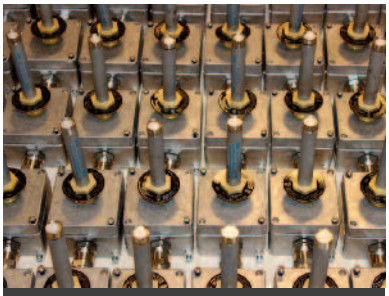
LICO®

www.prevent-a-fire.eu

Marine Certified
LICO HDL
Heat- & Fire-Detectors

Detect Heat and prevent Overheat, Fire & Explosion!

Bimetal heat detectors



Ready to install units

Test Equipment

EN54-5

MARINE EQUIPMENT DIRECTIVE DNV 2014/90/EU

TYPE APPROVED PRODUCT DNV DNV.COM/AF

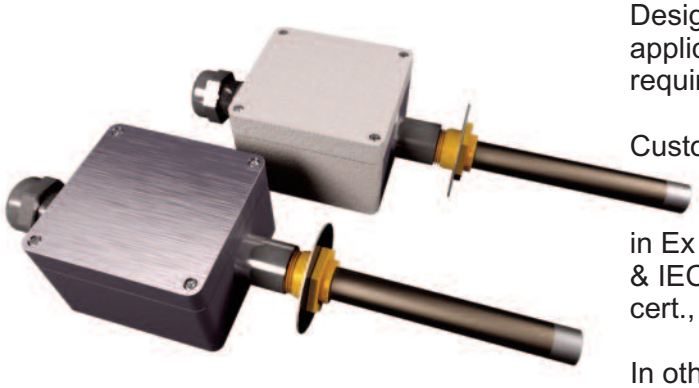
CE

LICO Mechatronic Kft.
Raba utca 4,
H-2030 Erd, Hungary
Tel: +36 23 520 138
Email: office@lico.hu | sales@lico.hu

SYSTEM CERTIFICATION ISO 9001 SGS

LICO Electronics GmbH
Klederinger Str. 31,
A-2320 Kledering, Austria
Tel: +43 1 706 43 000
Email: office@lico.at | sales@lico.at
Authorized Reseller

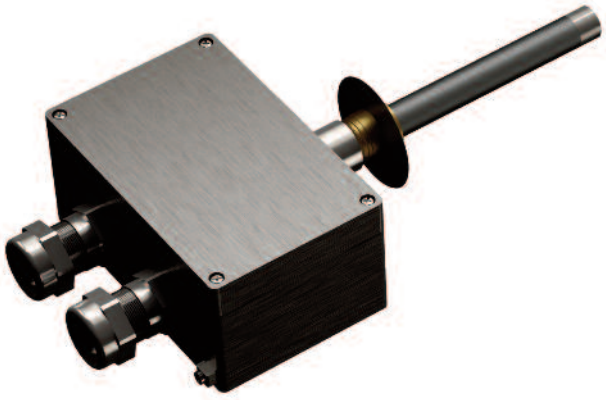
Standard HDL-2 & HDL-3 Models:

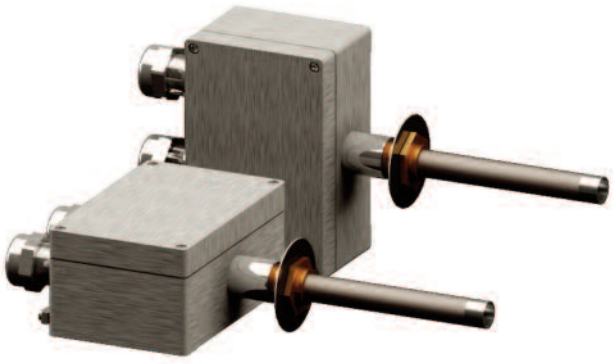


Applications:

- Ships, Engine rooms, Cabins,
- Heating rooms, Air-filter & Duct Systems,
- Harbour facilities, Marine Engineering,
- Marine fire Extingushing Systems,
- Ceilings, Switch board cabinets etc.

HDL-3XL models:





HDL-3XL with 2 cable glands

HDL-2-, HDL-3- & HDL-3-XL-MED:

Designed for any kind of maritime and offshore applications where there are EN54-5 and/or **Maritime** requirements.

Custom made. ready to install heat detector units with bimetallic, Rate Compensated (Rate of rise and thermomaximal) temperature detectors mounted in Ex OR **DNV cert. aluminium enclosures**, with ATEX & IECEx cert. metal cable gland(s) and ATEX & IECEx cert., wiring block assembly.

In other words: Kidde-Fenwal DAF Sensors mounted in certified, industrial aluminium box with certified metal cable glands and high temperature wiring terminals.

Standard HDL-3 enclosures are unpainted (raw).
On request enclosures are available with powder coated (RAL 7001 or similar) -> HDL-2.

In cases where more space is required for wiring, as well as for mounting Series- and/or EOL resistors, the HDL-3XL units are the ideal choice. They also provide additional capacity for extra cable glands.

Assemblies are tested and certified to IP66.

Enclosures are DNV & cULus certified:
(ATEX & IECEx on request):
- Enclosure Material: Aluminum AL-SI 12
- Operating temperature: - 60°C / +135°C
- Available seals: Neoprene- or Silicone-seal,
- IP66/67,
- RoHS
- Internal ground-connection(external on request!)
saltspray-safe, vibration- & shock proof

Ex certified wiring terminals: up to 130°C

Ex certified, metal Cable Gland Variations:
- 20 - + 80°C with Neoprene seal,
- 40 - +100°C with EPDM-seal,
- 70 - +220°C with Silicone-seal, (LICO Standard)

Options/ Accessories:
- 2nd or 3rd cable gland
- Series and/or EOL – End of Line Resistors
- Weld-In or Screw in Pods

HDL-3 & HDL-3XL Standard Size junction box dimensions:

Unit	Outside L. (mm)	Outside W. (mm)	Inside L. (mm)	Inside W. (mm)	Height (mm)
HDL-2/-3	**80**	**75**	**68**	**63**	**57**
HDL-3XL	**80**	**125**	**68**	**113**	**57**

For bespoken, custom made units please contact LICO-Team.

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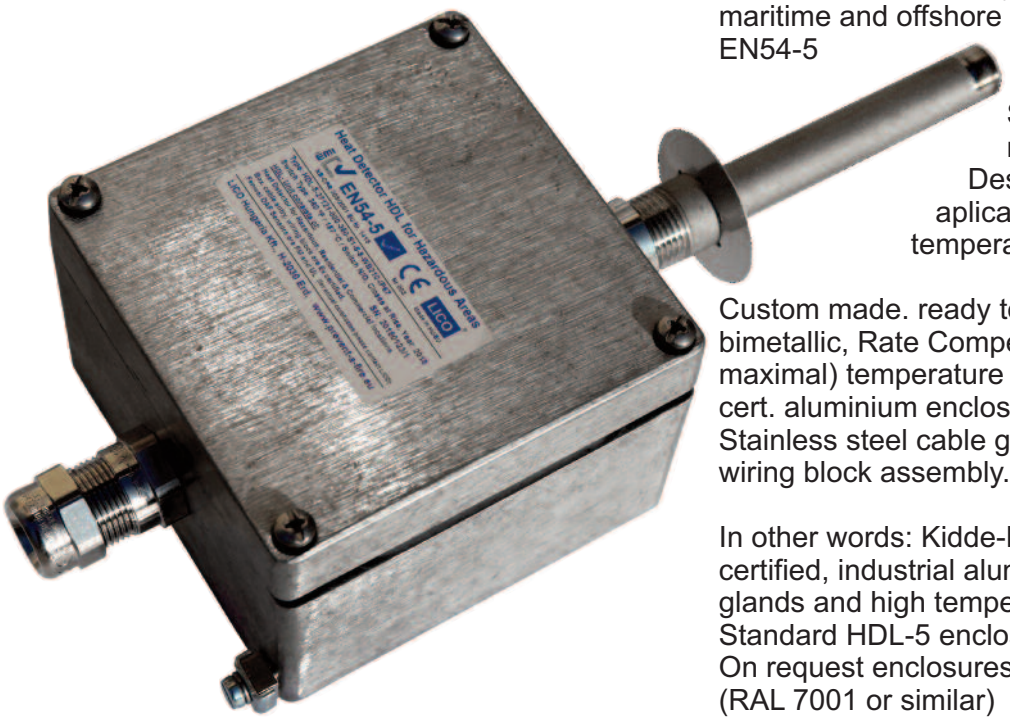


HDL-5-MED:

Recommended for any kind of high temperature, maritime and offshore applications where there are EN54-5 & martime requirements.

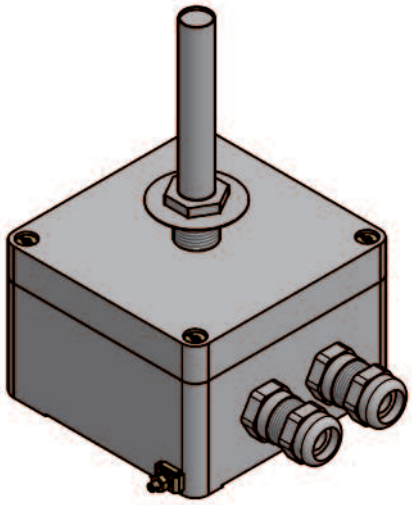
Simply easy, price economic and reliable Heat & Fire Detector unit. Designed until ~220°C temperature aplications. The real max. operational temperature can be higher.

Custom made. ready to install heat detector units with bimetallic, Rate Compensated (Rate of rise and thermo-maximal) temperature detectors mounted in Ex OR DNV cert. aluminium enclosures, with ATEX & IECEx cert. Stainless steel cable gland(s) and ATEX & IECEx cert., wiring block assembly.

In other words: Kidde-Fenwal DAF Sensors mounted in certified, industrial aluminium box with certified metal cable glands and high temperature wiring terminals.
Standard HDL-5 enclosures are unpainted (raw).
On request enclosures are available with powder coated (RAL 7001 or similar)

Assemblies are tested and certified to IP66.

Laser-engraved enclosures (optional upgrade!)



Custom specific HDL-5 constructions

Enclosures are DNV & cULus certified
(ATEX & IECEx on request):
- Material Aluminum AL-SI 12
- Operating temperature: - 60°C / +220°C
- Available seals: Silicone-seal,
- IP66/67, RoHS
- Internal ground-connection(external on request!) saltspray-safe, vibration- & shock proof
- Laser engraved enclosures for for very high temperature and/or extreme conditions(on request!)

Ex certified wiring terminals:
- Standars terminals used until 130°C
- With ultra high temp. ceramic terminals: until 250°C
(for short term max. temperature until: >300°C*)

Ex certified, metal Cable Gland Variations:
- 20 - + 80°C with Neoprene seal, IP66/68
- 40 - +100°C with EPDM-seal, IP66/68
- 70 - +220°C with Silicone-seal, IP66/68 (LICO Standard)

Options/ Accessories:
- 2nd or 3rd cable gland
- Series and/or EOL – End of Line Resistors
- Weld-In or Screw in Pods

HDL-5 Standard Size enclosure dimensions:

HDL-5	Outside L. (mm)	Outside W. (mm)	Inside L. (mm)	Inside W. (mm)	Height (mm)
Standard	120	122	104	88,5	80

For bespoken, custom made units please contact LICO-Team.

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A-2320 Kledering, Austria
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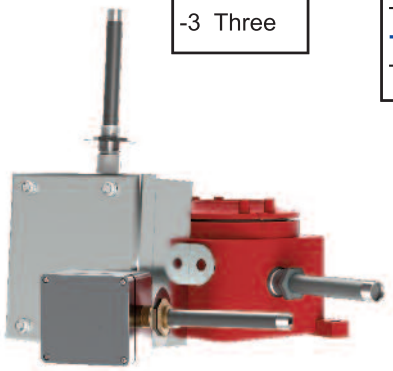
Email: office@lico.at | sales@lico.at

Marine Certified Part Numbers / How To Order

EN54-5 CE

Model	BoxType	Sensor Housing	Switch Type	Sensor Head	Nominal Temperature	Sensor mounting	Wiring block	Entries	Entry type	Seal Lid	Resistor
HDL	2-MED **3-MED** 3XL-MED 5-MED 6-MED 6XL-MED 7-MED 7XL-MED	Threads: **-S Single** -D Double	**-1 N/O** -2 N/C	**-BR Brass** -ST Stainless	°C / °F 60 / 140 71 / 160 88 / 190 99 / 210 107 / 225 **135 / 275** 163 / 325 182 / 360 232 / 450	-L Lid **-B Box**	**-S Standard** (130°C) -C Ceramic (250°C)	**-1 One** -2 Two -3 Three	-A M16 thread -B M20 thread **-C Cable Gland M20(standard)** -D Cable Gland 1/2" NPT	-1 HT Silicone **-2 Neopren** -3 EPDM	**-N None** -E EOL -S Series -B Both

NEW !
See our configurator module on our website!



Sample Purchase order number:

H D L - 3 - M E D - S - 1 - B R - 1 3 5 - B - S - 1 - C - 2 - N

Examples of order numbers:

for Standard low temperature: HDL-3-MED-S-1-BR-88-B-S-1-C-2-N
for High temperature: HDL-5-MED-S-1-ST-187-B-C-2-D-1-B

Restrictions may apply:

1. 2 or + Entries only in size HDL-3XL / HDL-5 / HDL-6 / HDL-6XL / HDL-7 / HDL-7XL
2. Resistors can be mounted only in size HDL3-XL / HDL-5 / HDL-6 / HDL-6XL / HDL-7 / HDL-7XL
3. Double thread Sensor mount: only mount in box, never into lid
4. Nominal max. Operating Temperature:
   Standard wiring blocks ~130-135°C, Ceramic wiring blocks: ~250°C
5. Ceramic wiring blocks: available only @ HDL5 / HDL-6 / HDL-6XL / HDL-7 / HDL-7XL
6. General mounting: if not otherwise specified the sensor would be mounted 180° opposite to the cable-gland

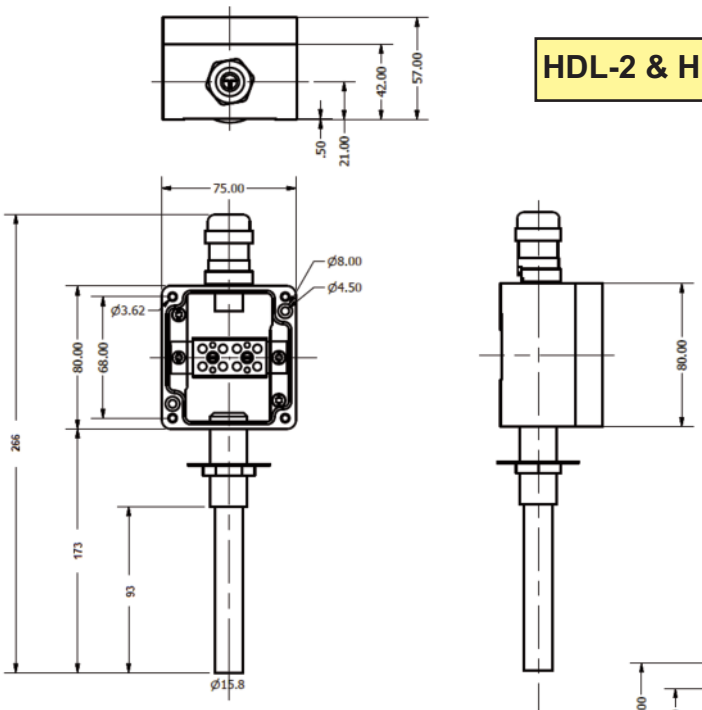
Screw-in-pod:

On request:

- Weld-in- and Screw-in-pods (Stainless or PTFE or ...)
- ATEX Ex d - "Flameproof" Housings -> HDL-6 / HDL-6XL series only!
- Stainless-steel housings -> HDL-7 / HDL-7XL series
- Stainless-steel cable glands
- Laser-engraved product labels& information on enclosures
- Custom specific(shorter or longer or...) thread adapters and other mounting accessories

Dimensions Of Our Standard HDL Series

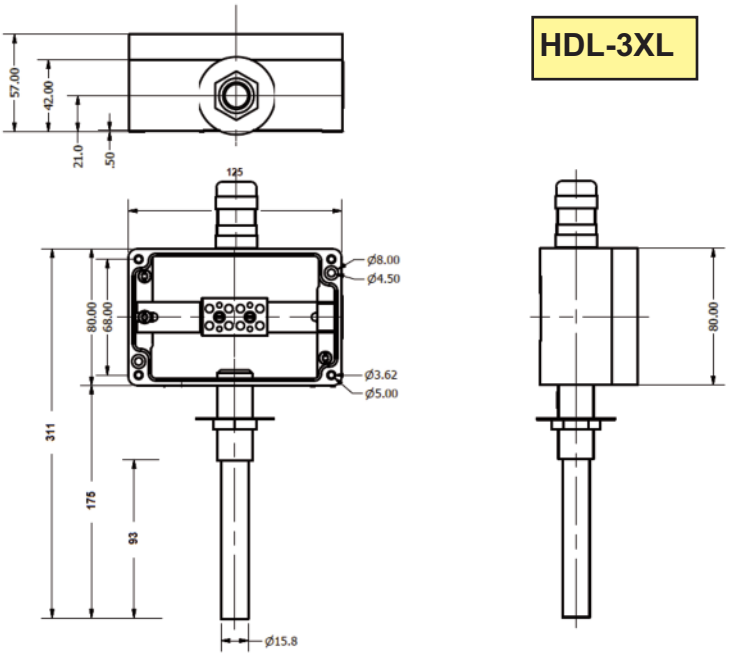
HDL-2 & HDL-3



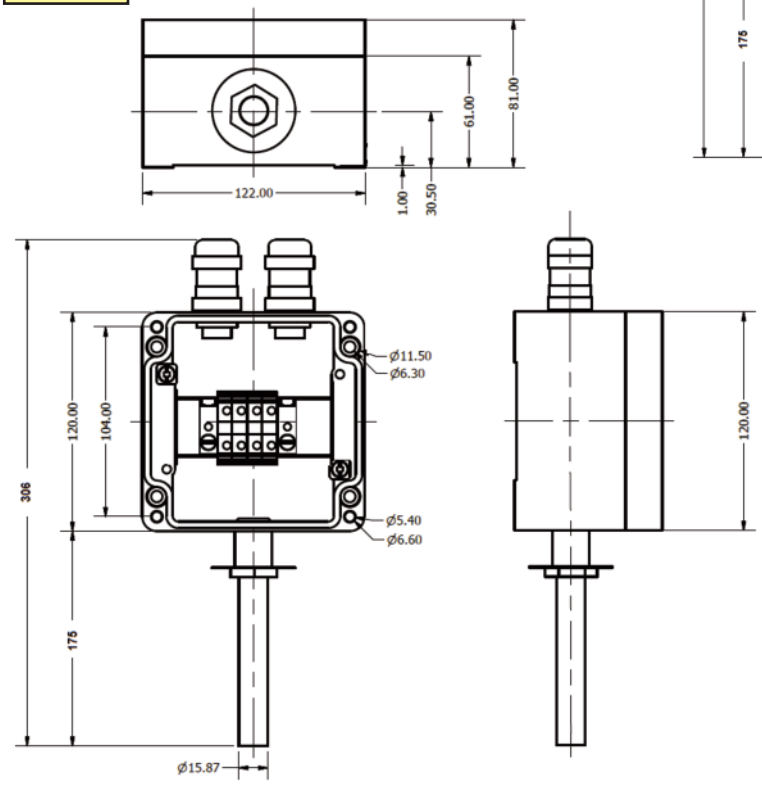
Weight:

HDL-3: approx. 0,8 kg net / each
HDL-3XL: approx. 1 kg net / each
HDL-5: approx. 1,2 - 1,5 kg net / each

HDL-3XL



HDL-5



Disclaimer:

All the herein given specifications, dimensions, weights, temperatures and tolerances and other values are nominal (typical) and LICO reserves the right to vary all data without prior notice. No liability is accepted for any consequence of use. Standard illustrations do not necessarily show products in final condition. To be sure of getting accurate, detailed, and up-to-date information, any intending buyer should consult LICO-Team!

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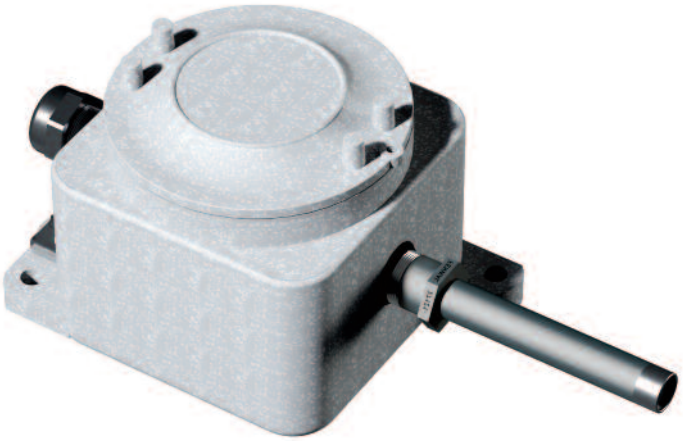
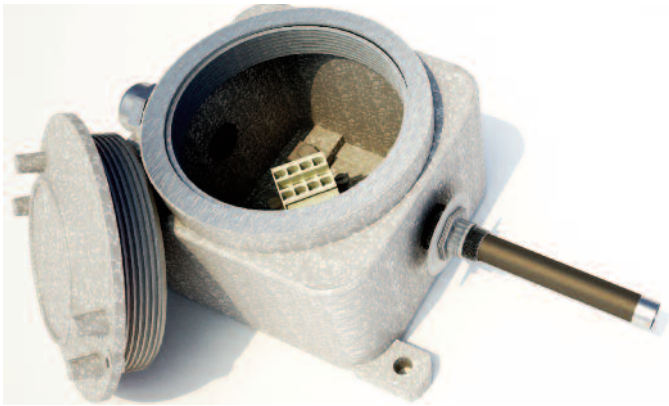
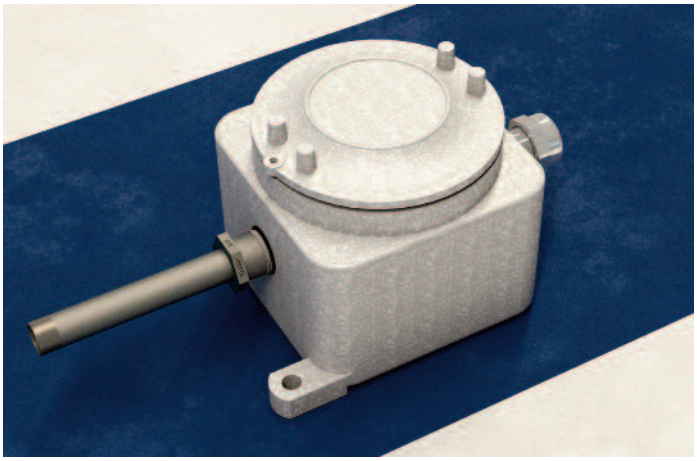




- High temperature, unpainted HDL-6 unit.
- High temperature Ceramic wiring blocks,
- Ultra high temp, Cement based, Ceramic EOL - and Serie Line Resistors



Painted HDL-6 boxes are:
Chromate primed and polyester powder coated for added protection against corrosion **until 180 °C**

HDL-6 & HDL-6XL-MED:

Designed for high temperature maritime and offshore applications, where there are harsh enviromental conditions until approx. 220°C applications.

Custom made. ready to install heat detector units with bimetallic, Rate Compensated (Rate of rise and thermomaximal) temperature detectors mounted in ***Ex d*** OR DNV cert. aluminium enclosures, with Ex cerified metal cable gland(s) and Ex certified wiring block assembly.

In other words: Kidde-Fenwal DAF Sensors mounted in certified, robust aluminium boxes with certified metal cable glands and high temperature wiring terminals.

Enclosure DNV, ATEX & IECEx-certified:
- IP66,
- internal & external earth connections
- Wiring Terminals are suitable until 130 / 250°C use

Ex certified, metal Cable gland variations:
- 70 - +220°C with Silicone-seal, IP66/68

Options/ Accessories:
- 2nd or 3rd Cable gland
- Cement based ultra high temperature Series and EOL – End of Line Resistors
- Ultra high temperature Silicone Sealings on request
- Weld-in or Screw-in Pods

Dimensions & Material:
HDL-6: approx. 120 x 120 x 116 mm,
HDL-6XL: approx. 150 x 150 x 130 mm
Material (Body & cover): Aluminum alloy
EN AC-42000
(LM25) to BS EN 1706:1998
with less than 0.2% copper content
Locking Screw: Stainless steel (18/8)

Earthing:
All enclosures are supplied with a 6mm stainless steel (18/8) internal and external earth stud as standard. Larger internal earth terminals can be fitted on request.

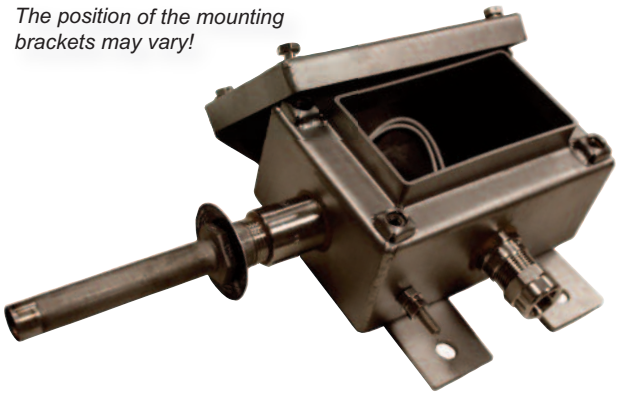
Protection:
When fitted with a gasket of IP66 application of a non hardening grease to flamepaths and entries is recommended.

Applications:
- Ex d “Flameproof” Applications
- Marine- and Offshore platforms
- Gas-turbine- and Turbine housings, etc.

For bespoken, custom made units please contact LICO-Team.

HDL-7 Housing: Standard

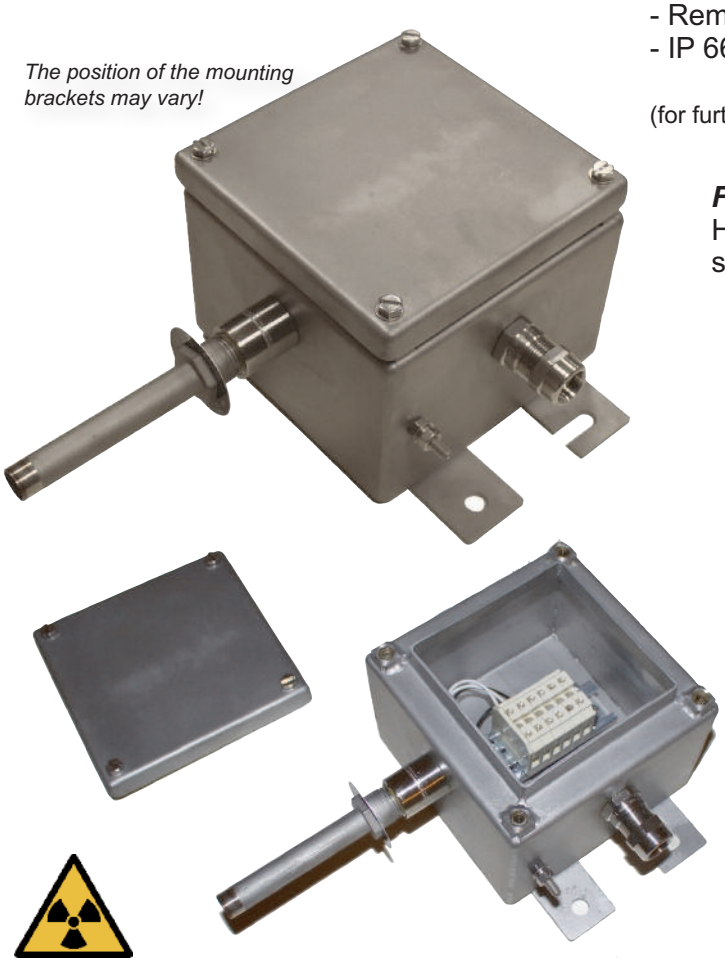
The position of the mounting brackets may vary!



Enclosure Dimensions: l/w/h:
approx. 126 mm x 126 mm, 80 mm
High Temperature-Silicone-sealing,
Appropriate stainless steel box,
Weight: 1.400 - 1.500 g
IP66,
Material: Stainless steel 1.4404 (316L)

HDL-7XL -"FAT BOY" XL Size Housing:

The position of the mounting brackets may vary!



Radiation Resistant Stainless Steel
HDL-7 Heat Detectors

HDL-7 & HDL-7XL-MED:

Stainless Steel "Food Safe" Heat Detector Assembly: suitable until 200 / 220°C max

Ready to install Heat Detector unit with Bimetallic, Rate Compensated (Rate of rise and thermomaximal) temperature detectors mounted in Ex and DNV cert. **Stainless steel enclosure**, with Ex certified **Stainless steel cable gland** and Ex cerified wiring block assembly.

In other words: Kidde- Fenwal DAF Sensors mounted in Ex certified industrial, **Stainless steel Box** with Ex certified **Stainless steel** cable glands and Ex certified, high temperature wiring terminals.

- Kidde-Fenwal Detector free of choice
- Enclosure material: Stainles steel 1.4404 (316L)
- Sealing: High temp. Silicone
- Internal and external ground terminal
- 1, 2 or 3 pcs of stainless steel cable glands
- Removable lid
- IP 66

(for further info and actual certificate please contact LICO-Tam)

Food- and Radiation Safe HDL-7 Heat Detectors:
HDL-7 units can be made only with special sealings and radiation proof glue from LICO-Team

Applications:
- Special areas where agressive gases and moistures can corrode aluminum or other type of metals
- Food- and Maritime Applications
- Highly radiated areas
- Nuclear Power Plants

HDL-7XL "FAT BOY"
Enclosure Dimensions: l/w/h:
approx. 156 mm, 156 mm, 97 mm
High Temperature-Silicone-sealing,
Appropriate stainless steel box
Weight: 1.600 - 2.000 g
IP66
Material: Stainless steel 1.4404 (316L)

For bespoken, custom made units please contact LICO-Team.

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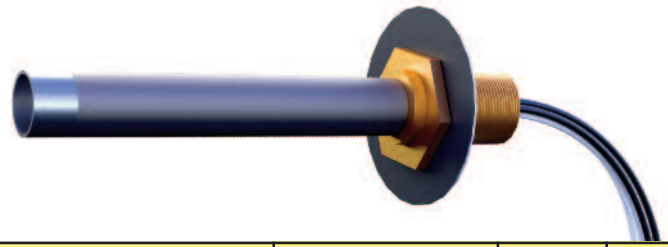
Available Standard Kidde-Fenwal DAF® Sensors

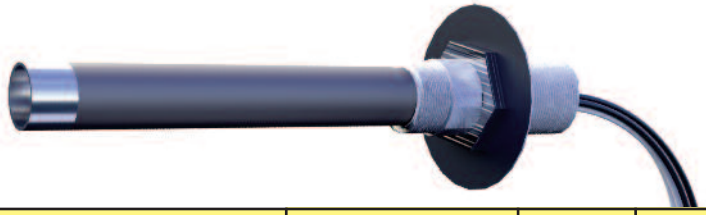
Single Thread units:
Brass / Stainless steel in 2 Versions:
N/C (2 wire) Opens at temperature rise
N/O (4-wire) Closes at temperature rise

Fully Stainless steel in 2 Versions:
N/C (2 wire) Opens at temperature rise
N/O (4-wire) Closes at temperature rise



2-wire unit		4-wire unit		Nominal Switching temperature	Tolerance in °C	Tolerance in °F
N/C, Opens at Rise		N/O, Closes at Rise				
Sensor Housing Stainless Steel		Sensor Housing Stainless Steel				
Head Brass	Head Stainless	Head Brass	Head Stainless			
27120-000-140	27120-022-140	27121-000-140	27121-020-140	60°C / 140°F	+4/-5	+7/-8
27120-000-160	27120-022-160	27121-000-160	27121-020-160	71°C / 160°F	+4/-5	+7/-8
27120-000-190	27120-022-190	27121-000-190	27121-020-190	88°C / 190°F	+4/-5	+7/-8
27120-000-210	27120-022-210	27121-000-210	27121-020-210	99°C / 210°F	+4/-5	+7/-8
27120-000-225	27120-022-225	27121-000-225	27121-020-225	107°C / 225°F	+4/-5	+7/-8
27120-000-275	27120-022-275	27121-000-275	27121-020-275	135°C / 275°F	+/-6	+/-10
27120-000-325	27120-022-325	27121-000-325	27121-020-325	163°C / 325°F	+/-6	+/-10
27120-000-360	27120-022-360	27121-000-360	27121-020-360	182°C / 360°F	+/-8	+/-10
27120-000-450	27120-022-450	27121-000-450	27121-020-450	232°C / 450°F	+/-10	+/-15
		27121-000-500	27121-020-500	260°C / 500°F	+/-10	+/-15
		27121-000-600	27121-020-600	315°C / 600°F	+/-12	+/-20
		27121-000-725	27121-020-725	385°C / 725°F	+/-12	+/-20

Double Thread (Coupling Head) units:
Fully Stainless steel in 2 Versions:
N/C (2 wire) Opens at temperature rise
N/O (4-wire) Closes at temperature rise



2-wire unit		4-wire unit		Nominal Switching temperature	Tolerance in °C	Tolerance in °F
N/C, Opens at Rise		N/O, Closes at Rise				
Sensor Housing Stainless Steel		Sensor Housing Stainless Steel				
Head Brass	Head Stainless	Head Brass	Head Stainless			
	28020-003-140		28021-005-140	60°C / 140°F	+4/-5	+7/-8
	28020-003-160		28021-005-160	71°C / 160°F	+4/-5	+7/-8
	28020-003-190		28021-005-190	88°C / 190°F	+4/-5	+7/-8
	28020-003-210		28021-005-210	99°C / 210°F	+4/-5	+7/-8
	28020-003-225		28021-005-225	107°C / 225°F	+4/-5	+7/-8
	28020-003-275		28021-005-275	135°C / 275°F	+/-6	+/-10
	28020-003-325		28021-005-325	163°C / 325°F	+/-6	+/-10
	28020-003-360		28021-005-360	182°C / 360°F	+/-8	+/-10
	28020-003-450		28021-005-450	232°C / 450°F	+/-10	+/-15
			28021-005-500	260°C / 500°F	+/-10	+/-15
			28021-005-600	315°C / 600°F	+/-12	+/-20
			28021-005-725	385°C / 725°F	+/-12	+/-20

HST Mobile Test Equipment:

ST Series Heat Detector Test Kits designed for professional, non-destructive testing of bimetallic heat- and fire detectors. These testers are available in models such as the HST-A-AHI and HST-E series, each featuring a variety of user-selectable test temperatures ranging from 140 to 725 degrees Fahrenheit. The testers come with large LED indicators for easy monitoring, robust lithium-ion battery packs or power supply for extended use, and compatibility with standard inspection poles up to 30 feet (9,14 m).

HST-A Series are specially made for testing Kidde-Fenwal DAF & LICO HDL detectors.
The tester was developed in response to the need for a safe and non-destructive means of testing rate compensated fire- and overheat detectors and thermal switches.

A tester ready to use
(Telescope is not included!)

The HST tester consists of a special heater chamber and control unit designed to be placed on top of a long reaching pole which is then raised up to the detector to be tested and / or can be used also as a table tester combined with the necessary instruments.

Advantages:

- Safe, low surface temperature on equipment
- Non-destructive, controlled test temperatures
- Test temperatures up to 725°F / 385°C
- Portable tool testing Kidde/Fenwal DAF & LICO HDL sensors on site

Standard HST Package includes:

- The chosen HST Tester
- Small carry bag
- One approx. 3.000 mAh (~77 Wh) recharable battery* with charger and batter holster **AND / OR**
- One 230V AC power supply

LICO HST High capacity battery module with charger

Extended LICO HST Package includes additional:

- EU calibration certificate (optional)
- apprx. 25 Ah (~600 Wh) high capacity battery* module upgrade (optional)
- Remote temperature output cable: To connect HST tester to digital voltmeter using special connection cable to read out the actual temperature conditions inside the tester.
- Output Extension Cable: Allows for monitoring of temperature at heights and greater troubleshooting capabilities

*: The HST Tester with the standrad, OEM battery or with the high capacity LICO battery module shall be shipped and handled as dangerous goods. Transporting such goods may have additional delivery cost and longer transportation time.
For more information please visit our website or contact LICO Team.

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A-2320 Kledering, Austria
Tel: +43 1 706 43 000
Email: office@lico.at | sales@lico.at

DNV

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB000096A

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED). This Certificate is issued by DNV SE based on the notification of the Federal Maritime and Hydrographic Agency of Germany.

This is to certify:

that the Fixed fire detection and fire alarm systems components for control stations, service spaces, accommodation spaces, cabin balconies, machinery spaces and unattended machinery spaces: Heat detectors – Point detectors

with type designation(s)
LICO HDL Marine Heat Detector Series

issued to
LICO Mechatronic Kft.
Érd, Pest, Hungary

is found to comply with the requirements in the following Regulations/Standards:
Regulation **(EU) 2024/1975,**
item No. MED/3.51c. SOLAS 74 as amended, Regulation II-2/7 & X/3, 1994 HSC Code 7, 2000 HSC Code 7, FSS Code 9, IGF Code 11 and IMO MSC.1/Circ.1242

Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2030-06-16**.

Issued at **Hamburg** on **2025-06-17**

DNV local unit:
Ostrava

Approval Engineer:
Heinz Scheffler

Notified Body
No.: **0098**

for **DNV SE**

DNV
Digitally Signed By: Mydlak-Röder, Christine
Location: DNV SE, Hamburg, Germany

Mydlak-Röder, Christine
Head of Notified Body

The mark of conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-surveillance module (D, E or F) of Annex B of the MED is fully complied with and controlled by a written inspection agreement with a Notified Body. The product liability rests with the manufacturer or his representative in accordance with Directive 2014/90/EU.
This certificate is valid for equipment, which is conform to the approved type. The manufacturer shall inform DNV SE of any changes to the approved equipment. This certificate remains valid unless suspended, withdrawn, recalled or cancelled.
Should the specified regulations or standards be amended during the validity of this certificate, the product is to be re-approved before being placed on board a vessel to which the amended regulations or standards apply.

DNV

Certificate no.:
TAA00003M2

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Fire Detector

with type designation(s)
LICO HDL Marine Heat Detector Series

issued to
LICO Mechatronic Kft.
Érd, Pest, Hungary

is found to comply with
IMO International Code for Fire Safety Systems (FSS Code) Chapter 9
IEC 60092-504 Ed. 4.0 (2016-09) Electrical installations in ships – Part 504: Automation, control and instrumentation
DNV class programme DNV-CP-0203 – Type approval – Electronic and programmable equipment and systems

Application:

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location class:

Temperature	**D**
Humidity	**B**
Vibration	**A**
EMC	**None**
Enclosure	**IP66**

Issued at **Hamburg** on **2025-06-12**

This Certificate is valid until **2030-06-11**.
DNV local unit: **Ostrava**

Approval Engineer: **Heinz Scheffler**

for **DNV**
Digitally signed by: Dariusz Lesniewski
Location: DNV SE, Germany

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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LICO®

Custom Made

Fire Prevention Solutions from LICO!

Qualified Trading and Manufacturing of Industrial Electronics

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