

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
XV-102, XV-303, XV-313, XC-152, XP-503

Issued to

Eaton Automation GmbH
St. Gallen SG, Switzerland

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Type	Temperature	Humidity	Vibration	EMC	Enclosure
XV-102	B	B	A	B*	**
XV-303, XV-313	B	B	A	B*	**
XC-152	B	B	A	B*	**
XP-503	B	B	A	B*	**

* **Filters / Ferrites maybe required to fulfil B. Marine Application Notes are to be observed.**

****Required protection acc. to DNV-GL Rules shall be provided upon installation on board**

This Certificate is valid until **2021-08-28**.

Issued at **Hamburg** on **2016-08-29**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

HMI/PLC Touch-Panel **XV-102-bb-cc-d-e-f**

-bb configuration variant

b (1st digit):

- b=A: Basic configuration (without NVRAM, without USB-H)
- b=B: Basic configuration, with NVRAM, without USB-H
- b=C: Basic configuration, with NVRAM, with USB-H
- b=D: Basic configuration, with NVRAM, with USB-H, with RS232 on mainboard
- b=E: Basic configuration, with NVRAM, with USB-H, (without RS232 on mainboard), with SW-DT Master
- b=F: Basic configuration, with NVRAM, with USB-H, with 128MB RAM
- b=G: Basic configuration, see F with RS485 interface on mainboard
- b=H: Basic configuration, HMI only: Basic config.(3.5" without USB-H, 5.7"/7" with USB-H), no PLC
- b=Y: BreakerVisu, Basic configuration alike B, pre-programmed PLC (deviating Target-ID)
- b=Z: BreakerVisu, Basic configuration alike E, pre-programmed PLC (deviating Target-ID)

b (2nd digit):

- | | |
|---|--------------------------|
| 0 | No additional interfaces |
| 1 | 1 x CAN |
| 2 | 1 x MPI/DP-M |
| 3 | 1 x RS232 |
| 4 | 1 x RS485 |
| 5 | 1 x CAN & 1x RS232 |
| 6 | 1 x CAN & 1x RS485 |
| 7 | 1 x MPI/DP-M & 1x RS232 |
| 8 | 1 x MPI/DP-M & 1x RS485 |
| 9 | 1 x CAN & 1 x MPI/DP-M |
| A | 1 x RS485/RS422 |
| B | 2 x CAN isolated |
| C | 1 x RS485 isolated |
| E | 1 x SW-DT (SmartWire DT) |

-cc: Display size:

- | | |
|----|------|
| 35 | 3,5" |
| 57 | 5,7" |
| 70 | 7,0" |

-d: T: TFT Colour, M : TFT Monochrome

-e: Resolution, Q : 320x240, V :640x480, W: (800x480)

-f : Touch technology, R : resistive.

Additional suffixes describe SW licenses, mechanical / mounting features and customer specific variants

HMI/PLC Touch-Panel **XV-303-ef-ghi** (Front-Mount)
(XV-313: same as XV-303, but Rear-Mount)

-ef: Display size:
70 7"
10 10"

-ghi:

g: Mainboard configuration

- B Base model with 1 Ethernet, 1xUSB-Device, 1xUSB-Host, 1xRS232, 1xRS485, 1xCAN, 1xSD-Card slot, i.MX6 Solo 800MHz, 512MB RAM, 1GB SLC, 128kB NVRAM, 24VDC
- C Base model with 2 Ethernet, 1xUSB-Device, 1xUSB-Host, 1xRS232, 1xRS485, 1xCAN, 1xSD-Card slot, i.MX6 Solo 800MHz, 512MB RAM, 1GB SLC, 128kB NVRAM, 24VDC

h: Hardware option 1: Digit shows configuration of 1st interface module (see below)

i: Hardware option 2: Digit shows configuration of 2nd interface module (see below)

- 0 No additional interfaces
- 1 1 x CAN
- 2 1 x MPI/DP-M
- 3 1 x RS232
- 4 1 x RS485
- 5 1 x CAN & 1x RS232
- 6 1 x CAN & 1x RS485
- 7 1 x MPI/DP-M & 1x RS232
- 8 1 x MPI/DP-M & 1x RS485
- 9 1 x CAN & 1 x MPI/DP-M
- A 1 x RS485/RS422
- B 2 x CAN isolated
- C 1 x RS485 isolated
- E 1 x SW-DT (SmartWire DT)

Additional suffixes describe SW licenses, mechanical / mounting features and customer specific variants

Compact PLC **XC-152-de**

-d: board features

D: Basic, with NVRAM, with USB-H, with RS232

E: Basic, with NVRAM, with USB-H, with SWD Master

-e: additional ports

- 0 No additional interfaces
- 1 1 x CAN
- 2 1 x MPI/DP-M
- 3 1 x RS232
- 4 1 x RS485
- 5 1 x CAN & 1x RS232
- 6 1 x CAN & 1x RS485
- 7 1 x MPI/DP-M & 1x RS232
- 8 1 x MPI/DP-M & 1x RS485
- 9 1 x CAN & 1 x MPI/DP-M

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Certificate No: **TAA00000NC**

A 1 x RS485/RS422
B 2 x CAN isolated
C 1 x RS485 isolated

Power Supply : 24V DC

Additional suffixes describe SW licenses, mechanical / mounting features and customer specific variants

Industrial Touch PC **XP-503-ef-g**

-ef: Display size:
10 10"
15 15"
21 21"

-g:
A Base model with AMDGX217 Dual Core CPU

Power Supply : 24V DC

Additional suffixes describe RAM and mass-storage, SW licenses, mechanical / mounting features and customer specific variants

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Type Approval documentation

Tests carried out

Applicable tests according to class guideline DNV GL CG-0339, 2015.

Marking of product

Products are marked with the manufacturer, type designation based on type key, serial number and power supply specification.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
 - Inspection of factory samples, selected at random from the production line (where practicable)
 - Review of production and inspection routines, including test records from product sample tests and control routines
 - Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
 - Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
 - Ensuring traceability between manufacturer's product type marking and the type approval certificate
- Periodical assessment is to be performed at least every second year and at renewal of this certificate.

END OF CERTIFICATE