



Marine & Offshore

Certificate number: 06256/F0 BV

File number: AP 2845

Product code: 4121H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

SELCO

Roskilde - DENMARK

for the type of product

SYNCHRONISING / LOAD SHARING / LOAD SHEDDING SYSTEMS

SYNCHROSCOPE, type M 8100

Requirements:

BV Rules for the Classification of Steel Ships.

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 25 Jan 2026

For Bureau Veritas Marine & Offshore,

At BV FREDERICIA, on 25 Jan 2021,

Jesper JENSEN



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=3oubouik53>

BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Product model or type designation:

- **SYNCHROSCOPE - Type: M 8100**

Product description:

- The M8100 Synchroscope provides illuminated indication of the phase and frequency difference between voltages on two separate AC systems, e.g. a generator and a busbar.

2. DOCUMENTS AND DRAWINGS:

According to document M 8196-42E.

Datasheet M8100 series Rev.: 4-A-050313, dated 2013

3. TEST REPORTS:

3.1 - Test Reports SN.301932, 300069.

3.2 - DELTA Test Report ref.: DANAK-198611/DELTA-A504377-1 dated 20/12/2006.

3.3 - DELTA Test Report ref.: DANAK-198782/DELTA-A504641-2 dated 15/06/2007.

For modification F0 version:

3.4 - EKTOS Supplementary test report No. P20-0110-8, dated 04-12-2020.

4. APPLICATION / LIMITATION:

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval also valid for ships to be granted with the notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.

4.4 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev 7.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above products are to be supplied by **SELCO** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **SELCO** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.

5.4 - For information, **SELCO** has declared to Bureau Veritas the following production site(s):

SELCO
Betonvej 11
DK-4000 Roskilde
DENMARK

6. MARKING OF PRODUCT:

- Maker's name or trade mark,

- Serial number of the units,

- Equipment type number or model identification under which it was type-tested.

7. OTHERS:

7.1 - It is **SELCO's** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This Certificate supersedes the Type Approval Certificate No. 06256/E0 BV issued on 12 Mar 2015 by the Society.

*** END OF CERTIFICATE ***