



CERTIFICATE NUMBER
17-HG1599236-PDA

DATE
27 Jan 2017

ABS TECHNICAL OFFICE
Hamburg Engineering Department

CERTIFICATE OF DESIGN ASSESSMENT

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

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-, CT-, ML-, QS-, QT-, SL-, U-, Y-, ZM-Series**

This Product Design Assessment (PDA) Certificate 17-HG1599236-PDA, dated 27/Jan/2017 remains valid until 26/Jan/2022 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be to an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING

Ulf Numirski
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 the terms and conditions as contained in ABS Rules 1-1-A/3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010).

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Tier: 2 - PDA Issued

Product: Power Supply Units and Decoupling Module

Model: CD-, CS-, CT-, ML-, QS-, QT-, SL-, U-, Y-, ZM-Series

Intended Service:

Control power supply, UPS/ battery, redundancy/ decoupling modules for installation in consoles and cabinets, located in general power distribution zones.

Description:

DIN-rail mounted modules.

DC/DC Converter units: CD5.121/.242/.241/.241-S1/-L1/.243

Power supply units: ML15.051/.121/.241, ML30.241/.100/.101/.106, ML50.100/.111, ML60.121/.122/.241/.242, ML70.100, ML90.200, ML100.100/.102/.105/.200, CS3.241/.241-C1/-A1, CS5.241/.241-C1/-A1/-S1, CS5.243/.244, CS10.241/.241-C1/-A1/-S1, CS10.243/.244/.281/.481, QS3.241/.241-C1/-A1, QS5.241/.241-C1/-A1, QS5.DNET, QS10.121/.241/.241-C1/-A1/.301/.481, QS10.DNET QS20.241/.241-C1/-A1/.361/.481/.244, QS40.244/.484, CT5.121/.241, CT10.241/.481, QT20.241/.361/.481, QT40.241/.481, SL5.300, SL10.300, SL20.310, CP10.121/.241/.241-S1/.242/.361/.481, QT20.241-C1, QS40.241/.361/.481, PIC120.241C, PIC120.242C, PIC240.241C, CPS20.121/.241/.241-C1/.361/.481, ML120.241/.244/.CLASS2, DCM-10, DCM-20

DC UPS units: UB10.241/.242, UB20.241, UBC10.241/.241-N1 (internal battery)

Battery Units: UZK12.071 (12 V, 7 Ah), UZK12.261 (12 V, 26 Ah)

Redundancy units: MLY series, YR2.DIODE, YRM2.DIODE, YR40.241, YR80.241, YR40.242/.245/.482, YR80.242

Protection modules: PISA11.401/.402/.403/.404/.406/.410/.203206/.206212/.CLASS2

Mounting Accessories: ZM2.WALL Panel/Wall Mounting Kit, ZM1.WALL, ZM1.UBC10 Panel/Wall Mounting Kit for UBC10.241, UZO12.07/.26 Mounting Kits for UZK12 Battery Units.

Certified Safe Types: II 3G Ex nA nC IIC T4 Gc (EPS 08 ATEX 1142X); II 3G Ex nA nC IIC T4 Gc (EPS 09 ATEX 1236X); II 3G Ex nA IIC T4 Gc, II 3G Ex nA nC IIC T4 Gc (EPS 11 ATEX 1312X); II 3G Ex nA IIC T4 Gc, II 3G Ex nA nC IIC T4 Gc, II 3G Ex nA IIC T3 Gc, II 3G Ex nA nC IIC T3 Gc (EPS 11 ATEX 1327X); II 3G Ex nA 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 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 unit's output current, depending on model: 1 - 12 A

Service Restriction:

Unit Certification is not required for this product. If the manufacturer or purchaser request 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. AN-327_030_00 Doc 1, Test Report, 04/09/2004, Revision: 1, Pages: 1

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

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

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

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

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Tier: 2 - PDA Issued

Drawing No. AN-347_030_00 Doc 2, Test Report, 26/01/2015, Revision: 1, Pages: 1
Drawing No. AN-360_030_00 Doc 1, Test Report, 26/10/2007, Revision: 1, Pages: 1
Drawing No. AN-360_030_00 Doc 2, Test Report, 23/04/2013, Revision: 1, Pages: 1
Drawing No. AN-360_030_00 Doc 3, Test Report, 30/05/2013, Revision: 1, Pages: 1
Drawing No. AN-364_030_00, Test Report, 11/02/2011, Revision: 1, Pages: 1
Drawing No. Appendix AI_2xx, Attachment to EMC Reports, Revision: -, Pages: 1
Drawing No. TR2-GL05-BS1_XV Doc 1, Test Report, 10/01/2014, Revision: 1, Pages: 1
Drawing No. TR2-GL05-BS1_XV Doc 2, Test Report, 03/07/2015, Revision: 1, Pages: 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, Pages: 1
Drawing No. EPS 13 ATEX 1 555 X, ATEX Certificate, Revision: 2, Pages: 1
Drawing No. EPS 15 ATEX 1 025 X, ATEX Certificate, Revision: 0, Pages: 1
Drawing No. EPS 15 ATEX 1 101 X, ATEX Certificate, Revision: 0, Pages: 1
Drawing No. EPS 08 ATEX 1 142 X, ATEX Certificate, Revision: 3, Pages: 1
Drawing No. EPS 09 ATEX 1 236 X, ATEX Certificate, Revision: 3, Pages: 1
Drawing No. EPS 11 ATEX 1 312 X, ATEX Certificate, Revision: 4, Pages: 1
Drawing No. EPS 11 ATEX 1 327 X, ATEX Certificate, Revision: 1, Pages: 1

Terms of Validity:

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STANDARDS

ABS Rules:

2017 Steel Vessels Rules, 1-1-4/7.7, 1-1-Appendix 3 and 4, 4-8-3/1.7/1.11/1.17, 4-9-2/5.3, 4-9-8/7/13

National:

NA

International:

NA

Government:

NA

EUMED:

NA

OTHERS:

NA