



DATASHEET

- Connects to multiple sensing instruments
- Low Power Consumption
- One/Two Channel Device
- Bright solid state LED Alarm Display
- Audible Alert with selectable tone
- Reset/Test/Mute key switch
- All Round Compliance:
 - IEC61508 SIL2 level safety rating
 - Environmentally Protected to IP54
 - RoHS Compliance to 2011/65/EU (RoHS2)



Features

- 85-264Vac or optional 24Vdc powered; both with dual terminals
- High reliability, fully dual redundant alarm circuit
- Remotely Mute and Reset Alarms
- Repeat outputs provided per alarm
- Instrument failure output provided
- Aesthetic wall-mount design
- Battery backup for AC units

Overview

The Omni2 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 Application

- 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 Omni2 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 Omni2 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 OR by the Remote Reset. 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 Omni2 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 AND the Remote Reset can be used to test the alarm display. If the reset key-switch OR the Remote Reset is activated while no alarm is present, the alarm displays will illuminate.

Installation

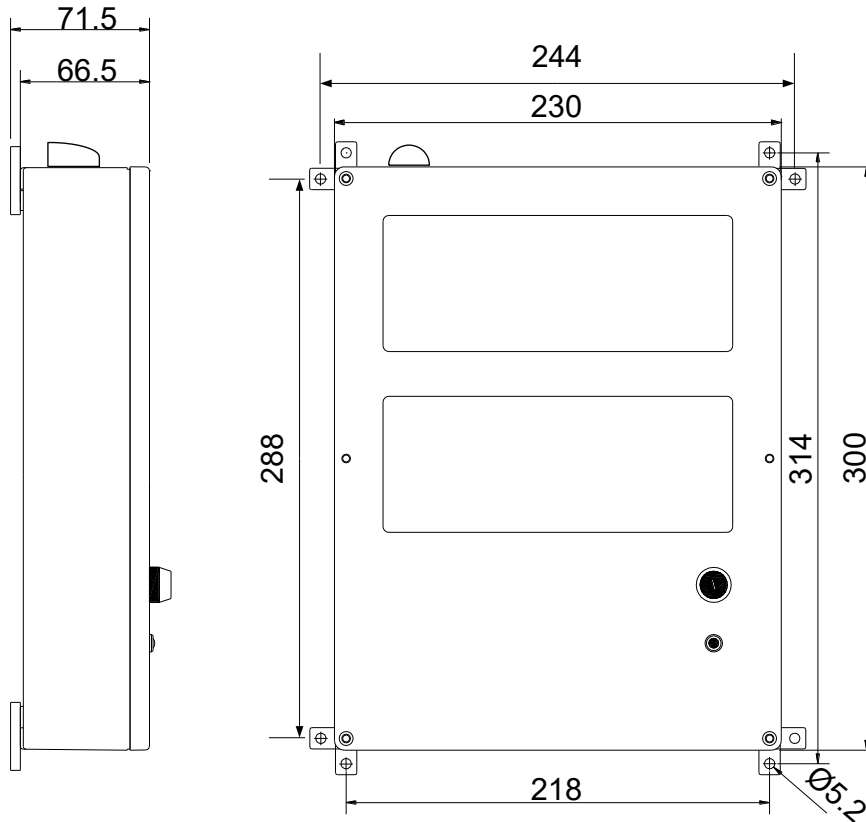
The Omni2 is housed in an aesthetic low profile wall mount enclosure that has an IP54 protection rating (according to EN 60529) and provides battery venting.

Options for mechanical mounting include internal mounting holes or external mounting brackets (supplied). Wiring entry is provided through the bottom of the unit via up to five 20mm glands..

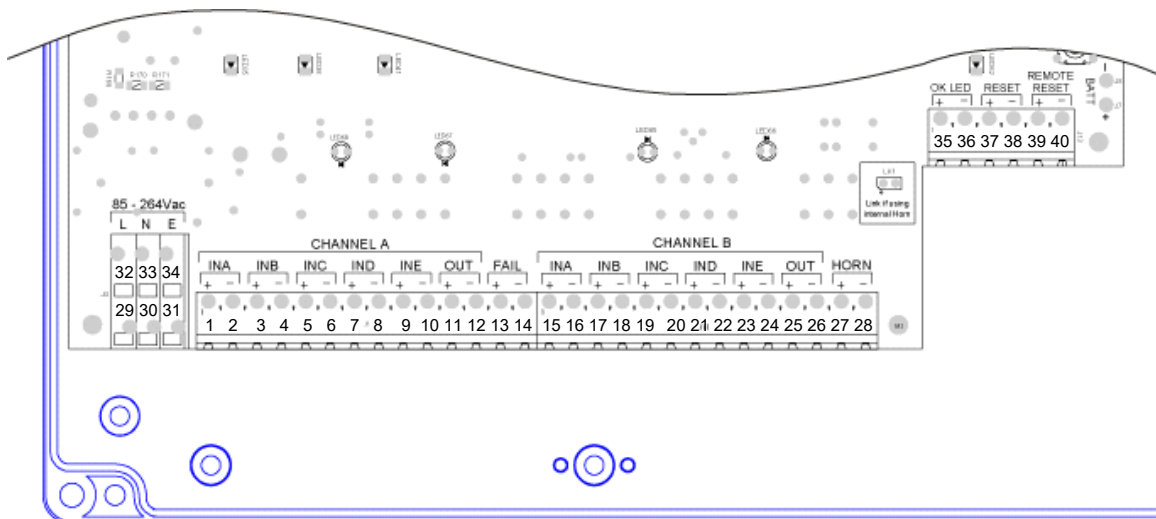




Mechanical Details

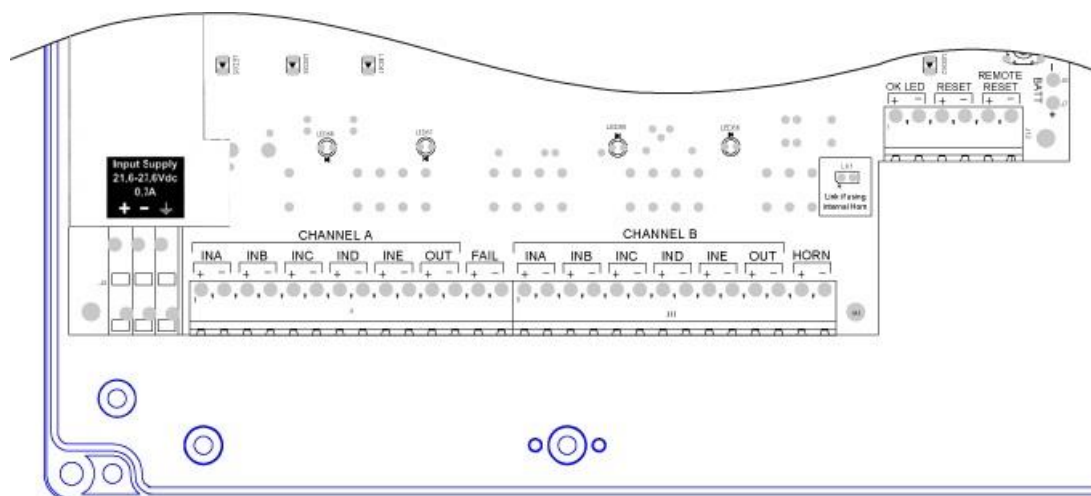


Electrical Terminal Layout (85-264Vac version)





Electrical Terminal Layout (24Vdc version)



DIP Switch Tone Selection settings for Internal Door Sounder*

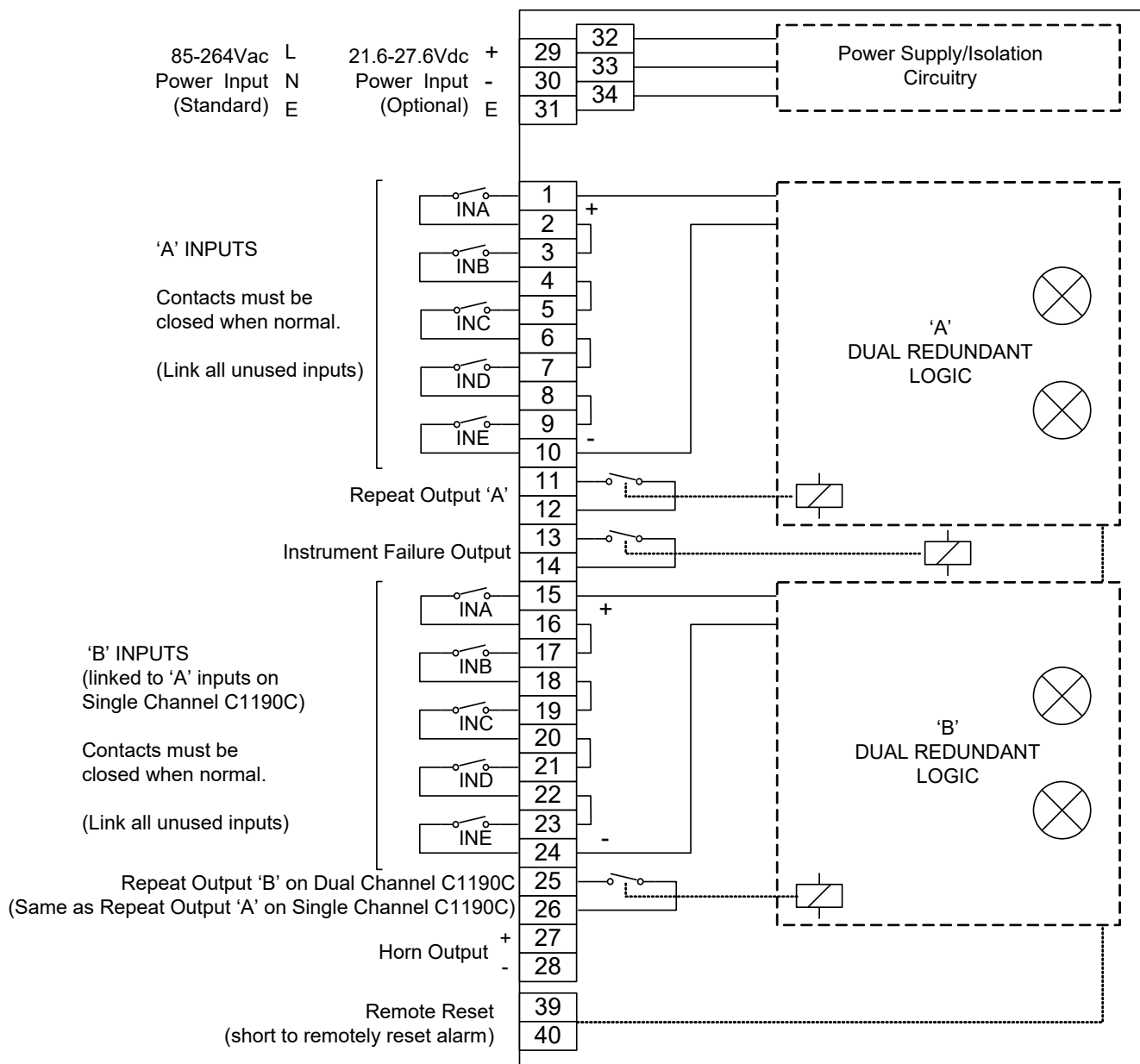
Switch setting	Pattern	Waveform	Frequency [Hz]	Description
11111	Alternating		800 & 970	British Standard Fire Tone 2Hz
11110	Sweep		800 to 970	BS Fire Tone 7 Hz
11101	Sweep		800 to 970	BS Fire Tone 1 Hz (default)
11100	Continuous		2850	Steady
11011	Sweep		2400-2850	7 Hz
11010	Sweep		2400-2850	1 Hz
11001	Slow whoop		300 to 1200	Dutch Fire Tone
11000	Sweep		1200 to 500	DIN tone 1 Hz
10111	Alternating		2400&2850	2 Hz
10110	Intermittent		970	0.5 Hz
10101	Alternating		800 & 970	BS Fire tone 1Hz alternating
10100	Intermittent		2850	0.5 Hz
10011	Intermittent		970	0.8 Hz
10010	Continuous		970	Steady
10001	Alternating		554 & 440	French Fire Tone
10000	Intermittent		660	Swedish Fire Tone 3.3 Hz
01111	Intermittent		660	Swedish Fire Tone 0.28 Hz
01110	Intermittent		660	Swedish Fire Tone 0.05 Hz
01101	Continuous		660	Swedish Fire Tone steady
01100	Alternating		554 & 440	Swedish Fire Tone 0.5 Hz
01011	Intermittent		660	Swedish Fire Tone 1 Hz
01010	Intermittent		2850	Pelican crossing
01001	Sweep		800 to 970	BS Fire Tone 50 Hz
01000	Sweep		2400-2850	50 Hz sweep
00111	Intermittent		970	ISO8201
00110	Intermittent		800 & 970	ISO8201
00101	Alternating		970 & 800	2Tx31.5s silence then repeat
00100	Alternating		800 & 970	BS Fire Tone 2Hz
00011	Alternating		990 & 650	BS Fire Tone 2 Hz (Symphoni tones)



Switch setting	Pattern	Waveform	Frequency [Hz]	Description
00010	Alternating		510 & 610	BS Fire Tone 2 Hz (Squashni micro tones)
00001	Sweep		300 to 1200	1 Hz
00000	Continuous		4000	Steady

*Consult the sounder datasheet if further information is required.

Electrical Connection Diagram

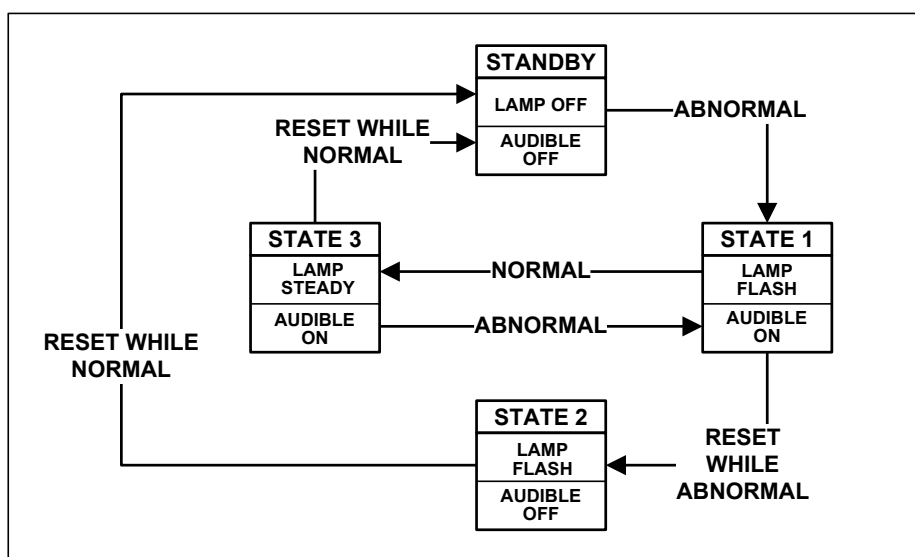


NOTE: 1. All output contacts are closed when normal
 2. For 24Vdc input option, connecting either the positive or the negative of the supply to earth will not affect Omni2 operation





Alarm Sequence State Diagram



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

Specifications

Power Supply

85-264Vac (Standard version)

Supply Voltage	85-264Vac 47-63Hz
Input Supply Current	< 0.1A/230V < 0.15A/115V
Switch-on Inrush current	< 1A (50Hz half cycle duration)

24Vdc (optional version)

Supply Voltage	21.6-27.6Vdc at 0.7A
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Alarm Inputs

Input Type	Potential 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	1.5mm ² (17SWG/15.5SWG) max.

Operator Controls

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

Alarm Visual 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 (Door)

Type	Piezo Sounder
Tone Selection	Tone selectable via DIP switches at the back of the sounder; refer to table
Audible Selection	User can enable/disable via link.

Audible Alert (External)

Rating	12V 100mA max.
Connection	Via terminals 27 and 28

Relay Contact Outputs

Outputs provided	2 x Repeat Alarm Output Contact 1 x Instrument Fail Output Contact.
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 & Humidity Range

Operating Temperature	-20°C – 60 °C (-° F – 140°F)
Operating Humidity	Up to 90% RH, non condensing
Storage Temperature	-10°C – 70 °C (+14°F – 158°F)
Storage Humidity	Less than 40% RH is recommended





Omni2 Door Warning Sign

Omni2 Door Warning Sign Alarm Annunciator

Model Number
C1190C

Battery Charger with built-in Battery*

Float Voltage (at 25°C)	13.7V-13.9V (12Volt Battery, trickle charger)
Battery Quantity & Type	1 off 12V 0.8Ah
Dimensions (L x W x H)	96 mm x 25 mm x 62mm
Charging Current	0.1Amp Max
Battery venting	Yes, IP54

***Battery Charger and Batteries not included with DC units**

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	Approximately 1.3kg
Packed	Approximately 1.6kg

Compliance to Standards

Safety	EN 60950
Emissions	EN55011:1997 Group I Class A
Immunity – ESD	IEC 61000-4-2:1995, 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.
RoHS Compliance	2011/65/EU (RoHS2)
Ingress Protection (I.P.)	IP54

Ordering Information

ORDER CODE	DESCRIPTION
C1190C	Omni2 Standard 85-264Vac Supply Door Warning Sign Single Channel Alarm Annunciator with Yellow "Danger" Window (Top) & White "Keep Out" Window (Bottom). For non standard options, refer to table below

Model	Window Text	Window Colours	Power Supply	Channel
C1190C	-X	-X	-X	-X
	0=Std ¹	0=Std ²	0=85-264Vac	0=Single
	1=Custom ³	1=Custom ³	2=24Vdc	1=Dual

Notes:

- Standard Top Window Text is "Danger" and standard Bottom Window Text is "Keep Out".
- Standard Top Window Colour is Yellow and standard Bottom Window Colour is White.
- For Custom Window text and colours, please specify both text and colours (choice of White or Yellow) for EACH of the windows.
- Typical custom order code C1190C-1-1-0-1 would be an Omni2 Door Warning Sign Dual Channel Alarm Annunciator with Custom Window Text (specify for each window), Custom Window Colour (specify for each window [White or Yellow]) and 85-264Vac Power Supply.

