DNV·GL

Certificate No:
TAA00000GV

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Programmable Electronic System

with type designation(s)
ProSafe-RS

Issued to
Yokogawa Electric Corporation
Musashino Tokyo, Japan

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

Application :

Location Classes:

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

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**According to IEC60529**

This Certificate is valid until **2021-06-30**.

Issued at **Busan** on **2016-07-01**

for **DNV GL**

DNV GL local station: **Yokohama**

Approval Engineer: **Hee Jin Song**

Baeg Soon Choi
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

Kind of Product	Model	Rated Power Supply	Refer to	Remark
Safety Control Unit (SCU)	SSC60S series	220-240V AC : 290VA 100-120V AC : 240VA 24V DC : 7A	GS 32Q06D10-31E	
	SSC60D series			
	SSC50S series		GS 32Q06D20-31E	
	SSC50D series			
	SSC57S series		GS 32Q06D25-31E	
	SSC57D series			
	SSC10S series		GS 32Q06D30-31E	
	SSC10D series			
Safety Node Unit	SNB10D series	220-240V AC : 230VA 100-120V AC : 200VA 24V DC : 5.5A	GS 32Q06K10-31E	
Unit for Optical Bus Repeater Module	SNT10D series		GS 32Q06K11-31E	
Analog I/O Module	SAI143 series		GS 32Q06K30-31E	
	SAV144 series			
	SAT145 series			
	SAR145 series			
	SAI533 series			
Digital I/O Module	SDV144 series		GS 32Q06K40-31E	
	SDV531 series			
	SDV541 series			
	SDV521 series			
	SDV53A series			
Communication Module	ALR111series		GS 32Q06K50-31E	
	ALR121 series			
	ALE111 series		GS 32Q06K51-31E	
ESB Bus Coupler Module	SEC402 series		GS 32Q06L10-31E	
	SEC401 series		GS 32Q06L11-31E	
Optical ESB Bus Repeater Module 5km to 50km	SNT411 series		GS 32Q06L15-31E	
	SNT511 series			
Optical ESB Bus Repeater Module 5km	SNT401 series		GS 32Q06L16-31E	
	SNT501 series			
Relay Board	SRM53D series		GS 32Q06L20-31E	
	SRM54D series			
	SBM54D series			
Terminal Board	SEA4D series		GS 32Q06L20-31E	
	SED2D series			
	SED3D series			
	SED4D series			
	SBA4D series			
	SBT4D series			
	SBR4D series			
	SBD2D series			
	SBD3D series			
	SBD4D series			
Control Bus Interface Card	VF702 series		GS-33K55C10-50E	
	VI702 series		GS-33K50C10-50E	
Cable	YCB301 series		GS 32Q06M10-31E	
	YCB141 series			
	YCB111 series			
	AKB136 series			

	AKB161 series			
	AKB331 series			
	AKB611 series			
	AKB651 series			
	KS1 series			
Others	SCB100 series			
	SCB110 series			
	YCB148 series			
	YCB146 series			
	YCB128 series			
	SDCV01 series			

Place of manufacture

1. Yokogawa Electric Asia Pte.Ltd : 5 Bedok South Road, Singapore 469270, Republic of Singapore
2. P.T.Yokogawa Manufacturing Batam : Lot 339-340 Jalan Beringin Batamindo Industrial Park, Mukakuning Batam 29433, Indonesia

Responsibility

Yokogawa Musashino works takes the responsibility that both design and production are in compliance with Rules, Standard and/or Regulations listed on page 1 of this Type Approval Certificate.

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Classification of Ships Pt.4 Ch.9 Control and Monitoring Systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program. After the certification the clause for application software control will be put into force.

Type Approval documentation

1.
2.
3.
4.
5.
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9.

Tests carried out

Applicable tests according to DNV GL Class Guideline 0339, November 2015.

Periodical assessment

The scope of the retention/renewal survey 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 survey 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 not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Retention survey is to be performed at renewal of this certificate.

END OF CERTIFICATE