



TYPE APPROVAL CERTIFICATE
No. ELE280822XG

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

<i>Description</i>	Programmable logic controller
<i>Type</i>	M1 series
<i>Applicant</i>	Bachmann electronic GmbH Kreuzäckerweg 33 6800 Feldkirch AUSTRIA
<i>Manufacturer</i>	Bachmann electronic GmbH
<i>Place of manufacture</i>	Kreuzäckerweg 33 6800 Feldkirch AUSTRIA
<i>Reference standards</i>	Rules for the classification of ships.- Part C - Machinery, systems and fire protection. - Ch.3, Sect. 6, Table 1.

Issued in **HAMBURG** on **January 16, 2023**. This Certificate is valid until **January 15, 2028**



RINA Services S.p.A.
Giuseppe Russo

This certificate consists of this page and 1 enclosure

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M1 series

Product description:

The **M1 series** is a modular PLC system for normal and extreme environmental conditions.

Type	Description
M1 modules	
AI2xx/xx*	Analog input module
AIC212*/ AIC214* /AIC206*	Condition monitoring module
AIO2xx/xx*	Analog I/O module
AIO2xx/SI*	Analog I/O module
AO2xx/xx*	Analog output module
BS2xx/xx*	Backplane with different slot(s), BS2xx/E, BS2xx/S, BS2xx/ET
CF200/xxxx*	Compact flash card
CFA200/x*	CFast Card
CM202*	CAN-Bus module (Master)
CNT204/x*	Counter module
DA3284-C	Digital Analog Input/Output
DI2xx/xxx*	Digital input module
DIO2xx/x*	Digital input/output module
DIOxxx-C	Digital Analog Input/Output
DO2xx/xx*	Digital output module
DOR206/xxx*	Digital output relay module
DPM200	Profibus module
EM2xx*	Ethernet master module
FM2xx*	Fastbus master module
FS2xx/x*	Fastbus slave module
GIO212*	General I/O module
GM260*	Grid measurement module
GMP232/x*	Grid measurement protection module
GMP232/x2*	Grid measurement module
GSP274*	Grid measurement, synchronization and protection module
ISI2xx/x*	Encoder interface module
LM201, S2xx*	Dummy module
MC205*	CPU module
MC206*	CPU module
MC210*	CPU module
MC212*	CPU module
MC220*	CPU module
MH230*	CPU module
MX2xx/x*	CPU module
NT2xx*	Power supply 24/48VDC
PTAI216*	Temperature recording module
TI214/x*	Temperature recording module
PVA202*/PVA208*	Proportional valve amplifier
RS204/x*	Interface module RS232, 422, 485, TTY
* all cc Modules included	

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M1 series

Type	Description
Safety modules	
SAI205**	Safety analog Input module
SDI208 (cc)**	Safety digital input module
SDO204 (cc)**	Safety digital output module
SLC284 (cc)**	Safety logic controller
SCT202 (cc)**	Safety counter module
** only cc Modules in certification	

Main characteristics:

Power supply: 24VDC nominal voltage

Ambient temperature: up to -40°C ...70°C (depending of the module type)

Degree of protection: IP20

Firmware version: M-Base V4.xx

Documents:

- Catalogue KA-System/EN, 11/2018

Test reports:

Bachmann: - 12718.00.03/04; 12718.00.05/06/11; 12718.00.10; 12718.00.13/14/17/18; 12718.00.19; 12718.00.20; 12718.00.21 Rev. 001; 12718.00.22; 12718.00.23; 13228-000-10; 13228-000-19,20; 13228-000-21; 13228-000-22; 13228-000-3,4; 13228-000-5,6,11; 13228-000-9; 13228-002-13,14,15,16,17,18; No13 - 18,EMC,Interference,Test,Report,Marine012,REV000; No19,20,EMC,Emission,Test,Report,Marine012,REV000; No3,4,Power,Supply,Failure, and,Variation,Test,Report,Marine012,REV000; No5,6,11,Dry,Heat,Damp,Heat,Cold,Test,Report,Marine012,REV000; No9,10,Insulation,Resistance,and,High,Voltage,Test,Report,Marine012,REV000; - 1R_M1_System_und_Runtime_SW_REV000; 2R_Test_Configuration_Marine006_REV002;

TÜV SÜD Product Service GmbH: - 14312-52016-01 Ed. 1 dated 13 November 2014; 713051191 dated 2014-11-25;

- 713077298 Rev. 1 dated 2016-02-16; 713079418 dated 2016-04-06; 71392594A Rev. 1 dated 2011-10-14;

- 71392594b dated 2011-09-15; No14,EMC,Interference,TR-713278061-00,Marine012,REV000;

No14,EMC,Interference,TR-14312-24452-01 Ed.2,Marine012,REV000; No7,Vibration,TR,713252021-00,Marine012,REV001;

Treo: - No22,Compass,Safe,Distance,433-22,V1U,Test,Report,Marine012,REV000;

Remarks:

- The equipment fulfils the **EC-Code: 3a3**.

- The EMC requirements for installation on the Bridge and Deck Zones will be fulfilled by the equipment, if the filter acc. to the M-Base V4.xx Operating manual will be used in power supply line.

- The GMP232/x2* module is not to be installed in the bridge and deck zone.

- Drawings of each system configuration is to be sent for approval before installation on board.

- In case of major software modification detailed information and suitable documents are to be submitted to the Society.

HAMBURG January 16, 2023

