

TYPE APPROVAL CERTIFICATE

This is to certify:

That the UPS

with type designation(s)
UPS Unit Type 9SX1000IM, UPS Unit type 9SX3000IM

Issued to
Lianzheng Electronic (Shenzhen) Co., Ltd
Shenzhen, China

is 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.

Issued at **Hamburg** on **2019-02-08**

for **DNV GL**

This Certificate is valid until **2024-02-07**.
DNV GL local station: **China South NB**

Approval Engineer: **Andreas Andrecht**

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Arne Schaarmann
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.



Job Id: **262.1-027862-1**
 Certificate No: **TAE00003C8**
 Revision No: **1**

Product description

UPS Unit Type 9SX1000IM power rating 1KVA with EBM 9SXEBM36T with Marine Filter 9SXM3KI and Vibration Kit 9SXI1KI

UPS Unit type 9SX3000IM power rating 3KVA with EBM 9SXEBM96T with Marine Filter 9SXM3KI and Vibration Kit 9SXI3KI

Technical Specification	1000VA	3000VA			
Rating(VA/W)	1000VA/900W	3000VA/2700W			
Format	Tower	Tower			
Electrical characteristics					
Nominal voltage	200/208/220/230/240V				
Input voltage range	176-276V without derating(up to 120-276V with derating)				
Input frequency range	40-70Hz, 50/60Hz auto selection, frequency converter mode				
Efficiency	Up to 88% in online mode	Up to 91% in online mode			
Input Current Distortion	THDI <= 10% @ nominal input voltage, battery fully charged, NTH<=40				
Output Voltage Distortion					
Linear load	< 3 % THD (<4% at low battery (11Vdc/battery)),CVCF< 6 %				
Non-linear load	< 5 % THD (<7% at low battery (11Vdc/battery)),CVCF< 10 %				
Connections					
Input	C14	C20			
Outputs	C13(6)	C13(8), C19(1)			
Switched Outlet Group	2 output groups				
Batteries					
Battery voltage	36V	96V			
Battery capacity	9Ah				
Battery backup time(Minutes)	9SX1000IM	270W	450W	630W	900W
	UPS	28	16.5	10	6
	UPS+1EBM	104	63	43	29
	UPS+4EBM	404	233	161	108
Battery backup time(Minutes)	9SX3000IM	810W	1350W	1890W	2700W
	UPS	29	15.5	9.5	6
	UPS+1EBM	108	61	42	29
	UPS+4EBM	421	228	158	106

Location classes

Temperature Class A
 Humidity Class A
 Vibration Class A
 EMC Class B
 Enclosure IP20

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Application/Limitation

Operation for longer periods in 40-55°C ambient requires de-rating of the products nominal load to 60%.
End user is responsible for correct enclosure protection (IP) with respect to location.
This type approval does not replace the requirement for a product certificates in accordance with the DNVGL Rule paragraph Pt.4, Ch.8, Sec. 1, item 2.3 equipment certification
To be installed in climatically controlled areas.

Type Approval documentation

Technical info/drawings:

Circuit Diagrams with part list:

- SK 710-07673-xx CNTL
- SK 710-07754-xx PSDR 1k
- SK 710-07755-xx PSDR 3k

UserManual 614-20306-xx EN_Eaton-9SX0-6KVA-EMEA

Scorpio Marketing Spec v6

SCORPIO_Technical_specification_v6-5Draft

Test reports:

DNVGL-CG0339_Eaton-9SX1000IM-9SX3000IM_201811 Report

EMC-EED32K00121301-DNVGL_Eaton-9SX1000IM_20181010

ENV-A2180133893101R1-DNVGL_Eaton-9SX1000IM-9SX3000IM_20180918

EMC-EED32K00137301-DNVGL_Eaton-9SX3000IM_20181010

Sound Power Level Test Report_DH1_18_0016_Eaton-9SX1000IM-9SX3000IM_20180123

DNVGL-CompassSafeTestReport_Eaton-9SX1000IM-9SX3000IM-9SXM3KI_20181119

Tests carried out

Type tests in accordance with type approval class programme DNVGL-CP0395.

Visual inspection

Electrical Power Supply Failure Test CG 0339 Sec.3 [4]

Power supply Variation Test CG 0339 Sec.3 [5]

Vibration test IEC 60068-2-6 Class A

Dry Heat Test IEC publication 60068-2-2 Class A

Damp heat test IEC publication 60068-2-78 Class A

Temperature rise IEC 60146-1-1 Sec.7.4.2

Functional test (switching of load) IEC 62040-3 Sec.6.2.3

Short time overload IEC 62040-3 Sec.6.7.7...

Short circuit capability IEC 62040-3 Sec.6.7.8

Checking of electrical circuits IEC 62040-3 Sec.6.2.4

Checking of electrical circuits IEC 62040-3 Sec.6.2.4

EMC immunity IEC 62040-2 Sec.3 & CG 0339 Sec.3 [14] Class B

EMC emission CISPR 16-2-1, 16-2-3

Compass safe distance CG 0339 Sec.3 [15.1]

Acoustic noise and alarm signal levels for equipment installed on the bridge CG 0339 Sec.3 [15.2]

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Manufacturer

Eaton Industries France SAS
110, rue Blaise Pascal
38330 Montbonnot Saint Martin FRANCE

Place of production

LIAN ZHENG ELECTRONIC(SHENZHEN)CO.,LTD.
No.4 Liufang RD,Block 67 Baoan,Shenzhen,China

EATON INDUSTRIES (PHILIPPINES) ,LLC,PHILIPPINE BRANCH
Lot 23,Phase 1B,First Philippine Industrial Park,Tanauan City, Batangas 4232 Philippines

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable)
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out)
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and 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