DNV·GL

Certificate No:
TAE0000176

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Frequency Converter

with type designation(s)
Altivar 930 / 950 Series

Issued to
STIE
PACY SUR EURE, France

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Range:
0,75 kW to 75 kW 200 - 240 V AC supply,
0,75 kW to 160 kW 380 - 480 V AC supply,

This Certificate is valid until **2021-08-07**.

Issued at **Høvik** on **2016-08-08**

for **DNV GL**

DNV GL local station: **Marseille**

Approval Engineer: **Nicolay Horn**

Marit Laumann
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.

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Product description

Altivar 930/950. Variable speed controller for asynchronous motor. Constant torque applications.

Technical data for 200 -240 V supply:

Type designation	Mains supply (V)	Number of phases	Motor power output (kW)
ATV930U07M3	200 – 240	3	0,75
ATV930U15M3	200 – 240	3	1,5
ATV930U22M3	200 – 240	3	2,2
ATV930U30M3	200 – 240	3	3,0
ATV930U40M3	200 – 240	3	4,0
ATV930U55M3	200 – 240	3	5,5
ATV930U75M3	200 – 240	3	7,5
ATV930D11M3	200 – 240	3	11
ATV930D15M3	200 – 240	3	15
ATV930D18M3	200 – 240	3	18,5
ATV930D22M3	200 – 240	3	22
ATV930D30M3(C)	200 – 240	3	30
ATV930D37M3(C)	200 – 240	3	37
ATV930D45M3(C)	200 – 240	3	45
ATV930D55M3C	200 – 240	3	55
ATV930D75M3C	200 – 240	3	75

Technical data for 380 - 480 V supply:

Type designation	Mains supply (V)	Number of phases	Motor power output (kW)
ATV930U07N4	380 – 480	3	0,75
ATV930U15N4	380 – 480	3	1,5
ATV930U22N4	380 – 480	3	2,2
ATV930U30N4	380 – 480	3	3,0
ATV930U40N4	380 – 480	3	4,0
ATV930U55N4	380 – 480	3	5,5
ATV930U75N4	380 – 480	3	7,5
ATV930D11N4	380 – 480	3	11
ATV930D15N4	380 – 480	3	15
ATV930D18N4	380 – 480	3	18,5
ATV930D22N4	380 – 480	3	22
ATV930D30N4	380 – 480	3	30
ATV930D37N4	380 – 480	3	37
ATV930D45N4	380 – 480	3	45
ATV930D55N4(C)	380 – 480	3	55
ATV930D75N4(C)	380 – 480	3	75
ATV930D90N4(C)	380 – 480	3	90
ATV930C11N4C	380 – 480	3	110
ATV930C13N4C	380 – 480	3	132
ATV930C16N4C	380 – 480	3	160

Technical data for 380 480 V supply, IP55:

Type designation	Mains supply (V)	Number of phases	Motor power output (kW)
ATV950U07N4	380 – 480	3	0,75
ATV950U15N4	380 – 480	3	1,5
ATV950U22N4	380 – 480	3	2,2
ATV950U30N4	380 – 480	3	3,0
ATV950U40N4	380 – 480	3	4,0
ATV950U55N4	380 – 480	3	5,5
ATV950U75N4	380 – 480	3	7,5
ATV950D11N4	380 – 480	3	11
ATV950D15N4	380 – 480	3	15
ATV950D18N4	380 – 480	3	18,5
ATV950D22N4	380 – 480	3	22
ATV950D30N4	380 – 480	3	30
ATV950D37N4	380 – 480	3	37
ATV950D45N4	380 – 480	3	45
ATV950D55N4	380 – 480	3	55
ATV950D75N4	380 – 480	3	75
ATV950D90N4	380 – 480	3	90

Application/Limitation

Supply voltage range:	200 - 240 / 380 - 480 V 50/60 Hz
Voltage variation:	+ 6 - 10 % stationary, ± 20% transient
Frequency variation:	± 5 % stationary, ± 10% transient
Output frequency:	0 - 599 Hz
Temperature range in operation:	- 10 to +50 °C
Protection degree:	IP20 (ATV930), IP55 (ATV 950)
Temperature class:	A
Vibration class:	A
Humidity class:	A
EMC class:	DNVGL-CG-0339 / IEC 60533 (small sizes), IEC61800-3. To be used on EMC class A locations (see below).

The Altivar 930 / 950 must be regarded as a component. The actual installation to be designed according to Schneider Toshiba Technical Construction File and according to the applicable DNV GL Rules for the actual application. A product certificate is required case by case in accordance with Rule requirement Pt.4. Ch.8. Sec.1 for units ≥ 100 kW.

ATV930 to be installed in an enclosure with an IP degree in accordance with DNV Rules w.r.t. location.

Converters with EMC classed C2 or C3 according to IEC 61800-3 can be installed in "special distribution zone" and "general power distribution zone" in accordance with IEC 60533 provided precautions are taken to attenuate these effects on the distribution system, so the safe operation is assured.

For IT installations, Earth Monitoring System compatibility, must be investigated prior to installation onboard.

To be installed in climatically controlled areas.

Type Approval documentation

Tests carried out

Type tests in accordance with the IEC 61800 series and UL 508C. Environmental tests in accordance with DNVGL-CG-0339 as Visual inspection, Performance, Power supply failure, Power supply variations, Voltage/frequency variation, Vibration, Dry heat, Damp heat static, Insulation resistance, High voltage.

EMC: The following tests are in accordance with DNVGL-CG-0339 / IEC 61800-3: Electrical fast transient (Burst), electrical slow transient (Surge), RF-common mode Voltage, radiated RF-electromagnetic fields, electric discharge (ESD), radiated and conducted emission.

Marking of product

Altivar 930/950 – Type designation – Power – Voltage

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.

Assessment to be performed at least every second year.

END OF CERTIFICATE