



TYPE APPROVAL CERTIFICATE

Certificate No. : PAR18847-AC002 **Initial Approval :** 16th July, 2013
Product : Programmable Logic Controller
Manufacturer : Schneider Electric Industries SAS
ZI Carros, 8eme Rue, F-06516, Carros Cedex, France

Product Description : Type : Modicon M340-M580-X80
* Applicant : Schneider Electric Korea Co., Ltd.
189, Seongam-ro, Mapo-gu, Seoul, Korea
* Manufacturing Place :
P.T. Schneider Electric Manufacturing Batam
Batamindo Industrial Park, Block 4 & 208, Batam Island, Indonesia
" 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, IEC 60945.

This Certificate is valid until 15th July, 2023

Issued at Busan, Korea on 13th February, 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 (ME19003631058) and certificate No.(PAR18847-AC002).



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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Product Description : Programmable Logic Controller, Type : Modicon M340, M580 Series, X80

1. Power Supply : 24, 48 V DC, 100 ~ 240 V AC

2. System comprising : ---- Up(M340), Down(M580)

1) CPU Module

BMX P34 1000 (H)	- Processor, 1 channel Modbus
BMX P34 2000	- Processor, 2 channel Modbus
BMX P34 2010	- Processor, Modbus CANopen
BMX P34 20102 (CL)	- Processor, Modbus CANopen and Ethernet
** BMX P34 2020 (H)	- Processor, Modbus Ethernet
BMX P34 2030	- Processor, Ethernet CANopen
BMX P34 20302 (H) (CL)	- Processor, Ethernet CANopen
** BMX P34 20 ITRB	- Processor, 2 channels dedicated to IT business

BME P58 6040 (C)	- Control Processor Unit
BME P58 5040 (C)	- Control Processor Unit
BME P58 4040	- Control Processor Unit
BME P58 4020	- Control Processor Unit
BME P58 3040	- Control Processor Unit
BME P58 3020	- Control Processor Unit
BME P58 2040 (H)	- Control Processor Unit
BME P58 2020 (H)	- Control Processor Unit
BME P58 1020 (H)	- Control Processor Unit
BME H58 6040 (C)	- Control Processor Unit Hot-Standby
BME H58 4040 (C)	- Control Processor Unit Hot-Standby
BME H58 2040 (C)	- Control Processor Unit Hot-Standby
BME H58 4040K	- Control Processor Unit Hot-Standby, bundle
BME H58 2040K	- Control Processor Unit Hot-Standby, bundle

2) Power Supply

** BMX CPS 2000	- Power Supply, standard AC
** BMX CPS 2010	- Power Supply, standard isolated DC
BMX CPS 3020 (H)	- Power Supply, high power isolated 24VDC to 48VDC
** BMX CPS 3500 (H)	- Power Supply, high power AC
BMX CPS 3540 T	- Power Supply, high power AC
BMX CPS 3522 (H)	- Redundant HP 125 VDC Power Supply
BMX CPS 4002 (H)	- Power Supply, redundant, high Power AC
BMX CPS 4022 (H)	- Redundant HP 24-48 VDC Power Supply

3) Digital I/O (X80)

BMX DAI 0814	- Digital input module, 08I, 100...120 Vac
** BMX DAI 0805	- Digital input module, 08I, 220 Vac
** BMX DAI 1602 (H)	- Digital input module, 16I 24VAC/24VDC source
** BMX DAI 1603 (H)	- Digital input module, 16I 48VAC
** BMX DAI 1604 (H)	- Digital input module, 16I, 100VAC to 120VAC
BMX DAO 1605 (H)	- Digital output module, 16Q triacs
** BMX DDI 1602 (H)	- Digital input module, 16I 24VDC sink
BMX DDI 1603 (H)	- Digital input module, 16I 48VDC sink
BMX DDI 1604 T	- Digital input module, 16I 125 V DC sink
BMX DDI 3202 K (H)	- Digital input module, 32I 24VDC sink
BMX DDI 6402 K (H)	- Digital input module, 64I 24VDC sink
** BMX DDM 16022 (H)	- Digital mixed I/O module, 8I 24VDC 8Q transistors source
BMX DDM 16025 (H)	- Digital mixed I/O module, 8I 24VDC 8Q relays
** BMX DDM 3202 K	- Digital mixed I/O module, 16I 24VDC 16Q transistors source
** BMX DDO 1602 (H)	- Digital output module, 16Q transistors source 0.5A
BMX DDO 1612 (H)	- Digital output module, 16Q sink transistors
BMX DDO 3202 K	- Digital output module, 32Q transistors source 0.1A
BMX DDO 6402 K	- Digital output module, 64Q transistors source 0.1A
** BMX DRA 0805 (H)	- Digital relay output module, 8Q isolated relays
** BMX DRA 1605 (H)	- Digital relay output module, 16Q relays
BMX DRA 0804 T	- Digital relay output module, 8Q isolated relays
BMXDRA0815 (H)	- DIG 8Q 125VDC/250VAC ISOLATED RELAYS

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4) Analog I/O (X80)

- ** BMX AMI 0410 (H) - Analog input module, 4 U/I In isolated high speed
- ** BMX AMI 0810 (H) - Analog input module, 8 U/I In Isolated Fast
- ** BMX AMI 0800 - Analog input module, 8 U/I In No Isolated Fast
- BMX AMM 0600 (H) - Analog mixed I/O module, 4 In U/I, 2 Out U/I
- ** BMX AMO 0210 (H) - Analog output module, 2 U/I isolated Out
- ** BMX AMO 0410 (H) - Analog output module, 4 U/I Isolated out
- ** BMX AMO 0802 - Analog output module, 8 Current No Isolated out
- BMX ART 0414 (H) - Analog input module, 4 TC/RTD isolated Inputs
- BMX ART 0814 (H) - Analog input module, 8 TC/RTD isolated Inputs
- ** BME AHI 0812 (H) - Analog input module, 8 current channels (HART)
- ** BME AHI 0412 (C) - Analog output module, 8 current channels (HART)

5) Communication Device

- ** BMX NOE 0100 (H) - Communication module Ethernet 10/100 RJ45
- ** BMX NOE 0110 (H) - M340 Factorycast module
- BMX NOM 0200 (H) - 2 serial link ports
- BMX XBE 1000 (H) - Extension rack module
- ** BMX EIA 0100 - AS-interface module
- BMX NOR 0200 (H) - RTU communication module
- BMX NRP 0200 (C) - Communication with optic fiber
- BMX NRP 0201 (C) - Communication with optic fiber
- BMX CRA 31200 - Communication module IO adapter
- BMX CRA 31200C - Communication module IO adapter
- BMX NOC 0401 - Communication module Ethernet 10/100 RJ45
- BMX NOC 0402 - Communication module Ethernet 10/100 RJ45
- BMX NOC 0301 (C) - Full communication Ethernet
- BMX NOC 0311 (C) - Full FactoryCast Ethernet
- BMX NOC 0321 (C) - NOC Control
- ** BMX PRA 0100 - Peripheral Remote IO Adaptor
- BME NOS 0300 (C) - Ethernet embedded switch
- BME NOP 0300 (C) - M580 IEC 61850 Communication Module
- BME CMX 0100 (H) - CANopen module
- BMX NGD 0100 - Global Data module
- BMX CRA 31210 - Communication module IO adapter
- BMX CRA 31210 (C) - Communication module remote IO adapter

6) Counting and Positioning

- BMX EHC 0200 (H) - Counting module, high speed 2Ch
- BMX EHC 0800 (H) - Counting module, high speed 8Ch
- BMX MSP 0200 - Positioning module (Pulse Output Train)
- ** BMX EAE 0300 (H) - SSI encoder interface
- BMX ERT 1604 T - Time stamping
- BMX ETM 0200 H - Frequency module

7) Backplane & Accessory

- ABE7 CPA 4xx - Wiring block for analog inputs
- ** BMX FC... - Associated Cables
- ** BMX FT... - Associated Cables
- ** BMX FTB 2000 - Terminal block kit, screw 20 std. points
- ** BMX FTB 2010 - Terminal block kit, screw 20 cir. points
- ** BMX FTB 2020 - Terminal block kit, spring 20 points
- ** BMX FTB 2820 - Terminal block kit, spring 28 points
- ** BMX RMS 008MP - Memory card 8Mo
- ** BMX RMS 008MPF - Memory card 8Mo / 8Mo Files
- ** BMX RMS 128MPF - Memory card 8Mb / 128Mo files
- ** BMX RWS B000M - Memory card NOE Web B
- ** BMX RWS C016M - Memory card NOE Web C 16Mo
- ** BMX RWS FC032M - Memory Card 16Mo
- ** BMX XBC xxxK - BusX Cord (xxx=length)
- ** BMX XBP 0400 (H) - Backplane, 4 slots
- ** BMX XBP 0400S - Backplane, 4 slots, NOT extendable, only in pack offer
- ** BMX XBP 0600 (H) - Backplane, 6 slots
- ** BMX XBP 0600S - Backplane, 6 slots, NOT extendable, only in pack offer
- ** BMX XBP 0800 (H) - Backplane, 8 slots
- ** BMX XBP 1200 (H) - Backplane, 12 slots

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|---------------------|--|
| BMX XBP xxxH | - Backplane (xxx = number of slots) |
| BMX XCA USB H018 | - USB cable 1m8 |
| BMX XCA USB H045 | - USB cable 4m5 |
| BMX XEM 010 | - Protective cover |
| BMX XSP 0400 | - Shield bar kit , 4 slots |
| BMX XSP 0600 | - Shield bar kit, 6 slots |
| BMX XSP 0800 | - Shield bar kit, 8 slots |
| BMX XSP 1200 | - Shield bar kit, 12 slots |
| BMX XTS CPS10 | - Connector kit |
| BMX XTS CPS20 | - Connector kit |
| BMX XTS HSC20 | - Connector kit |
| ** TCS GCN... | - Associated Cables |
| ** TCS MCN 3M4... | - Modbus communication cables |
| ** BME XBP 0400 (H) | - Backplane Ethernet, 4 slots |
| ** BME XBP 0800 (H) | - Backplane Ethernet, 8 slots |
| ** BME XBP 1200 (H) | - Backplane Ethernet, 12 slots |
| ** BME XBP 0602 (H) | - Backplane, 6 slots, dual power supplies |
| ** BME XBP 1002 (H) | - Backplane, 10 slots, dual power supplies |
| ** BMX RMS 004GPF | - Memory card 4Go for M580 CPU |
- 8) Pack & Kit (M340, M580)
- | | |
|---------------|--|
| BMX XBE 2005 | - Extension Rack KIT
(2 BMX XBE 1000 ; 1 Cable BMX XBC 008K ; 1 TSX TLY EX) |
| BMX PAM 48000 | - M340 PACK alternative current, Digital 32 In 16 Out |
| BMX PAM 48200 | - M340 PACK alternative current, Digital 32 In 16 Out, 2 free slots |
| BMX PDM 48000 | - M340 PACK DC current, Digital 32 In 16 Out |
| BMX PDM 48200 | - M340 PACK DC current, Digital 32 In 16 Out, 2 free slots |
| BMX PDM 64100 | - M340 PACK DC current, Digital 32 In 32 Out, 1 free slot |
- 9) Safety (M340, M580)
- | | |
|-------------|--|
| BMEP584040S | - Safety processor |
| BMEP582040S | - Safety processor |
| BMEP58CPRS3 | - Safety processor |
| BMXCPS4002S | - Safety power supply 100...240 Vac |
| BMXCPS3522S | - Redundant HP 24-48 VDC Power Supply |
| BMXSAI0410 | - Safety analogic inputs, 4 ch 4-20mA |
| BMXSDI1602 | - Safety digital inputs, 16 ch 24Vdc |
| BMXSDO0802 | - Safety digital outputs, 8 ch, 0.5A, 24Vdc |
| BMXSRA0405 | - Safety digital outputs, 4 ch, 5A, 24Vdc/230Vac |
- (H) : Model No. may be followed by "H" for Harsh Environment.
The Harsh offer allows Modicon M340 use in severe environment :
- Chemical aggressive substances ; products are tested according to :
 - IEC/EN 60721-3-3 classes 3C1R up to 3C3
 - ISA S71.04 classes G1 up to G3
 - IEC/EN60068-2-52 salt mist, test Kb level 2
 - Exposed at climatic aggressive environment :
 - Temperature : -25° C up to 70° C
 - Relative humidity : 93-95% and 25° c up to 70° C
 - Icing
 - Altitude up to 5000m
- (C) : Model No. may be followed by "C" when coated boards
(CL) : Model No. may be followed by "CL" when without SD memory Card
- Note : Able to start in the temperature interval [-25° C, 70° C], a monorack configuration can work at -40° C if it incorporated in an appropriated enclosure.

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2. Documentation :

1) Environmental Test reports :

0509S01C, 0512S02C, 0514S01C, 0509S13V, 0509S18V, 0512S01V, 0514S09V, 0509S14V, 0509S20V, 0512S05V, 0512S11V, 0512S15V, 0514S03V, 0514S15V, 0509S15V, 0514S04V, R0604083C1~C6-E, 0509S09V, 0509S10V, 0509S11V, 0512S07V, 0512S08V, 0512S009V, 0514S05V, 0514S06V, 0514S07V, 2007-0171-00A^05A, 0509S03V, 0509S05V, 0509S06V, 0512S03V, 0512S14V, 0514S01V, 0605S01C, 0605S05V, 0605S07V, 0605S08V, 0605S11V, 0605S12V, 0605S13V, 0605S16V, 0605S18V, 0605S22E, 0610S01C, 0610S03V, 0610S04V, 0610S05V, 0610S06V, 0610S08V, 0610S09V, 0610S12V, 2007-0958-01A, 200800583_001, 4850008401100, R0708303C2-E, R0804140C1-E-C, 0803S01C, 0803S01V, 0803S02C, 0803S02V-01, 0803S03C, 0803S03V, 0803S04C, 0803S04V, 0803S05C, 0803S05V, 0803S06V, 0803S07V, 0803S08V, 0803S09V, 0803S10V, 0803S11V, 0803S12V, 0803S14E, 0803S15E, 0803S16V, 0803S17V, 0803S18V, 0803S19V, 0803S20V, 0803S21V, 0803S22V, 0803S23V, 0803S24V, 0803S25V, 0803S26E, 0803S27V, 0803S28V, A10-002-WT-01, 0911M01V, 0911M02V, 0911M03V, 0911M04V, 0000578237, 0000278250, 0000580321, 0000580324, 0000580332, 0000580337, 0000584335, 0000584337, 0000584338, 0000584339, 0000584340, 0000584341, A09-001-WT1, A09-061-WT-01,

0512S06V, 0514S14V, A10-002-WT-01, A11-040-WT, 1106S08V, 1106S09V, 1106S10V, 1106S12V, 1306S01V, 1306S02V, 1306S03V, 1306S04V, 1306S05V, 1306S06V, 1306S07V, PTS_BMXEAE_jun11, TF-045-001, 055Q-EN, 201305-041, 201305-061, 201305-071, 201305-081, 201305-441, 201306685, ET2013-11-602, PTS_M340_high_dens&Ext_temp_mars2017, PTS_M340_M580_L1.1_L1.2_MAR2015, PTS_M340_P SX_RIO_1.5_jan2013, PTS_M340_Rugg_BMX-H_jul2012, R1203121C2-E-C-A1, R1203121C4-E-C-A1, R1210386C2-E-C, R1210386C4-E-C, R1306187C6-E-C-A1, NVE4157500_01, NVE4157500_04, QGH9327300_01

2) Technical Specification :

35011715_E53000, 35011891_E53000, 35011812_E53000, M340-2011 Catalogue, M340 User Manual, DIA6ED2151012EN, DIA6ED2110104EN, DIA6ED2131203EN, DMDI3126E, DMDI3182E, M580 Catalogue, X80 Guide

3. Approval Condition :

- 1) This approval is granted on the basis of the test reports and approved documents.
- 2) The product or packing is to be marked with manufacturer name and type designation on a suitable position.
- 3) Individual Product Certification is not required.
- 4) Only ** Products can be installed inside of bridge.
Except for the the products, when they are to be installed in the vicinity of a standard or a steering magnetic compass, it should have the minimum safe distance 5 m or more at which it may be mounted from such compasses.

< End of Certificate >