TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001Z1
Revision No:
4

This is to certify:

That the Harmonic Filter

with type designation(s)
PowerLogic™ AccuSine® PCS+, PFV+, PCSn, EVC+.,

Issued to
Schneider Electric Inc.
Tualatin, OR, USA

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2023-01-03**
This Certificate is valid until **2027-07-12**.
DNV local station: **Seattle**

Approval Engineer: **Nicolay Horn**

for **DNV**

Frederik Tore Elter
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.

Product description

Low Voltage Active Harmonic Filter: PowerLogic AccuSine PCS+ / PFV+

208-240V models

Reference number	RMS Current rating (A)	Rated kVAR @ voltage	Frequency (Hz)	Ingress Protection*
PCSP060D2XXXX EVCP060D2XXXX	60	21.6 @ 208 24.9 @ 240	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP120D2XXXX EVCP120D2XXXX	120	43.2 @ 208 49.9 @ 240	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP200D2XXXX EVCP200D2XXXX	200	72.1 @ 208 83.1 @ 240	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP300D2XXXX EVCP300D2XXXX	300	108.1 @ 208 124.7 @ 240	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12

380-480V models

Reference number	RMS Current rating (A)	Rated kVAR @ voltage	Frequency (Hz)	Ingress Protection*
PCSP060D5XXXX EVCP060D5XXXX	60	39.5 @ 380 41.6 @ 400 43.1 @ 415 49.9 @ 480	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP120D5XXXX EVCP120D5XXXX	120	79.0 @ 380 83.1 @ 400 86.3 @ 415 99.8 @ 480	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP200D5XXXX EVCP200D5XXXX	200	131.6 @ 380 138.6 @ 400 143.8 @ 415 166.3 @ 480	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12
PCSP300D5XXXX EVCP300D5XXXX	300	197.5 @ 380 207.8 @ 400 215.6 @ 415 249.4 @ 480	50/60	IP00, IP31, IP54 UL OPEN, UL2, UL12

480-600V models

Reference number	RMS Current rating (A)	Rated kVAR @ voltage	Frequency (Hz)	Ingress Protection*
PCSP047D6XXXX EVCP047D6XXXX	47	48.8 @ 600	50/60	IP31, IP54, UL2, UL12
PCSP080D6XXXX EVCP080D6XXXX	94	97.7 @ 600	50/60	IP31, IP54, UL2, UL12
PCSP133D6XXXX EVCP133D6XXXX	157	163.2 @ 600	50/60	IP31, IP54, UL2, UL12
PCSP200D6XXXX EVCP200D6XXXX	235	244.2 @ 600	50/60	IP31, IP54, UL2, UL12

600-690V models

Reference number	RMS Current rating (A)	Rated kVAR @ voltage	Frequency (Hz)	Ingress Protection*
PCSP040D7XXXX EVCP040D7XXXX	40	47.8 @ 690	50/60	IP31, IP54, UL2, UL12
PCSP080D7XXXX EVCP080D7XXXX	80	95.6 @ 690	50/60	IP31, IP54, UL2, UL12

PCSP133D7XXXX EVCP133D7XXXX	133	159.0 @ 690	50/60	IP31, IP54, UL2, UL12
PCSP200D7XXXX EVCP200D7XXXX	200	239.0 @ 690	50/60	IP31, IP54, UL2, UL12

* See Application /limitation.

PowerLogic AccuSine PCS+ commercial reference: PCSPxxx
PowerLogic AccuSine PFV+ commercial reference: EVCPxxx

Refer to Schneider Electric installation manual for installation guidelines of IP20 wall mount kit.

PowerLogic AccuSine PCSn

208-415 V models

Reference number	RMS Current rating (A)	Rated kVAR 415 V	Frequency (Hz)	Ingress Protection
PCSN020Y4CH00	20	14	50/60	IP00
PCSN030Y4CH00	30	22	50/60	IP00
PCSN050Y4CH00	50	36	50/60	IP00
PCSN060Y4CH00	60	43	50/60	IP00
PCSN060Y4CH00E	60	43	50/60	IP00
PCSN020Y4W20	20	14	50/60	IP20
PCSN030Y4W20	30	22	50/60	IP20
PCSN050Y4W20	50	36	50/60	IP20
PCSN060Y4W20	60	43	50/60	IP20
PCSN060Y4W20E	60	43	50/60	IP20

PowerLogic AccuSine EVC+

208-480V models

Reference number	RMS Current rating (A)	Rated kVAR 480 V	Frequency (Hz)	Ingress Protection
EVCP075D5CH00	108	75	50/60	IP00
EVCP075D5W20	108	75	50/60	IP20
EVCP075D5W31	108	75	50/60	IP31
EVCP075D5W02	108	75	50/60	UL2
EVCP100D5CH00	144	100	50/60	IP00
EVCM100D5CH00	144	100	50/60	IP00
EVCP100D5W20	144	100	50/60	IP20
EVCM100D5W21	144	100	50/60	IP21
EVCP100D5W31	144	100	50/60	IP31
EVCP100D5W02	144	100	50/60	UL2

Application/Limitation

PowerLogic AccuSine PCS+ / PFV+

Supply voltage range : 208 - 690 V, 50/60 Hz
Voltage variation: + 10 % - 15 %
Frequency variation: ± 5 %
Temperature range in operation: 0 – 40 °C, 40 - 55°C with current derating

Temperature class: A
Vibration class: A
Humidity class: A
Enclosure protection: IP00, IP20**, IP31 or IP54* / UL OPEN, UL1, UL2 or UL12
EMC class: IEC 61000 series. To be used on EMC A levels only

PowerLogic AccuSine PCSn

Supply voltage range: 208 - 415 V, 50/60 Hz
Voltage variation: + 10 % - 15 %
Frequency variation: ± 5 %

Temperature range in operation:	0 – 45 °C, 45 - 55°C with current derating
Temperature class:	A
Vibration class:	A
Humidity class:	A
Enclosure protection:	IP00, IP20 / UL OPEN,
EMC class:	IEC 61000 series. To be used on EMC A levels only

PowerLogic AccuSine EVC+

Supply voltage range:	208 - 480V, 50/60 Hz
Power:	75kvar & 100kvar at 480VAC
Voltage variation:	+ 10 % - 15 %
Frequency variation:	+- 5 %
Temperature range in operation:	0 – 50C, 50 - 55°C with current derating.
Temperature class:	A
Vibration class:	A
Humidity class:	A
Enclosure protection:	IP00, IP20, IP21, IP31 / UL OPEN, UL2
EMC class:	IEC 61000 series. To be used on EMC A levels only

The PowerLogic AccuSine PCS+ / PFV+ / PCSn / EVC+

must be regarded as a component. The actual installation to be designed according to Schneider Electric Inc.installation and user manual and according to the applicable DNV GL Rules for the actual application.

* Higher IP rating can be achieved using the AccuSine IP00 unit installed in an external enclosure.

** IP20 / UL1 is achieved using the AccuSine IP00 chassis + the wall mount kit, commercial ref. *PCSPWMKITxxxA*

“Frequency converters rated equal or larger than 100kW serving essential or important functions as defined in DNV Rules Pt.4 Ch.8 shall have a product certificate according to DNV Pt.4 Ch.8 Sec.1 Table 3 for each delivery to DNV classed vessels.

For product certification, the following documents should be submitted for approval, Ref. to DNV Pt.4, Ch.8, Sec.1 Table 2:

Reference to this Type Approval Certificate
(E180) A drawing showing external location of instruments and devices for operation (panel layout)
(E240) Functional description for the intended use, configuration and interface (e.g. alarms, monitoring and auxiliary power supplies)
(Z252) Test program at manufacturer for routine tests and functional tests as per DNV Pt.4 Ch.8 Sec.7, 2.1.1
Single line diagram (only applicable for multi drive configuration)
If additional components to the type approved frequency converter are delivered, documentation according to DNV rules Pt.4 Ch.8 Sec.1 table 2 shall be submitted for review.

Converters with conducted and radiated emission above the DNV required limits may 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. Planned EMC precautions shall be submitted for approval prior to installation onboard.

The EMC precautions should be derived from an EMC analysis and plan in accordance with IEC 60533 Annex B and /or IEC 61800-3 Annex E.

To be installed in temperature-controlled areas.

Type Approval documentation

Tests carried out

Visual inspection, Performance/temperature rise in accordance with UL 508, Power supply failure, Power supply variations, Voltage/frequency variation, Vibration, Dry heat, Damp heat, Insulation resistance, High voltage.

EMC: The following tests are in accordance with the IEC 61800-3: Electrical fast transient (Burst), electrical slow transient (Surge), conducted disturbances, electric discharge (ESD), radiated and conducted emission.

Marking of product

PowerLogic AccuSine PCS+, PFV+ or PCSn, PowerLogic EVC+ – Type designation – Power – Voltage

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval is 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 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 2 and 3.5 year and at renewal.

END OF CERTIFICATE