179658
XV-303-70-CE2-A00-1C

Overview | Specifications | Resources

Delivery program
Technical data
Design verification as per IEC/EN 61439
Technical data ETIM 7.0
Approvals
Dimensions

DELIVERY PROGRAM

Product range
XV300 7"

Product range
XV-303

Subrange
SmartWire-DT touch display with integrated controller (HMI PLC)

Function
SmartWire-DT coordinator

Description
XV300 multi touch display with PLC function for flush mounting plates

Description
Control panel with PLC as a SmartWire-DT coordinator with PROFIBUS and 2nd Ethernet port

Common features of the model series

Ethernet interface
CAN
USB device
USB Host
RS232
RS485
Slot for SD card
Operating System Windows Embedded Compact 7
pro
Integrated Runtime visualization software license

Display - Type
Color display, TFT, anti-glare

Touch-technology
Capacitive multi-touch technology (PCT)

Number of colours
16777216 (Color depth 24 bit)

Resolution
WSVGA
1024 x 600 Pixel

Portrait format
yes

Screen diagonal
7
widescreen Inch

Model
Plastic enclosure and glass panel in plastic frame

Operating system
Windows Embedded Compact 7 Pro

PLC-licence
PLC licence inclusive

License certificates for onboard interfaces
Not required

built-in interfaces
2 x Ethernet 10/100 Mbps
1 x RS232
1 x RS485
1 x USB host 2.0
1 x USB device

1 x CANopen®/easyNet
1 x PROFIBUS/MPI
1 x SmartWire-DT

Front type
Anti-glare tempered glass in plastic bezel

Utilization
Flush mounting

Slots
for SD card: 1

Memory card automation
Optionally with SD card -> article no. 181638

Pluggable communication cards (optional)
no

Touch sensor
Multi-touch touch panel

Heat dissipation
14.4 W

Connection to SmartWire-DT
yes

TECHNICAL DATA

Display

Display - Type
Color display, TFT, anti-glare

Screen diagonal
7
widescreen Inch

Resolution
WSVGA
1024 x 600 Pixel

Visible screen area
153.6 x 90.0 mm

Format
16:9

Number of colours
16777216 (Color depth 24 bit)

Contrast ratio (Normally)
Normally 850:1

Brightness
Normally 400 cd/m²

Back-lighting
LED
dimmable via software

Service life of back-lighting
Normally 50000 h

Operation

Technology
Projected Capacitive Touch (PCT)

Touch sensor
Multi-touch touch panel

System

Processor
ARM Cortex-A9 800 MHz

Internal memory
DRAM: 512 MB RAM
Flash: 1GB SLC
NVRAM: 128kB Retain

External memory
SD card, Type: SDSC, SDHC

Cooling
Fanless CPU and system cooling, natural convection-based passive cooling

Back-up of real-time clock
Battery (service life)
non-replaceable, BR2330 soldered in

Back-up of real-time clock
Backup (time at zero voltage)
Normally 10 years

Engineering

Visualisation software
GALILEO
XSOFT-CODESYS

PLC-Programming software
XSOFT-CODESYS-2
XSOFT-CODESYS-3

Target and web visualization
Yes

PLC-licence
PLC licence inclusive

Operating system
Windows Embedded Compact 7 Pro

Interfaces, communication

built-in interfaces
2 x Ethernet 10/100 Mbps
1 x RS232
1 x RS485
1 x USB host 2.0
1 x USB device
1 x CANopen®/easyNet
1 x PROFIBUS/MPI
1 x SmartWire-DT

USB Host
USB 2.0, not galvanically isolated

USB device

USB 2.0, not galvanically isolated

RS-232
Not galvanically isolated, 9-pin D-sub plug, UNC

RS-485
Not galvanically isolated, 9-pin D-sub plug, UNC

CAN
Not galvanically isolated, 9-pin D-sub plug, UNC

Profibus
PROFIBUS-DP, not galvanically isolated, 9 pole
SUB-D socket, UNC

Slots
for SD card: 1

SmartWire-DT master
Yes

Ethernet
10/100 Mbps

MPI
Yes

Power supply

Nominal voltage
24 V DC SELV (safety extra low voltage)

permissible voltage
Effective: 19.2-30.0 V DC (rated operating voltage -20%/+25%)
Absolute with ripple: 18,0-31,2 V DC
Battery powered: 18,0-31,2 V DC (rated operating voltage -25%/+30%)
35 V DC for a duration of < 100 ms

Voltage dips
≤ 10 ms from rated voltage (24 V DC)
5 ms from undervoltage (19.2 V DC) ms

Power consumption [P_{max}]
14.4 W

Power consumption
Normally 14 W

Heat dissipation
14.4 W

Note on heat dissipation
Heat dissipation with power consumption for 24 V
11.9 W for basic device + 2.5 W for USB module

Protection against polarity reversal
yes

Type of fuse
Yes (fuse not accessible)

Potential isolation
no

General

Housing material
Insulated material black

Front type
Anti-glare tempered glass in plastic bezel

Dimensions (W x H x D)
196 x 135 x 51 mm

flush mounted
Clearance: W x H x D ≥ 30 mm (1.18")
Inclination from vertical: ±45° (if using natural convection)

Weight
0.74 kg

Degree of protection (IEC/EN 60529, EN 50178, VBG 4)
IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1)
NEMA 4X
NEMA 12 (as per NEMA 250-2003)

Approvals
Approvals
cUL 61010-2-201

Approvals
shipping classification
DNV GL

Approvals

Applied standards and directives
EMC
2004/108/EEC

Applied standards and directives
Emitted interference
IEC/EN 61000-6-4

Applied standards and directives
Interference immunity
IEC/EN 61000-6-2

Applied standards and directives
Product standards
EN50178/IEC/EN 61131-2

Mechanical shock resistance
15g / 11ms g

Vibration
5...9 Hz +- 3.5 mm
9...60 Hz +- 0.15 mm
60…150 Hz ± 2 g

Free fall, packaged
IEC/EN 60068-2-31 m

RoHS
conform

Environmental conditions

Climatic environmental conditions
Climatic proofing
Cold to EN 60068-2-1
Dry heat to IEC 60068-2-2
Damp heat as per EN 60068-2-3

Climatic environmental conditions
Air pressure (operation)
795 - 1080 hPa

Temperature
Storage / Transport [ϑ]
-20 - +60 °C

Temperature
Operating ambient temperature min.
0 °C

Temperature
Operating ambient temperature max.
+50 °C

Relative humidity
Condensation
Non-condensing

Relative humidity
Relative humidity
10 - 95%, non-condensing

Supply voltage U_{Aux}

Rated operational voltage [U_{Aux}]
24 V DC (-15/+20%) V

Residual ripple on the input voltage
□ 5 %

Protection against polarity reversal
Yes

Max. current [I_{max}]
3 A

Note
If contactors with a total power consumption > 3 A

are connected, a power feeder module EU5C-SWD-PF1/2 has to be used.

Short-circuit rating
no, external fuse FAZ Z3

Potential isolation
No

Rated operating voltage of 24-V-DC slaves
typ. U_{Aux} - 0.2 V

Supply voltage U_{Pow}

Supply voltage [U_{Pow}]
24 DC -15 % + 20 % V

Input voltage ripple
□ 5 %

Protection against polarity reversal
yes

Rated current [I]
0.7 A

Overload proof
yes

Inrush current and duration
12.5 A/6 ms A

Heat dissipation at 24 V DC
1.0 W

Potential isolation between U_{Pow} and 15 V SmartWire-DT supply voltage
No

Bridging voltage dips
10 ms

Repetition rate
1 s

Status indication
yes LED

SmartWire-DT supply voltage

Rated operating voltage [U_e]
14.5 ± 3 % V

max. current [I_{max}]
0.7 A

Note
If SmartWire-DT modules with a total power consumption > 0.7 A are connected, a power feeder module EU5C-SWD-PF2 has to be used.

Short-circuit rating
Yes

Connection supply voltages

Connection type
Push in terminals

Solid
0.2 - 1.5 mm^2

Flexible with ferrule
0.25 - 1.5 mm^2

UL/CSA solid or stranded
24 - 16 AWG

SmartWire-DT network

Station type
SmartWire-DT master

Number of SmartWire-DT slaves
99

Baud Rates

125
250 kBd

Address allocation
automatic

Status indication
SmartWire-DT master LED: red/green
Configurations LED: red/green

Connections
Plug, 8-pole

Plug connector
Blade terminal SWD4-8MF2

DESIGN VERIFICATION AS PER IEC/EN 61439

Technical data for design verification

Rated operational current for specified heat dissipation [I_n]
0 A

Heat dissipation per pole, current-dependent [P_{vid}]
0 W

Equipment heat dissipation, current-dependent [P_{vid}]
0 W

Static heat dissipation, non-current-dependent [P_{vs}]
14.4 W

Heat dissipation capacity [P_{diss}]
0 W

Operating ambient temperature min.
0 °C

Operating ambient temperature max.
+50 °C

Degree of Protection
IP65 (in the front as per EN 60529-1), IP20 (on rear as per EN 60529-1)
NEMA 4X

IEC/EN 61439 design verification

10.2 Strength of materials and parts
10.2.2 Corrosion resistance
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.1 Verification of thermal stability of enclosures
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.2 Verification of resistance of insulating materials to normal heat
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects
Meets the product standard's requirements.

10.2 Strength of materials and parts
10.2.4 Resistance to ultra-violet (UV) radiation
Please enquire

10.2 Strength of materials and parts
10.2.5 Lifting
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts
10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts
10.2.7 Inscriptions
Meets the product standard's requirements.

10.3 Degree of protection of ASSEMBLIES
Meets the product standard's requirements.

10.4 Clearances and creepage distances
Meets the product standard's requirements.

10.5 Protection against electric shock
Does not apply, since the entire switchgear needs to be evaluated.

10.6 Incorporation of switching devices and components
Does not apply, since the entire switchgear needs to be evaluated.

10.7 Internal electrical circuits and connections
Is the panel builder's responsibility.

10.8 Connections for external conductors
Is the panel builder's responsibility.

10.9 Insulation properties
10.9.2 Power-frequency electric strength
Is the panel builder's responsibility.

10.9 Insulation properties
10.9.3 Impulse withstand voltage
Is the panel builder's responsibility.

10.9 Insulation properties
10.9.4 Testing of enclosures made of insulating material
Is the panel builder's responsibility.

10.10 Temperature rise
The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.

10.11 Short-circuit rating
Is the panel builder's responsibility.

10.12 Electromagnetic compatibility
Is the panel builder's responsibility.

10.13 Mechanical function
The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

TECHNICAL DATA ETIM 7.0

PLC's (EG000024) / Graphic panel (EC001412)

Electric engineering, automation, process control engineering / Display and control component / Panel (HMI) / Graphic panel (HMI) (ecl@ss10.0.1-27-33-02-01 [AFX016003])

Supply voltage AC 50 Hz
0 - 0 V

Supply voltage AC 60 Hz
0 - 0 V

Supply voltage DC
19.2 - 30 V

Voltage type of supply voltage
DC

Number of HW-interfaces industrial Ethernet
2

Number of interfaces PROFINET
0

Number of HW-interfaces RS-232
1

Number of HW-interfaces RS-422
0

Number of HW-interfaces RS-485
1

Number of HW-interfaces serial TTY
0

Number of HW-interfaces USB
2

Number of HW-interfaces parallel
0

Number of HW-interfaces Wireless
0

Number of HW-interfaces other
3

With SW interfaces
Yes

Supporting protocol for TCP/IP
Yes

Supporting protocol for PROFIBUS
Yes

Supporting protocol for CAN
Yes

Supporting protocol for INTERBUS
No

Supporting protocol for ASI
No

Supporting protocol for KNX
No

Supporting protocol for MODBUS
Yes

Supporting protocol for Data-Highway
No

Supporting protocol for DeviceNet
No

Supporting protocol for SUCONET
No

Supporting protocol for LON
No

Supporting protocol for PROFINET IO
No

Supporting protocol for PROFINET CBA
No

Supporting protocol for SERCOS
No

Supporting protocol for Foundation Fieldbus
No

Supporting protocol for EtherNet/IP
Yes

Supporting protocol for AS-Interface Safety at Work
No

Supporting protocol for DeviceNet Safety
No

Supporting protocol for INTERBUS-Safety
No

Supporting protocol for PROFIsafe
No

Supporting protocol for SafetyBUS p
No

Supporting protocol for other bus systems
Yes

Radio standard Bluetooth
No

Radio standard WLAN 802.11
No

Radio standard GPRS
No

Radio standard GSM
No

Radio standard UMTS
No

IO link master
No

Type of display
TFT

With colour display
Yes

Number of colours of the display
16777.216

Number of grey-scales/blue-scales of display
0

Screen diagonal
7 inch

Number of pixels, horizontal
1.024

Number of pixels, vertical
600

Useful project memory/user memory
512 kByte

With numeric keyboard
No

With alpha numeric keyboard
No

Number of function buttons, programmable
0

Number of buttons with LED
0

Number of system buttons

1

Touch technology
Capacitive multitouch

With message indication
Yes

With message system (incl. buffer and confirmation)
Yes

Process value representation (output) possible
Yes

Process default value (input) possible
Yes

With recipes
Yes

Number of password levels
200

With printer output
Yes

Number of online languages
100

Additional software components, loadable
Yes

Degree of protection (IP), front side
IP65

Degree of protection (NEMA), front side
12

Operation temperature
0 - 50 °C

Rail mounting possible
No

Wall mounting/direct mounting
No

Suitable for safety functions
No

Width of the front
196 mm

Height of the front
135 mm

Built-in depth
43.1 mm

APPROVALS

Product Standards
UL 61010-2-201; IEC/EN 61131-2; CE

UL File No.
E205091

North America Certification
UL listed, certified by UL for use in Canada

Specially designed for North America
No

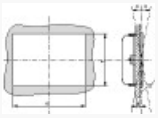
Current Limiting Circuit-Breaker
No

Degree of Protection
IEC: IP65, NA: NEMA 4X, NEMA 12

DIMENSIONS

XV-303-... multi-touch panel with 7" screen diagonal; version: flush mounting

a, b, c □ 30 mm, ϑ 0 □ T □ 50 °C



2 mm □ d □ 5 mm, e = 183 mm, f = 122 mm, □ = 45°