Christ

ELECTRONIC SYSTEMS

Touch-it CE VESA / Front Panel glass 15,6

Operating Instructions

- **Display and Touch**
- **Projected Capacitive Touch**
- **Easy Integration**
- **Ready For Use**

Touch-it CE 15,6
Operating Instructions

Document No.	PA10003599
Revision	01
Date	23 Sep. 20

Address	Christ Electronic Systems GmbH
	Alpenstraße 34
	DE-87700 Memmingen
Telephone	+49 (0)8331 8371 – 0
Fax	+49 (0)8331 8371 – 99
E-Mail	info@christ-es.de
Internet	http://www.christ-es.de

Table of Contents

1   General

1.1   Used Symbols

Symbol   The following symbols are used in this instruction manual:

DANGER!
Denotes a direct threat of danger. Not observing this pointer may be life threatening or lead to serious injuries.

CAUTION!
Denotes a possibly dangerous situation. Not observing this pointer can cause minor injuries or lead to material damages.

INFORMATION!
Denotes application pointers and other useful information.

1.2   General Pointers

INFORMATION

This device was manufactured according to DIN EN ISO 9001 and left the factory in a perfect state. In order to maintain this state and to assure the safe operation, the user must consider the pointers and warning remarks, which are contained in this instruction manual.

Please check immediately: Is the device damaged or is any equipment missing? (See chapter Commissioning) In the case of defect please inform us immediately.

CAUTION

Intended Use
These products are **not** designed, developed and produced for use, which pose fatal risks and dangers that may cause death, injuries, serious physical impairments or other loss, if no exceptional security measures are ensured. Thus there are limitations for use in the monitoring of nuclear reactions in nuclear power plants, flight control systems, air traffic control, in the control of mass transportation, medical life support systems and control of weapon systems.

If the device is used for other purposes or incorrectly operated, Christ Electronic Systems GmbH will not hold damages liable.

Do not operate the touch-sensitive surface of the screen with any abrasive or sharp-edged objects.

Protect the Touch-it Panel PC against caustic chemicals and long solar radiation.

Never cover the Touch-it Panel PC completely or build it in a small closed and unvented housing.

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

 DANGER

In the case of damage of the device, shut it down and disconnect it immediately from the supply voltage.

Disconnect every connection line and send it back to Christ Electronic Systems GmbH.

Only the qualified staffs are allowed to carry out the repairs. The incorrect repair may lead to serious danger for the user.

1.3 Cleaning

 INFORMATION

Use a humid and soft cloth with gentle soap suds to clean.

 CAUTION

Do not clean the touch-sensitive surface of the monitor with detergents containing solvent or acid.

1.4   Certification

   INFORMATION

The device is certificated for operation in the US and Canada and comply with FCC regulations.
The certification is available on request.

Type label:

International Certification
USA:
FCC (Federal Communications Commission)

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause any harmful interference. (2) This device must accept any interference re-
ceived, including interference that may cause undesired operations.
Changes or modifications not expressly approved by the party responsible for compliance could void the
user's authority to operate the equipment. NOTE: This equipment has been tested and found comply
with the limits of Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to
provide reasonable protection against harmful interference in a commercial environment. This equip-
ment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance
with the instructions, may cause harmful interference to radio communications. Operation of this equi-
ment in a resident area is likely to cause harmful interference in which case the user will be required to
correct the interference at his own expense.

2   Technical Data

2.1   System

CPU	NXP i.MX6DL, DualCore 1 GHz
Graphic	3D Vivante GC880 2D Vivante GC320
Video Decoder	H.264, MPEG-4/XviD, MPEG-2, H.263
Memory	1 GB DDR3 RAM
Storage	4 GB eMMC FLASH Internal: MicroSD (up to 64GB)
CMOS Battery	RTC Lithium Battery (optional)
Operating System	Linux Embedded

2.2   Power Supply

Supply Voltage	24 VDC ± 20%
Power Consumption	15 W
Power Switch	No

2.3   Mechanical & Environmental

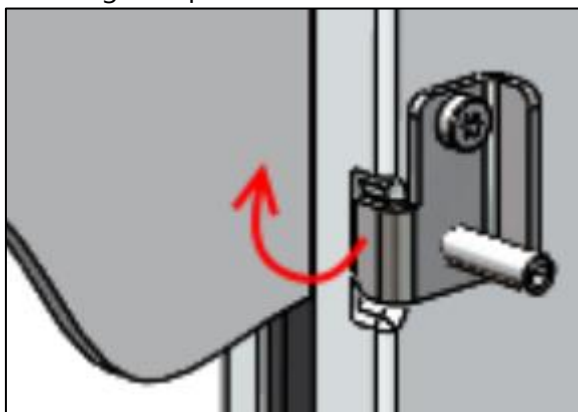|	Front Panel	VESA
Housing Front	Glass, Black Frame	
Housing	Aluminium / Silver	
Dimensions	403.2 mm x 252.6 mm x 52.4 mm	403.2 mm x 252.6 mm x 68.0 mm
Weight	3.8 kg	3.5 kg
Cooling	Passive	
Operating Temperature	0 ~ 50 °C	
Storage Temperature	-10 ~ 70 °C	
Humidity	5 ~ 80 % (non condensing)	
Protection Class	IP65 (IP20 rear)	IP65
Certification	CE, EN55032 Class A, EN55024, UL, FCC	

3   Commissioning

3.1   Mounting Front Panel

The variant Touch-it CE Front Panel is designed for front mounting.
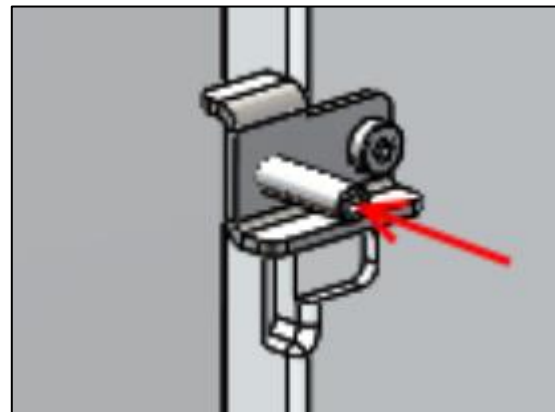Each Front Panel has its own cut-out drawing.
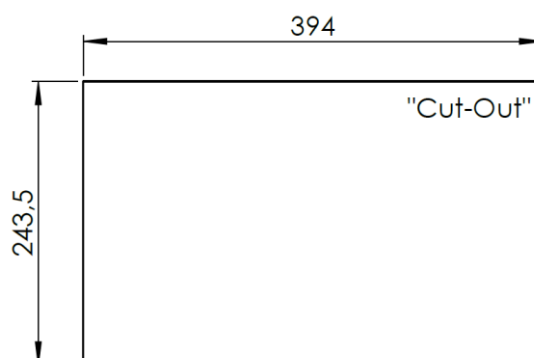
To clamp the Front Panel into the cut-out you can use the pre-assembled fasting clamps.

Turn fasting clamp to the side   Screw in the setscrew
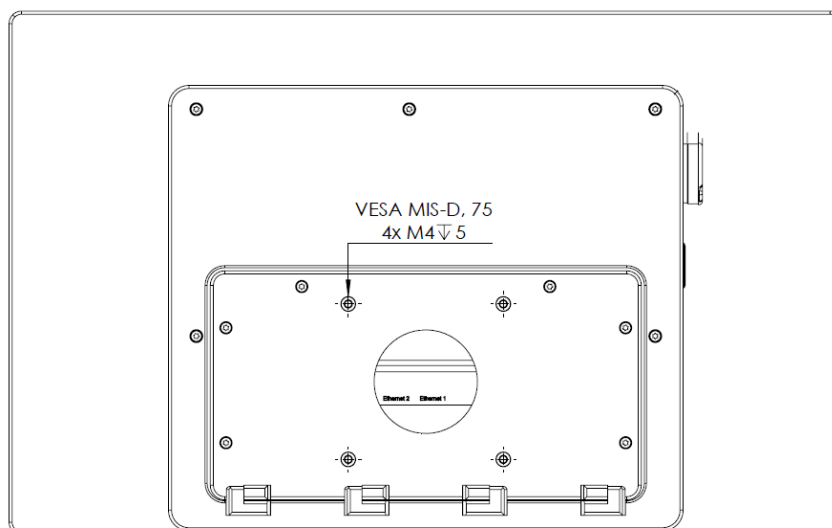

⚠️   **CAUTION**

For the best installation result the use of all pre-assembled fasting clamps is highly recommended. Depending on individual installation circumstances a new IP rating may be considered.

3.2   Mounting VESA

The variant Touch- it CE VESA is designed for VESA MIS-D, 75, mounts.

Suitable mounting variants are:

VESA Desk Stand	**Arm Mounting System VESA-SA75**

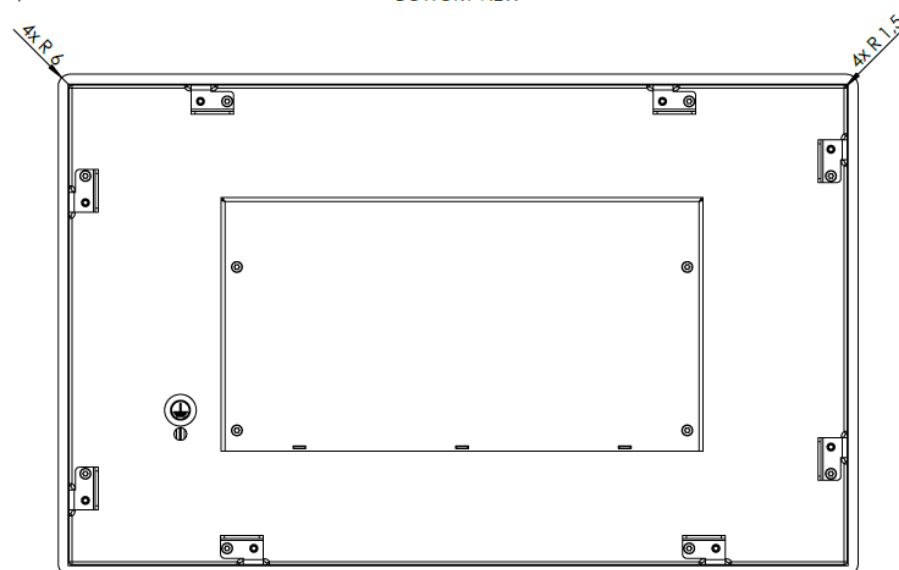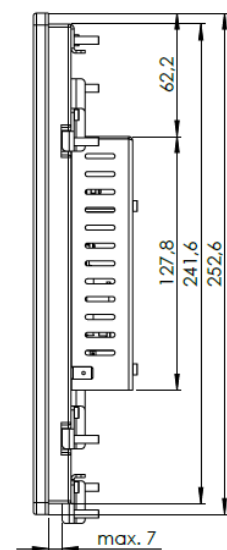## 3.3 Technical Drawing
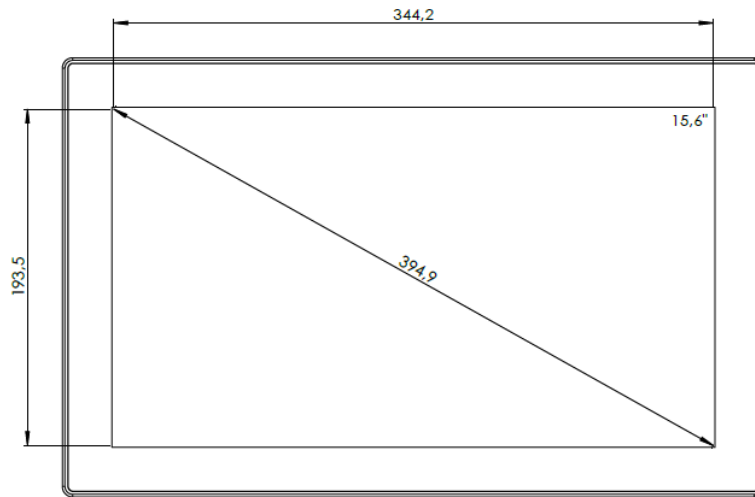
FRONT VIEW

FRONT PANEL
E702613
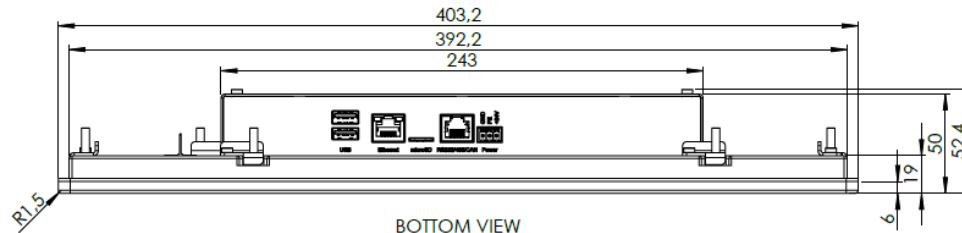
BOTTOM VIEW

REAR VIEW

SIDE VIEW

VESA
E702617

BOTTOM VIEW

SIDE VIEW

REAR VIEW

SIDE VIEW

VESA MIS-D, 75
4x M4 5
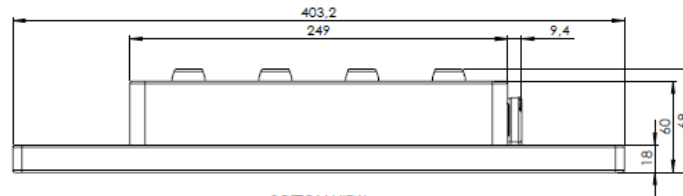
PA10004391

BOTTOM VIEW

SIDE VIEW

REAR VIEW

SIDE VIEW

VESA MIS-D, 100
4x M4 5

VESA MIS-D, 75
4x M4 5
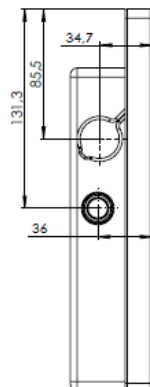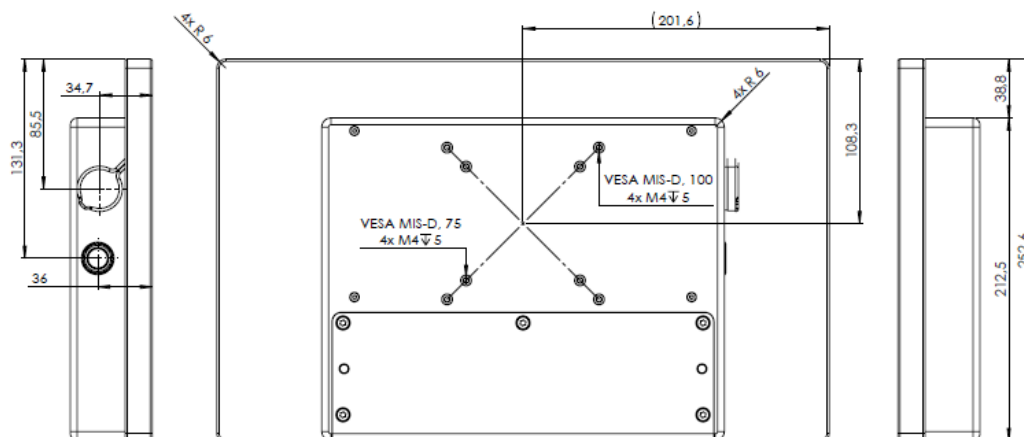
3.4 Interfaces

USB	2 x USB 2.0
Ethernet	1 x 100 Mbit Ethernet
Communication	1 x RS-232, 1 x RS485, 1 x CAN (one connector)
Power Connector	Phoenix 3-pol MC 1,5/ 3-ST-3,5 BK
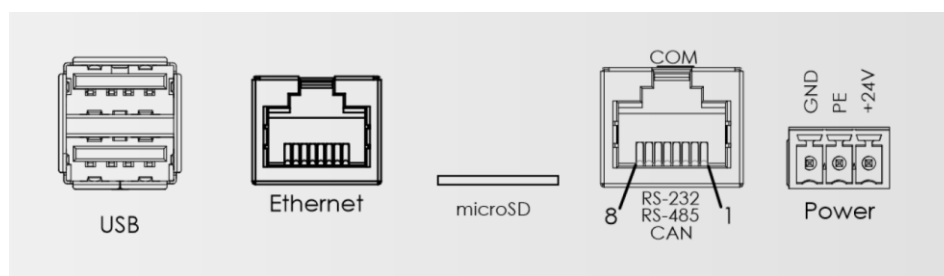
INTERFACES

COM Connector Pinning

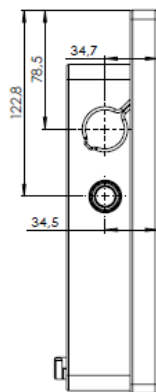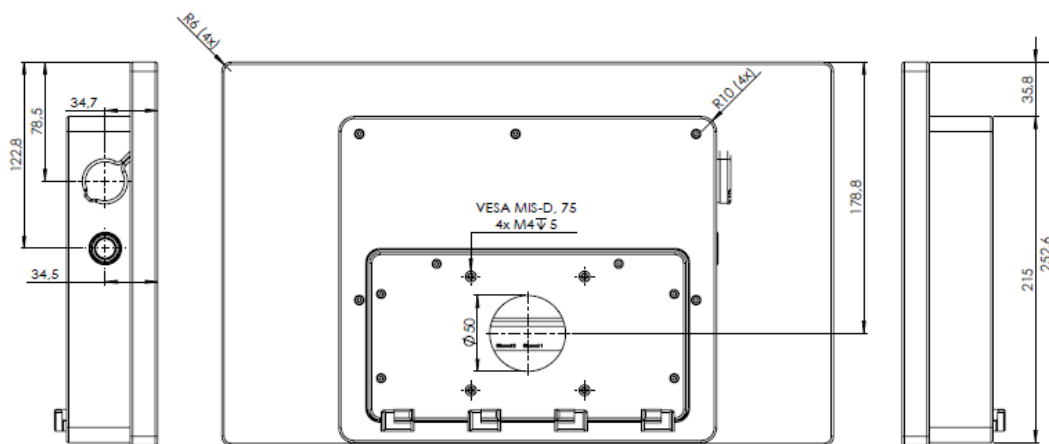| Pin	Function	Description
1	GND	Ground
2	GND	Ground
3	RS485_P	RS485 Positiv
4	RS232_TX	RS232 Transmitter Signal
5	RS232_RX	RS232 Receiver Signal
6	RS485_N	RS485 Negative
7	CAN_Low	CAN Low Signal
8	CAN_High	CAN High Signal

3.5 Power supply

The power supply was part of the safety and EMC certification and it is necessary to use this kind or a similar one in respect of the technical datas:

Type of power supply	FSP060-DAAN2
Input voltage	100-240Vac
Output voltage	24Vdc
Max. output current	2,5A
Power Connector	Phoenix 3-pol MC 1,5/ 3-ST-3,5 BK

Changing the type of the power supply without our permittion, may cause problems with the conformitiy of the certifications and therefore is not guaranteed
The device is only permitted to be supplied with a SELV/PELV power supply or with safety extra lowvoltage (SELV) per EN 62368-1

4   Software

The highly customized software consists of:

- **Bootloader: Das U-Boot**
- **Linux (poky/ces-fb based)**
- **Kiosk browser based on chromium**

The system is configured to load a pre-set webpage and offer no additional method of configuration and does not allow any other use for the operator.
The system admin can configure the system via ssh.

4.1   Accessing the System

4.1.1   Accessing the System via SSH (Secure Shell)

SSH can be used for encrypted login over the network or for encrypted file transfer between your PC and the device.

> **ssh root@**<IP address of the device>

Example:

```
user@linux-pc:~$ ssh root@10.15.15.16
The authenticity of host '10.15.15.16 (10.15.15.16)' can't be established.
RSA key fingerprint is 54:09:6d:2e:c6:b3:09:06:8d:4b:a8:0c:a8:7d:64:4a.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.15.15.16' (RSA) to the list of known hosts.
root@10.15.15.174's password:
root@pixidl:~#
```

SSH uses port 22. User name and password are the same as for serial (RS232) login.

> *User:* **root**
> *Password:* **root123**

Because the IP address of the device is set to DHCP, **nmap** can be used to scan for the evalkit.

> **sudo nmap –sP** <network identifier/netmask>

Example:

sudo nmap –sP 10.15.15.0/24

This scans from IP address 10.15.15.0 to 10.15.15.255

4.2 Rebuilding the Image

Our source repositories and short instructions on how to rebuild the image can be found on: https://github.com/software-celo/ces-bsp-platform.

4.3 Recover the Delivery State

To recover the delivery state of the image you can follow the instructions found in the CURT User Guide https://christelectronicsystems.box.com/v/curt-manual (PA10002483).

DISCLAIMER

Technical data are subject to modification and delivery subject to availability. Any liability that the data and illustrations are complete, actual or correct is excluded. Designations may be trademarks and/or copyrights of the respective manufacturer, the use of which by third parties for their own purposes may infringe the rights of such owner.

CHRIST ELECTRONIC SYSTEMS GMBH

MANUFACTURER OF INDUSTRIAL ELECTRONICS

CONTACT

Christ Electronic Systems GmbH
Alpenstraße 34
87700 Memmingen
Phone: +49 8331/ 83710
www.christ-es.de

FROM IDEAS TO REALITY

We are a German developer and manufacturer of innovative HMI-systems for demanding industrial applications. Christ offers an extensive range of

TOUCH PANEL PCs |x86 & ARM
TOUCH MONITORS |7" – 24"
SINGLE BOARD COMPUTER |Windows & Linux
VISUALISATION SYSTEMS |HMI & SCADA

Aug. 2020, Revision 01
Document No.: PA10003599