



TYPE APPROVAL CERTIFICATE

Certificate No. : MIL39390-AC003 **Initial Approval :** 27th June, 2019
Product : Programmable Logic Controllers
Manufacturer : B&R Industrial Automation GmbH
B&R Strasse 1 5142 Eggelsberg Austria

Product Description : Type : X20 System

" See Appendix 1 "

Approval Condition : " See Appendix 1 "

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification, Steel Ships.

This Certificate is valid until 26th June, 2024

Issued at Busan, Korea on 27th June, 2019



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No (ME19016941332) and certificate No.(MIL39390-AC003).



KOREAN REGISTER OF SHIPPING

*General Manager of
Marine & Ocean Equipment Team*

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
 2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
 3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
 4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Appendix 1

Product Description and/or Approval Condition

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A. Product Description

1. Product Specification

1) Equipment description

X20 System is designed so that it can be connected to standard fieldbuses (with a bus controller) or the remote X2X Link backplane (with a bus receiver).

2) Equipment comprising

- CPU unit : X20CP1xxx, X20CP1xxx-1, X20CP1xxx-RT
X20CP3xxx, X20CP3xxx-1, X20CP0xxx, X20XCxxxx
- Bus controller : X20BCxxxx, X20BCxxxx-10
- Interface : X20IFxxxx, X20IFxxxx-1, X20IFxxxx-2
- Communication : X20CSxxxx
- Bus receiver : X20BRxxxx
- Bus transmitter : X20BTxxxx
- Hub : X20ETxxxx, X20HBxxxx
- Digital input : X20DIxxxx
- Digital output : X20DOxxxx
- Digital input/output : X20RTxxxx
- Digital mix : X20DM9324
- Digital signal processor : X20DSxxxx
- Digital counter : X20DCxxxx
- Analog input : X20AIxxxx, X20AIxxxx-1
- Analog output : X20AOxxxx, X20AIxxxx-1
- Energy metering : X20AP31xx
- Temperature measure : X20ATxxxx

3) Options

- Combination : X20CMxxxx, X20CMxxxx-1
- Motor control : X20MMxxxx
- Potential distributor : X20PDxxxx
- Bus : X20BMxx
- Dummy : X20IF0000, X20ZF000F
- Power supply : X20BBxx, X20PSxxxx
- Terminal block : X20TBxx

4) Accessories

- CPU label : X20ACOSH2.0010
- Legend strip : X20ACOLB2.0100
- Locking clip : X20ACOSC1, X20ACOAX1
- Text tag : X20ACOSH1
- Locking plate : X20ACOSL1(Left), X20ACOSR1(Right)
- Grounding plate : X20ACOSG1
- Shield bracket : X20ACOSFx
- Shield connection clamp : X20ACOSAxx
- End clamp : X20ACORF1
- Tag label : X20ACOMxx
- Labelling tool : X20ACOMT1
- Screw driver : X20ACOSD1

5) Safe logic

- CPU unit : X20SLxxxx, X20SLxxxx
- Digital input : X20SIxxxx
- Digital output : X20SOxxxx
- Digital input/output : X20SRTxxx
- Digital mix : X20SCxxxx
- Digital counter : X20SDxxxx
- Analog input : X20SAxxxx
- Analog temperature : X20STxxxx
- Configurator : X20MKxxxx
- Power supplies : X20SPxxxx

2. Approved Drawings and Documents

1) Drawing & Manual

- X20 system V3.40

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3. Test Reports, etc.

- 1) Environmental & EMC Test
 - C37156-00-00MV, C40223-00-00MV, C42785-00-00FT, C43195-02-00FT
E34466-00-01HP, E34467-00-01HP, E34468-00-01HP, E34469-00-01HP
E37149-00-00MU, E37640-00-01MH, E38921-01-00HM, E40222-00-00VK
E42783-00-00JA, E43194-00-00JA
- 2) Performance Test
 - E34466-00-01HP, E34467-00-01HP, E34468-00-01HP, E34469-00-01HP
E37149-00-00MU, E37640-00-01MH, E38921-01-00HM, E40222-00-00VK
E42783-00-00JA, E43194-00-00JA
- 3) Compass distance Test
 - BSH Nr. 879

B. Approval Condition

1. Application & Limitation

- 1) This Approval is granted on the basis of the test reports and the approved documentation.
- 2) Degree of protection shall be complied with Rule Pt.6 Ch.1 Sec.2 201.2.(5).
- 3) The manufacturer should inform this Society of all kinds of revisions of the equipment. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 4) The product is to be installed as manufacturer's instructions.

2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual Product Certification is not required.

3. Marking

- 1) The product or packing is to be marked with manufacturer name and type designation on a suitable position.
- 2) Coated modules are marking start with the first letter with X20c..

4. Others

- 1) Test condition

Test	Condition	Remark
EMC	All locations including the bridge and deck zone	-
Temperature	+5 ~ +70℃	-
Vibration	Acceleration ±0.7g	-

- 2) Compass safety distance

Type	Standard compass	Steering compass
X20 modules	0.45 m	0.35 m

< End of Certificate >