

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Automatic Fire and Gas and Releasing System

with type designation(s)

Eagle Quantum Premier Fire and Gas Detection / Releasing System (EQP System)

Issued to

Detector Electronics Corporation (Det-Tronics)
Minneapolis MN, United States

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Temperature	D
Humidity	B
Vibration	A
EMC	B
Enclosure	A

Issued at **Hamburg** on **2017-02-19**

This Certificate is valid until **2019-02-18**.

DNV GL local station: **New York**

for **DNV GL**

Approval Engineer: **Andrea Grün**

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Joannis Papanuskas
Head of Section

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.



Product description

EQ3XXX Controller

EQ3xxxPxxx Controller

EQ3XXX Panel mount only, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations.

EQ3LTM LON Termination Module

Optional module used in the controller redundancy configuration, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations

EQ3710 AIM Analog Input Module

EQ3710D(P) W, T, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations; EMC components and enclosure change; (T for SIL Model)

EQ3720 RM Relay Module

EQ3720D(P) W, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations.

EQ3730 EDIO Enhanced Discrete Input/Output Module

EQ3730D(P) W,T, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations. EMC components and enclosure change. (T for SIL Model)

EQ3750ASH Addressable Smoke and Heat

EQ3750ASHP W, installed inside Rittal cabinet or equivalent NEMA 12 enclosure in controller environments; NEMA 4X enclosure for open area installations. New PC boards.

EQ24xxNE Network Extender Module

EQ245(6) 3NE; Enclosure material: 5 – Aluminum, 6 –SS.

EQ22xxDCUEX Digital Communication Unit, Combustible

EQ225(6)3DCUEX, enclosure material: 5-Aluminum, 6-SS. (Uses CGS Gas Sensor.

EQ2230 RSP RS485 Module -New Product for EQP cable filtering

CGS Combustible Gas Sensor CGSS1A6C2R1X, used with DCUEX

PIRECLAx4 PointWatch Hydrocarbon gas detector

PIRECLA (1) 4A (B) 1 (2) W (T) 1 (2)

PIRECLAx4 PointWatch Hydrocarbon gas detector "Duct Mount"

PIRECLA (1) 4A (B) 1 (2) W (T) 1 (2)

With DEC Q900C1001 Duct mount kit.

GT3000 Toxic Gas Detector

Model GTX

with Model GTS O2

or Model GTS H2S

or Model GTS CO

UD10 Universal Display

UD10A (S) 5N (5M) 15 (28) W 2

X3301 Multispectrum Flame Detector

X3301A with Q9033AL (Q9033B SS) swivel

X3302 Multispectrum Flame Detector

X3302A with Q9033AL (Q9033B SS) swivel

STB Sensor Termination Box

STB4

EQ2220GFM Ground Fault Monitor

EQ2220GFM is installed in the same enclosure with EQ3XXX Controller.

EQP2120PS-B Power Supply

Model HD, Heat Detector

Based on Kidde Fenwall DAF Heat Detector

EQP2410PS-P Converter

QUINT-DIODE/40Diode Redundancy Module

DAF Vertical Heat Detector

THD-7052 Heat Detector

CPD-7054 Ionization Type Smoke Detector

PSD-7157 and PSD-7157D Photoelectric Type Smoke Detectors
MT-12/24-R Horn
MTWP-2475W – FR Horn/Strobe
Manual Call Stations Series 3300
RA-911 Remote Indicator
Manual Fire Alarm Call Point PB Range
CCH ETH 2416 Horn
SL-2000-P Duct Smoke Detector
Discovery Ionization Smoke Detector (Apollo)
Discovery Optical Smoke Detector (Apollo)
Discovery Multisensor Smoke Detector (Apollo)
Discovery Heat Detector (Apollo)
XP95A Sounder Control Module (Apollo)
Mini Switch Monitor (Apollo)
Priority Mini Switch Monitor (Apollo)

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

Application/Limitation

System arrangement and application to be in accordance with relevant parts of DNV GL Rules.

Connected gas detectors shall be approved according to relevant performance standards (this normally implies type approval or MED approval).

Product certificate

If specified in DNV GL Rules for Ships or Offshore Standards, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program.

As long as the units are covered by the Type Approval, a product certificate according to Pt.4 Ch.9 Sec.1 will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

After the certification the clause for application software control will be put into force.

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 Excertificate issued by a notified/recognized Certification Body.

The following documentation of the actual application is to be submitted for approval in each case:

- Project-specific functional description including reference to this Type approval certificate
- System block diagram, incl. power supply arrangement
- Software version and list of components/quantities, incl. reference to type approval certificate
- Test program for certification test

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board.

Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board.

Type Approval documentation

Tests carried out

Applicable tests according to DNV GL Class Guideline 0339, November 2016.

Marking of product

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Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE