



## ***Confirmation of Product Type Approval***

Please refer to the "Service Restrictions" shown below to determine if Unit Certification is required for this product. This certificate reflects the information on the product in the ABS Records as of the date and time the certificate is printed.

Pursuant to the Rules of the American Bureau of Shipping (ABS), the manufacturer of the below listed product held a valid Manufacturing Assessment (MA) with expiration date of 15/AUG/2021. The continued validity of the Manufacturing Assessment is dependent on completion of satisfactory audits as required by the ABS Rules.

And; a Product Design Assessment (PDA) valid until 15/MAY/2021 subject to continued compliance with the Rules or standards used in the evaluation of the product.

The above entitle the product to be called Product Type Approved.

The Product Design Assessment is valid for products intended for use on ABS classed vessels, MODUs or facilities which are in existence or under contract for construction on the date of the ABS Rules used to evaluate the Product.

ABS makes no representations regarding Type Approval of the Product for use on vessels, MODUs or facilities built after the date of the ABS Rules used for this evaluation.

Due to wide variety of specifications used in the products ABS has evaluated for Type Approval, it is part of our contract that; whether the standard is an ABS Rule or a non-ABS Rule, the Client has full responsibility for continued compliance with the standard.

**Product Name: Uninterruptible Power System**  
**Model Name(s): UPS**

**Presented to:**

EMERSON NETWORK POWER (MIANYANG) CO LTD  
EMERSON IND PARK NO 299 E FEIYUN AVE MINAYANG  
China

**Intended Service:**

Marine and Offshore Application - The Uninterruptible Power Supply (UPS) is used to provide Alternative Current (AC) to a load for a limited period of time in the event of a Power Failure for Utility.

**Description:**

UPS Modular Construction consists of the following major components: Surge Protection Device (SPD) & EMI/RFI Filter, Rectifier/Power Factor Correction (PFC) Circuit, Inverter, DC-to-DC Converter, Dynamic Bypass, Battery Charger, Battery.

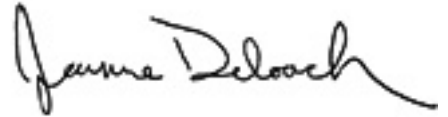
**Ratings:**

S4K2UC Series: Rating: 700/1000/1500/2000/3000 VA Input: 110/115/120 VAC, 50/60 Hz Output: 110/115/120 VAC, 50/60 Hz S4K2U-5C Series: Rating: 1000/2000/3000 VA Input: 200/208/220/230/240 VAC Output: 208/220/230/240 VAC, 50/60 Hz S4KC Series: Rating: 6000/10000 VA Input: 100/200 - 120/240 VAC, 120/208 VAC, 50/60 Hz Output: 100/200 - 120/240 VAC, 120/208 VAC, 50/60 Hz S4K5U6K-5C/ S4K5U6K5WOBATC/S4K5U6K5C Rating: 6000 VA Input: 200/208/220/230/240 VAC, 50/60 Hz Output: 200/208/220/230/240 VAC, 50/60 Hz S5KCA Series: Rating: 5 KVA to 15 KVA Input: 200/208/220/230/240 VAC/1 Phase, 380/400/415 VAC/3 Phase, 50/60 Hz Output: 200/208/220/230/240 VAC, 50/60 Hz S5KCB Series: Rating: 5 KVA to 20 KVA Input: 200/208/220/230/240 VAC/1 Phase, 380/400/415 VAC/3 Phase, 50/60 Hz Output: 200/208/220/230/240 VAC, 50/60 Hz S5KCC Series: Rating: 5 KVA to 15 KVA Input: 200 - 240 VAC, 50/60 Hz output: 100/100/200, 110/110/220, 115/115/230, 120/120/240, 127/127/220, 120/120/208 VAC, 50/60 Hz S5KCD Series: Rating: 5 KVA to 20 KVA Input: 200 - 240 VAC, 50/60 Hz Output:

100/100/200,110/110/220,115/115/230,120/120/240,127/127/220,120/120/208 VAC,50/60 Hz S5KCE Series: Rating:5 KVA to 15KVA Input:100/200 - 120/240,100/173,120/208,127/220 VAC/1 Phase(2W + N + PE),50/60 Hz Output: 100/200,110/220,115/230,120/208,120/240,127/220 VAC,50/60 Hz S5KCF Series: Rating:5 KVA to 20KVA Input:100/200 - 120/240,100/173,120/208,127/220 VAC/1 Phase(2W + N + PE),50/60 Hz Output:100/200,110/220,115/230,120/240,120/208,127/220 VAC,50/60 Hz MBC(Maintenance Bypass Cabinet): Rating:S5KCMBCR2 Series:125A max S5KCMBCR1 Series:100A max S5KCMBCRG Series:63A max S5KCMBCRW Series:50A max Input:200/208/220/230/240V ~ L +N + PE 220/380 - 240/415V ~ L1 + L2 + L3 + N + PE 100/200 - 120/240,100/173,120/208,127/220 V ~ L1 + L2 + N+ PE Output :200/208/220/230/240V ~ L + N + PE 100/100/200,110/110/220,120/120/208,120/120/240VAC,100/200,110/220,115/230, 120/208,120/240,127/220 V ~ L1 + L2 + N + PE PAD(Power AC Distribution):30HWBP2U Rating:24A Input:110/115/120/208/220/230/240V Output:110/115/120/208/220/230/240V S4K2U48 BATC Battery: Type :Valve-regulated, non-spillable, lead acid Quantity x V x Rating:2 x 4 x 12 V x 9.0 Ah S4K2U96 BATC Battery: Type :Valve-regulated, non-spillable, lead acid Quantity x V x Rating:2 x 6 x 12 V x 9.0 Ah S4K144BATC Battery: Type: Valve-regulated, non-spillable, flame retardant, lead acid Quantity x V x Rating :2 x 6 x 12V x 9.4 Ah Max. S4K288BATC Battery: Type: Valve-regulated, non-spillable, flame retardant, lead acid Quantity x V x Rating :2 x 12 x 12V x 9 Ah S4K240BATC Battery: Type: Valve-regulated, non-spillable, flame retardant, lead acid Quantity :2 x 10 x 12V x 9 Ah S5KC EBC Series: Type: Valve-regulated, non-spillable, flame retardant, lead acid Quantity x V x Rating :0 to 7 Battery strings, each string 2 x 6 x 12V x 9.4 Ah

<b>Service Restrictions:</b>	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. Ambient Temperature 0 to 40 Degree
<b>Comments:</b>	Duplicate PDA resides with Emerson Network Power - Data Center Solutions Division - MEXICALI, MEXICO. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
<b>Notes / Documentation:</b>	Drawing No. Correspondence, PO_240100191052, Revision: -, Pages: - Drawing No. Correspondence, Authorization letter, Revision: -, Pages: - Drawing No. Correspondence, Duplicate PDA Request Mexico_signed, Revision: -, Pages: -
<b>Term of Validity:</b>	This Product Design Assessment (PDA) Certificate 16-SQ1505141-1-PDA-DUP, dated 13/Sep/2016 remains valid until 15/May/2021 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.
<b>ABS Rules:</b>	ABS Rules for Building and Classing Mobile Offshore Drilling Unit – 2016, 1-1-4/9.7, 1-1-A2, 1-1-A3, and 6-1-7/9.17. ABS Rules for Building and Classing Steel Vessel 2016,1-1-4/7.7,1-1-A3, 1-1-A4, 4-8-3/5.1,5.3,5.9 and 5.11;
<b>National Standards:</b>	UL 1778,Fourth edition; CSA C22.2 No. 107.3-05 Second edition;
<b>International Standards:</b>	IEC 62040-1:2008+A1:2013
<b>Government Authority:</b>	
<b>EUMED:</b>	
<b>Others:</b>	

Model Certificate	Model Certificate No	Issue Date	Expiry Date
PDA-DUP	16-SQ1505141-1-PDA-DUP	13/SEP/2016	15/MAY/2021



ABS Programs

ABS has used due diligence in the preparation of this certificate and it represents the information on the product in the ABS Records as of the date and time the certificate was printed. Type Approval requires Drawing Assessment, Prototype Testing and assessment of the manufacturer's quality assurance and quality control arrangements. Limited circumstances may allow only Prototype Testing to satisfy Type Approval. The approvals of Drawings and Products remain valid as long as the ABS Rule, to which they were assessed, remains valid. ABS cautions manufacturers to review and maintain compliance with all other specifications to which the product may have been assessed. Further, unless it is specifically indicated in the description of the product; Type Approval does not necessarily waive witnessed inspection or survey procedures (where otherwise required) for products to be used in a vessel, MODU or facility intended to be ABS classed or that is presently in class with ABS. Questions regarding the validity of ABS Rules or the need for supplemental testing or inspection of such products should, in all cases, be addressed to ABS.