

TYPE APPROVAL CERTIFICATE

This is to certify:**That the DC Power Supply**with type designation(s)
PRO TOP1 power supplies

Issued to

Weidmüller Interface GmbH & Co. KG
Detmold, Germanyis 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:**

Temperature	D
Humidity	B
Vibration	A, B
EMC	B
Enclosure	A

Issued at **Hamburg** on **2019-09-05**This Certificate is valid until **2024-09-04**.DNV GL local station: **Magdeburg**for **DNV GL**Approval Engineer: **Dariusz Lesniewski**

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

Variants of PRO TOP1 power supplies as listed below

Main features:

- Nominal input voltage: 100...240 V AC / 50...60 Hz
- Nominal voltage range: 85...277 V AC / 45...65 Hz
- Nominal output voltage: 12V DC, 24 V DC or 48 V DC (depending on model), adjustable
- Nominal output current: 3A, 5A, 10A, 20A or 40A (depending on model)
- Status relay: 30 V AC/DC, 1 A
- I/O connection: 0 V / 24 V
- Communication interface (optional): PRO COM CAN OPEN (Ex) device
- Protection against internal short circuits due to integrated ORing-MOSFET technology
- Direct parallel connection for redundancy or power increase (up to 10 power supply units)
- DIP switches for selection of operating modes: S/P – single/parallel operation
C/S – continuous/shut-off operation
- Mounting: DIN mounting rail
Fixed mounting by use of additional brackets (accessories)

Model	Compass Safe Distance acc. to IEC 60945 (equipped with PRO COM CAN OPEN)		Hardware/Software Version HVN/SVN	
	Standard compass	Steering compass	HVN	SVN
PRO TOP1 72W 24V 3A Standard, F, CO	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 120W 12V 10A Standard, F, Ex	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 120W 24V 5A Standard, F, Ex	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 240W 24V 10A Standard, F, Ex	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 480W 24V 20A Standard, F, CO	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 480W 48V 10A Standard, F, CO	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 960W 48V 20A Standard	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 960W 24V 40A Standard	> 5 m	> 5 m	03.x.00	02.00.x
PRO TOP1 960W 48V 20A CO	> 5 m	> 5 m	02.x.00	02.00.x
PRO TOP1 960W 24V 40A Ex	> 5 m	> 5 m	03.x.00	02.00.x
Standard = output terminal assignment 2(+) / 2(-) Flange = output terminal assignment 2(+) / 3(-), connector flange CO = coated Ex = ex-protected				

Accessories:

- PRO COM CAN OPEN (Ex): CANopen field bus communication interface
HVN 01.00.x / SVN 01.00.x

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for

approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV GL Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Application/Limitation

Location class 'B' for vibration: fixed mounting only

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Applicable tests for protected equipment according to IEC 60945, 4th edition 2002 (except sections 8.2 and 11.2).

Marking of product

The products to be marked with:

- manufacturer name
- model name
- hardware/firmware version (HVN/SVN)
- 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

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