Features

- LED Beacon Visual Alert

- Connects to multiple Radiation Monitors

- Audible Alert with selectable tone

- High reliability, fully dual redundant alarm circuit

- IEC61508 SIL2 level safety rating

- Environmentally Protected to IP65

- RoHS Compliance to 2011/65/EU (RoHS2)

- Mute pushbutton to silence Alarms

- One repeat output provided

- Instrument failure output provided

- Aesthetic wall-mount design

- Low Power consumption

- 85-264Vac or optional 24Vdc powered; both with dual terminals

- Battery backup for AC units

Overview
The Omni2S Slave Alarm Unit is a compact visual alarm indicator designed for radiation and airborne activity hazard warning.

The Omni2S is used to warn personnel about abnormal or hazardous radiological conditions.

Typical Application
Position the Omni2S on the wall inside the area of potential radiation hazard or contamination. Ensure the beacon is visible to personnel. Connect the Omni2S to the area monitors, and if airborne contamination or high radiation conditions are detected, a flashing LED beacon provides visual warning of the hazard, and a warning to exit the area. The sounder tone can be selected to indicate type of contamination.

High Reliability Design
The Omni2S features dual redundant design, providing a highly reliable alarm system, meeting or exceeding the functional safety requirements of these critical applications.

The Omni2S is designed to meet SIL2 requirements as defined in IEC61508.

Operation
Once an alarm has occurred, the Red LED beacon light will continue to flash, and the audible alert will continue to sound until muted by the pushbutton. The alarm warning turns off and the mute pushbutton resets if the alarm condition returns to normal.

The internal audible warning will give a warning of a dangerous condition, even if the display is out of sight of the personnel.

The unit can be latched or unlatched remotely.

Testability
The Omni2S provides features to allow easy routine testing of the alarm system. A green beacon light provides indication that the unit is healthy. If mains supply fails or if a fault is detected in the redundant alarm circuit, this indicator will extinguish, and the instrument failure output will activate. In addition, the Mute pushbutton can be used to test the red beacon. If the Mute pushbutton is activated while no alarm is present, the red beacon will illuminate.

Installation
The Omni2S is housed in an aesthetic low profile wall mount enclosure that has an IP65 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 of the unit via up to five 20mm glands.

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

Alarm Inputs

Input Type	5 x Potential Free Contacts
Action	Normally closed; Open to alarm.
Input Contact Quantity	Terminals provided for up to five input contacts wired in series. (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 illuminated pushbutton
Function	Alarm Mute /Lamp Test

Alarm Visual Display

Quantity	1 Alarm beacon
Type	Bright Red/Green Solid State (LED)
Alarm indication	Red section flashing at 1-1.4Hz when in alarm
Healthy indication	Green section ON during normal operation (OFF in case of circuit failure or mains power failure)

Audible Alert (Door)

Type	Piezo Sounder
Tone Selection	Tone selectable via DIP switches at the back of the sounder; refer to table

Audible Alert (External)

Rating	12V 100mA max.
Connection	Via terminals 27 and 28; disconnect door siren if using an external audible.

Relay Contact Outputs

Outputs provided	1 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 (-4°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

Battery Charger with built-in Battery (2 off)*

Float Voltage (at 25°C)	13.7V-13.9V (12Volt Battery , trickle charger)
Battery Quantity & Type	2 off 12V 0.8Ah
Dimensions (L x W x H)	96 mm x 25 mm x 62mm
Charging Current	0.1Amp Max

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

Mechanical

Outside Dimensions	Width: 230mm Height: 413mm Depth: 66mm
Mounting	Can be mounted using external mounting feet or through holes within the housing.

Weight

Unpacked/Packed	1.3kg/1.6kg approx.

Compliance to Standards

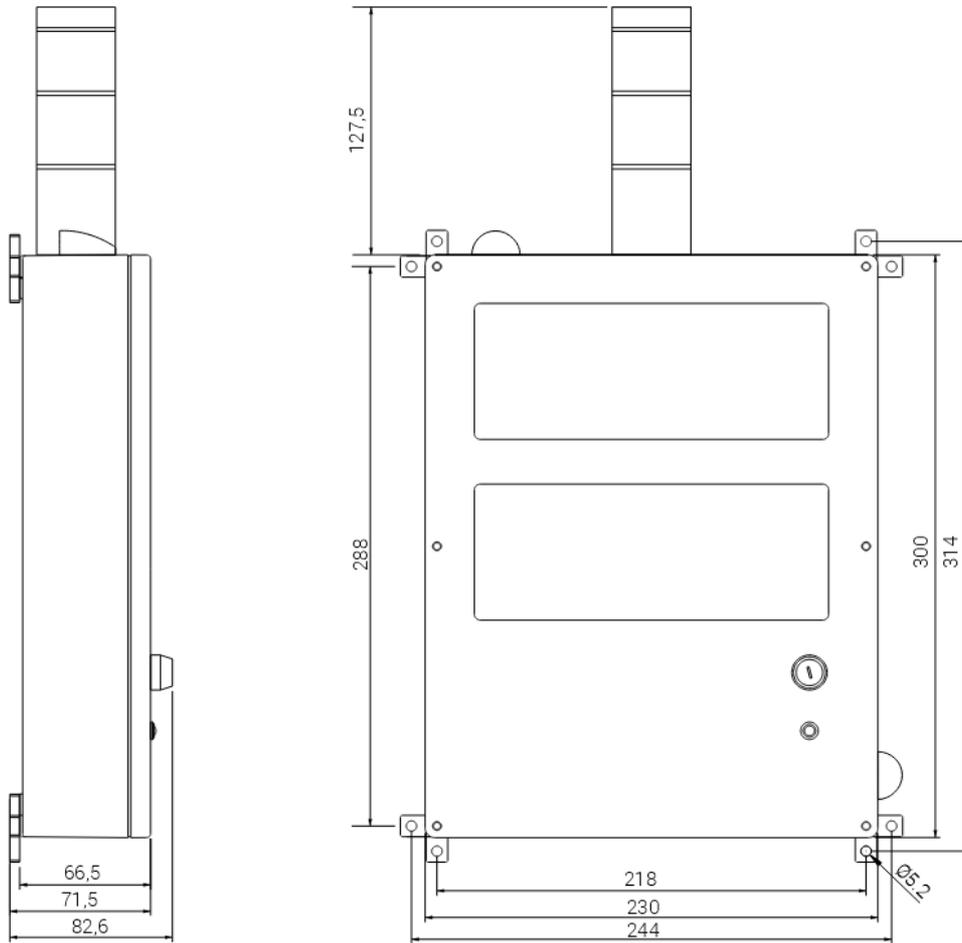|	
Safety	EN 60950
Emissions	EN55011:1997 Group I Class A
Immunity – ESD	IEC 61000-4-2:1995, level 3
Immunity – RF Fields	IEC 61000-4-3:2003, level 3
Immunity – Fast Transients	IEC 61000-4-4:2004 2 kV – AC power port 1 kV – input/output lines
Vibration	IEC60068-2-6: 1995 10-150Hz. 1g
Functional Safety	Designed to meet IEC61508 SIL2.
RoHS Compliance	2011/65/EU (RoHS2)
Ingress Protection (I.P.)	IP65

Ordering Information

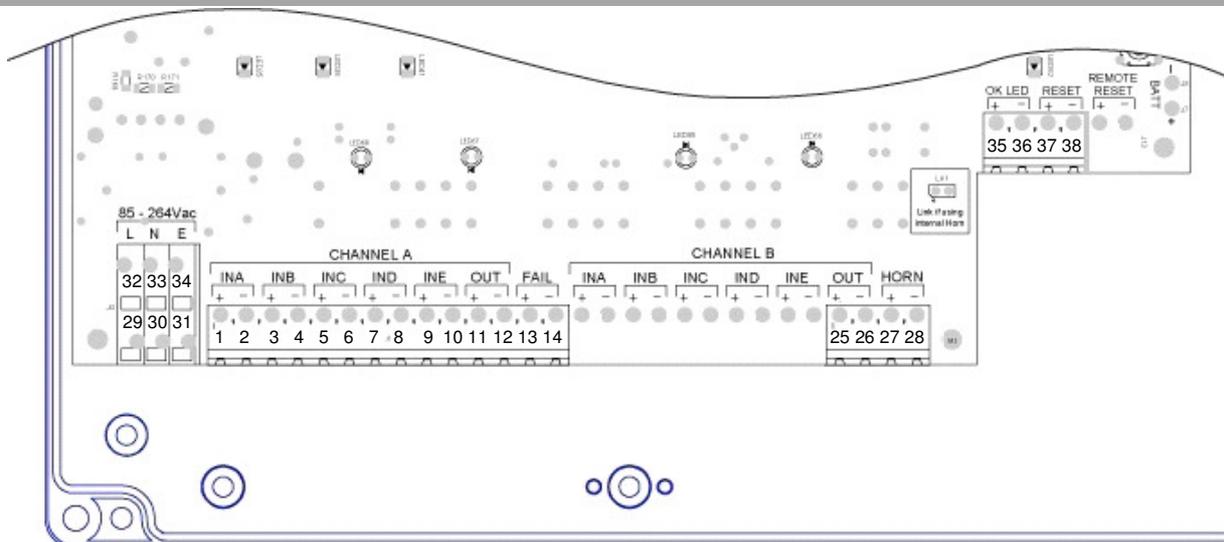| Order Code	Description
C1191C	Omni2S Standard 85-264Vac Slave Alarm Unit
C1191C-2	Omni2S 24Vdc Slave Alarm Unit

MECHANICAL DETAILS
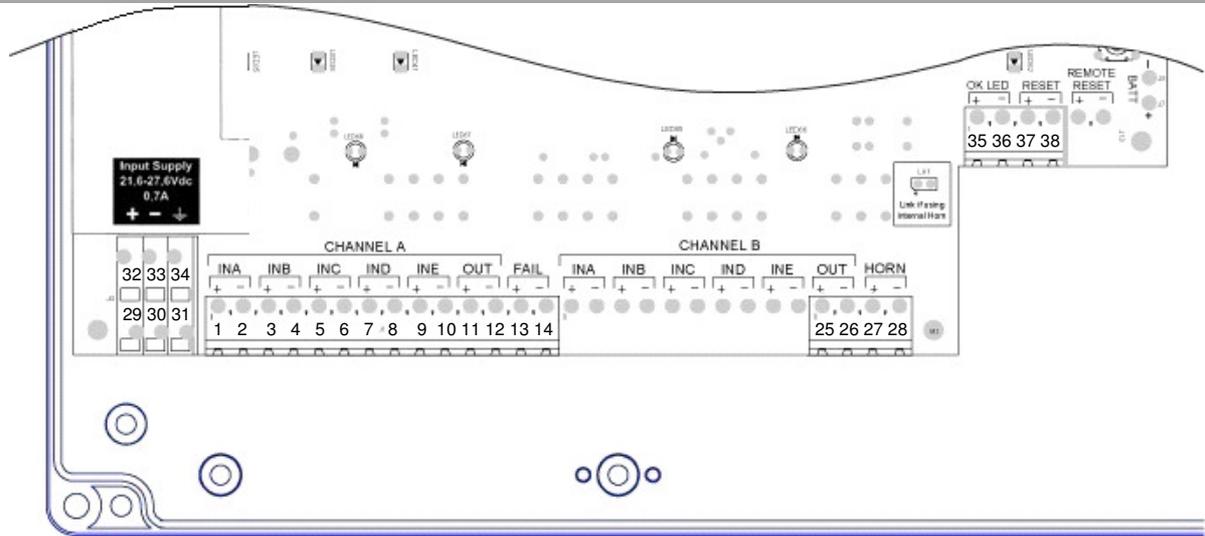

ELECTRICAL TERMINAL LAYOUT (85-264Vac version)

ELECTRICAL TERMINAL LAYOUT (24Vdc version)

DIP SWITCH TONE SELECTION SETTINGS FOR INTERNAL DOOR SOUNDER*

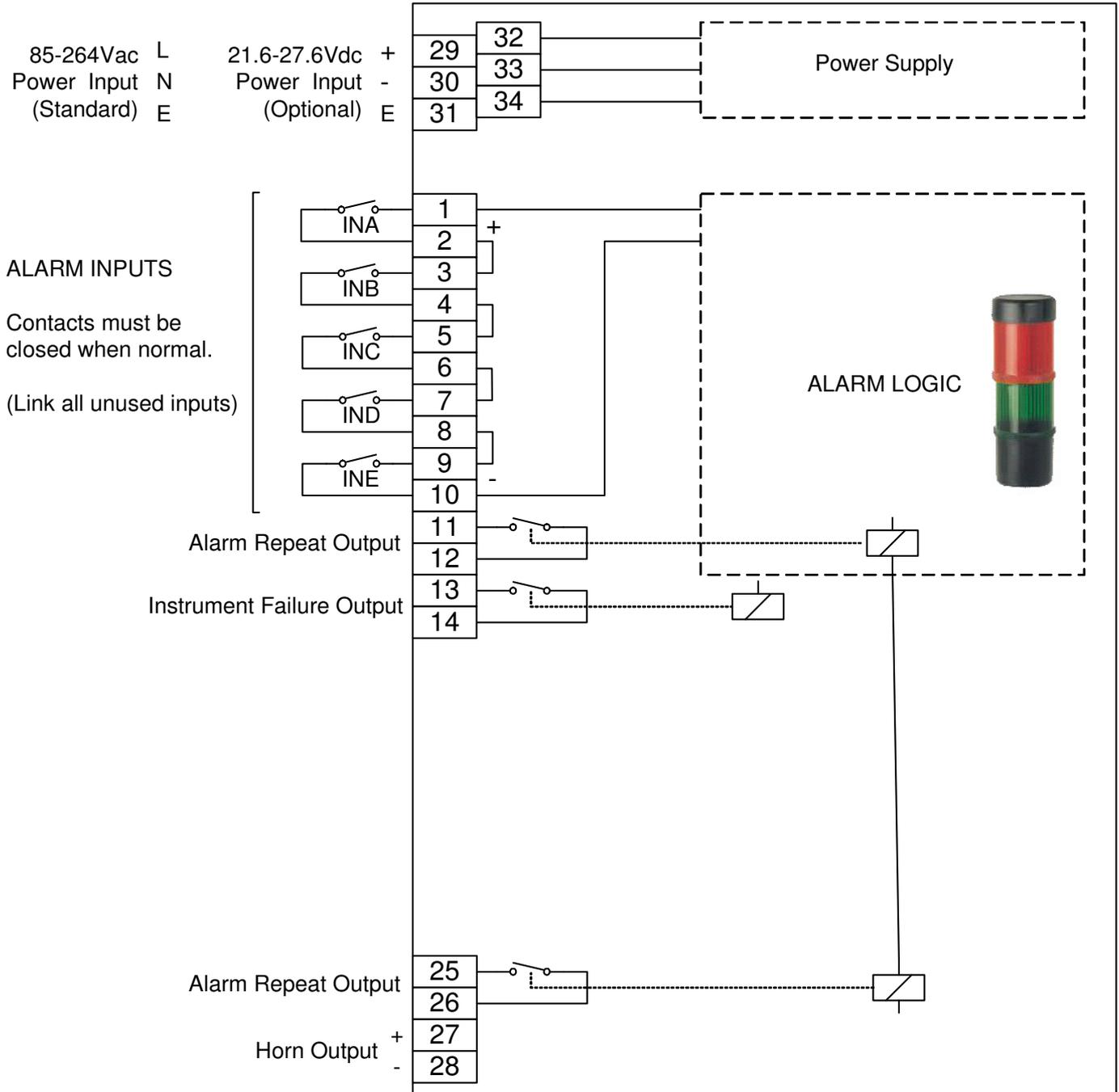| Switch setting	Pattern	Frequency [Hz]	Description
11111	Alternating	800 & 970	British Standard Fire Tone 2Hz
11110	Sweep	800 to 970	BS Fire Tone 7 Hz
11101	**Sweep**	**800 to 970**	**BS Fire Tone 1 Hz (default)**
11100	Continuous	2850	Steady
11011	Sweep	2400-2850	7 Hz
11010	Sweep	2400-2850	1 Hz
11001	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)
00010	Alternating	510 & 610	BS Fire Tone 2 Hz (Squashni micro tones)
00001	Sweep	300 to 1200	1 Hz

Switch setting	Pattern	Frequency [Hz]	Description
00000	Alternating	510 & 610	alternating

*Consult the sounder datasheet if further information is required.

ELECTRICAL CONNECTION DIAGRAM

85-264Vac Power Input (Standard) — L N E

21.6-27.6Vdc Power Input (Optional) — + - E

29	32
30	33
31	34

Power Supply

ALARM INPUTS

Contacts must be closed when normal.

(Link all unused inputs)

INA — 1, 2 +
INB — 3, 4
INC — 5, 6
IND — 7, 8
INE — 9, 10 -

ALARM LOGIC

Alarm Repeat Output — 11, 12

Instrument Failure Output — 13, 14

Alarm Repeat Output — 25, 26

Horn Output — 27 +, 28 -

NOTES: 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