

E2xS121 Alarm Sounder/Horn

The hazardous area E2xS121 alarm sounder is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.

With a maximum sound level output of 121dB(A) at 1 metre and a choice of 45 alarm tones and 3 remotely selectable stages the E2xS121 alarm sounder horn is suitable for all signalling applications with high ambient noise levels.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.

COMSEC PROTECTION SYSTEMS LTD.
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Features:

- Automatic synchronisation on multi-sounder system.
- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.

Approvals:

- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764

Specification:

Maximum output:	121dB(A) @ 1 metre
Nominal output:	117dB(A) @ 1m +/- 3dB - Tone 2
No. of tones:	45 (UKOOA/PFEER compliant)
No. of stages:	3
Volume control:	Max. 117dB(A); Min. 111dB(A) - Tone 2
Effective range:	200m @ 1KHz
Voltages DC:	24vdc (10-30vdc); 48vdc
Voltages AC:	115vac; 230vac
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2" NPT cable gland entry - with 0.5m flying leads.
Terminals (ATEX):	0.5 to 4.0mm ² - In & Out
Weight :	DC: 2.75kg AC: 3.25kg

Current consumption:

Version:	Voltage range:	Current:
24V dc	10-30vdc	280mA
48V dc	38-58vdc	215mA
115V ac	50/60Hz +/-10%	142mA
230V ac	50/60Hz +/-10%	76mA

*SPL data +/-3dB(A). Measured at optimum voltage.

Part codes:

Part Code: **Classification:**

ATEX version:

E2xS121EG** II 3G EEx nA nL IIC T4 (Tamb -20°C to +55°C)

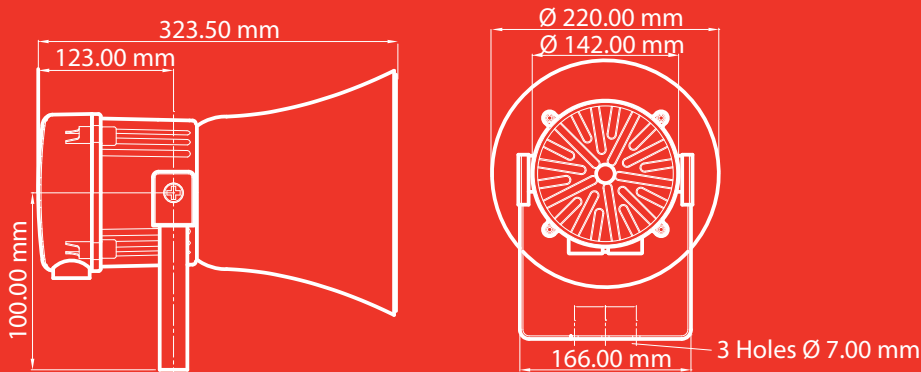
UL version:

E2xS121UL** Class I, Div 2, Grps A,B,C,D T3C (160°C) at +55°C
 Class I, Div 2, Grps A,B,C,D T4 (135°C) at +40°C
 Class II, Div 2, Grps F & G T6 (85°C) at +55°C
 Class III, Div 1, T6 (85°C) at +55°C

** = Voltage reference:

Options: 24DC, 48DC, 115AC, 230AC





Stage 1	Frequency Description	dB @ 1m*	Stage 2	Stage 3
Tone 1	340 Hz Continuous	110dB(A) @ 1m	Tone 2	Tone 5
Tone 2	800/1000Hz @ 0.25 sec Alternating - BS5839 Alarm tone	117dB(A) @ 1m	Tone 17	Tone 5
Tone 3	500/1200Hz @ 0.3Hz 0.5 sec Slow Whoop - NEN 2575:2000	118dB(A) @ 1m	Tone 2	Tone 5
Tone 4	800/1000Hz @ 1Hz Sweeping	118dB(A) @ 1m	Tone 6	Tone 5
Tone 5	2400Hz Continuous	120dB(A) @ 1m	Tone 3	Tone 20
Tone 6	2400/2900Hz @ 7Hz Sweeping	120dB(A) @ 1m	Tone 7	Tone 5
Tone 7	2400/2900Hz @ 1Hz Sweeping	120dB(A) @ 1m	Tone 10	Tone 5
Tone 8	500/1200/500Hz @ 0.3Hz Sweeping	118dB(A) @ 1m	Tone 2	Tone 5
Tone 9	1200/500Hz @ 1Hz - DIN / PFEER P.T.A.P.	119dB(A) @ 1m	Tone 15	Tone 2
Tone 10	2400/2900Hz @ 2Hz Alternating	120dB(A) @ 1m	Tone 7	Tone 5
Tone 11	1000Hz @ 1Hz Intermittent	121dB(A) @ 1m	Tone 2	Tone 5
Tone 12	800/1000Hz @ 0.875Hz Alternating	121dB(A) @ 1m	Tone 4	Tone 5
Tone 13	2400Hz @ 1Hz Intermittent	120dB(A) @ 1m	Tone 15	Tone 5
Tone 14	800Hz 0.25sec on, 1 sec off Intermittent	119dB(A) @ 1m	Tone 4	Tone 5
Tone 15	800Hz Continuous	119dB(A) @ 1m	Tone 2	Tone 5
Tone 16	660Hz 150mS on, 150mS off Intermittent	116dB(A) @ 1m	Tone 18	Tone 5
Tone 17	544Hz (100mS)/440Hz (400mS) - AFNOR NF S 32-001	115dB(A) @ 1m	Tone 2	Tone 27
Tone 18	660Hz 1.8sec on, 1.8sec off Intermittent	116dB(A) @ 1m	Tone 2	Tone 5
Tone 19	1.4KHz-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s - AFNOR NFC48-265	120dB(A) @ 1m	Tone 2	Tone 5
Tone 20	660Hz Continuous	116dB(A) @ 1m	Tone 2	Tone 5
Tone 21	554Hz/440Hz @ 1Hz Alternating	115dB(A) @ 1m	Tone 2	Tone 5
Tone 22	544Hz @ 0.875 sec. Intermittent	115dB(A) @ 1m	Tone 2	Tone 5
Tone 23	800Hz @ 2Hz Intermittent	119dB(A) @ 1m	Tone 6	Tone 5
Tone 24	800/1000Hz @ 50Hz Sweeping	120dB(A) @ 1m	Tone 29	Tone 5
Tone 25	2400/2900Hz @ 50Hz Sweeping	120dB(A) @ 1m	Tone 29	Tone 5
Tone 26	Bell	115dB(A) @ 1m	Tone 2	Tone 15
Tone 27	554Hz Continuous	115dB(A) @ 1m	Tone 26	Tone 5
Tone 28	440Hz Continuous	115dB(A) @ 1m	Tone 2	Tone 5
Tone 29	800/1000Hz @ 7Hz Sweeping	120dB(A) @ 1m	Tone 7	Tone 5
Tone 30	300Hz Continuous	112dB(A) @ 1m	Tone 2	Tone 5
Tone 31	660/1200Hz @ 1Hz Sweeping	118dB(A) @ 1m	Tone 26	Tone 5
Tone 32	Two tone chime.	115dB(A) @ 1m	Tone 26	Tone 15
Tone 33	745Hz @ 1Hz Intermittent	115dB(A) @ 1m	Tone 2	Tone 5
Tone 34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	120dB(A) @ 1m	Tone 38	Tone 45
Tone 35	420Hz @ 0.625 sec Australian Alert - AS2220	116dB(A) @ 1m	Tone 36	Tone 5
Tone 36	500-1200Hz 3.75sec /0.25sec. Australian Evac. - AS2220	119dB(A) @ 1m	Tone 35	Tone 5
Tone 37	1000Hz Continuous - PFEER Toxic Gas	121dB(A) @ 1m	Tone 9	Tone 45
Tone 38	2000Hz Continuous	120dB(A) @ 1m	Tone 34	Tone 45
Tone 39	800Hz 0.25sec on, 1 sec off Intermittent	120dB(A) @ 1m	Tone 23	Tone 17
Tone 40	544Hz (100mS)/440Hz (400mS) - AFNOR NF S 32-001	116dB(A) @ 1m	Tone 31	Tone 27
Tone 41	Motor Siren - slow rise to 1200 Hz	120dB(A) @ 1m	Tone 2	Tone 5
Tone 42	Motor Siren - slow rise to 800 Hz	120dB(A) @ 1m	Tone 2	Tone 5
Tone 43	1200 Hz Continuous	121dB(A) @ 1m	Tone 2	Tone 5
Tone 44	Motor Siren - slow rise to 2400 Hz	120dB(A) @ 1m	Tone 2	Tone 5
Tone 45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	121dB(A) @ 1m	Tone 38	Tone 34

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INSTRUCTION & SERVICE MANUAL

E2xS121EG SOUNDERS

For Use In Hazardous Areas

- 45 Tones 3 stage Sounder
- Automatic Synchronisation
- Volume control
- IP Rating 66
- Operating Temperature Range -20°C to +55°C

Unit Type No. E2xS121EG

Input Voltages: DC Units 10-30V or 48V
AC Units 120V or 230V

 II 3G EEx nA nL IIC T4 (Tamb. -20°C to +55°C)

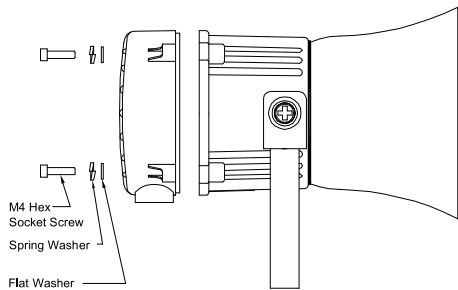
Certificate No. DEMKO 06 ATEX 0421554

Group/Category: II 3G

Zone: Zone 2

INSTALLATION

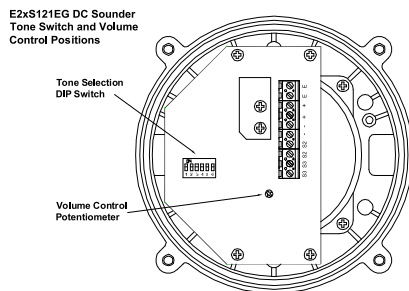
The E2xS121EG sounders must be installed in accordance with the relevant parts of the EN60079 standards or the equivalent IEC standards. *Note the units are factory set to tone 2 (800/1000Hz alternating at 2Hz) and maximum output.* If necessary the unit should be connected to a suitable power supply in a safe area to determine what tone pattern and output level is required.



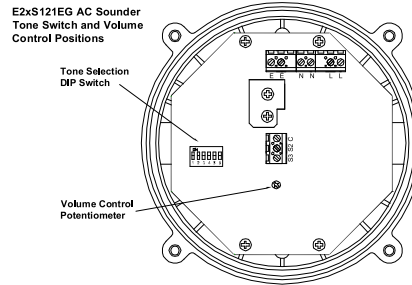
WARNING – DO NOT OPEN WHEN ENERGISED

WARNING – TO AVOID A POSSIBLE ELECTROSTATIC CHARGE ONLY CLEAN THE UNIT WITH A DAMP CLOTH

E2xS121EG DC PCB Layout

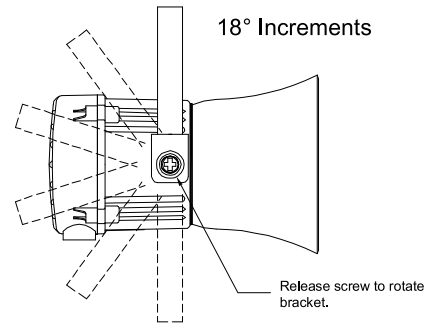


E2xS121EG AC PCB Layout



MOUNTING

The E2xS121EG sounder must be mounted using the rotating bracket as shown.



WIRING CONNECTIONS

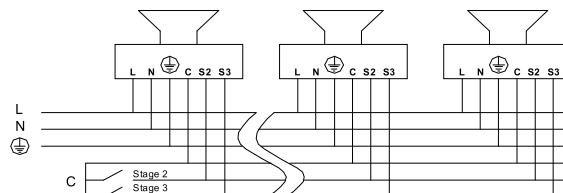
The E2xS121EG sounder has two M20 cable entries one of which is fitted with an M20 blanking plug. This should be removed if two cable entries are required. Cable entry devices shall be used which ensure a minimum ingress protection of IP54.

The cable connections are made to the terminal blocks on the pcb assembly in the enclosure. On AC units a six way terminal block is provided for the Mains Input Supply and a separate three way terminal block is provided for selecting the second and third stage outputs if required. On DC units a ten way terminal block is provided for both the DC supply and the second and third stages.

WARNING - ALL ELECTRICAL WIRING MUST BE INSTALLED IN ACCORDANCE WITH THE RELEVANT STANDARDS AND ANY LOCAL CODES THAT MAY APPLY

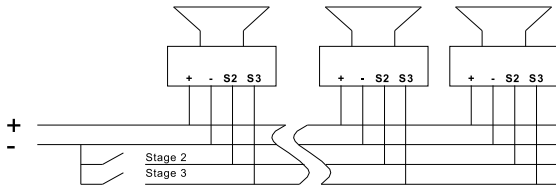
AC SOUNDERS

Live	L	Common	C
Neutral	N	Stage 2	S2
Earth	E	Stage 3	S3



DC SOUNDERS

Positive +
 Negative -
 Stage 2 S2
 Stage 3 S3
 Earth E



POWER SUPPLY SELECTION

It is important that a suitable power supply is used to run the sounders. The power supply selected must have the necessary capacity to provide the input current to all of the sounders connected to the system.

Unit Type	Input Voltage	Input @ 1kHz Current	Max. I/P Volts
E2xS121EG	24V DC	280mA	30V
E2xS121EG	48V DC	215mA	58V
E2xS121EG	230V AC	76mA	253V
E2xS121EG	120V AC	142mA	132V

TONE SELECTION

The E2xS121EG sounders have 45 different tones that can be selected for the first stage alarm. The sounders can then be switched to sound second and third stage alarm tones. The tones are selected by operation of a DIP switch on the pcb for both DC and AC units. The tone table opposite shows the switch positions for the 45 tones and which tones are available for the second and third stages. To operate the sounder on stage one simply connect the supply voltage to the + & - terminals for DC units and the L, N & E terminals for AC units.

The operation of the second and third stages is different for DC and AC units.

DC Units Second and Third Stage Tone Selection

To activate the second stage, remotely switch the negative supply to the S2 terminal. To activate the third stage, remotely switch the negative supply to the S3 terminal. NOTE the DC power supply to the + & - terminals must be maintained for 2nd and 3rd stages.

AC Units Second and Third Stage Tone Selection

To select the second and third stages on the E2xS121EG AC sounders the Common (C) terminal must be remotely connected to the S2 terminal for the second stage and to the S3 terminal for third stage. NOTE the AC power supply to the L, N & E terminals must be maintained for 2nd and 3rd stages.

VOLUME CONTROL

The volume on the E2xS121EG sounder can be set using the volume control (see pcb layouts on page 1). For maximum output level the potentiometer should be set to the fully clockwise position.

WARNING – HIGH VOLUME MAY CAUSE HARM TO PERSONNEL IN CLOSE PROXIMITY

TONE SELECTION TABLE

Stage 1	Frequency Description	Switch						Stage 2	Stage 3
		1	2	3	4	5	6		
1	340Hz Continuous	0	0	0	0	0	Tone 2	Tone 5	
2	800/1000Hz @ 0.25 sec Alternating	1	0	0	0	0	Tone 17	Tone 5	
3	500/1200Hz @ 0.3Hz sec Slow Whoop	0	1	0	0	0	Tone 2	Tone 5	
4	800/1000Hz @ 1Hz Sweeping	1	1	0	0	0	Tone 6	Tone 5	
5	2400Hz Continuous	0	0	1	0	0	Tone 3	Tone 20	
6	2400/2900Hz @ 7Hz Sweeping	1	0	1	0	0	Tone 7	Tone 5	
7	2400/2900Hz @ 1Hz Sweeping	0	1	1	0	0	Tone 10	Tone 5	
8	500/1200/500Hz @ 0.3Hz Sweeping	1	1	1	0	0	Tone 2	Tone 5	
9	1200/500Hz @ 1Hz - DIN PFEER P.T.A.P.	0	0	0	1	0	Tone 15	Tone 2	
10	2400/2900Hz @ 2Hz Alternating	1	0	0	1	0	Tone 7	Tone 5	
11	1000Hz @ 1Hz Intermittent	0	1	0	1	0	Tone 2	Tone 5	
12	800/1000Hz @ 0.875Hz Alternating	1	1	0	1	0	Tone 4	Tone 5	
13	2400Hz @ 1Hz Intermittent	0	0	1	1	0	Tone 15	Tone 5	
14	800Hz 0.25 sec on, 1 sec off Intermittent	1	0	1	1	0	Tone 4	Tone 5	
15	800Hz Continuous	0	1	1	1	0	Tone 2	Tone 5	
16	660Hz 150mS on, 150mS off Intermittent	1	1	1	1	0	Tone 18	Tone 5	
17	544Hz (100mS)/440 Hz (400mS) - NF S 32-001	0	0	0	0	1	Tone 2	Tone 27	
18	660Hz 1.8 sec on, 1.8 sec off Intermittent	1	0	0	0	1	Tone 2	Tone 5	
19	1.4KHz - 1.6KHz 1s, 1.6KHz - 1.4 KHz 0.5s - NFC48-265	0	1	0	0	1	Tone 2	Tone 5	
20	660Hz Continuous	1	1	0	0	1	Tone 2	Tone 5	
21	554Hz/440Hz @ 1Hz Alternating	0	0	1	0	1	Tone 2	Tone 5	
22	544Hz @ 0.875 sec Intermittent	1	0	1	0	1	Tone 2	Tone 5	
23	800Hz @ 2Hz Intermittent	0	1	1	0	1	Tone 6	Tone 5	
24	800/1000Hz @ 50Hz Sweeping	1	1	1	0	1	Tone 29	Tone 5	
25	2400/2900Hz @ 50Hz Sweeping	0	0	0	1	1	Tone 29	Tone 5	
26	Bell	1	0	0	1	1	Tone 2	Tone 15	
27	554Hz Continuous	0	1	0	1	1	Tone 26	Tone 5	
28	440Hz Continuous	1	1	0	1	1	Tone 2	Tone 5	
29	800/1000Hz @ 7Hz Sweeping	0	0	1	1	1	Tone 7	Tone 5	
30	300Hz Continuous	1	0	1	1	1	Tone 2	Tone 5	
31	660/1200Hz @ 1Hz Sweeping	0	1	1	1	1	Tone 26	Tone 5	
32	Two tone chime	1	1	1	1	1	Tone 26	Tone 15	
33	745Hz @ 1Hz Intermittent	0	0	0	0	1	Tone 2	Tone 5	
34	1000 & 2000Hz @ 0.5 sec Alternating - Singapore	1	0	0	0	1	Tone 38	Tone 45	
35	420Hz @ 0.625 Sec Australian Alert	0	1	0	0	1	Tone 36	Tone 5	
36	500-1200Hz 3.75 sec /0.25 sec Australian Evac.	1	1	0	0	1	Tone 35	Tone 5	
37	1000Hz Continuous - PFEER Toxic Gas	0	0	1	0	1	Tone 9	Tone 45	
38	2000Hz Continuous	1	0	1	0	1	Tone 34	Tone 45	
39	800Hz 0.25 sec on, 1 sec off Intermittent	0	1	1	0	1	Tone 23	Tone 17	
40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	1	1	1	0	0	Tone 31	Tone 27	
41	Motor Siren - slow rise to 1200Hz	0	0	0	1	0	Tone 2	Tone 5	
42	Motor Siren - slow rise to 800Hz	1	0	0	1	0	Tone 2	Tone 5	
43	1200Hz Continuous	0	1	0	1	0	Tone 2	Tone 5	
44	Motor Siren - slow rise to 2400Hz	1	1	0	1	0	Tone 2	Tone 5	
45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	0	0	1	1	0	Tone 38	Tone 34	

SWITCH POSITION EXPLANATION

1 = Switch in the ON position.
 0 = Switch in the OFF position..

INSTRUCTION & SERVICE MANUAL

E2xS121UL ALARM HORN SOUNDERS

For Use In Hazardous Locations

- 45 Tones 3 stage Alarm Horn Sounder
- Automatic Synchronisation
- Volume control
- Type 4 / 4X / 13
- Operating Temperature Range
-20°C to +55°C



Unit Type No. E2xS121UL

Input Voltages: DC Units 10-30V or 48V
AC Units 120V or 230V 50/60Hz

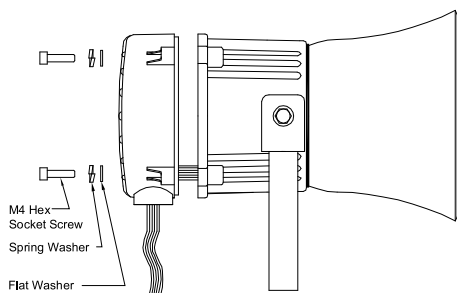
Max. Operating Temperature / Code at +55°C Ambient	
Hazardous Location	Temperature Code
Class I, Division 2, Groups A, B, C, D	T3C (160°C)
Class II, Division 2, Groups F and G	T6 (85°C)
Class III, Divisions 1 and 2	T6 (85°C)

Max. Operating Temperature / Code at +40°C Ambient	
Hazardous Location	Temperature Code
Class I, Division 2, Groups A, B, C, D	T4 (135°C)

The equipment is suitable for use in the hazardous locations listed above or non-hazardous locations only.

PRE-INSTALLATION

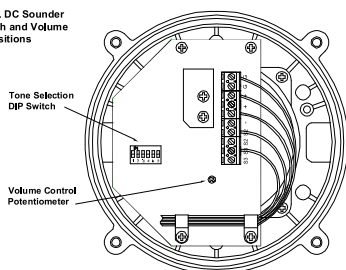
WARNING - Before the E2xS121UL sounder is installed the required tone and output volume must be set. *Note the units are factory set to tone 2 (800/1000Hz alternating at 2Hz) and maximum output.* If necessary the unit should be connected to a suitable power supply in a safe area to determine what tone pattern and output level is required.



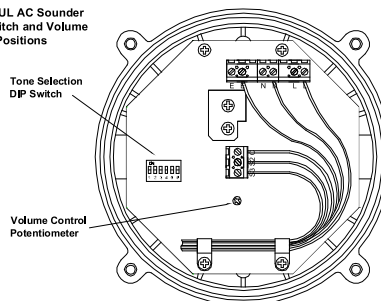
WARNING – DO NOT OPEN WHEN ENERGISED

CAUTION - DO NOT OPEN WHEN AN EXPLOSIVE GAS OR DUST ATMOSPHERE IS PRESENT

E2xS121UL DC Sounder
Tone Switch and Volume
Control Positions



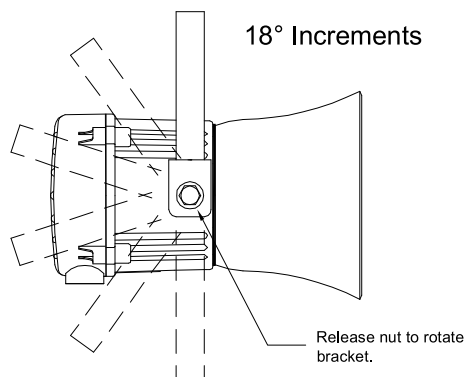
E2xS121UL AC Sounder
Tone Switch and Volume
Control Positions



WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, II DIVISION 2.

MOUNTING

The E2xS121UL sounder must be mounted using the rotating bracket as shown. If the cover has been removed to set the tone or volume control ensure that it has been correctly replaced before the sounder is mounted.



WIRING INSTALLATION

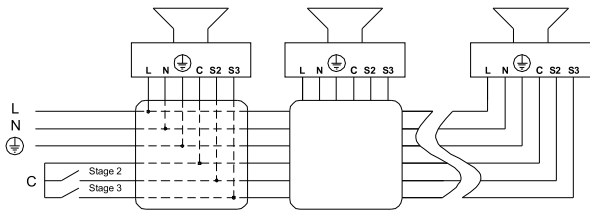
The E2xS121UL sounder has one ½ NPT cable entry, the blanking plug adjacent to the cable entry is permanently fixed and must not be removed. The sounder is pre-wired with flying leads which are colour coded and should be connected as shown in the diagram below.

The conduit running from the supply to the sounder must include an equipment grounding conductor that is at earth potential to facilitate ground connection of the device. A number of sounders can be connected in a chain to the same supply using field installed wiring compartments that are appropriate for the hazardous location, provided that the conductor at earth potential can be readily connected to the ground lead on each sounder in the chain.

WARNING - ALL ELECTRICAL WIRING MUST BE INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE

AC SOUNDERS

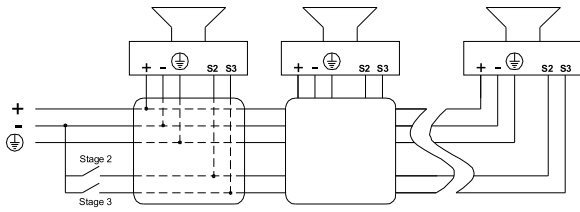
Black	Live	Violet	C
White	Neutral	Orange	S2
Green/Yellow	Ground	Yellow	S3



NOTE if the second and third stage wires are not used they must be individually insulated to ensure that cannot make contact to any other wires.

DC SOUNDERS

Red	Positive	Orange	S2
Black	Negative	Yellow	S3
Green/Yellow	Ground		



NOTE if the second and third stage wires are not used they must be individually insulated to ensure that cannot make contact to any other wires.

POWER SUPPLY SELECTION

It is important that a suitable power supply is used to run the sounders. The power supply selected must have the necessary capacity to provide the input current to all of the sounders connected to the system.

Unit Type	Input Voltage	Input @ 1kHz Current	Max. I/P Volts
E2xS121UL	24V DC	280mA	30V
E2xS121UL	48V DC	215mA	58V
E2xS121UL	230V 50/60Hz AC	76mA	253V
E2xS121UL	120V 50/60Hz AC	142mA	132V

tone SELECTION

The E2xS121UL sounders have 45 different tones that can be selected for the first stage alarm. The sounders can then be switched to sound second and third stage alarm tones. The tones are selected by operation of a DIP switch on the pcb for both DC and AC units. The tone table opposite shows the switch positions for the 45 tones and which tones are available for the second and third stages. To operate the sounder on stage one simply connect the supply voltage to the flying leads (Red and Black for DC units, Black, White and Green/Yellow for AC units).

The operation of the second and third stages is different for DC and AC units.

DC Units Second and Third Stage Tone Selection

To activate the second stage, remotely switch the S2 orange wire to the negative supply. To activate the third stage, remotely switch the S3 orange wire to the negative supply. NOTE the DC power supply to the Red and Black wires must be maintained for 2nd and 3rd stages.

AC Units Second and Third Stage Tone Selection

To select the second and third stages on the E2xS121UL AC sounders the Common (C) Violet wire must be remotely connected to the S2 orange wire for the second stage and to the S3 yellow wire for third stage. NOTE the AC power supply to the Black and White lead must be maintained for 2nd and 3rd stages.

VOLUME CONTROL

The volume on the E2xS121UL sounder can be set using the volume control (see figures 2 and 3). For maximum output level the potentiometer should be set to the fully clockwise position.

WARNING – HIGH VOLUME MAY CAUSE HARM TO PERSONNEL IN CLOSE PROXIMITY

END OF LINE MONITORING

On E2xS121UL DC units, dc reverse line monitoring can be used if required. All DC sounders have a blocking diode fitted in their supply input lines. An end of line monitoring resistor can be connected across the +ve and –ve terminals. If an end of line resistor is used it must have the following values:-

24V DC Sounders

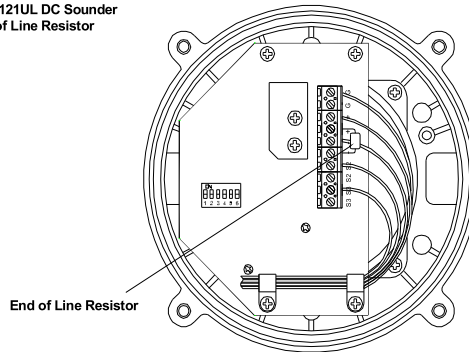
Minimum Resistance 3k9 ohms	Minimum wattage 0.5W
Minimum Resistance 1k ohms	Minimum wattage 2.0W

48V DC Sounders

Minimum Resistance 15k ohms	Minimum wattage 0.5W
Minimum Resistance 3k9 ohms	Minimum wattage 2.0W

The resistor must be connected directly across the +ve and –ve terminals as shown in the following drawing. Whilst keeping its leads as short as possible, a spacing of at least 1/16 inch (1.58mm) must be provided through air and over surfaces between uninsulated live parts.

E2xS121UL DC Sounder End of Line Resistor



TONE SELECTION TABLE

Stage 1	Frequency Description	Switch						Stage 2	Stage 3
		1	2	3	4	5	6		
1	340Hz Continuous	0	0	0	0	0	0	Tone 2	Tone 5
2	800/1000Hz @ 0.25 sec Alternating	1	0	0	0	0	0	Tone 17	Tone 5
3	500/1200Hz @ 0.3Hz sec Slow Whoop	0	1	0	0	0	0	Tone 2	Tone 5
4	800/1000Hz @ 1Hz Sweeping	1	1	0	0	0	0	Tone 6	Tone 5
5	2400Hz Continuous	0	0	1	0	0	0	Tone 3	Tone 20
6	2400/2900Hz @ 7Hz Sweeping	1	0	1	0	0	0	Tone 7	Tone 5
7	2400/2900Hz @ 1Hz Sweeping	0	1	1	0	0	0	Tone 10	Tone 5
8	500/1200/500Hz @ 0.3Hz Sweeping	1	1	1	0	0	0	Tone 2	Tone 5
9	1200/500Hz @ 1Hz - DIN PFEER P.T.A.P.	0	0	0	1	0	0	Tone 15	Tone 2
10	2400/2900Hz @ 2Hz Alternating	1	0	0	1	0	0	Tone 7	Tone 5
11	1000Hz @ 1Hz Intermittent	0	1	0	1	0	0	Tone 2	Tone 5
12	800/1000Hz @ 0.875Hz Alternating	1	1	0	1	0	0	Tone 4	Tone 5
13	2400Hz @ 1Hz Intermittent	0	0	1	1	0	0	Tone 15	Tone 5
14	800Hz 0.25 sec on, 1 sec off Intermittent	1	0	1	1	0	0	Tone 4	Tone 5
15	800Hz Continuous	0	1	1	1	0	0	Tone 2	Tone 5
16	660Hz 150mS on, 150mS off Intermittent	1	1	1	1	0	0	Tone 18	Tone 5
17	544Hz (100mS)/440Hz (400mS) - NF S 32-001	0	0	0	0	1	0	Tone 2	Tone 27
18	660Hz 1.8 sec on, 1.8 sec off Intermittent	1	0	0	0	1	0	Tone 2	Tone 5
19	1.4KHz - 1.6KHz 1s, 1.6KHz - 1.4KHz 0.5s - NFC48-265	0	1	0	0	1	0	Tone 2	Tone 5
20	660Hz Continuous	1	1	0	0	1	0	Tone 2	Tone 5
21	554Hz/440Hz @ 1Hz Alternating	0	0	1	0	1	0	Tone 2	Tone 5
22	544Hz @ 0.875 sec Intermittent	1	0	1	0	1	0	Tone 2	Tone 5
23	800Hz @ 2Hz Intermittent	0	1	1	0	1	0	Tone 6	Tone 5
24	800/1000Hz @ 50Hz Sweeping	1	1	1	0	1	0	Tone 29	Tone 5
25	2400/2900Hz @ 50Hz Sweeping	0	0	0	1	1	0	Tone 29	Tone 5
26	Bell	1	0	0	1	1	0	Tone 2	Tone 15
27	554Hz Continuous	0	1	0	1	1	0	Tone 26	Tone 5
28	440Hz Continuous	1	1	0	1	1	0	Tone 2	Tone 5
29	800/1000Hz @ 7Hz Sweeping	0	0	1	1	1	0	Tone 7	Tone 5
30	300Hz Continuous	1	0	1	1	1	0	Tone 2	Tone 5
31	660/1200Hz @ 1Hz Sweeping	0	1	1	1	1	0	Tone 26	Tone 5
32	Two tone chime	1	1	1	1	1	0	Tone 26	Tone 15
33	745Hz @ 1Hz Intermittent	0	0	0	0	0	1	Tone 2	Tone 5
34	1000 & 2000Hz @ 0.5 sec Aletrnating - Signapore	1	0	0	0	0	1	Tone 38	Tone 45
35	420Hz @ 0.625 Sec Australian Alert	0	1	0	0	0	1	Tone 36	Tone 5
36	500-1200Hz 3.75 sec /0.25 sec Australian Evac.	1	1	0	0	0	1	Tone 35	Tone 5
37	1000Hz Continuous - PFEER Toxic Gas	0	0	1	0	0	1	Tone 9	Tone 45
38	2000Hz Continuous	1	0	1	0	0	1	Tone 34	Tone 45
39	800Hz 0.25 sec on, 1 sec off Intermittent	0	1	1	0	0	1	Tone 23	Tone 17
40	544Hz (100mS)/440Hz (400mS) - NF S 32-001	1	1	1	0	0	1	Tone 31	Tone 27
41	Motor Siren - slow rise to 1200Hz	0	0	0	1	0	1	Tone 2	Tone 5
42	Motor Siren - slow rise to 800Hz	1	0	0	1	0	1	Tone 2	Tone 5
43	1200Hz Continuous	0	1	0	1	0	1	Tone 2	Tone 5
44	Motor Siren - slow rise to 2400Hz	1	1	0	1	0	1	Tone 2	Tone 5
45	1KHz 1s on, 1s off Intermittent - PFEER Gen. Alarm	0	0	1	1	0	1	Tone 38	Tone 34

SWITCH POSITION EXPLANATION

1 = Switch in the ON position.
0 = Switch in the OFF position..