

GNExH1 Heat Detector

The E2S GNExH1 globally certified heat detector provides a comprehensive solution suitable for the harshest of environments. Featuring the D-A-F rate compensated heat detector elements with stainless steel casing and hermetically sealed contacts. The GNExH1 is approved for Class I Zone 1 AEx db eb, Ex db eb increased safety, Class I/II Div 2 applications with a high temperature version rated to 105°C plus versions certified as intrinsically safe. Global approvals include IECEx, ATEX, UL, ULC and cUL.

The robust IP66/67, Type 4/4X corrosion proof junction box enclosure is manufactured from UV stable GRP (glass reinforced polyester). The E2S GNExH1 heat detector offers a robust and reliable source for alarm initiation in the most hazardous and demanding of applications.

Features

- Robust corrosion proof GRP (glass reinforced polyester) termination enclosure
- Ingress protection IP66/67 Type: 4/4X
- Threaded flame path simplifies installation and inspection
- Multiple cable entries
- Stopping plugs supplied
- UL521 and CAN/ULC-S530 approved
- EN54-5 compliant
- D-A-F rate compensated heat detector elements
- Versatile: various temperature settings available
- Durable: long lasting stainless steel element shell
- Reliable: hermetically sealed internal contact area
- Economical: wide installation spacing reduces installation costs
- Factory set temperature
- Globally approved to IECEx, ATEX, UL, cUL and ULC standards
- Version E: Zone 1/21, Class I/II Div 2
- Version H: High temp Zone 1/21, Class I/II Div 2
- Version I & R: Zone 0, Zone 21, Class I/II Div 1

Approvals

- UL/cUL – File ref: E245313
- IECEx UL 15.0003X
- ATEX DEMKO 15ATEX1448X
- UKCA UL21UKEX2136X
- SIL2 compliant to IEC61508 (2010)



Specification

Enclosure:	UV stable GRP (glass reinforced polyester)
Enclosure colour:	Natural Red
Enclosure finish:	Natural – can be painted in alternative colours
Ingress protection:	IP66/67 EN50029, Type 4/4X UL50E
Cable entries:	2 x M20x1.5mm – Stopping plug(s) included
Cable spec:	Solid core: 0.5-2.5mm ² AWG20-12 Stranded core: 0.5-2.5mm ² AWG24-14
Terminals:	DIN Rail AKZ 2.5 × 6
Max Input	32Vdc: 1A, 24Vdc: 2A, 32Vac 50/60Hz: 5A – version E & H
Safety parameters:	Ui=30V, Ii=500mA, Pi=1100mW, Ci=0, Li=0 – version I & R
Stopping plugs:	Brass, Nickel Plated or Stainless Steel
Grounding stud:	M5
Installation temp:	-50° to +70°C/105°C (-58°F to +158°F/221°F)
Storage temp:	-50° to +70°C/105°C (-58°F to +158°F/221°F)
Weight:	2.5kg/5.5lbs

Temperature and spacing data

°F Setting	°F Tolerance	°C Setting	°C Tolerance	Spacing UL (ft)	Spacing ULC (ft)
140	+7/-8	60	+4/-5	50	50
160	+7/-8	71	+4/-5	25	25
190	+7/-8	88	+4/-5	50	50
210	+7/-8	99	+4/-5	25	50
225	+7/-8	107	+4/-5	25	50
275	±10	135	±6	25	50
325	±10	163	±6	50	50
360	±10	182	±8	25	50
450	±15	232	±10	25	50
500	±15	260	±10	50	50
600	±20	316	±12	N/A	50
725	±20	385	±12	N/A	50

Derating Factor for Ceiling Height – based on NFPA guidelines

Ceiling Height Above		Up to and Including		Derating Factor
m	ft	m	ft	
0	0	3.05	10	1.00
3.05	10	3.66	12	0.91
3.66	12	4.27	14	0.84
4.27	14	4.88	16	0.77
4.88	16	5.49	18	0.71
5.49	18	6.10	20	0.64
6.10	20	6.71	22	0.58
6.71	22	7.32	24	0.52
7.32	24	7.93	26	0.46
7.93	26	8.54	28	0.40
8.54	28	9.14	30	0.34

Part Codes

Part Code:	Identifier:	Description:
Product type:	GNExH1	Heat Detector
Element guard:[g]	N	No guard
	G	With guard
Temperature code:	01	140°F / 60°C
[t]	02	160°F / 71°C
	03	190°F / 88°C
	04	210°F / 99°C
	05	225°F / 107°C
	06	275°F / 135°C
	07	325°F / 163°C
	08	360°F / 182°C
	09	450°F / 232°C
	10	500°F / 260°C
	11	600°F / 316°C
	12	725°F / 385°C
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
	Note:	Options A, B, C & D reduced to 1 entry for Product version R with LED option L or C.
	E	1 × 1/2" NPT – adaptor, 1 x M20x1.5mm
	F	1 × 3/4" NPT – adaptor, 1 x M20x1.5mm
	G	1 x M25x1.5mm – adaptor, 1 x M20x1.5mm
Stopping plug/adaptor material: [m]	B	Brass
	N	Nickel Plated
	S	Stainless Steel
Equipment tag: [s]	1	No Duty label, no Equip. tag
	2	Duty label
	3	Duty label + Equip. tag
	6	Equip. tag only
	7	Special label requirement
Product version: [v]	E	Zone 1/21, Class I/II Div 2
	H	High temp Zone 1/21, Class I/II Div 2
	I	Zone 0/21, Class I/II Div 1
	R	Zone 0/21, Class I/II Div 1 with EOL and/or series devices
	Note:	Versions E, H, I & R: IECEx, ATEX, UL, cUL, ULC
Product option: [o]	1	Standard product
	W	Alternate EOL & series wiring
	X	Custom configuration – contact E2S
Enclosure colour: [x]	R	Red
	S	Special – contact E2S for alternative enclosure colours
LED indicator: [u]	N	No LED
	L	LED with 1.5K ballast resistor
	C	LED without ballast resistor <20mA
	Note:	LED only available with Product version R
For product version R only suffix the part code with required EOL and series devices as follows for factory installation. See the GNExH1-IR installation manuals for resistance, wattage and diode specifications:		
E.O.L.Module: [e] optional	ExxxR	Resistor value in Ohms e.g. E470R = 470 Ohm
	ED1	Diode IN5401 = ED1
	ExxxZ	Zener diode e.g. E5V1Z = 5.1V
Series Module: [s] optional	SxxxR	Resistor value in Ohms e.g. S1K5R = 1.5K Ohm
	SD1	Diode IN5401 = SD1
	SxxxZ	Zener diode e.g. S5V1Z = 5.1V

Coding

GNExH1-E: Product version: E

IECEX / ATEX

Ex db eb IIC Gb T6 Ta -50°C to +70°C

Ex tb IIIC Db T75°C Ta -50°C to +70°C

NEC Class Zone

Class I Zone 1 AEx db eb IIC T6 Gb Ta -50°C to +70°C

Zone 21 AEx tb IIIC T75°C Db Ta -50°C to +70°C

CEC Class Zone

Ex db eb IIC T6 Gb Ta -50°C to +70°C

Ex tb IIIC T75°C Db Ta -50°C to +70°C

NEC / CEC Class Division

Class I Div 2 ABCD T6 Ta -50°C to +70°C

Class II Div 2 FG T6 Ta -50°C to +70°C

GNExH1-H: Product version: H

IECEX / ATEX

Ex db eb IIC T4 Gb Ta -50°C to +105°C (T5:+90°C, T6:+75°C)

Ex tb IIIC T110°C Db Ta -50°C to +105°C (T75°C:+70°C)

NEC Class Zone

Class I Zone 1 AEx db eb IIC T4 Gb Ta -50°C to +105°C (T5:+90°C, T6:+75°C)

Zone 21 AEx tb IIIC T110°C Db Ta -50°C to +105°C (T75°C:+70°C)

CEC Class Zone

Ex db eb IIC T4 Gb Ta -50°C to +105°C (T5:+90°C, T6:+75°C)

Ex tb IIIC T110°C Db Ta -50°C to +105°C (T75°C:+70°C)

NEC / CEC Class Division

Class I Div 2 ABCD T4 Ta -50°C to +105°C (T5:+90°C, T6:+75°C)

Class II Div 2 FG T4 Ta -50°C to +105°C (T6:+70°C)

GNExH1-I: Product version: I

IECEX / ATEX

Ex ia IIC T6 Ga Ta -50°C to +70°C

Ex tb IIIC T80°C Db Ta -50°C to +70°C

NEC Class Zone

Class I Zone 0 AEx ia IIC T6 Ga Ta -50°C to +70°C

Class II Zone 21 AEx tb IIIC T80°C Db Ta -50°C to +70°C

CEC Class Zone

Ex ia IIC T6 Ga X Ta -50°C to +70°C

Ex tb IIIC T80°C Db X Ta -50°C to +70°C

NEC / CEC Class Division

Class I Div 1 Group ABCD T6 Ta -50°C to +70°C

Class II Div 2 Group FG T6 Ta -50°C to +70°C

GNExH1-IR: Product version: R

IECEX / ATEX

Ex ia IIC T4 Ga Ta -50°C to +70°C

Ex tb IIIC T80°C Db Ta -50°C to +70°C

NEC Class Zone

Class I Zone 0 AEx ia IIC T4 Ga Ta -50°C to +70°C

Class II Zone 21 AEx tb IIIC T80°C Db Ta -50°C to +70°C

CEC Class Zone

Ex ia IIC T4 Ga X Ta -50°C to +70°C

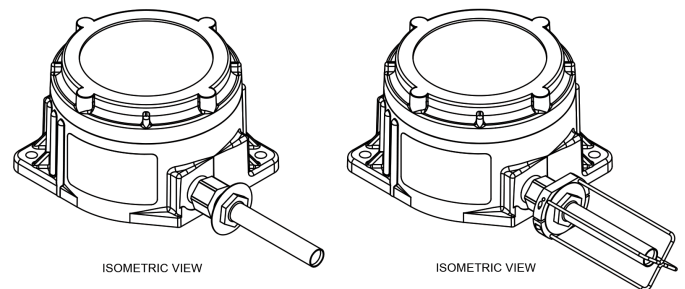
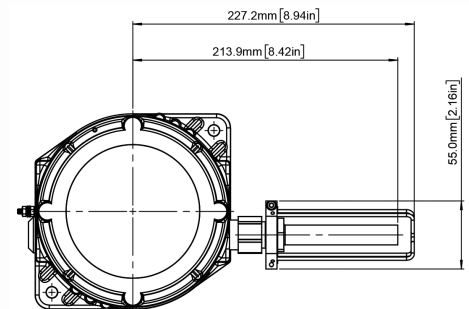
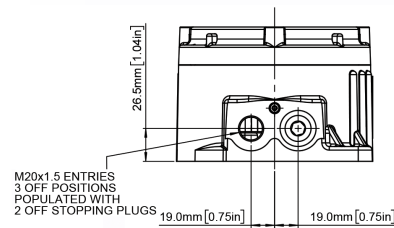
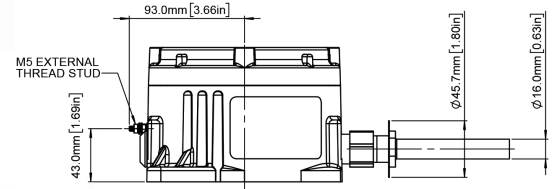
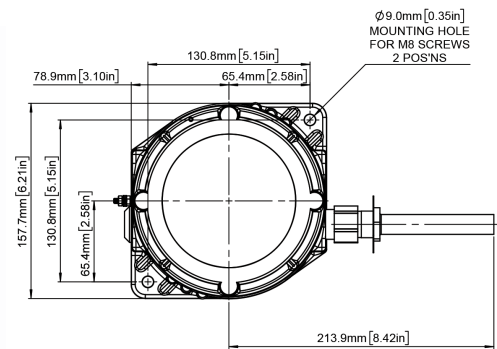
Ex tb IIIC T80°C Db X Ta -50°C to +70°C

NEC / CEC Class Division

Class I Div 1 Group ABCD T4 Ta -50°C to +70°C

Class II Div 2 Group FG T4 Ta -50°C to +70°C

See installation manuals for full coding



Note

- E2S H1 detector temperature is factory set.
- Per UL521 requirements - low temperature exposure test is - 22°F (-30°C)
- E2S H1 detectors are designed for long life expectancy, however due to various field conditions it is required that the detectors be tested annually per NFPA guidelines or local fire codes.
- Replace the detector after any fire or heat related event, any mechanical damage, or after 10 years of continuous service.
- To avoid nuisance activations, select a temperature setting a minimum of 100°F above the maximum ambient expected temperature.