1-22-010 / GNEx: GRP explosion/flameproof

GNExS1F Alarm Horn Sounder

The GNExS1F is an IECEx and ATEX certified alarm horn sounder featuring a re-entrant flare horn. The robust GRP (glass reinforced polyester) enclosure is approved for Zone 1 & Zone 2 explosion proof signalling applications.

Featuring 64 alarm tone sounds, each of the available 4 stage/channels can be remotely triggered. Class D amplification provides a high sound output at optimum an operating current. The threaded flameproof joint, multiple cable entries and duplicated, pluggable termination simplifies both installation and routine maintenance. SIL1 & SIL2 Route 2H compliant to IEC61508 (2010) as standard, with optional diagnostic module for Route 1H SIL2 compliance.

Features

- Maximum sound pressure level output of 115dB(A)
- Choice of 64 alarm tone frequencies
- 4 remotely selectable alarm stages/channels
- Positive or negative line stage/channel switching
- Automatic synchronisation on multi-sounder system
- Ratchet adjustable 316 stainless steel bracket
- Triple cable entries
- Available with custom tone configurations and frequencies
- Robust corrosion proof GRP (glass reinforced polyester) enclosure

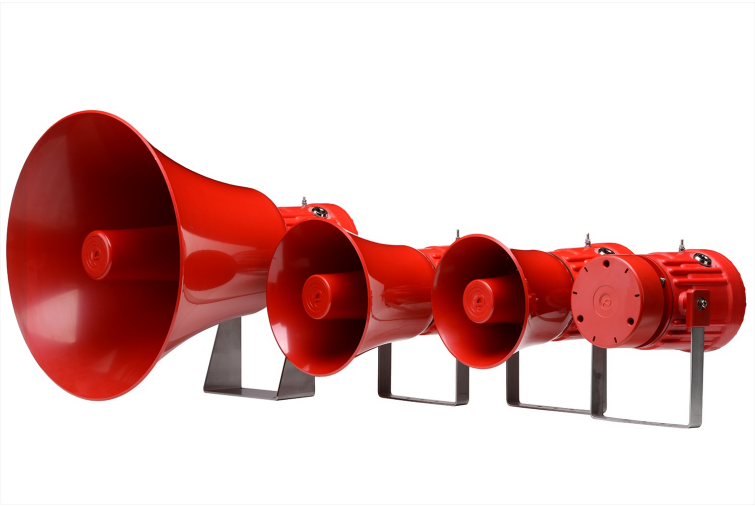
Approvals

- ATEX certificate: SIRA 13ATEX1139X
- IECEx certificate: IECEx SIR 13.0029X
- UL certificate: E549307
- Ex EAC TR CU 012/2011 certified: KZ.1510019.22.01.00271
- INMETRO IEx 20.0050X
- SIL1 & SIL2 compliant to IEC61508 (2010)

Coding

- IECEx / ATEX
  - II 2G Ex d IIC T4 Ta. -60°C to +50°C
  - II 2G Ex d IIC T3 Ta. -60°C to +70°C
  - II 2G Ex d IIB T6 Ta. -60°C to +50°C
  - II 2G Ex d IIB T5 Ta. -60°C to +65°C
  - II 2G Ex d IIB T4 Ta. -60°C to +70°C





Specification

Maximum output:	115dB(A) @ 1 m +/- 3dB [106dB(A) @ 10ft/3m +/- 3dB]
Nominal output:	110dB(A) @ 1m +/- 3dB [101dB(A) @ 10ft/3m] +/- 3dB
No. of tones:	64 (UKOOA / PFEER compliant)
No. of stages:	4
Volume control:	Full range
Effective range:	125m/410ft @ 1KHz
Voltages DC:	24Vdc (10-30Vdc), 48vdc (38-60Vdc)
Voltages AC:	230Vac (100-260Vac)
In-rush:	815mA within 4ms @ 24Vdc
Stage switching:	DC units: positive or negative AC units: common supply line
Safety Integrity Level:	Product version A: SIL1 and SIL2 Route 2H Product version S: SIL2 Route 1H with diagnostics SFF: >99% See install manual for reliability & functional safety data
Ingress protection:	EN60529: IP66
Enclosure material:	UV stable GRP (glass reinforced polyester)
Enclosure colour:	Natural Red
Enclosure finish:	Natural – can be painted in alternative colours
Cable entries:	2 x M20x1.5mm Stopping plug included
Stopping plugs:	Brass, Nickel Plated or Stainless Steel
Terminals:	0.5 – 2.5mm² (20-14 AWG) Pluggable & duplicated terminals
Line monitoring:	Diode polarized for use in supervised circuits Blocking diode for reverse polarity monitoring
Ground/Earth stud:	M4
Line monitoring:	Blocking diode included EOL Min. 500 Ohm 2W, or 3k3 Ohm 0.5W resistor or diode (DC versions) can be fitted
Enclosure volume:	<2 litres
Installation temp:	-50° to +70°C (-58°F to +158°F)
Storage temp:	-50° to +70°C (-58°F to +158°F)
Relative humidity:	99%
MTBF DC:	93.92 years / 822,706 hours – MIL 217
MTBF AC:	46.66 years / 408,508 hours – MIL 217
Weight:	DC: 3.00kg/6.6lbs AC: 3.20kg/7.04lbs

Part Codes

Part Code:	Identifier:	Description:
Product type:	GNExS1	GNExS1 alarm horn sounder
Horn type:	F	Flare re-entrant horn
Voltage:	DC024	10-30Vdc
	DC048	38-60Vdc
	AC230	100-260Vac
Cable entries:[e]	A	2 x M20x1.5mm
	B	2 × 1/2" NPT – adaptors
	C	2 × 3/4" NPT – adaptors
	D	2 x M25x1.5mm – adaptors
	E	1 × 1/2" NPT – adaptor
	F	1 × 3/4" NPT – adaptor
	G	1 x M25x1.5mm – adaptor
Stopping plug/ adaptor material: [m]	B	Brass
	N	Nickel plated brass
	S	Stainless steel
Bracket material: [s]	1	A4 316 Stainless Steel
	3	A4 316 St/St with Equip. Tag
	5	A4 316 St/St with Equip. Tag and Duty Label
Product version: [v]	A	IECEx, ATEX, UL, Ex EAC, INMETRO SIL1 & SIL2 Route 2H
	S	IECEx, ATEX, UL, Ex EAC, INMETRO SIL2 Route 1H with diagnostics SFF: >99%
	T	IECEx, ATEX, Ex EAC, INMETRO – Telephone/Relay initiate
Product option: [o]	1	Standard product
	Z	Custom alarm tone software – contact E2S
	X	Custom configuration – contact E2S
	Y	Stage control Config. 4
	K	Stage control Config. 5 (DC) and Config. 2 (AC)
	V	Stage control Config. 6
	R	Reverse polarity stage control (DC) Config. 7
Enclosure colour: [x]	R	Red
	S	Special – contact E2S for alternative enclosure colours

Accessories:

SP65-0001-A4	Pole Mount Bracket Kit St/St A4 (316)
SP65-0003-A4	Sunshade – St/St A4 (316)

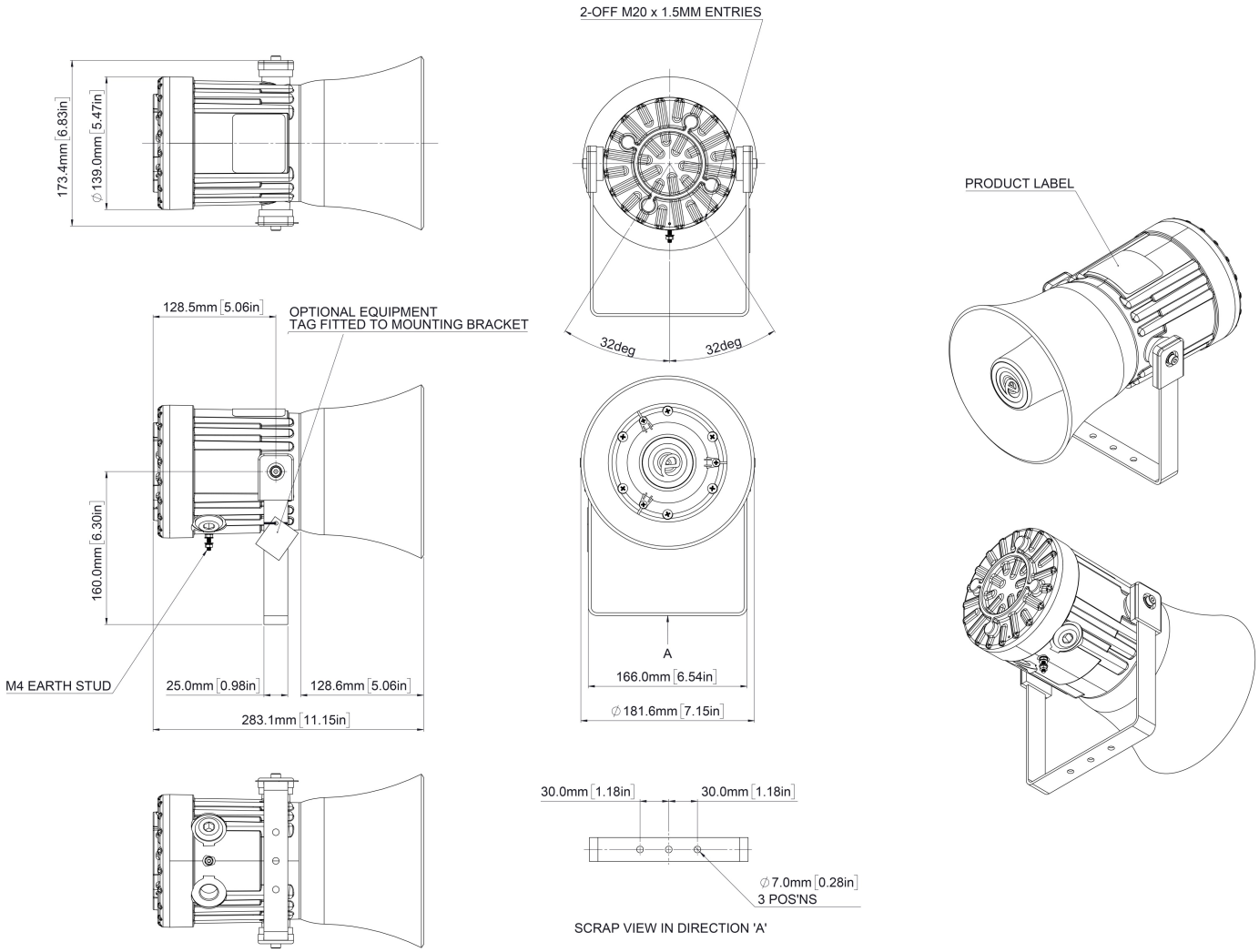
Alarm stage control:

Please review the installation manual and wiring schematics for remote stage control and EOL resistor monitoring configuration options:

Config. 1 [DC]:	Factory default. Common negative, positive switching. Up to 4 Alarm Stages. EOL monitoring Alarm Stage 1 only
Config. 2 [DC]:	User setting. Common positive, negative switching. Up to 4 Alarm Stages. EOL monitoring Alarm Stage 1 only
Config. 3 [DC]:	User setting. Common negative, positive switching activation of Alarm Stages 1 & 2 with EOL on both stages. Reverse polarity monitoring
Config. 4 [DC]:	Product option 'Y'. Independent activation of Alarm Stages 1 & 2 with EOL on both stages. Forward polarity monitoring
Config. 5 [DC]:	Product option 'K'. Horn continuously powered. Voltage free activation of up to 3 alarm stages
Config. 6 [DC]:	Product option 'V'. Independent activation of up to 4 Alarm Stages with EOL on all stages. Forward polarity monitoring
Config. 7 [DC]:	Product option 'R'. Reverse polarity selection of Stage 1 and Stage 2
Config. 1 [AC]:	Factory default. Up to 4 Alarm Stages. Stage 1 activated at power on. Stages 2, 3 and 4 via volt free contacts
Config. 2 [AC]:	Product option 'K'. Horn continuously powered. Voltage free activation of up to 3 alarm stages

Current Consumption

Nominal Voltage:	Voltage range:	Nominal current:	Max. current:	In-rush:
12Vdc	10-30Vdc	221mA	221mA	-
24Vdc	10-30Vdc	185mA	221mA	815mA <4ms
48Vdc	38-60Vdc	115mA	221mA	-
115Vac 50/60Hz	100-260V ac	73mA	80mA	-
230Vac 50/60Hz	100-260V ac	48mA	80mA	-



Assemblies

The GNExS1F is available as a plated assembly configured with Xenon strobe or LED beacons with or without a GNExJ2 Ex d junction box.

Contact E2S for further information.

Tone table

S 1	Description	S 2	S 3	S 4
T 1	1000 Continuous - PFEER Toxic Gas	Any	T 2	T 44
T 2	1200/500 @ 1Hz Sweeping - DIN / PFEER P.T.A.P.	Any	T 3	T 44
T 3	1000 @ 0.5Hz (1s on, 1s off) Intermittent - P...	Any	T 2	T 44
T 4	1.4KH-1.6KHz 1s, 1.6KHz-1.4KHz 0.5s - NF C 48...	Any	T 24	T 1
T 5	544(100mS)/440 (400mS) - NF S 32-001	Any	T 19	T 1
T 6	1500/500 - (0.5s on , 0.5s off) x3 + 1s gap -...	Any	T 44	T 1
T 7	500-1500Hz Sweeping 2 sec on 1 sec off - AS4428	Any	T 44	T 1
T 8	500/1200Hz @ 0.26Hz(3.3s on, 0.5s off) - NEN ...	Any	T 24	T 35
T 9	1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM...	Any	T 34	T 1
T 10	1000 (1s on, 1s off)x7 + (7s on, 1s off) - IM...	Any	T 34	T 1
T 11	420(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201 ...	Any	T 1	T 8
T 12	1000(0.5s on, 0.5s off)x3 + 1s gap - ISO 8201...	Any	T 1	T 8
T 13	422/775 - (0.85 on, 0.5 off) x3 + 1s gap - ...	Any	T 1	T 8
T 14	1000/2000 @ 1Hz - Singapore	Any	T 3	T 35
T 15	300 Continuous	Any	T 24	T 35
T 16	440 Continuous	Any	T 24	T 35
T 17	470 Continuous	Any	T 24	T 35
T 18	500 Continuous - IMO code 2 (Low)	Any	T 24	T 35
T 19	554 Continuous	Any	T 24	T 35
T 20	660 Continuous	Any	T 24	T 35
T 21	800 Continuous - IMO code 2 (High)	Any	T 24	T 35
T 22	1200 Continuous	Any	T 24	T 35
T 23	2000 Continuous	Any	T 3	T 35
T 24	2400 Continuous	Any	T 20	T 35
T 25	440 @ 0.83Hz (0.60s on, 0.60s off) Intermittent	Any	T 44	T 8
T 26	470 @ 0.9Hz (0.55s on, 0.55s off) Intermittent	Any	T 44	T 8
T 27	470 @ 5Hz (0.10s on, 0.10s off) Intermittent	Any	T 44	T 8
T 28	544 @ 1.14Hz (0.43s on, 0.44s off) Intermittent	Any	T 24	T 8
T 29	655 @ 0.875Hz (0.57s on, 0.57s off) Intermittent	Any	T 44	T 8
T 30	660 @ 0.28Hz (1.80s on, 1.80s off) Intermittent	Any	T 24	T 8
T 31	660 @ 3.3Hz (0.15s on, 0.15s off) Intermittent	Any	T 24	T 8
T 32	745 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8

S 1	Description	S 2	S 3	S 4
T 33	800 (0.25s on, 1.00s off) Intermittent	Any	T 24	T 8
T 34	800 @ 2Hz (0.25s on, 0.25s off) - IMO code 3....	Any	T 24	T 8
T 35	1000 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8
T 36	2400 @ 1Hz (0.50s on, 0.50s off) Intermittent	Any	T 24	T 8
T 37	2900 @ 5Hz (0.10s on, 0.10s off) Intermittent	Any	T 24	T 8
T 38	363/518 @ 1Hz (0.50s / 0.50s) Alternating	Any	T 8	T 19
T 39	450/500 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 8	T 19
T 40	554/440 @ 1Hz (0.50s / 0.50s) Alternating	Any	T 24	T 19
T 41	554/440 @ 0.65Hz (0.76s / 0.76s) Alternating	Any	T 8	T 19
T 42	561/760 @ 0.83Hz (0.60s / 0.60s) Alternating	Any	T 8	T 19
T 43	780/600 @ 0.96Hz (0.52s / 0.52s) Alternating	Any	T 8	T 19
T 44	800/1000 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 24	T 19
T 45	970/800 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 8	T 19
T 46	800/1000 @ 0.875Hz (0.57s / 0.57s) Alternating	Any	T 24	T 19
T 47	2400/2900 @ 2Hz (0.25s / 0.25s) Alternating	Any	T 24	T 19
T 48	500/1200 @ 0.3Hz (1.67s / 1.67s) Sweeping	Any	T 24	T 12
T 49	560/1055 @ 0.18Hz (2.73s / 2.73s) Sweeping	Any	T 24	T 12
T 50	560/1055 @ 3.3Hz (0.15s / 0.15s) Sweeping	Any	T 24	T 12
T 51	600/1250 @ 0.125Hz (4s / 4s) Sweeping	Any	T 24	T 12
T 52	660/1200 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 53	800/1000 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 54	800/1000 @ 7Hz (0.07s / 0.07s) Sweeping	Any	T 24	T 12
T 55	800/1000 @ 50Hz (0.01s / 0.01s) Sweeping	Any	T 24	T 12
T 56	2400/2900 @ 7Hz (0.07s / 0.07s) Sweeping	Any	T 24	T 12
T 57	2400/2900 @ 1Hz (0.50s / 0.50s) Sweeping	Any	T 24	T 12
T 58	2400/2900 @ 50Hz (0.01s / 0.01s) Sweeping	Any	T 24	T 12
T 59	2500/3000 @ 2Hz (0.25s / 0.25s) Sweeping	Any	T 24	T 12
T 60	2500/3000 @ 7.7Hz (0.65s / 0.65s) Sweeping	Any	T 24	T 12
T 61	800Hz Motor Siren	Any	T 24	T 12
T 62	1200Hz Motor Siren	Any	T 24	T 12
T 63	2400Hz Motor Siren	Any	T 24	T 12
T 64	Simulated Bell	Any	T 21	T 12

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