



CERTIFICATE NUMBER	22-2231447-PDA
EFFECTIVE DATE	12-Apr-2022
EXPIRY DATE	11-Apr-2027
ABS TECHNICAL OFFICE	Rio de Janeiro Engineering - Machinery

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

PULS GMBH

located at

ELEKTRASTR. 6, D-81925 MUENCHEN, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Power Supply Units and Decoupling Module
Model: CD-, CS-, CP-, CT-, ML-, QS-, U-, Y-, ZM-Series
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 11/Apr/2027 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

João Claudio Machado
Joao C. Bastos Machado, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

PULS GMBH

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Product: Power Supply Units and Decoupling Module
Model: CD-, CS-, CP-, CT-, ML-, QS-, U-, Y-, ZM-Series
Endorsements:

Intended Service:

Power supply units and other modules for installation in consoles and cabinets, located in general power distribution zones.

Description:

DIN-rail mounted modules.

DC/DC Converters:

CD5.121, CD5.241, CD5.241-L1, CD5.241-S1, CD5.242, CD5.243

Phase Power Supplies:

CP10.121, CP10.241, CP10.241-S1, CP10.242, CP10.361, CP10.481, CPS20.121, CPS20.241, CPS20.361, CPS20.481, DCM-10, DCM-20, CS10.241, CS10.241-S1, CS10.242, CS10.243, CS10.244, CS10.481, ML15.051, ML15.121, ML15.241, ML30.241, ML60.121, ML60.122, ML60.241, ML60.242, QS10.241, QS10.301, QS10.481, QS10.DNET, QS20.241, QS20.244, QS20.361, QS20.481, QS3.241, QS3.241-A1, QS5.241, QS5.241-A1, QS5.DNET, QS40.241, QS40.244, QS40.361, QS40.481, QS40.484

2-Phase Power Supplies:

CT5.121, CT5.241

3-Phase Power Supplies:

CT10.241, CT10.481

Protection Modules:

PISA11.404, PISA11.406, PISA11.410, PISA11.CLASS2

DC-UPS:

UB10.241, UB10.242, UB20.241, UBC10.241, UBC10.241-N1

Redundancy Modules:

YR40.241, YR40.242, YR40.245, YR40.482, YR80.241, YR80.242, YR2.DIODE, YRM2.DIODE

Accessories:

UZK12.071, UZK12.261, UZO12.07, ZM2.WALL, ZM1.UBC10

Optional suffixes for the devices:

*-C1 completely conformal coated version

*-C2 partly conformal coated version

Certified Safe Types: II 3G Ex nA nC IIC T4 Gc (EPS 08 ATEX 1142X); II 3G Ex nA nC IIC T3 Gc, II 3G Ex nA nC IIC T4 Gc (EPS 09 ATEX 1236X); II 3G Ex nA nC IIC T4 Gc, II 3G Ex nA nC IIC T4 Gc (EPS 11 ATEX 1312X); II 3G Ex nA nC IIC T4 Gc, II 3G Ex nA nC IIC T4 Gc, II 3G Ex nA nC IIC T3 Gc, II 3G Ex nA nC IIC T3 Gc (EPS 11 ATEX 1327X); II 3G Ex nA nC IIC T3 Gc, II 3G Ex nA nC IIC T3 Gc (EPS 13 ATEX 1555X); II 3G Ex nA nC IIC T3 Gc, II 3G Ex nA nC IIC T4 Gc (EPS 14 ATEX 1638X); II 3G Ex nA nC IIC T3 Gc, II 3G nA nC IIC T4 Gc, II 3G Ex nA nC IIC T4 Gc (EPS 15 ATEX 1025X); II 3G Ex nA nC IIC T4 Gc (EPS 15 ATEX 1101X)

Rating:

DC/DC Converter units' input, depending on model: 12 V, 24 V, 48 V

DC/DC Converter units' output: 12 V, 24 V

Power supply units' input, depending on model: AC 100 - 120 V, 100 - 240 V, 200 - 240 V, 380 - 480 V, 400 - 500V

Power supply units' output, depending on model: DC 5 - 56 V

DC UPS units' input: 24/22.5 V

DC UPS units' output: 12 - 24V, 20 A

Redundancy units' input, depending on model: 12 - 60 V

Protection units' output current, depending on model: 1 - 12 A

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Service Restriction:

1. Unit Certification is required for this product by the user where it is used for Category II or III services as described in Section 4-9-3/Table 1 of the 2022 Marine Vessels Rules. Otherwise, Unit Certification is not required.
2. If the manufacturer or purchaser requests an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.

Comments:

The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:

Drawing No. 2021_02_10_TEST_REPORT_20_GERETE_HF_BIS_6_GHz_8551-PT-E0019-21, Electromagnetic Compatibility Laboratory- EMC Test Report- Annex 1, Revision: -, dated 10-Feb-2021

Drawing No. 2021_02_RS_SEIBERSDORF_02_21_Puls Vario_en_signed, Test Report- Seibersdorf, Revision: -, dated 22-Jan-2021

Drawing No. 2022_01_13_ABS_RE_DETAILS_Test17, Radiated Emission Tests (under 108 MHz), Revision: -

Drawing No. 8551-PT-E0040-22, Test Report- Czech Accreditation Institute, Revision: -, dated 21-Feb-2022

Drawing No. AN_339_030_07_XF_QS10_301_ui4_2020_01_29_6G, EMC Test Report QS10_301, Revision: -, dated 29-Jan-2020

Drawing No. General Overview ABS Renewal CS1_0802, General Overview ABS Renewal CS1_0802, Revision: -

Drawing No. Declaration of Conformity Puls, Declaration of Conformity Puls, Rev: -, dated 20-Dec-2021

Support documentation from previous review:

Drawing No. AN-327_030_00 Doc 1, Test Report, 04/09/2004, Revision: 1

Drawing No. AN-327_030_00 Doc 2, Test Report, 05/09/2014, Revision: 1

Drawing No. AN-339_030_00 Doc 1, Test Report, 22/02/2005, Revision: 1

Drawing No. AN-339_030_00 Doc 2, Test Report, 26/01/2015, Revision: 1

Drawing No. AN-347_030_00 Doc 1, Test Report, 22/02/2005, Revision: 1

Drawing No. AN-347_030_00 Doc 2, Test Report, 26/01/2015, Revision: 1

Drawing No. AN-360_030_00 Doc 1, Test Report, 26/10/2007, Revision: 1

Drawing No. AN-360_030_00 Doc 2, Test Report, 23/04/2013, Revision: 1

Drawing No. AN-360_030_00 Doc 3, Test Report, 30/05/2013, Revision: 1

Drawing No. AN-364_030_00, Test Report, 11/02/2011, Revision: 1

Drawing No. Appendix A1_2xx, Attachment to EMC Reports, Revision: -

Drawing No. TR2-GL05-BS1_XV Doc 1, Test Report, 10/01/2014, Revision: 1

Drawing No. TR2-GL05-BS1_XV Doc 2, Test Report, 03/07/2015, Revision: 1

Drawing No. TR2-GL06-BS1, Test Report, 18/02/2015, Revision: 1, Pages: 1

Drawing No. EPS 14 ATEX 1 638 X, ATEX Certificate, Revision: 2

Drawing No. EPS 13 ATEX 1 555 X, ATEX Certificate, Revision: 2

Drawing No. EPS 15 ATEX 1 025 X, ATEX Certificate, Revision: 0

Drawing No. EPS 15 ATEX 1 101 X, ATEX Certificate, Revision: 0

Drawing No. EPS 08 ATEX 1 142 X, ATEX Certificate, Revision: 3

Drawing No. EPS 09 ATEX 1 236 X, ATEX Certificate, Revision: 3

Drawing No. EPS 11 ATEX 1 312 X, ATEX Certificate, Revision: 4

Drawing No. EPS 11 ATEX 1 327 X, ATEX Certificate, Revision: 1

Terms of Validity:

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STANDARDS

ABS Rules:

2022 Rules for Conditions of Classification, Part 1: 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:

2022 Marine Vessel Rules: 4-1-1/7.15, 4-8-3/1.7, 4-8-3/1.11, 4-8-3/1.17, 4-9-2/5.3, 4-9-9/3, 4-9-9/5, 4-9-9/7, 4-9-9/13, 4-9-9/15.7 Table 1 & Table 2

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA