

TYPE APPROVAL CERTIFICATE

DNV-GL

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the DNV GL Type Approval System.

Certificate No. **12 508 - 10 HH**

Company **PULS GmbH**
Arabellastraße 15
81925 München, GERMANY

Product Description **PULS DIN Rail Power supplies**

Type **MiniLine ML15, ML30, ML60, MLY series**
Dimension CD5, CP10, CT5, CT10, QT40, QS5, QS10, QS20, QS40, UB10, YR-series

Environmental Category **C, EMC 1/2**

Technical Data /
Range of Application **DC/DC-Converter:**
-CD5.241-L1 In: 14..32.4VDC Out: 24VDC, 3.8A
-CD5.243 In: 8.4..16.2VDC Out: 24...28VDC, 4.0A
DC-UPS:
-UB10.242 (EMC2) Input range: 22.5..30VDC; Output: 0.23V lower
than input voltage, Buffer mode 22.25V DC: (Only suitable for applications
where rectified DC voltage with +/-10% is available);
For battery capacities between 17Ah and 130Ah
-2-Phase Power Supplies:
CT5.121 In: 2x380..480VAC Out: 12...15VDC, 8A
CT5.241 In: 2x380..480VAC Out: 24...28VDC, 5A
-3-Phase Power Supplies:
CT10.241 In: 3x380..480VAC Out: 24...28VDC, 10.0A
CT10.481 In: 3x380..480VAC Out: 48...56VDC, 5A
QT40.241 In: 3x380..480VAC Out: 24...28VDC, 40A, (EMC2)
QT40.481 In: 3x380..480VAC Out: 48...54VDC, 20A, (EMC2)

Test Standard **Guidelines for the Performance of Type Approvals Chapter 2, Edition 2012.**

Documents **Test report : PULS AN-364.030.00-XV, issue 1, dated 2011-02-14 with**
appendices and SLG measurement reports and added cold test 2011-03-30.
PULS data sheets. Explosion protection acc. to BV EPS 09 ATEX 1 236 X.

Remarks **Product(s) approved by this certificate is/are accepted for installation on all**
vessels classed by DNV GL.

Valid until **2021-02-13**

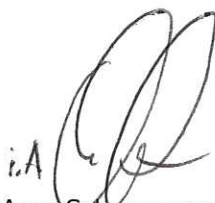
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File No. **I.M.03**

Hamburg, 2016-03-09

Type Approval Symbol




Arne Schaarmann


Jens Dietrich

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1-Phase Power Supplies:

- ML30.241 In: 100-240VAC Out: 24...28VDC, 1.3A
- ML60.121 In: 100-240VAC Out: 12...15VDC, 4.5A (EMC2)
- ML60.122 In: 100-240VAC Out: 12...15VDC, 4.5A (EMC2), low temperature (-40°C) version
- ML60.241 In: 100-240VAC Out: 24...28VDC, 2.5A
- ML60.242 In: 100-240VAC Out: 24...28VDC, 2.5A, low temperature (-40°C) version
- QS10.301 In: 100-240VAC Out: 28...32VDC, 8A
- QS40.244 In: 200-240VAC Out: 24...28VDC, 40A (EMC2)
- QS40.484 In: 200-240VAC Out: 48...54VDC, 20A (EMC2)
- QS5.241-A1 In: 100-240VAC Out: 24...28VDC, 5A (EMC2), ATEX approved version*
- QS10.241-A1 In: 100-240VAC Out: 24...28VDC, 10A (EMC2), ATEX approved version*
- QS20.241-A1 In: 100-240VAC Out: 24...28VDC, 20A (EMC2), ATEX approved version*
- CP10.121 In: 100-240VAC or 110-150VDC Out: 12...15VDC, 16A (EMC2)
- CP10.241 In: 100-240VAC or 110-150VDC Out: 24...28VDC, 10A (EMC2)
- CP10.241-S1 In: 100-240VAC or 110-150VDC Out: 24...28VDC, 10A, spring-clamp terminals, (EMC2)
- CP10.242 In: 100-240VAC or 110-300VDC Out: 24...28VDC, 10A (EMC2)
- CP10.361 In: 100-240VAC or 110-150VDC Out: 36...42VDC, 6.7A (EMC2)
- CP10.481 In: 100-240VAC or 110-150VDC Out: 48...56VDC, 5.4A (EMC2)

Optional suffix -C1 for versions with conformal coated PCBs.

Redundancy Modules:

- YR40.241 Dual input, single output; 40A output current; input to output voltage drop 140mV @ input 2 x 20A, 72mV @ 20A
- YR80.241 Dual input, single output; 80A output current; input to output voltage drop 95mV @ input 2 x 40A, 50mV @ 40A
- MLY10.241 Dual input, single output; 10A output current; input to output voltage drop 0,9V @ 10A

Mounting Accessories:

- ZM2.WALL Panel/Wall Mounting Kit
- ZM1.UBC10 Panel/Wall Mounting Kit for UBC10.241.

* Marking: II 3G Ex nAC IIC T3/T4

Additional Test Reports:

- AN-364.030.00-XV, rev. 1, dated 2016-02-15;
 - TR2-GL07-BS1_XV_2016-02-15 with Appendices.
- Data Sheet CP10-Series.

Data sheets to be checked for operating conditions.

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