DNV·GL

Certificate No:
**TAE000037D**

# TYPE APPROVAL CERTIFICATE

## This is to certify:

**That the Synchronizing Equipment**

with type designation(s)
**T4500, Automatic Synchronizer, T4800, Load Sharer, T5000, Paralleling Relay, M8100, Check Synchronizer, Synchronoscope**

Issued to
**SELCO ApS**
**Roskilde, Denmark**

is found to comply with
**DNV GL rules for classification – Ships, offshore units, and high speed and light craft**

## Application :

**Products approved by this certificate are accepted for installation on all vessels classed by DNV GL.**

Issued at **Høvik** on **2019-08-15**
This Certificate is valid until **2024-08-14**.
DNV GL local station: **Copenhagen**

Approval Engineer: **Georgy Abramenko**

for **DNV GL**

**Trond Sjåvåg**
**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.


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## Product description

| Product | Rated voltage with voltage tolerance | Rated frequency | Operating time of CB | Contact rating |
|---|---|---|---|---|
| T4500 | 100 – 660VAC, 70 - 110% | 35-70Hz | 20-200ms | 380VAC/ 2A 250VA<br>110VDC/ 2A 100W |
| T5000 | 100 – 660VAC, 24VDC, -30 - +10% | 45-65Hz | - | 380VAC/ 8A, 2000VA/ 150W DC |
| M8100 | 660VAC max, ±10% up to ±20% | 35-70Hz | - | 250VAC/ 1,2A 125VA<br>30VDC/ 1A 30W |

Digital load sharer T4800:

| | |
|---|---|
| Rated voltage | 100-660 VAC |
| Burden | 4VA |
| Operation range | 70-110% |
| Nominal current | 1A/5A |
| Max. overcurrent | 2xIn |
| Rated frequency | 35-70Hz |
| Load deviation | ±20% |
| Contact rating | 380VAC/ 2A 250VA<br>110VDC/ 2A 100W |

## Application/Limitation

Equipment is certified to be used in following environmental conditions according to DNV-GL CG-0339:

| | |
|---|---|
| Temperature | B |
| Humidity | B |
| Vibration | A, B* |

*T4800 load sharer only

## Type Approval documentation

## Tests carried out

Applicable tests according to DNV-GL CG-0339 standard.

## Marking of product

SELCO, type designation

## Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and 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