contact closed while normal, opens on alarm/fault)
Contact Rating	3A/30Vdc, 3A/250Vac, 90W
Isolation	1000Vac from contact to other circuits

Temperature Range

Operating Temperature	-20°C – 60 °C (-4°F – 140°F)
Storage Temperature	-10°C – 70 °C (+14°F – 158°F)

Battery Charger (Battery Optional)

Float Voltage (at 25°C)	13.7V-13.9V (12Volt Battery , trickle charger)
Charging Current	0.1Amp Max

Mechanical

Outside Dimensions	Width: 230mm Height: 300mm Depth: 66mm
Mounting	Can be mounted using external mounting feet or through holes within the housing.

Weight

Unpacked/Packed	1.3kg/1.6kg approx.
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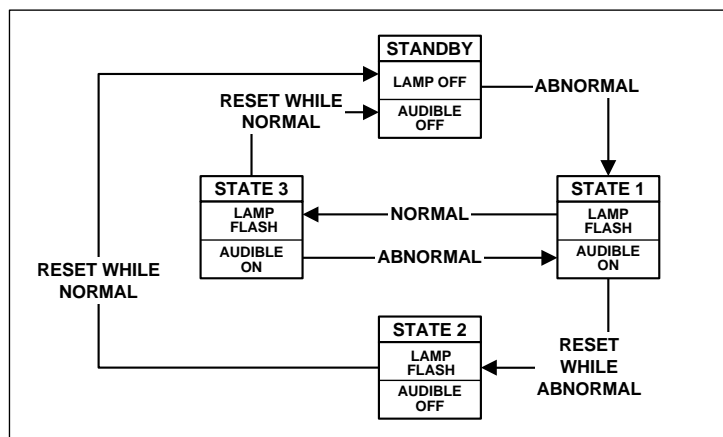
Compliance to Standards

Safety	EN 60950:1995
Emissions	EN55011:2008 Group I Class A
Immunity – ESD	IEC 61000-4-2: 2001, level 3
Immunity – RF Fields	IEC 61000-4-3: 2003, level 3
Immunity – Fast Transients	IEC 61000-4-4: 2004 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 (IP55)
C1190A-1	Omni 2 Radiation Alarm Annunciator (IP65)

ALARM SEQUENCE STATE DIAGRAM



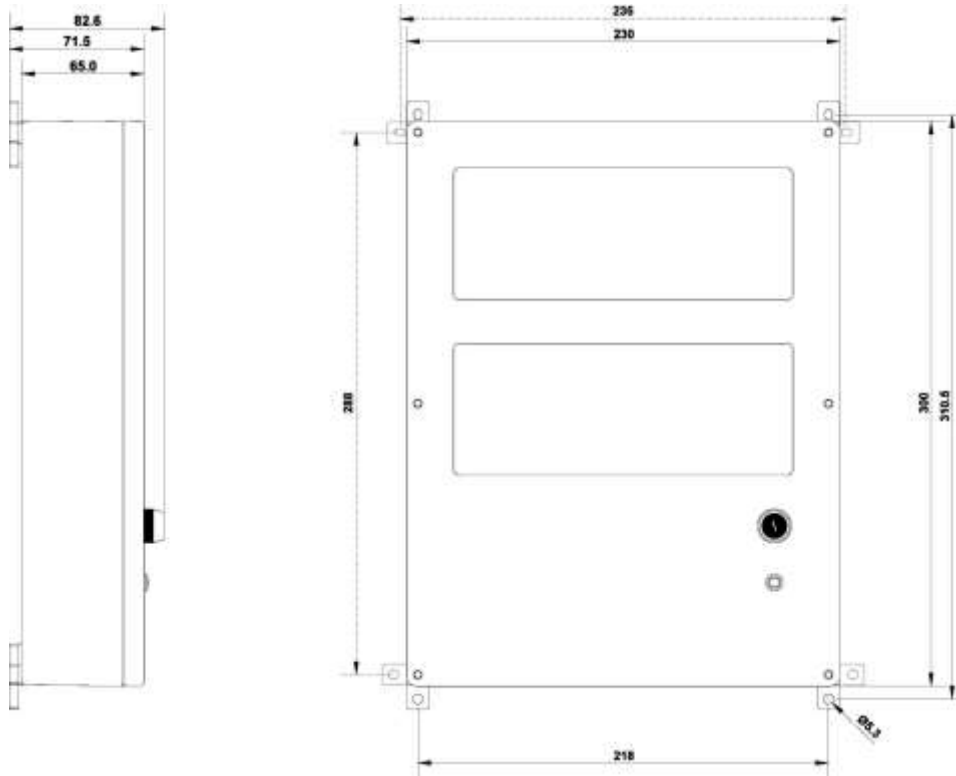
Alarm Flashing Sequence - Momentary (Fleeting) Alarm, Manual Reset



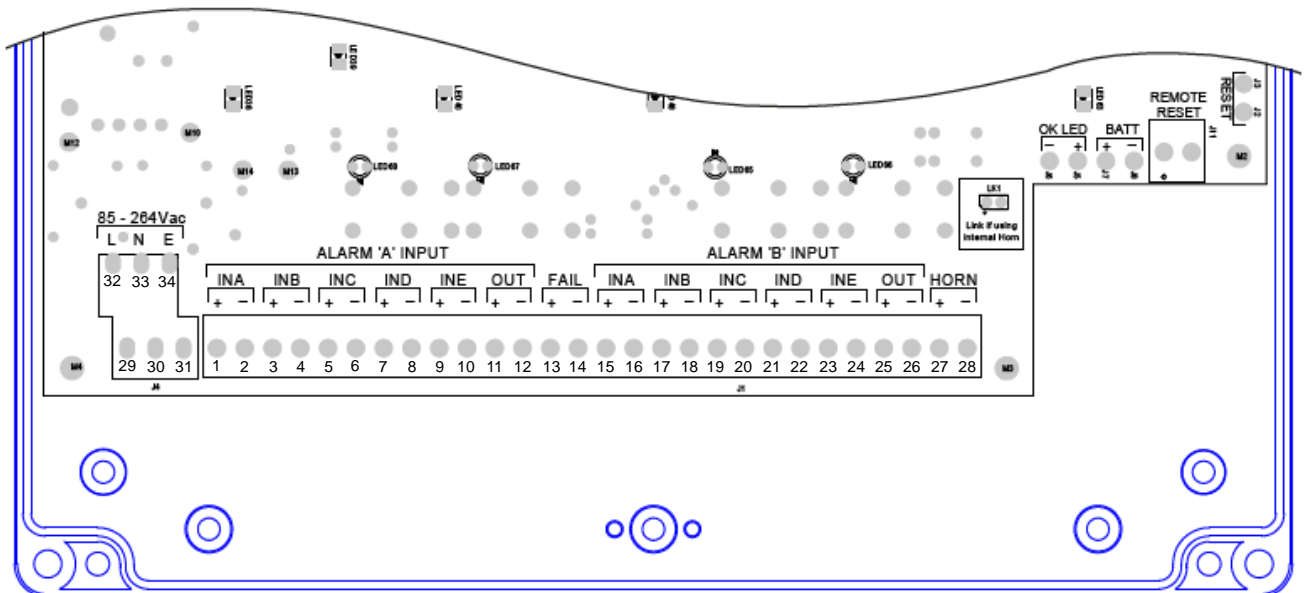
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MECHANICAL DETAILS



ELECTRICAL TERMINAL LAYOUT

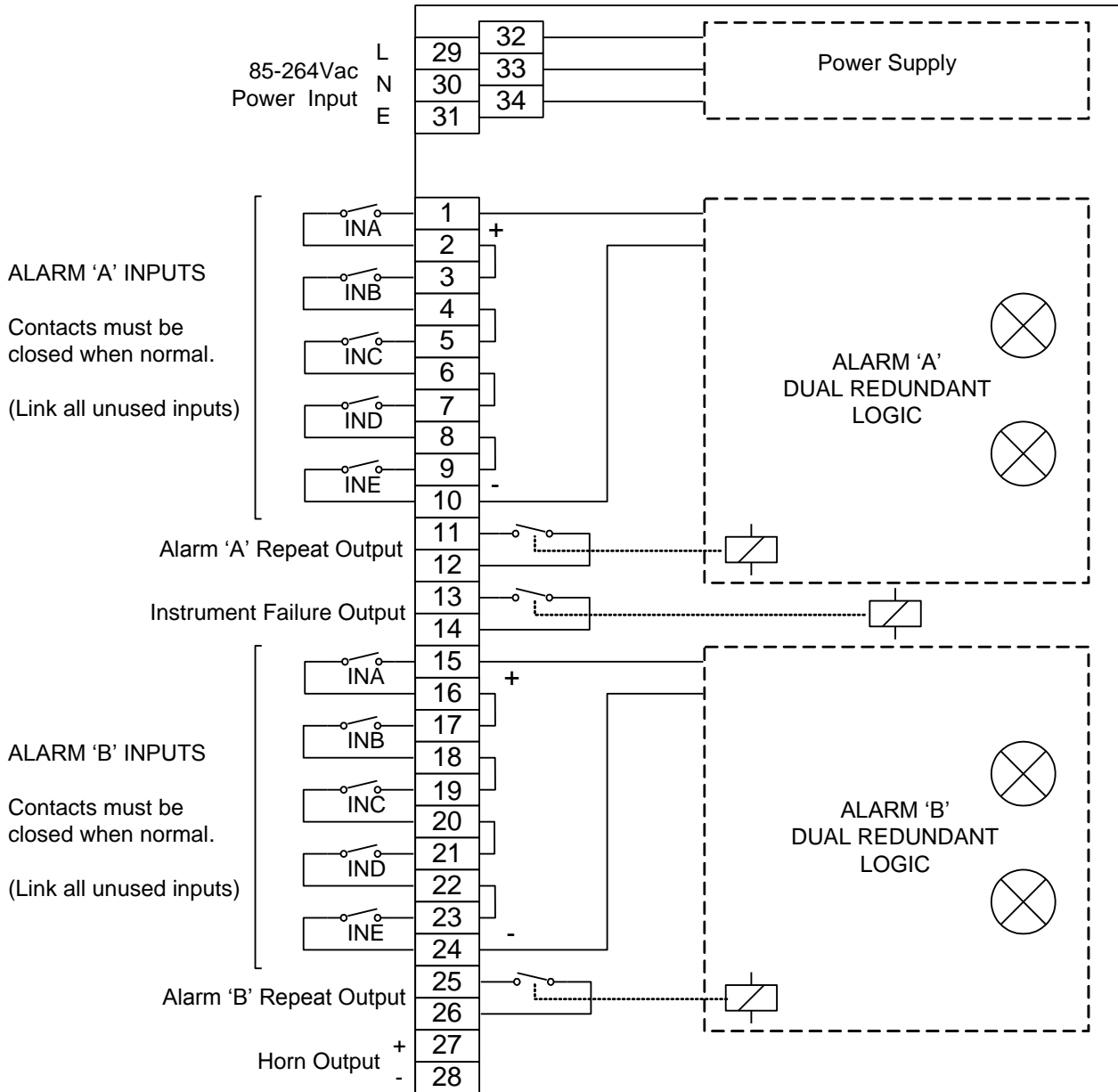




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ELECTRICAL CONNECTION DIAGRAM



NOTE: All output contacts are closed when normal