



Marine &amp; Offshore

Certificate number: 19904/C1 BV

File number: AP 3844

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*

**SCHNEIDER ELECTRIC FRANCE - CARROS**  
CARROS - FRANCE

*for the type of product*

**PROGRAMMABLE LOGIC CONTROL UNITS**  
Modicon M340 - M580 - X80, Automation Platform

### Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

*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: 18 Jul 2022**

**For Bureau Veritas Marine & Offshore,**

At BV LYON, on 07 Jan 2019,

Florian Aulen



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](http://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.

The electronic version is available at: <http://www.veristarm.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=oefielhukz>

BV Mod. Ad.E 530 June 2017

This certificate consists of 7 page(s)

## THE SCHEDULE OF APPROVAL

### 1. PRODUCT DESCRIPTION:

**Modicon M340 - M580 - X80 Automation Platform**

#### 1.1 Product Range:

Product references	Description
<b>CPU</b>	
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 PRA 0100	Peripheral Remote IO Adaptor
BMX P34 20 ITRB	Processor, 2 channels dedicated to IT business
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 P58 5040 (C)	Control Processor Unit
BME P58 6040 (C)	Control Processor Unit
BME H58 6040 (C)	Control Processor Unit Hot-Standby
BME H58 4040 (K) (C)	Control Processor Unit Hot-Standby
BME H58 2040 (K) (C)	Control Processor Unit Hot-Standby
<b>Power Supply</b>	
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 4002 (H)	AC Power supply
BMX CPS 4022	Redundant HP 24-48 VDC Power Supply
BMX CPS 4022 H	Redundant HP 24-48 VDC Power Supply
BMX CPS 3522	Redundant HP 125 VDC Power Supply
BMX CPS 3522 H	Redundant HP 125 VDC Power Supply
<b>Digital I / O</b>	
BMX DAI 0814	Digital input module, 08I, 100... 120Vac
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 DAI 0805	Digital input module, 08I, 220 Vac
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 (KH)	Digital input module, 32I 24VDC sink
BMX DDI 6402 K (KH)	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 (KC)	Digital output module, 32Q transistors source 0.1A
BMX DDO 6402 K (KC)	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
BMX DAI 1614	DIG 16X1 SUPERVISED IN 100 TO 120 VAC
BMX DAI 1614H	H DIG 16X1 SUPERVISED IN 100 TO 120 VAC
BMX DAI 1615	DIG 16X1 SUPERVISED IN 200 TO 240 VAC

<b>Digital I / O (continue)</b>	
BMX DAI 1615H	H DIG 16X1 SUPERVISED IN 200 TO 240 VAC
BMX DAO 1615	DIG 16X1 TRIAC OUT 24 TO 240 VAC
BMX DAO 1615H	H DIG 16X1 TRIAC OUT 24 TO 240 VAC
BMX DRA 0815	DIG 8Q 125VDC/250VAC ISOLATED RELAYS
BMX DRA 0815H	H DIG 8Q 125VDC/250VAC ISOLATED RELAYS
BMX DRC 0805	DIG 8NO/NC 125VDC/250VAC ISOLATED RELAYS
BMX DRC 0805H	H DIG 8NO/NC 125VDC/250VAC ISOLATED RELAYS
<b>Analog I / O</b>	
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 AMO 0802 H	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 AHO 0412 (C)	Analog ouput module 8 current channels (HART)
<b>Communication device</b>	
BMX NOE 0100 (H)	Communication module Ethernet 10/100 RJ45
BMX NOE 0110 (H)	M340 Factorycast module
BMX NOC 0401	Communication module Ethernet 10/100 RJ45
BMX NOC 0402	Communication module Ethernet 10/100 RJ45
BME NOC 0301 (C)	Full communication Ethernet
BME NOC 0311 (C)	Full FactoryCast Ethernet
BME NOC 0321(C)	Communication module
BMX NOM 0200 (H)	2 serial link ports
BMX XBE 1000 (H)	Extension rack module
BMX EIA 0100	AS-interface module
BMX NGD 0100	Communication module
BME NOS 0300 (C)	Communication 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 31210 (C)	Communication module IO adapter
BME CRA 31210 (C)	Communication module remote IO adapter
BME CXM 0100 (H)	Communication module
BME NOP 0300 (C)	Communication module
<b>Special modules</b>	
<b>Counting &amp; Positioning</b>	
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)	Counting module
<b>Backplane &amp; accessory</b>	
ABE7 CPA xxx	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 004GPF	4Go Memory card for M580 CPU
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

<b>Backplane &amp; accessory (continue)</b>	
BMX XBP 0400 (H)	Backplane, 4 slots
BMX XBP 0602 (H)	Backplane, 4 slots, NOT extendable, only in pack offer
BMX XBP 0600 (H)	Backplane, 6 slots
BMX XBP 0800 (H)	Backplane, 8 slots
BMX XBP 1002 (H)	Backplane Ethernet, 8 slots, dual power supplies
BMX XBP 1200 (H)	Backplane, 12 slots
BME XBP 0400 (H)	Backplane Ethernet, 4 slots
BME XBP 0800 (H)	Backplane Ethernet, 8 slots
BME XBP 1200 (H)	Backplane Ethernet, 12 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 CCN...	Associated Cables
TCS MCN 3M4...	Modbus communication cables
490 NAC 0100	RJ45 Dongle for M580 Hot Standby CPU
490 NAC 0201	LC Dongle for M580 Hot Standby CPU
BMXFTB4000	CAGED TERMINAL STRIP 40 POINTS
BMXFTB4020	SPRING TERMINAL STRIP 40 POINTS
BMXFTW305	FTB 40 WIRE 3M CABLE
BMXFTW505	FTB 40 WIRE 5M CABLE
<b>PACK &amp; KIT</b>	
BMX XBE 2005	Extension Rack KIT (2 BMX XBE 1000 ; 1 Cable BMX XBC 008K ; 1 TSX TLY EX)
<b>Safety</b>	
BME P58 4040S	Safety processor
BME P58 2040S	Safety processor
BME P58 CPROS3	Safety coprocessor
BMX CPS 4002S	Safety power supply 100...240 Vac
BMX CPS 3522S	Redundant HP 125 VDC Power Supply
BMX CPS 4022S	Redundant HP 24-48 VDC Power Supply
BMX SAI 0410	Safety analogic inputs, 4 ch 4-20mA
BMX SDI 1602	Safety digital inputs, 16 ch 24 Vdc
BMX SDO 0802	Safety digital outputs, 8 ch 0,5 A, 24 Vdc
BMX SRA 0405	Safety digital outputs, 4 ch, 5 A, 24Vdc/230Vac
BME H58 4040S	Control Processor Unit Hot-Standby
BME H58 2040S	Control Processor Unit Hot-Standby
BME H58 6040S	Control Processor Unit Hot-Standby

**Note:** (CL) : models n° may be followed by "CL" when without SD memory Card, (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): models N°. may be followed by "C" when coated boards.

Accessories, cables, connectors, taps, memory cards (BMXFTB..., BMXRMS..., 490NAC...) also tested with related products in a system configuration.

**2. DOCUMENTS AND DRAWINGS:**

Catalogue: “ Modicon M340 Automation Platform ” - ref.: Modicon M340 DIA6ED2110104 EN ed. January 2011.  
Modicon M580 DIA6ED2131202EN, ed. January 2014.

**For C0 version:**

Modicon M580 ref. DIA6ED2131202EN, ed. Sept 2016.  
Modicon X80 I/O platform ref. DIA6ED2131203EN, ed. January 2016.  
Modicon M340 ref. DIA6ED2110104EN, ed. September 2014.  
Instruction sheet ref. NHA3301400, dated 20 Jun 2016.

**For C1 version:**

Modicon M580 ref. DIA6ED2131202EN, dated July 2018.  
Modicon X80 I/O platform ref. DIA6ED2131203EN, dated April 2018.  
Instruction sheet ref. NHA3301400\_07, dated June 2018.

**3. TEST REPORTS:**

Schneider Groupe Laboratory recognized by Bureau Veritas.

Qualification Synthesis Report & Tests Configurations/Programs	EMC Test reports	Mechanical and climatic Test reports	Electrical safety test reports
35015029 P07 001 02	0509S13V	0509S09V	0509S03V
0514S01C	0509S18V	0509S10V	0509S05V
0512S02C	0512S01V	0512S07V	0509S06V
0509S01C	0514S09V	0512S08V	0512S03V
0605S01C	0509S14V	0514S05V	0514S01V
0610S01C	0509S20V	0514S06V	0512S14V
0605S07V	0512S05V	0509S11V	0605S01V
0610S09V	0512S11V	0512S09V	0605S18V
A09-061-WT-01	0512S15V	0514S07V	0911M01V
A10-002-WT-01	0514S03V	2007-0171-00-A	0911M02V
A09-001-WT1	0514S15V	2007-0171-01-A	0911M03V
0803S01C	0509S15V	2007-0171-02-A	0911M04V
0803S02C	0512S06V	2007-0171-03-A	A09-061-WT-01
0803S03C	0514S04V	2007-0171-04-A	A10-002-WT-01
0803S04C	R0604083C1-E-C	2007-0171-05-A	0803S08V
0803S05C	R0604083C2-E-C	0605S13V	0803S07V
1306S01C	R0604083C3-E-C	0610S04V	0803S04V
	R0604083C4-E-C	0610S05V	A09-001-WT1
	R0604083C5-E-C	0605S16V +	0803S01V
	R0604083C6-E-C	2007-0958-01-A	0803S02V-01
	0605S11V	0610S06V +	0803S03V
	0610S08V	200800583-001	0803S04V
	0605S07V	0605S12V	0803S06V
	0610S09V	0000580340	0803S12V
	0610S12V	A09-061-WT-01	1106S14V
	0605S08V+06022E +	A10-002-WT-01	1306S01V
	R0708303C2-E	A09-001-WT1	
	0610S03V +	0000578237	
	4850008401100 +	0000584340	
	R0804140C1-E-C	0803S28V	
	0803S09V	0803S11V	
	0803S16V	0803S19V	
	0803S23V,	0803S21V	
	A09-061-WT-01	0803S14E	
	A09-001-WT1	0803S15E	
	1106S08V	1106S10V	
	201202_081	0000580324	
	0803S10V	0000584341	
	0000580321	A09-061-WT-01	
	A09-061-WT-01	A10-002-WT-01	
	A10-002-WT-01	A09-001-WT1	
	0803S17V	1106S12V	

	A09-001-WT1 1106S06V 0803S22V 0803S26V 0803S25V 0803S27V 0000580332 A09-061-WT-01 A10-002-WT-01 A09-001-WT1 0000580340 1106S09V 1306S02V 1306S03V 1306S04V 201305-081 ET2013-11-602 201305-41 201305-441	201202815_001_V1 201202818_001_V1 1306S05V 1306S06V 1306S07V 201305-71 201305-61	
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**For C0 version:****Schneider Electric:**

- Product test synthesis ref. EAV5002500 02, dated 29 May 2015.
- Product test synthesis ref. NVE4157400 02, dated 03 Nov 2016.

**For C1 version:****Schneider Electric:**

- Product test synthesis ref. PTS\_M340\_M580\_IO\_HV, dated 27 Jul 2018.
- Product test synthesis ref. PTS\_M340\_M580\_L2\_G2\_HSBY, dated 03 Jul 2017.
- Product test synthesis ref. PTS\_M580\_ISAFETY, dated 20 Aug 2018.

Tests Configurations	EMC Test reports	Mechanical and climatic Test reports
1708S01C	1708S10V	1806S06V
1806S01C	1708S11V	1806S05V
1701S02C	1803S02V	1803S04V
1603S01C	1806S02V	1708S13V
1603S02C	1708S12V	201705296_001
1806S01C	1803S03V	201705297_001
	R1702071C2-E-C	201705298_001
	R1702071C5-E-C	1701S06V
	R1702071C8-E-C	1701S11V
	R1702071C11-E-C	1603S14V
	R1702071C14-E-C	1603S04V
	R1702071C17-E-C	1603S16V
	1701S04V	1603S09V
	1701S05V	1806S07V
	1701S08V	201803215_001
	1701S10E	
	1603S10V	
	1806S01V	
	1603S11V	
	1603S03V	
	1603S12V	
	1603S13E	
	1603S08E	
	1806S10E	
	1806S03V	
	R1803137C3-E-C	
	R1803137C6-E-C	
	R1803137C9-E-C	

**4. APPLICATION / LIMITATION:**

- 4.1 - Each application and configuration is to be submitted to the Society's examination prior to fitting on board.
- 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 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.
- 4.4 - For Marine Application the input and output circuits shall be supplied from a separate power supply(ies) whose output wiring including those between the I/O modules and field devices, shall not be grounded, except through any high impedance protective or fault detection circuit which may be fitted.
- 4.5 - For Marine Application , Connecting DC power supply modules are to be supplied by a floating 24V (or 48V) DC supply network. An external device, like an Earth Leakage Detector, is to be fitted so as to measure permanently the isolation between 24V (or 48V) and Earth ground in order to give an alarm when the isolation level is too low.
- 4.6 - The machinery protection based on data processing techniques is to be duplicated by another and different system.
- 4.7 - Only Hardware and Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.
- 4.8 - In order to lower the radiated emissions, the equipment listed in clause I shall be fitted in appropriate shielded cabinets and used with screened cables.

**5. PRODUCTION SURVEY REQUIREMENTS:**

- 5.1 - The above products are to be supplied by **SCHNEIDER ELECTRIC** 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 - **SCHNEIDER ELECTRIC** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products .
- 5.4 - For information, **SCHNEIDER ELECTRIC** has declared to Bureau Veritas the following production site(s):

**SCHNEIDER ELECTRIC**  
**8ème Rue**  
**ZI de Carros**  
**BP 147**  
**06516 CARROS Cedex**  
**FRANCE**

**PT SCHNEIDER ELECTRIC MFG BATAM**  
**BATAM INDUSTRIAL PARK**  
**BLK 1, 4 & 208 MUKAKUNING**  
**BATAM RIAU**  
**29433**  
**INDONESIA**

**6. MARKING OF PRODUCT:**

- 6.1 - Maker's name or trade mark.  
 - Catalogue Number and Serial Number.  
 - Equipment type number or model identification under which it was type-tested.
- 6.2 - Alternatively, the marking may be presented on a display at equipment start-up.
- 6.3 - The title and version of each software element included in the installed software system shall be either marked or displayed on command on the equipment.
- 6.4 - When the marking and the title and version of the software are displayed only on the display, such information shall also be included in the equipment manual.

**7. OTHERS:**

- 7.1 - It is **SCHNEIDER ELECTRIC** responsibility 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° 19904/C0 BV issued on 18 Jul 2017 by the Society.

\*\*\* END OF CERTIFICATE \*\*\*