1-27-040 / D2x: Aluminium hazardous location

D2xH1 Heat Detector

The E2S D2xH1 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 D2xH1 is approved for Class I Zone 2 AEx db ec, Ex db ec, Zone 22 AEx tc/Ex tc, Class I/II Div 2 applications 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 marine grade, copper free LM6 aluminium. The E2S D2xH1 heat detector offers a robust and reliable source for alarm initiation in the most hazardous and demanding of applications.

Features

- Robust corrosion proof LM6 marine grade aluminium enclosure
- Ingress protection IP66/67 Type: 4/4X
- Compact enclosure
- 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 2, Zone 22, Class I/II Div 2
- Version I & R: Zone 0, Zone 21, Class I/II Div 1

Approvals

- UL/cUL – File ref: E245313
- IECEx ULD 14.0004X
- ATEX DEMKO 14ATEX4786493904X
- UKCA UL21UKEX2131X
- SIL2 compliant to IEC61508 (2010)

Specification

Enclosure:	Marine grade LM6 aluminium
Enclosure colour:	Red or Grey
Enclosure finish:	Chromate & powder coated finish ISO 12944-6 CX, C5VH & C5H
Ingress protection:	IP66/67 EN50029, Type 4/4X UL50E
Cable entries:	2 × 3/4"NPT with 2 x M20x1.5mm or 2 × 1/2"NPT Stopping plug(s) included
Cable spec:	Solid core: 0.5-2.5mm2 AWG20-12 Stranded core: 0.5-2.5mm2 AWG24-14
Terminals:	DIN Rail AKZ 2.5 × 6
Max Input	32Vdc: 1A, 24Vdc: 2A, 32Vac 50/60Hz: 5A – version E
Max Power	1.25W – version E
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:	-40° to +50°C (-40°F to +122°F)
Storage temp:	-40° to +50°C (-40°F to +122°F)
Weight:	1.5kg/3.31lbs

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:	D2xH1	Heat Detector
Element orientation: [d]	H V	Horizontal Vertical
Element guard: [g]	N G	No guard With guard
Temperature code: [t]	01 02 03 04 05 06 07 08 09 10 11 12	140°F / 60°C 160°F / 71°C 190°F / 88°C 210°F / 99°C 225°F / 107°C 275°F / 135°C 325°F / 163°C 360°F / 182°C 450°F / 232°C 500°F / 260°C 600°F / 316°C 725°F / 385°C
Cable entries: [e]	A B C Note:	2 x M20 & 2 × 1/2"NPT (Vertical orientation) 2 x M20 (Horizontal orientation) 2 × 1/2"NPT (Horizontal orientation) All types also contain 2 × 3/4" NPT side & 1 × 3/4" NPT pendant entries
Stopping plug/adaptor material: [m]	B N S	Brass Nickel Plated Stainless Steel
Equipment tag: [s]	1 2 3 6 7	No Duty label, no Equip. tag Duty label Duty label + Equip. tag Equip. tag only Special label requirement
Product version: [v]	E I R **Note:**	Zone 2/22, Class I/II Div 2 Zone 0/21, Class I/II Div 1 Zone 0/21, Class I/II Div 1 with EOL and/or series devices Versions E, I & R: IECEx, ATEX, UL, cUL, ULC
Product option: [o]	1 W X	Standard product Alternate EOL & series wiring Custom configuration – contact E2S
Enclosure colour: [x]	R G S	Red Grey Special – contact E2S for alternative enclosure colours
LED indicator: [u]:	N L C **Note:**	No LED LED with 1.5K ballast resistor LED without ballast resistor <20mA LED only available with Product version 'R'

For product version **E** and **R** only, suffix the part code with required EOL and series devices as follows for factory installation.
See the D2xH1-E and D2xH1-IR installation manuals for resistance, wattage and diode specifications:

E.O.L.Module: [e] optional	ExxxR ED1 ExxxZ	Resistor value in Ohms e.g. E470R = 470 Ohm Diode IN5401 = ED1 Zener diode e.g. E5V1Z = 5.1V
Series Module: [s] optional	SxxxR SD1 SxxxZ	Resistor value in Ohms e.g. S1K5R = 1.5K Ohm Diode IN5401 = SD1 Zener diode e.g. S5V1Z = 5.1V

Coding

D2xH1-E: Product version: E

IECEx / ATEX

Ex db ec IIC T6 Gc Ta –40°C to +50°C

Ex tc IIIC T55°C Dc Ta –40°C to +50°C

NEC Class Zone

Class I Zone 2 AEx db ec IIC T6 Gc Ta -40°C to +50°C

Zone 22 AEx tc IIIC T55°C Dc Ta -40°C to +50°C

CEC Class Zone

Ex db ec IIC T6 Gc Ta –40°C to +50°C

Ex tc IIIC T55° Dc Ta –40°C to +50°C

NEC / CEC Class Division

Class I Div 2 ABCD T6 Ta -40°C to +50°C

Class II Div 2 FG T6 Ta -40°C to +50°C

Class III Div 2 Ta -40°C to +50°C

D2xH1-I: Product version: I

IECEx / ATEX

Ex ia IIC T6 Ga Ta –40°C to +50°C

Ex tb IIIC T75°C Db Ta –40°C to +50°C

NEC Class Zone

Class I Zone 0 AEx ia IIC T6 Ga Ta -40°C to +50°C

Zone 21 AEx tb IIIC T75°C Db Ta -40°C to +50°C

CEC Class Zone

Ex ia IIC T6 Ga X Ta -40°C to +50°C

Ex tb IIIC T75°C Db X Ta -40°C to +50°C

NEC / CEC Class Division

Class I Div 1 Group ABCD T6 Ta -40°C to +50°C

Class II Div 2 Group FG T6 Ta -40°C to +50°C

Class III Div 2 Ta -40°C to +50°C

D2xH1-IR: Product version: R

IECEx / ATEX

Ex ia IIC T4 Ga Ta –40°C to +50°C

Ex tb IIIC T75°C Db Ta –40°C to +50°C

NEC Class Zone

Class I Zone 0 AEx ia IIC T4 Ga Ta -40°C to +50°C

Zone 21 AEx tb IIIC T75°C Db Ta Ta -40°C to +50°C

CEC Class Zone

Ex ia IIC T4 Ga X Ta -40°C to +50°C

Ex tb IIIC T75°C Db X Ta -40°C to +50°C

NEC / CEC Class Division

Class I Div 1 Group ABCD T4 Ta -40°C to +50°C

Class II Div 2 Group FG T4 Ta -40°C to +50°C

Class III Div 2 Ta -40°C to +50°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.

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