

TYPE EXAMINATION CERTIFICATE – EC MODULE B

Certificate no.:
MEDB00002YG
Revision No:
2

Application of: Directive 2014/90/EU of 23 July 2014 on marine equipment (MED), issued as “Forskrift om Skipsutstyr” by the Norwegian Maritime Authority. This Certificate is issued by DNV AS under the authority of the Government of Norway.

This is to certify:

that the **Fixed oxygen analysis and/or gas detection equipment: category 3: (explosive gas atmospheres)**

with type designation(s)
PIRECL/AutroPoint HC200 and HC300PL - IR Hydrocarbon Gas Detector and PIRTB - Terminal Box

issued to

Detector Electronics, LLC
Minneapolis, MN, USA

is found to comply with the requirements in the following Regulations/Standards:

Regulation (EU) 2024/1975,

item No. MED/3.54b. SOLAS 74 as amended, Regulation II-2/4 & VI/3 and FSS Code 15, IMO MSC.1/Circ.1370

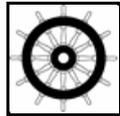
Further details of the equipment and conditions for certification are given overleaf.

This Certificate is valid until **2030-03-26**.

Issued at **Høvik** on **2025-03-27**

DNV local unit:
Certification & Inspection Services

Approval Engineer:
Frode Nygård



Notified Body
No.: **0575**



for **DNV AS**

This document has been digitally signed and will
therefore not have handwritten signature

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 AS 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 This certificate remains valid unless suspended, withdrawn, recalled or cancelled.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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to USD 300 000.

Product description

The PointWatch Eclipse® Hydrocarbon Infrared Gas Detector model PIRECL/HC200/HC300PL AutoPoint is an infrared hydrocarbon gas detector provides continuous monitoring of combustible gas concentrations in the range of 100% LEL. The enclosure is constructed of stainless steel and utilising sapphire optics and is suited for use in harsh environments. The detector provides an isolated 4-20mA signal output supporting HART communication protocol, an optional intrinsic safety port for hand-held HART communications, and an RS-485 output supporting MODBUS protocol. In addition, optional relay contact alarm outputs can be installed in the terminal compartment in type of explosion protection flameproof enclosure “d”.

The type approval covers the following variants: Detector PIRECL/HC200/HC300PL a b c d e f and Termination Box PIRTB a b c d e

Detector		
Key to type number designations		
HC200/HC300	Autronica Fire and Security AS	
PIRECL	Detector Electronics Corp.	
a	A	3/4 NPT
	B	M25
	C	1/2 – 14 NPT
	D	M20
b	1	4-20mA w/Hart Protocol & RS-485: 0-100% LFL Full Scale Range
	3	4-20mA w/Hart Protocol & RS-485: CO2 detection only, 0-2% FS
	4	Eagle Quantum Premier (EQP) Compatible, 0-100% LFL Full Scale Range
	7	Power Loop
	11	4-20mA w/Hart Protocol & RS-485: 0-100% LFL Full Scale Range, Fast Response
	14	Eagle Quantum Premier (EQP) : 0-100% LFL Full Scale Range, Fast Response
c	A	HART Communication Port
	B	HART Communication Port and Relay Board (Not compatible with EQP), Ex d only
	C	Third Party Addressable Module, Ex d only
	D	No Optional Outputs
	E	Relay Board (Not compatible with EQP), Ex d only
d	1	Weather shield with hydrophobic filter
	2	Weather shield without hydrophobic filter
	3	1/16” NPT Thread with hydrophobic filter
	4	1/16” NPT Thread without hydrophobic filter
	5	No weather protection installed
e	B	INMETRO (Brazil)
	BT	SIL/INMETRO (Brazil)
	R	VNIIFTRI (Russia)
	S	SIL
	T	SIL/FM/CSA/ATEX/IECEX
	U	Ukraine
	W	FM/CSA/ATEX/IECEX
Y	CCCF (China)	
f	1	Division / Zone Ex d e
	2	Division / Zone Ex d

Note: Type ‘Approvals’ can use one or more letters to designate the Approvals of the product.

Termination Box		
PIRTB	Key to type number designations	
a	A	= Aluminium
	S	= Stainless Steel
b	2M	= 2 Port, Metric M20/25
	2N	= 2 Port, 3/4" NPT
	3M	= 3 Port, Metric M20/25
	3N	= 3 Port, 3/4" NPT
	5L	= 5 Port, Metric M25
	5N	= 5 Port, 3/4" NPT
c	E	= ATEX/CE
	W	= FM/CSA/ATEX/CE
d	1	= Short without window
	3	= Tall with window
e	L, I, T, V	= Cable entries orientation

Application/Limitation

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

The equipment are found to comply with following location/application dependent requirements (for definition of each of the location classes, see below the table):

MODEL	TEMPERATURE	VIBRATION	EMC	ENCLOSURE
PIRECL HC-200, HC-300 PL	TEM-D (*)	VIB-B	EMC-B	ENC-C IP66/67

(*) Performance test carried out at -55°C to +75°C

Definition of the location classes with reference to relevant standards:

Temperature: TEM-D Location (-25°C ÷ +70°C) (ref. IEC 60092-504:2016 table 1 item 6-7)
 Vibration: VIB-B For equipment on reciprocating machines etc. (ref. IEC 60092-504:2016 table 1 item 10)
 EMC: EMC-B Bridge and open deck zone (ref. IEC 60092-504:2016 table 1 item 13-20)
 Enclosure: ENC-C Open deck (IP56) (ref. IEC 60092-201 table 5)

Type Examination documentation

Documentation	Documentation Reference Number
Detector Design Reference Drwgs ECLIPSE (PIRECL) "DEMKO"	007263-002, Rev. P, dtd. 2021-12-01 (16 sheets)
Schematic, Interface board	007117-002, Rev T, dtd. 2016-06-29
Data sheets.	See Specifications in the Instruction Manuals.
Termination Box Design Reference Drwgs.	007007-001, Rev M, dtd. 2015-08-26
Instruction Manuals	Infrared Hydrocarbon Gas Detector, PointWatch Eclipse Model PIRECL, No. 95-8526-20.13 issue 9/22 Infrared Carbon Dioxide Gas Detector, PointWatch Eclipse Model PIRECL, No. 95-8676-3.2 issue 6/20 Duct Mount Kit for Marine Applications Q900C1001, No. 95-8640-4.2 issue 10/12 AutoPoint: 116-P-HC200/IGB No. 95-8593-19.1 issue 3/17 AutoPoint: 116-P-HC300 PL/DE No. 95-8587-2.1 issue 04/16
Test reports	<ul style="list-style-type: none"> Environ Lab. vibration test No. 41225-1 Rev.1, dtd. October 21, 2009 Det-Tronics Internal Test Report, vibration test, October 15, 2009 UL International Demko A/S No. 129485-13, dtd. 2005-06-08 DNV No. 2004-3221, dtd. 2004-03-11 DNV No. 2003-3221, dtd. 2004-03-11 DEMKO report 129485-20/9CA39156 dated 2009-11-26 Det-Tronics Gas Performance Additions: Methane, dtd April 12, 2011 Det-Tronics Gas Performance Additions: Propane, dtd May 3, 2011 Det-Tronics Gas Performance Additions: Ethylene, dtd May 4, 2011 Det-Tronics Gas Performance: Buthane, dtd August 25, 2011 DEMKO report 4786319694 dated 2014-06-10 Element EMC report DETE0080 dated 2021-11-30 US/UL/ExTR16.0182/02 dated 2021-12-20 (includes 60079-29-1) US/UL/ExTR16.0182/04 (addendum, includes 60079-29-1) Gap Analysis Rev.1.0 for EN 60079-29-1:2016 to EN 60079-29-1:2016+A1:2022+A11:2022

Tests carried out

- EN 50104:2019*,
- EN IEC 60079-0:2018 incl. AC:2020,
- EN 60079-29-1:2016 incl. EN 60079-29-1:2016/A1:2022 and EN 60079-29-1:2016/A11:2022,
- IEC 60092-504:2016,
- IEC 60533:2015,
- IMO MSC.1/Circ.1370*.

* Standards identified by asterisk (*) have been found not applicable.

PIRECL, HC200 and HC300PL tested with additional gases (Methane, Propane, Butane and Ethylene)

Marking of product

The Manufacturer and Type Designation to be applied to the equipment in a clearly visible location. In addition, the equipment shall be marked with serial number, safe distance to magnetic compass, power consumption and/ or supply voltage.

For identification to this type examination certificate the products shall be marked with:

- Manufacturer's name or trade mark
- Type designation
- Mark of Conformity (wheel mark), followed by
 - identification number of the NoBo involved in production control (MED D)
 - the year the mark is affixed
 - Example: 0575/2025