

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Fire Alarm Central Unit**with type designation(s)  
**Syncro ASM**

Issued to

**Kentec Electronics Ltd**  
**Dartford, Kent, United Kingdom**

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.****Location classes:**

<b>Temperature</b>	<b>B</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>A</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>Required protection according to relevant rules shall be provided upon installation on board</b>

Issued at **Høvik** on **2018-09-12**for **DNV GL**This Certificate is valid until **2020-02-12**.DNV GL local station: **Southampton**Approval Engineer: **Nils Jarem****Odd Magne Nesvåg**  
**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

This type approval comprises the following products.

MA80161M2	1Loop 16 Zone Analogue Addressable Fire Control Panel with Apollo protocol
MH80161M2	1Loop 16 Zone Analogue Addressable Fire Control Panel with Hochiki protocol
MA80162M2	2Loop 16 Zone Analogue Addressable Fire Control Panel with Apollo protocol
MH80162M2	2Loop 16 Zone Analogue Addressable Fire Control Panel with Hochiki protocol

The type approval includes the following main software version: V6.XX

## Place of manufacture

Kentec Electronics  
Unit 25-27 Fawkes Avenue, Questor, Dartford,  
Kent DA1 1JQ, United Kingdom

The manufacturer e-mail and website:

[sales@kentec.co.uk](mailto:sales@kentec.co.uk)  
[www.kentec.co.uk](http://www.kentec.co.uk)

## Application/Limitation

The type approval covers hardware and software listed under Product description.  
Compass safe distance is minimum 950 mm for standard compass and 850 mm for emergency compass.

The following documentation of the actual application is to be submitted for approval for each delivery to DNV GL classed vessels:

- Reference to this type approval certificate
- System block diagram
- Power supply arrangement (may be part of the system block diagram)
- Revision numbers of hardware and software including description of changes if different from type approved versions

As long as the units are covered by the type approval, a product certificate according to Pt.4 Ch.9 Sec.1 [1.4] will not be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

### 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

Various product documentation, user manual, data sheets, etc. (J-1)  
Syncro AS Software documentation.....K8285 Rel. V1.01  
Software release/change procedure .....K8521 Rel. 1.01  
Syncro AS Test Procedure .....TP8000 Rev.11 dated 15/06/15  
Syncro "AS" Marine two loop~ fitting of loop 2 board....K8821, Rev.9 dated 05/04/18  
Guide to PCA 386 – info for SW evaluation issue 1, BSI  
Syncro IC Programming .....K4853 Rev.155 dated 05/06/18  
Kitemark license no. KM 73505.....dated 21/11/ 2013  
Test report, BSI.....228/4944547 2 of 3  
Test report, BSI.....244/7000367 2 of 2  
Test report, BSI.....244/7138115  
Test report, BSI.....222/7000365  
Syncro AS development test report, Apollo .....rev. 1. dated 2007-07-23  
Syncro AS development test report, Hochiki.....rev. 1. dated 2007-08-01  
Test report, FDA technologies.....703002

Job Id: **262.1-005348-5**  
Certificate No: **TAA000020T**

Additional EMC measurements after adding mains filter (J-18)  
Test report, Compass safe distance, TUV .....75902741 THC01 issue 1  
Functional test report, Hochiki Protocol.....dated 2008-02-04  
Functional test report, Apollo Protocol .....dated 2008-02-04

Syncro AS Single or Two Loop Analogue Addressable Control Panel data sheet:  
Model No # 80161M2,  
Dwg No. SDL 586, Dwg No.K7670,  
BSI Test Report No 228/7161856 Issue 2, 14-th March 2008.

Type approval renewal assessment report for 5465707 HH (A-14013), Dartford 2018-08-23.

### **Tests carried out**

Relevant tests in accordance with DNV Standard for Certification 2.4 (Edition 2006).  
Relevant tests in accordance with EN54-2:1997+A1 and EN54-4:1997+A1+A2.  
Test for compass safe distance in accordance with IEC 60945:2002-08.

### **Marking of product**

The products to be marked with:  
- manufacturer name  
- model name  
- serial number  
- power supply ratings

### **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

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE