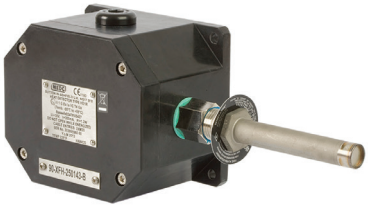
HD1 heat detector range

Ex d, Ex em & Ex ia

Ex d



Ex em/Ex ia/UL

Overview

The Eaton heat detector has been designed for use in hazardous environments. These units are suitable for fire alarm and/or suppression systems in offshore and onshore applications including paint spray booths, flammable material stores, turbine rooms, extract ductwork and other hazardous areas throughout the oil & gas, petrochemical and process industries.

Comprising a Fenwal rate-compensated detector with all-stainless steel external construction, mounted to either a type SM87 marine grade alloy enclosure (Exd version) or JB10 corrosion-free GRP enclosure (Ex ia, Ex em/UL versions). The contact in the detector CLOSES at alarm temperature.

To select appropriate temperature setting see specification on reverse.

Features

- Zone 0, Zone 1 and Zone 2 use
- ATEX certified
  - EExd IIB T3/T6
  - Exd IIC T6
  - EExem II T4/T6
  - Ex ia IIC T4/T6
- IECEx certified
  - Ex ia IIC T4/T6 Ga
- UL listed for USA and Canada:
  - Class I, Div 2, Groups A, B, C D
- TR CU certified
- CQST certified
- CCOE certified
- SIL 2 certified
- IP66 & IP67
- Certified temperature:
  - –20°C to +125°C (Exd)*
  - –20°C to +55°C (Exem/UL)
  - –55°C to +55°C (Exia)
- Stainless steel probe
- Detector temperature settings: 60°C to 385°C, (140°F to 725°F)
- Marine grade alloy or GRP enclosure
- Optional stainless steel guard

*Model dependent

ATEX IECEx cULus EAC CQST NAN YANG

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Powering Business Worldwide

All specifications, dimensions, weights and tolerances are nominal (typical) and Eaton reserve the right to vary all data without prior notice.
No liability is accepted for any consequence of use.

Certifications

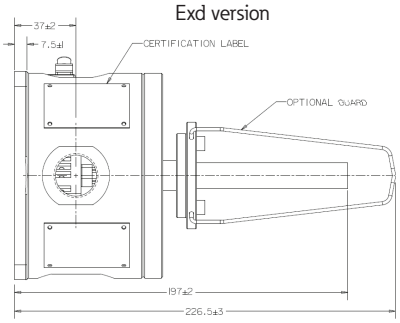
ATEX EEx d IIB	Cert. no. Baseefa03ATEX0447 Certified to: EN50014, EN50018, EN50281-1-1 Ex II 2 GD, EEx d IIB T6 (T3 @ 125°C)
ATEX Ex d IIC	Cert. no. Baseefa08ATEX0320 Certified to: EN60079-0, EN60079-1, EN61241-0, EN61241-1 Ex II 2 GD, Ex d IIC T6, Ex tD A21 T85°C (-20°C to + 55°C)
ATEX EEx em	Cert. no. Baseefa03ATEX0428 Certified to: EN50014, EN50019, EN50028 Ex II 2G, EEx em II T6 (-20°C to + 55°C)
ATEX Ex ia	Cert. no. Baseefa03ATEX0427 Certified to: EN60079-0, EN60079-11 Ex II 1G, Ex ia IIC T6 Ga (-55°C to + 55°C). (T4 with diodes/resistors)
IECEx Ex ia	Cert. no. IECEx BAS 13.0010 Certified to: IEC60079-0, IEC60079-11 Ex ia IIC T6 Ga (-55°C to + 55°C). (T4 with diodes/resistors)
UL	Listing no. E252920 – versions up to 450°F Listing no. E254077 – versions from 600°F to 725°F UL for USA and Canada, listed to Class 1, Div 2. Groups A, B, C, D
TR CU	1Ex d IIB T3/T6 1Ex d IIC T4 / T6 2Ex de IIC T4/T6 0Ex ia IIC T4/T6 Russian Fire Approved
CQST	Certified Ex ia
SIL	SIL2 certified. Cert no. Sira FSP 12007/02

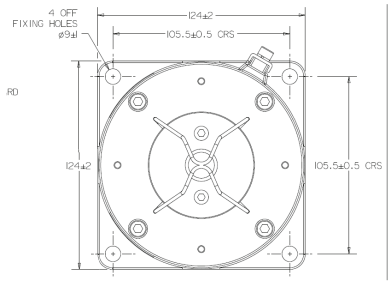
Specifications

Material	Detector: Stainless steel Enclosures: Ex d – LM25 marine grade alloy Ex ia/Ex em/UL – GRP (anti-static) Cover screws: Stainless steel Optional guard: 316 stainless steel
Finish	Detector: Sand blasted. Enclosures: Ex d painted to customers specification Ex ia/Ex em/UL - Natural black or painted to customer's specification
Certified temp	Ex em, UL, Ex d IIC, CQST Ex d IIB: -20°C to 55°C (T6) -20°C to 90°C (T4) Ex d IIB (Not CQST): -20°C to 55°C (T6) -20°C to 125°C (T3) Ex ia: -55°C to 55°C (T6)
Weight	Ex d, 2kg Ex ia/Ex em/UL, 1.1kg
Ingress protection	IP66 & IP67
Operation	The detector contact is normally open and CLOSES at alarm temperature
Contact rating	Ex d IIB, Ex em, UL: 125Vac - 5A, 125Vdc - 0.5A, 48Vdc -1A, 24Vdc - 2A Ex d IIC: 24V - 0.1A Ex ia: 30V - 300mA
Entries	2 x M20 (Ex d/Ex em/Ex ia versions) 2 x ½" NPT via adaptors (UL version)
Terminals	6 x 4mm² (BK6)
Resistor	Series & EOL resistor (maximum total 2) minimum value (each) 470Ω
Diodes	Up to 2 off available in Ex d IIB, Ex d IIC and Ex ia versions - contact sales office
Labels	Optional stainless steel tag and duty labels

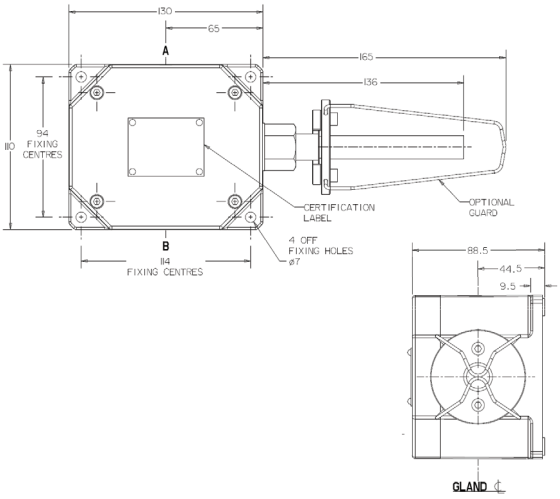
General arrangement drawing (all dimensions in mm)

Exd version





Exia / Exem / UL version



Listed temperature settings: To select appropriate temperature settings, choose detector at 100°F (38°C) above maximum ambient temperature

Temperature setting (°F)	Temperature setting (°C)	Tolerance (°F)	Tolerance (°C)	Colour code of text on probe
140	60	+7/-8	±4	Black
160	71	+7/-8	±4	Black
190	88	+7/-8	±4	White
210	99	+7/-8	±4	White
225	107	+7/-8	±4	White
275	135	±10	±6	Blue
325	163	±10	±6	Red
360	182	±10	±6	Red
450	323	±15	±8	Green
500	260	±15	±8	Orange
600	316	±20	±11	Orange
725	385	±25	±14	Orange

Ordering requirements

The following code is designed to help in selection of the correct unit. Build up the reference number by inserting the code for each component into the appropriate box

Model

HD1

Certification

Certification	Code
ATEX	B
IECEx	J
ATEX/IECEx dual listed	AJ
UL listed	UL
ATEX/UL dual listed	AU
TR CU	G*
CQST	Q†

* Russian Fire Approved as standard
† Only available Ex ia certified. Not for use in China on fire alarm systems

Type

Type	Code
Ex d IIB	BD
Ex d IIC	CD*
Ex em	E†
Ex ia	I‡
UL	U

* Ex d IIC only available in ATEX
† ATEX/UL dual listed Ex em version only
‡ IECEx and ATEX/IECEx dual listed only available Ex ia

Temp settings

Temp°F	Code
140	140
160	160
190	190
210	210
225	225
275	275
325	325
360	360
450	450
500	500
600	600
725	725

Options

Option	Code
None	N
Duty label	D*
Tag label	T*
Guard	G
Resistor EOL	E*†‡
Resister series	S*†‡
Diode(s)	I*†‡
Blanking plug	P

* Please specify
† Only available in Ex d IIB, Ex d IIC, or Ex ia versions (specify value)
‡ Not available with UL or ATEX/UL Dual Listed

Finish

Finish	Code
Natural black	N†
Grey	G
Red	R
Blue	B
Yellow	Y
Special	S*

* Please specify
† Ex em/Ex ia/UL only