Certificate no.:
TAE000055E

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Multifunction Relay

with type designation(s)
PowerLogic P7

issued to
Schneider Electric Industries SAS
Rueil Malmaison, **France**

is found to comply with
DNV 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.

Issued at **Høvik** on **2026-01-22**
This Certificate is valid until **2031-01-21**.
DNV local unit: **Netherlands VMC**

for **DNV**

Approval Engineer: **Nikolai Arntzen**

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

PowerLogic P7 is a platform of digital protection and control devices for modern Power Systems that provides hardware and firmware flexibility.

PowerLogic P7 devices support customized device functionality without change of the device firmware. Within the chosen application level, the user can freely configure the available functions and features in the corresponding application templates.

The main application selected defines the protection functions available in the application template.
P7M – Motor protection
P7G – Generator protection
P7F – Feeder protection
P7T – Transformer protection
P7S – Stand-alone Merging Unit (SAMU)

Functions	ANSI code	IEC 61850 Logical node
Current protection functions		
Phase overcurrent	50/51	*PH**PTOC***
Phase direction	67	*PH**RDIR***
Ground fault overcurrent	50N/51	*EF**PTOC***
Ground direction	67N	*EF**RDIR***
Sensitive ground fault overcurrent	50SG/ 51SG	*VSEF**PTOC***
Negative sequence overcurrent	46	*NPS**PTOC***
Directional negative sequence overcurrent	46/67Q	*NPS**RDIR***
Inrush detection	68ID	*ID**PHAR***
Selective overcurrent logic (SOL)	SOL	*SOL**GAPC***
Phase undercurrent	37	*PH**PTUC***
Voltage dependent overcurrent	51V	*PH**PVOC***
Sensitive directional earthfault	67SG/ 32N	***PSDE***
Switch on to fault	SOTF	***PSOF***
Ground admittance	21YN	*EF**PADM***
Broken conductor	46BC	*BC**PTOC***
Voltage protection functions		
Phase overvoltage	59	*PH**PTOV***
Neutral overvoltage	59N	*EF**PTOV***
Positive phase sequence overvoltage	59D	*PPS**PTOV***
Negative phase sequence overvoltage	47	*NPS**PTOV***
Phase undervoltage	27	*PH**PTUV***
Positive phase sequence undervoltage	27D	*PPS**PTUV***
Overfluxing	24	***PVPH***
Rate of voltage change	ROCOV	***PVRC***
Frequency protection functions		
Overfrequency	81O	***PTOF***
Underfrequency	81U	***PTUF***
Underfrequency load shedding	81LS	***LSPTUF***
Frequency rate of change	81R	***PFRC***
Differential protection functions		
High impedance diff	87/64G	*HIZ**PDIF***
Bias differential	87	*PH**PDIF***
Restricted ground fault	64G	*RGF**PDIF***
Basic transformer differential	87T	*TR2**PDIF***
Advanced transformer differential	87T	*TR3**PDIF***
Temperature protection functions		

Motor thermal overload	49M	*THM**PTTR***
Thermal overload	49	*THF**PTTR***
Overtemperature	38/49RTD	***STMP***
Machine unbalance	46	*NPS**PTTR***
Motor protection functions		
Motor monitoring		***ZMOT***
Motor start supervision	48	***PMSS***
Locked rotor	51LR	*JAM**PTOC***
Motor restart inhibit	66	***PMRI***
Voltage check	47	*VC**PTUV***
Generator protection functions		
Third harmonic undervoltage	27TN	*ST**PTUV***
Interturn overvoltage	59IT	*IT**PTOV***
Interturn overcurrent	50SP	*IT**PDIF***
Inadvertent energization	50/27	*IE**PIOC***
Speed protection functions		
Overspeed	12	***POVS***
Underspeed	14	***PZSU***
Zerospeed	14	***ZEROPZSU***
Machine speed		***TRTN***
Distance/impedance protection functions		
Field failure	40	*FF**PDIS***
Underimpedance	21	*UZ**PDIS***
Out of step	78	*OOS**PPAM***
Capacitor protection functions		
Capacitor bank monitoring		***ZCAP***
Capacitor overvoltage	59C	*CAP**PTOV***
Capacitor unbalance	51C	*UIBCPTOC*
Power protection functions		
Overpower	32P	*P**PDOP***
Reactive overpower	32Q	*Q**PDOP***
Underpower	37P	*P**PDUP***
Monitoring functions		
Trip conditioner	86	***PTRC***
Battery monitoring		***ZBAT***
Bay status		*PD**GAPC***
Programmable stage		*PS**GAPC***
Temperature		*RTD**TTMP***
Current loop (mA) input		*CL**TGSN***
Current loop (mA) output		*CL**GGIO***
Control functions		
Circuit breaker proxy		CB***XCBR***
Circuit breaker control	52	CB***CSWI***
Circuit breaker interlocking		CB***CILO***
Circuit breaker failure	50BF	RBRF
Circuit breaker supervision		CB***SCBR***
CB three phase recloser	79	TRI***RREC***
Switch proxy	89	SW***XSWI***
Switch control		SWCSWI
Switch interlocking		SWCILO
Switch supervision		SW***SSWI***
Synchro-check	25	RSYN
Tap changer control	84	YLTC
Logs and records		

Sequence of event record		*GEN**GLOG***
Operation log		*GEN**GLOG***
Disturbance recorder		*DR**RDRE***
Trend recorder		*TR**GLOG***
Fault records		*TCR**GLOG***
Fault measurement		***RFMX***
Fault locator		***RFLO***
Line parameters		***ZLIN***
Power quality record		*PQ**GLOG***
Voltage variation		***QVVR***
CT group measurement		
CT supervision	60P/60N	*CTS**SCTR***
CT summation		*CSTCTT* *VECACSMMXU* *RMSACSMMXU* *CSA**MSQI***
VT group measurement		
VT supervision	60	*VTS**SVTR***
VT switching		*VSTVTT* *VECVVS**MMXU*** *RMSVVS**MMXU*** *VVS**MSQI***
Bay measurement		
Bay measurements		*BAY**MMXU***
Demand values		*DVAL**MMXU***
Active and reactive of energy values		***EMMTR***
Harmonic measurements		***MHAI***
Process bus functions		
SV subscription		***LSVS***
SV publication		***LSVP***

Rated phase current 1A or 5A.
Core balance rated current 1A.
Rated frequency: 50 or 60 Hz.

3 PSU ranges:
Low range: DC: 24...34 V DC
Medium range: DC: 48...125 V DC
High range: DC: 110...250 V DC
AC: 110...250 V AC

Manufactured by

Lexel Fabrika SIA
Krustpils street 35A
Rīga 1073
Latvia

Application/Limitation

Installation of the unit is to be according to manufacturer's specifications.
The total panel instrumentation to be in accordance with the Rules.

Product certificate:
When the unit is used for protection purposes no product certificate is required. When the unit is used for other control purposes a product certificate acc. to Pt.4 Ch.8 Sec.1 and Pt.4 Ch.9 Sec.1 [1.4] will be required. Correct configuration and set up for each delivery to be tested during commissioning after installation.

The Type Approval covers hardware and software for the unit.

The Type Approval does not cover application software.

The following documentation of the actual application is to be submitted for approval in each case:
- System Block Diagram
- Power supply arrangement (may be part of the system block diagram)

The Type Approval covers hardware listed under Product description.
Clause for application software control:
All changes in software are to be recorded. Major changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before installed in the computer. A certification of application functions may be required for the particular vessel.

Required protection (IP) according to the Rules to be provided upon installation on board.

Environmental classes: Vibration A, Temperature D, Humidity B, EMC A.

Type Approval documentation

Tests carried out

Environmental tests in accordance with DNV-CG-0339 edition Aug. 2021: Vibration, Salt mist, Dry heat, Damp heat, Cold and EMC.

Marking of product

Schneider Electric – Type designation

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:
- Ensure that type approved documentation is available.
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines.
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications.
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do no affect the type approval given.
- Ensuring traceability between manufacturer's product type marking and the type approval certificate.
- Ensuring that type approved documentation is available.

Assessment to be performed at 2 and 3.5 years and at renewal.

END OF CERTIFICATE