

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**

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Trond Sjøvåg
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

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 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 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 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

[Datasheets referred in LGL certificates, NPS job 262.1-029923-1](#)

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