



中国船级社
CHINA CLASSIFICATION SOCIETY

证书编号/Certificate No.
TJ24PMR00001

欧盟认可组织互认型式认可证书
European Union Recognised Organisation (EU RO) Mutual Recognition
Type Approval Certificate

兹证明按照欧盟法规391/2009条款10.1及欧盟认可组织互认程序相关要求要求, 本证书所述制造厂具备生产本证书所列产品的能力和条件。颁发本证书的技术要求是所有欧盟认可组织最严格的标准。

This is to certify to the Manufacturer named below, that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements. The most demanding and rigorous standard from all EU ROs has been taken as a reference for the development of the Technical Requirement on which present certificate is based.

本证书授予 /This certificate is issued to

北京和利时智能技术有限公司
Beijing HollySys Intelligent Technologies Co., Ltd.

地址/Address

北京市经济技术开发区地盛中路2号院
No.2, Disheng Middle Road, Beijing Economic Technological Development Area, 100176 Beijing, P. R. China.

产品名称/Product Name

可编程逻辑控制器
Programmable Logic Controller

认可标准/Approval Standard

1. 计算机及可编程逻辑控制器欧盟认可组织互认技术要求 (版本: 0.9, 日期: 2025年1月1日)
EU RO Mutual Recognition Technical Requirements for Computers and Programmable Logic Controllers (PLCs), Version: 0.9, Application date: Jan. 1, 2025

应用与限制/Application and Limitation

- 1、可编程逻辑控制器 (PLC) 可用于船级社要求的实现控制、监测、报警和安全功能的系统中。不可用于辅助导航和装载设备。
- 2、认可仅包括硬件和固件。不包括为船级社要求的特定应用系统而设计的固件、应用软件和硬件。这类固件、系统软件和应用软件需要根据UR E22和欧盟认可组织船级社的规范进行单独的附加认可 (工厂验收试验和实船审核/测试) ;
- 3、这里的PLC包括背板、电源、CPU、输入/输出单元和总线通信单元等被认为是PLC的组成部分或自然延伸的组件。连接到PLC的传感器和执行器不属于PLC的组件, 因此不包括在本认可程序的范围内。
- 4、具有集成显示的可编程控制器, 除本标准要求外, 还应遵守关于显示设备的欧盟互认技术要求。
- 5、本证书产品不适用于需要根据标准IEC 60945进行测试的无线电或导航设备。例如, 欧盟船舶设备指令 (MED) 所

证书有效期至/ This Certificate is valid until 2030年01月12日/ Jan. 12,2030

发证机构 中国船级社天津分社
Issued by CCS Tianjin Branch

签发日期 2025年01月13日
Date Jan. 13,2025

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体, 必须同时使用。纸质证书每页均须由本社盖章方为有效, 电子证书含数字签名方为有效, 本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时, 可以向我社检验机构咨询。
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Form No: M03.

联系方式/Contact Us, 见本社官方网站/See official web site of the Society (<http://www.ccs.org.cn>)



UTN:P024-36571582

应用与限制/Application and Limitation

涵盖的系统。

6、基于本PLC实现的控制、监测、报警和安全系统，其在船舶的安装使用应经过该船入级船级社的认可。

7、设备的供电电源系统特性应符合IEC 60092-101第4.8节的要求。

8、设备的安装空间或区域应按照船舶入级的互认组织船级社的环境类别要求。

9、设备不可以直接安装在露天环境使用。

1. Programmable logic controllers (PLC) intended to be used in systems that provide control, monitoring, alarm and safety functions that are subject to classification requirements. Aids to navigation and loading instruments are excluded.

2. The approval shall cover hardware and firmware only. This excludes firmware, application software, and hardware designed for specific applications subject to classification. Firmware, system software, and application software are subject to additional separate approval, according to UR E22 and the rules of the classing EU R0 (FAT and on-board review / tests);

3. The term PLC is here meant to comprise of elements such as backplanes, power supplies, CPUs, I/O units and bus communication units when these are considered an integral part, or natural extension, of the PLC. Sensors and actuators typically connected to the PLC in a system are not considered part of the PLC and are excluded from the scope of this programme;

4. PLCs with integrated display, such as panel PCs, will additionally to the requirements in this TR be subjected to the relevant TR for the display.

5. Hardware intended for use in radio- or navigational applications where testing according to IEC Publication 60945 is required is excluded from the scope of this programme. E.g. use in systems covered by the Marine Equipment Directive.

6. Application of the control, monitoring, alarm, and safety systems are subject for approval of the individual EU R0 classing the vessel.

7. Power supply system characteristics as per IEC 60092-101, sub-clause 4.8.

8. Installation in spaces or areas according to the required environmental categories of the R0 classing the ship.

9. This product can not be installed in weather exposed areas.

产品明细/Product Description

可编程逻辑控制器/Programmable Logic Controller (M0001)

名称/Name	属性（值）/Value	单位/Unit
型号/Type	LK serial; LKS serial; LE serial	
系统组成/System Component	see additional pages	
外壳防护等级/Degree of Protection of Enclosure	IP20	

批准的图纸/Approved Drawings

图纸批准号/ Drawings Approval No. : NP24PPP02636_3, NP24PPP02636_4, NP24PPP02636_5

产品认可试验报告/ Approval Test Report

试验报告编号/ Test Report No. : Ship Test ER2024-065

试验报告日期/ Test Report Date : 2024-10-23

试验报告编号/ Test Report No. : Ship Test 2024-065

试验报告日期/ Test Report Date : 2024-11-14

试验报告编号/ Test Report No. : F25-H19-000095, F25-H19-000096

试验报告日期/ Test Report Date : 2025-01-07

认可保持条件/ Maintenance Requirements of Approval

1. 如产品设计发生变化，且相应变化可能导致同欧盟互认技术要求或应用与限制产生不一致时，制造厂应书面通知我社，且我社需对技术文件所有方做附加审核。

The manufacturer must inform the Society, in writing, of changes to design where such modification may affect compliance with the agreed Technical Requirements or prescribed conditions for use of the product. Additional approval should be given to those who holds the technical documentation.

2. 制造厂应确保其质量保证体系有效运行，并与认可时一致。如质量保证计划在欧盟互认型式认可证书有效期内发生变化，制造厂应通知我社。

The manufacturer must undertake to fulfill the obligations arising out of the Production Quality Assurance scheme as approved and to uphold it so that it remains adequate and efficient. The manufacturer must keep the Society informed of any intended updating of that Production Quality Assurance scheme for its consideration with regard to the validity of the EU MR Type Approval Certificate.

3. 证书获得者应接受本社每年一次的定期审核，定期审核日为认可证书期满之日对应的每一周年日，审核工作应在每周年日的前后三个月进行。

Certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

声明/General Statement

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

In accordance with Article 10 of Regulation (EC) No 391/2009 of the European Parliament and of the Council of 23 April 2009 "on common rules and standards for ship inspection and survey organizations", the following organizations, recognized by the EU on this date, have agreed on the technical and procedural conditions under which they will mutually recognize this certificate:

- American Bureau of Shipping (ABS);
- Bureau Veritas (BV);
- China Classification Society (CCS);
- Croatian Register of Shipping (CRS);
- DNV;
- Indian Register of Shipping (IRS);
- Korean Register (KR);
- Lloyd's Register Group Ltd. (LR);
- Nippon Kaiji Kyokai General Incorporated Foundation (ClassNK);
- Polish Register of Shipping (PRS);
- RINA Services S.p.A. (RINA);

The scheme for the mutual recognition of class certificates for materials, equipment and components laid down by Article 10(1) of Regulation (EC) No 391/2009 is only enforceable within the Union in respect of ships flying the flag of a Member State. As far as foreign vessels are concerned, the acceptance of relevant certificates remains at the discretion of relevant non-EU flag States in the exercise of their exclusive jurisdiction, notably under the United Nations Convention on the Law of the Sea (UNCLOS). (In accordance with COMMISSION IMPLEMENTING REGULATION (EU) No 1355/2014 amending Regulation (EC) No 391/2009 - recital (25)).

备注/Remarks

1. 环境试验条件/Environmental test conditions:

Dry heat: +55℃, 16h;

Cold: -20℃, 16h;

Vibration: 2Hz to 13.2Hz -- amplitude $\pm 1\text{mm}$; 13.2Hz to 100Hz -- acceleration $\pm 0.7g$.

2. 电磁兼容试验条件/EMC test conditions: for equipment installed in general power distribution zone.

3. 磁罗经安全距离/Compass safe distance: 110cm.

中国船级社天津分社

CCS Tianjin Branch

注：本证书含有附页，共3页

Note: The certificate is attached with additional 3 page(s)

产品组成明细 Product Description

LK 系列/ LK Series

Module Type	Module Model	Firmware version	Note
PLC Series Master Controller Unit	LK220	LK220-G03	LK Series Master Controller Module
	LK224	LK224-D03	LK Series High Performance Host Controller Modules
Communication Module	LK235	LK235-A02	POWERLINK Interface Module
	LK239	LK239-A06	Modbus RTU Master-Slave Communication Expansion Module
	LK271	LK271-A01	Profinet communication modules
	LK240	LK240-C01	Redundant synchronization modules
	LK241	LK241-B02	POWERLINK Master Communication Module
	LK246	LK246-B02	Ethernet Communication Processor Module
Analog Input Modules	LK412	LK412-E01	6-Channel Isolated Analog Input Module
	LK411	LK411-E01	8-channel current-type analog input module
Analog Output Module	LK511	LK511-G03	4-channel interchannel isolated current type analog output module
	LK512	LK512-B01	8-channel current and voltage analog output module
RTD input	LK430	LK430-D01	6-channel RTD-type analog input module
	LK432	LK432-A01	8-channel RTD type analog input module
Thermocouple and Millivolt Input Modules	LK441	LK441-B01	8-channel thermocouple type analog input module
Digital Input	LK610	LK610-G01	16-Channel Drain Digital Input Module
	LK616	LK616-A01	32-Channel 24VDC Drainage Digital Input Module
Digital Output	LK710	LK710-E01	16-Channel Source Type Digital Output Module
	LK716	LK716-B01	32-Channel Transistorized Digital Output Module
	LK720	LK720-D01	10~265VAC/5~125VDC 8-way Normally Open Relay Output Module

Frequency Input	LK620	LK620-A03	2 Channel Counting Module
Auxiliary Modules	LKC131	-	Occupancy module
	LKC171	-	LK Series IO High Cover
	LKA104	--	Profibus-DP Bus Connector Module
	LKA103	--	Capacitor Power Box Module
Backplane Modules	LK130	-	4-slot backplane module
	LK132	-	6-slot backplane module
	LK117	-	11-slot expansion backplane
Power Module	LK921	-	DC Power Adaptor Module
Switching Mode Power Supply	PIC 240.241D	-	24V DC (240W) Power Module
	PIC 480.241D	-	48V DC (480W) Power Module
Engineering Software	AutoThink V3	V3.11B1	for program, configuration

LE 系列/ LE Series

Module Type	Module Model	Firmware version	Note
PLC Series Master Controller Unit	LE5118	LE5118-B01	24-channel digital input 16-channel transistor output CPU module
	LE5119	LE5119-B01	24-channel digital input 16-channel relay output CPU module
Analog Input Modules	LE5310	LE5310-D01	4-channel analog input module
	LE5311	LE5311-C01	8-channel analog input module
	LE5320	LE5320-C01	2-channel analog output module
	LE5321	LE5321-D01	4-channel analog output module
RTD Input	LE5341	LE5341-D01	4-Channel RTD Input Module
Digital Input	LE5210	LE5210-C01	8-channel digital input module
	LE5211	LE5211-C01	16-channel digital input module
Digital Output	LE5220	LE5220-C01	8-channel transistorized digital output module
	LE5223	LE5223-D01	16-channel relay digital output module
PROFIBUS-DP Communication Modules	LE5401	LE5401-E02	PROFIBUS-DP Slave Modules
Engineering Software	AutoThink V3	V3.11B1	for program, configuration

LKS 系列/ LKS Series

Module Type	Module Model	Firmware version	Note
PLC Series Master Controller Unit	LK220S	LK220S-H02	Safe Master Controller Module
Communication Module	LK240S	LK240S-B02	Secure Redundant Communication Modules
	LK249S	LK249S-C01	Secure Master Communication Module
Digital Input	LK610S	LK610S-B01	Safe 8-channel digital input module
	LK611S	LK611S-B02	Safety 8-channel digital input module with line fault detection
Digital Output	LK710S	LK710S-B01	Safe 8-channel digital output module
PROFIBUS-DP Communication Modules	LK232S	LK232S-B01	Safe Bus Repeater Module
Power Module	LK921S	--	Safety 24V Power Adapter Module
Engineering Software	Safety FA-AutoThink	V1.3.1Pacth1	for program, configuration