



Marine & Offshore

Certificate number: 48954/B0 BV

File number: AP 1

Product code: 2592H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Schneider Toshiba Inverter Europe S.A.S

Pacy-sur-Eure - FRANCE

for the type of product

FREQUENCY CONVERTERS (Power below 50kW)

ATV 6xx Series & ATV 9xxx Series < 50 KW

Requirements:

- Bureau Veritas Rules for the Classification of Steel Ships.
- Bureau Veritas Rules for the Classification of Offshore Units.
- Bureau Veritas Rules for the Classification of Naval Ships.
- Bureau Veritas Rules for the Classification of Yachts.

EC Code: 31

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 Jun 2027

For Bureau Veritas Marine & Offshore,

At BV LE HAVRE, on 07 Jun 2022,

Mathieu DHINAUT

This certificate was created electronically and is valid without signature



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 7 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

- Product model or type designation :
ATV 6xx Series & ATV 9xxx Series

- Product description:

Two series of variable speed drives in IP21 enclosure: ATV630 & ATV930 from 0, 75 kW to 45 kW
3-phases 200 / 240Vac (M3) and 3-phases 380 / 480Vac (N4)

The two series are using the same hardware basement, only the applicative software part and the control terminals are different and adapted to the dedicated application.

ATV630 for Fluid & gas handling application

ATV930 for Solid & mechanics movement application

Two series of variable speed drives in IP20 enclosure: ATV630 & ATV930 from 0.75 kW to 45 kW
3-phases 575V/690V (Y6)

The two series are using the same hardware basement, only the applicative software part and the control terminals are different and adapted to the dedicated application.

ATV630 for Fluid & gas handling application

ATV930 for Solid & mechanics movement application

Two series of variable speed drives in IP55 enclosure: ATV930 & ATV950 from 0, 75kW to 45 kW
3-phases 380 / 480Vac (N4)

The two series are using the same enclosure model.

ATV650 is using ATV630 mounted on the IP55 enclosure

ATV950 is using ATV930 mounted on the IP55 enclosure

ATV650 for Fluid & gas handling application

ATV950 for Solid & mechanics movement application

Reference using "E" at the end is equipped by line switch.

1.1 - Approval's range IP21:

Size	Range – 200 - 240V three-phases	Catalog Number*	Range – 380 - 480V three-phases	Catalog Number*
1	0,75 kW	ATV630U07M3 ATV930U07M3	0,75 kW	ATV630U07N4 ATV930U07N4
1	1,5 Kw	ATV630U15M3 ATV930U15M3	1,5 Kw	ATV630U15N4 ATV930U15N4
1	2,2 kW	ATV630U22M3 ATV930U22M3	2,2 kW	ATV630U22N4 ATV930U22N4
1	3 kW	ATV630U30M3 ATV930U30M3	3 kW	ATV630U30N4 ATV930U30N4
1	4 kW	ATV630U40M3 ATV930U40M3	4 kW	ATV630U40N4 ATV930U40N4
1	-	-	5,5 kW	ATV630U55N4 ATV930U55N4
2	5,5 kW	ATV630U55M3 ATV930U55M3	7,5 kW	ATV630U75N4 ATV930U75N4
2	-	-	11 kW	ATV630D11N4 ATV930D11N4
3	-	-	15 kW	ATV630D15N4 ATV930D15N4
3	7,5 kW	ATV630U75M3 ATV930U75M3	18 kW	ATV630D18N4 ATV930D18N4
3	11 kW	ATV630D11M3 ATV930D11M3	22 kW	ATV630D22N4 ATV930D22N4
4	15 kW	ATV630D15M3 ATV930D15M3	30 kW	ATV630D30N4 ATV930D30N4
4	18 kW	ATV630D18M3 ATV930D18M3	37 kW	ATV630D37N4 ATV930D37N4

Size	Range – 200 - 240V three-phases	Catalog Number*	Range – 380 - 480V three-phases	Catalog Number*
4	22 kW	ATV630D22M3 ATV930D22M3	45 kW	ATV630D45N4 ATV930D45N4
5	30 kW	ATV630D30M3 ATV930D30M3	-	-
5	37 kW	ATV630D37M3 ATV930D37M3	-	-
5	45 kW	ATV630D45M3 ATV930D45M3	-	-

1.2 - Approval's range IP20:

Size	Range – 575V - 690V three-phases	Catalog Number*
3	2.2kW	ATV630U22Y6 ATV930U22Y6
3	3 kW	ATV630U30Y6 ATV930U30Y6
3	4 kW	ATV630U40Y6 ATV930U40Y6
3	5.5 kW	ATV630U55Y6 ATV930U55Y6
3	7.5 kW	ATV630U75Y6 ATV930U75Y6
3	11 kW	ATV630D11Y6 ATV930D11Y6
3	15 kW	ATV630D15Y6 ATV930D15Y6
3	18.5 kW	ATV630D18Y6 ATV930D18Y6
3	22 kW	ATV630D22Y6 ATV930D22Y6
3	30 kW	ATV630D30Y6 ATV930D30Y6
5	37 kW	ATV630D37Y6 ATV930D37Y6
5	45 kW	ATV630D45Y6 ATV930D45Y6

1.3 - Approval's range IP55:

Size	Range – 380 - 480V three-phases	Catalog Number*	Catalog Number *
A (1)	0,75 kW	ATV650U07N4 ATV950U07N4	ATV650U07N4E ATV950U07N4E
A (1)	1,5 Kw	ATV650U15N4 ATV950U15N4	ATV650U15N4E ATV950U15N4E
A (1)	2,2 kW	ATV650U22N4 ATV950U22N4	ATV650U22N4E ATV950U22N4E
A (1)	3 kW	ATV650U30N4 ATV950U30N4	ATV650U30N4E ATV950U30N4E
A (1)	4 kW	ATV650U40N4 ATV950U40N4	ATV650U40N4E ATV950U40N4E
A (1)	5,5 kW	ATV650U55N4 ATV950U55N4	ATV650U55N4E ATV950U55N4E
A (2)	7,5 kW	ATV650U75N4 ATV950U75N4	ATV650U75N4E ATV950U75N4E
A (2)	11 kW	ATV650D11N4 ATV950D11N4	ATV650D11N4E ATV950D11N4E
A (3)	15 kW	ATV650D15N4 ATV950D15N4	ATV650D15N4E ATV950D15N4E
A (3)	18.5 kW	ATV650D18N4 ATV950D18N4	ATV650D18N4E ATV950D18N4E
A (3)	22 kW	ATV650D22N4 ATV950D22N4	ATV650D22N4E ATV950D22N4E
B	30 kW	ATV650D30N4 ATV950D30N4	ATV650D30N4E ATV950D30N4E
B	37 kW	ATV650D37N4 ATV950D37N4	ATV650D37N4E ATV950D37N4E
B	45 kW	ATV650D45N4 ATV950D45N4	ATV650D45N4E ATV950D45N4E

* References may be followed by additional characters for options.

2. DOCUMENTS AND DRAWINGS:

- STI letter BV - ATVProcess project, dated Jul 25, 2016
- STI letter BV - ATVProcess project, dated Jul 04, 2018
- Catalogues and technical documentation:
 Altivar Process ATV600_ATV630U07M3
 ATV600_MultiDrives_Standard_LevelControl_EN_QGH36059_01
 DIA2ED2150601EN_V3.0

3. TEST REPORTS:**3.1 - ATV630 / 930 Size 1 to 6:**

Internal test ID	Title	Size 1	Size 2	Size 3	Size 4	Size 5	Size 6
1.1.03	IP Level	16037	16038	16039	16040	16041	16042
1.3.03	Inclination	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
1.4.07	Vibration	X	P155544 DE4	28727	P155544 DE3	P155544 DE2	P155544 DE1
		X	16163	16115	16164	16165	16166
2.1.02	a.c or d.c voltage (dielectric)	16044	16046	16048	16053	16055	16059
2.1.04	Insulation resistance	16043	16045	16047	16052	16054	16058
4.1.02	Conducted Low Voltage Immunity	X	X	X	X	X	X
4.2.02A	Damp heat cyclic	X	X	X	X	X	X
4.2.02B	Damp heat static	16098	X	X	16083	X	P152839 -DE14
4.2.04	Salt mist	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
4.2.06	Dry heat test equipment running	16062	16015	16016	16017	16018	16019
	Cold test	16069	16078 16001	16003	16031	16007	16032
5.1.03	Power supply variation tests	16060	X	X	X	X	16063
5.1.06	Electrical Power supply failure	16061	16079	16064	X	X	X
5.2.02	Electrostatic Discharge	16090	16075	16091	16092	16080	16034
5.2.03	Fast transient burst	16070	14747	15364	140164	140136	16028
5.2.04	Surge 1,2/50µs, 8/20µs	16071	14748	15365	140172	140137	16020
5.2.05	Radiated radio frequency common mode	RC-032-PNC-15-107099-3-A	LM150013 LM150014	RC-032-PNC-15-107099-2-A	LM 16 00 20	LM 16 00 21	RC-032-PNC-15-107099-1-A
5.2.06	Conducted radio frequency common mode	16050	15023	LM140026	140165	16072	16012
5.4.01	Conducted emissions	14408	16074	13619	720a	16024	16025
5.4.03	Radiated emissions	14452	15106	14041	13522	14739	16081

3. TEST REPORTS (to be continued):**3.2 - ATV630 / 930 Size 3 & 5:**

Internal test ID	Title	Size 3	Size 5
1.1.03	IP Level	17333	17332
1.3.03	Inclination	Not applicable	Not applicable
1.4.07	Vibration	154293-718020-A	154293-718020-B
	Inspection After Vibration	18115	18116
2.1.02	a.c or d.c voltage (dielectric)	17326	17325
2.1.04	Insulation resistance	17328	17327
4.1.02	Conducted Low Frequency Immunity	158944 - 731091	158944 - 731091
4.2.02A	Damp heat cyclic	Not applicable	Not applicable
4.2.02B	Damp heat static	P174526	P179011
4.2.04	Salt mist	Not applicable	Not applicable
4.2.06	Dry heat test equipment running	17329	17330
	Cold test	17335	17231
5.1.03	Power supply variation tests	17339	17226
5.1.06	Electrical Power supply failure	17338	17184
5.2.02	Electrostatic Discharge	17311	17200
5.2.03	Fast transient burst	17309	17222
5.2.04	Surge 1,2/50µs, 8/20µs	17310	17228
5.2.05	Radiated radio frequency common mode	LM170010	LM170008
5.2.06	Conducted radio frequency common mode	17322	17182
5.4.01	Conducted emissions	17321	17149
5.4.03	Radiated emissions	17337	17203

3.3 - ATV650 / 950 Size A, B & C:

Internal test ID	Size A	Size B	Size C
1.1.03	X	X	P152839-DE2 IP
1.3.03	Not Applicable	Not Applicable	Not Applicable
1.4.07	28729	X	P156149 DE1
	16119		16167
2.1.02	16066	16068	16057
2.1.04	16065	16067	16056
4.1.02	X	X	X
4.2.02A	P152839 - DE12	X	P152839 - DE10
4.2.02B	X	X	X
4.2.04	Not Applicable	Not Applicable	Not Applicable
4.2.06	X	X	X
	X	X	X
5.1.03	X	X	X
5.1.06	X	X	X
5.2.02	16094	X	X
5.2.03	14520	X	X
5.2.04	14522	X	X
5.2.05	LM 16 00 25	X	RC-032-PNC-15-107099-4-A
5.2.06	14542	X	16027
	14550		
5.4.01	14494	X	16026
5.4.03	14593	14614	14616

For modification B0 version:**CNNP:**

- Test Report No. LM 21 00 22, dated 22-03-2021.
- Test Report No. LM 21 00 23, dated 22-03-2021.

4. APPLICATION / LIMITATION:

- 4.1 - BUREAU VERITAS Rules and Regulations for the Classification of Steel Ships, Naval Ships, Steel Yachts and Offshore Units.
- 4.2 - Approval also valid for ships to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**
- 4.3 - BUREAU VERITAS Environmental Category, **EC Code: 31**
- 4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution Zones.
- 4.4 - In accordance with the manufacturer instructions.
- 4.5 - Control of 3Ph Electrical motor used on Ship and Offshore units.
- 4.6 - The equipment, once installed on board ship, is to be tested in accordance with the above referred Regulations under the supervision of a Society's Surveyor.
- 4.7 - For Naval Ships, frequency converters (VSD) above 5KVA should be tested individually.
- 4.8 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev7

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above products are to be supplied by **Schneider Toshiba Inverter Europe S.A.S** in compliance with the type described in this certificate.
- 5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.
- 5.3 - **Schneider Toshiba Inverter Europe S.A.S** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products.
- 5.4 - **Schneider Toshiba Inverter Europe S.A.S** has declared to Bureau Veritas the following production site(s):

SWD - SCHNEIDER WUXI DRIVES
INDUSTRIAL DEVELOPMENT ZONE 20 HANJIANG RD
NATIONAL HI-TECH
Wuxi, Jiangsu Province
CHINA

P.T. Schneider Electric Manufacturing Batam
Batamindo Industrial Park, Block 4 & 208
Indonesia

Schneider Electric IT Business India Pvt Ltd
187/3 & 188/3 No.326, SY No. 158/159
Jigani Village, Jigani Hobali
Bangalore, Karnataka - 562106
India

Schneider Electric
2 Rue du pont vert
27109 Le Vaudreuil
France

6. MARKING OF PRODUCT:

- 6.1 - Maker's name or trade mark,
 6.2 - Serial number of the units,
 6.3 - Equipment type number or model identification under which it was type-tested,

7. OTHERS:

- 7.1- It is **Schneider Toshiba Inverter Europe S.A.S** - FRANCE responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.
- 7.2 - This certificate supersedes the Type Approval Certificate No. 48954/A1 BV issued on 12 Mar 2019 by the Society.

***** END OF CERTIFICATE *****