



Marine & Offshore

Certificate number: 07414/F0 BV

File number: AP3040

Product code: 4501H

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

Siemens Industrial Automation Products Ltd., Chengdu
Chengdu City - CHINA

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS
Modular Logic: LOGO!

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

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 Jan 2028

For Bureau Veritas Marine & Offshore,

At BV SHANGHAI, on 07 Jan 2023,

Jennifer Zhang

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 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The logic modules of LOGO! system for automation tasks or control systems comprise of the following units:

1.1 - Basic modules:

LOGO! 12/24RC	LOGO! 24CEo	LOGO! 230R
LOGO! 12/24RCo	LOGO! 24L	LOGO! 230RC
LOGO! 12/24RCE	LOGO! 24R	LOGO! 230RCo
LOGO! 12/24RCEo	LOGO! 24RC	LOGO! 230RCE
LOGO! 24	LOGO! 24RCo	LOGO! 230RCEo
LOGO! 24o	LOGO! 24RCE	LOGO! 230RCL
LOGO! 24C	LOGO! 24RCEo	LOGO! 230RCLB11
LOGO! 24Co	LOGO! 24RCL	
LOGO! 24CE	LOGO! 24RCLB11	

Inputs:

8 DI connected to power supply or 6 DI+2 AI (0-10V) for LOGO! 12/24RC, 12/24RCo, 12/24RCE, 24, 24C, 24o, 24Co

8 DI connected to power supply for LOGO! 12/24RCEo, 24CE, 24CEo, 24R, 24RC, 24RCE, 24RCEo, 24RCo, 230R, 230RC, 230RCo, 230RCE, 230RCEo

12 DI connected to power supply for LOGO! 24L, 24RCL, 24RCLB11, 230RCL, 230RCLB11

Outputs:

4 transistor type (0.3A) for LOGO! 24, 24o

4 relay type (10A) for LOGO! 12/24RC, 12/24RCo, 12/24RCE, 12/24RCEo, 24CE, 24CEo, 24R, 24RC, 24RCo, 24RCE, 24RCEo, 230R, 230RC, 230RCo, 230RCE, 230RCEo

8 transistor type (0.3A) for LOGO! 24L

8 relay type (10A) for LOGO! 24RCL, 24RCLB11, 230RCL, 230RCLB11

1.2 - Expansion modules:

LOGO! DM8 24	LOGO! DM16 24	LOGO! AM2 PT100
LOGO! DM8 24R	LOGO! DM16 24R	LOGO! AM2 RTD
LOGO! DM8 12/24R	LOGO! DM16 230R	LOGO! AM2 AQ
LOGO! DM8 230R	LOGO! AM2	LOGO! TD

Inputs:

4 DI connected to power supply for LOGO! DM8 12/24R, DM8 24, DM8 24R, DM8 230R

8 DI connected to power supply for LOGO! DM16 24, DM16 24R, DM16 230R

2 AI (0-10V or 0-20 mA) for LOGO AM2,

2xPt 100 or PT1000 (-50°C/+200°C) for LOGO! AM2 RTD.

2xPt 100 (-50°C/+200°C) for LOGO! AM2 PT100

Outputs:

4 transistor type (0.3A) for LOGO! DM8 24

4 relay type (5A) for LOGO! DM8 24R, DM8 12/24R, DM8 230R

8 transistor type (0.3A) for LOGO! DM16 24

8 relay type (5A) for LOGO! DM16 24R, DM16 230R

2 AO (0-10V) for LOGO! AM2 AQ.

1.3 - Display modules:

LOGO! TDE: FSTN Text display with 10 keys and Ethernet connection: IP65(front), IP20(rear)

1.4 - Main characteristics:

Power supply voltages for Basic modules and Expansion modules:

12/24V DC for LOGO! 12/24RC, 12/24RCo, 12/24RCE, DM8 12/24R, AM2, AM2 PT100

24V DC for LOGO! 24, 24o, 24R, 24L, 24RCL, 24RCLB11, DM8 24, DM16 24, DM16 24R, AM2 AQ, TD

24V AC for LOGO! 24RC and 24RCo

24V AC/DC DM8 24R

115/230V AC for LOGO! 230R, 230RC, 230RCo, 230RCE, 230RCL, 230RCLB11

115/230V AC/DC for LOGO! DM8 230R, DM16 230R.

Including 6 integrated basic logic functions:

Circuit AND, 3 normally open contacts in series

Circuit OR, 3 normally open contacts in parallel, circuit NOT inverter

Circuit NAND, 3 normally close contacts in parallel

Circuit NOR, 3 normally close contacts in series

Circuit XOR (exclusive OR) double change over.

2. DOCUMENTS AND DRAWINGS:

- LOGO! Manual: - A5E33039675 dated 06/2014; A5E03556174-01 dated 04/2011; A5E01248535-04 dated 11/2009; - A5E01248535-01 dated 04/2008; A5E00380835-01 dated 02/2005

Note: Documents filed in AP 3043 and AP 3040.

3. TEST REPORTS:

SIEMENS AG:

- SIMATIC Type Test - 2014-01 dated 06.03.2015; I IA AS RD ST Type Test - 2012-01 dated 28.Sep.2012;
- I IA AS RD ST Type Test - 04/2010 dated 03.05.10; I IA AS RD ST Type Test 3/09 dated 13.03.09;
- A&D AS RD ST Type Test-01/05 dated 18.01.2005; A&D AS RD 423 - 0301 dated 11.03.03 &10.04.03;
- A&D AS E423-0108 dated 28.05.2001

Note: Documents filed in AP 3043 and AP 3040.

For E1 version:

- Chengdu Sanfang Electrical Co., Ltd: 2020045-E-XG1 dated 2020-08-19; 2020046-E-XG1 dated 2020-08-19

4. APPLICATION / LIMITATION:

4.1 - Bureau Veritas Rules for the Classification of Steel Ships

4.2 - Approval valid for ships intended 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 - Equipment covered by this Type Approval certificate has been tested according to requirements of IACS UR E10 rev8.

4.5 - The 24V DC power supply lines of LOGO! modules are to be equipped by surge protection element (Dehn Blitzductor, Type No. 918402 or 918422 or equivalent).

4.6 - LOGO! 12/24xxx modules are to be used with 24V DC power supply unit.

4.7 - The LOGO! -0BA8 series with DC power supply fulfils the EMC requirements for installation on the Bridge and Deck Zone if filter of type: B84113-C or equivalent with ratings $C=2x\ 0.47\mu F + 2x\ 4700pF$, $L=4x\ 4.7mH$ is used.

4.8 - The LOGO! -0BA8 series with AC power supply fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.9 - The other equipment fulfils the EMC requirements for installation in General Power Distribution zone only.

4.10 - In accordance with IACS UR E22 and as applicable to programmable devices for computer based systems of Category II or III, for each ship application:

- Ship specific documentation is to be submitted including software documentation and categorization of the computer based system.

- Inspection and testing before installation onboard is to be performed under the surveillance of the Society.

4.11 - Only Hardware and Firmware successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer is covered by this certificate.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **Siemens Industrial Automation Products Ltd.** 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 - **Siemens Industrial Automation Products Ltd.** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

Siemens Industrial Automation Products Ltd.
Chengdu No. 99, TianYuan Road,
HighTech Zone West
611731 Chengdu City, Sichuan Province
P.R. CHINA

6. MARKING OF PRODUCT:

- Maker's name or trademark

- Equipment type or model identification

- Date of manufacture and/or serial number

- The title and version of each software element included in the installed software system shall be either marked on the equipment or displayed on command by a visualization unit.

- When the indication of the title and version of the software are indicated only on the display, such information shall also be included in the equipment manual.

7. OTHERS:

7.1 - It is the responsibility of **Siemens Industrial Automation Products Ltd.** 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 N° 07414/E1 BV issued on 27 Aug 2021 by the Society.

*** END OF CERTIFICATE ***