

# TFT/PxxxxPU-A101E LVDS Monitors

# TFT/PxxxxPU-A102E DVI Monitors

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## Introduction

### 1.1 General Remarks

The content and presentation of this document has been carefully checked. No responsibility is accepted for any errors or omissions in the documentation.

Note that the documentation for the products is constantly revised and improved. The right to change this documentation at any time without notice is therefore reserved.

Syslogic is grateful for any help referring to errors or for suggestions for improvements.

### 1.2 Copyright note

This documentation is the intellectual property of Syslogic Datentechnik AG, which also has the exclusive copyright. Any modification of the content, duplication or reprinting of this Documentation, as well as any distribution to third parties can only be made with the express permission of Syslogic Datentechnik AG.

Syslogic Datentechnik AG does not accept any liability for damages arising from the use of any incorrect or incomplete information contained in this documentation or any information missing.

All brand and product names are trademarks or registered trademarks of the owner concerned.

### 1.3 Contents of this Documentation

This document addresses to system integrators, programmers and instructed installation and maintenance personal working with the system. It provides all information needed to set-up, mounting, start-up an operation of this device.

### 1.4 Items delivered

#### 1.4.1 Built in versions

The device is delivered with the following equipment

- 1x TFT/PBxxxPU-A102E
- 1x Fixing Frame with M4x20 securing screws
- 1x Power supply connector

#### 1.4.2 VESA mount version

- 1x TFT/PVxxxPU-A102E
- 1x Power supply connector
- 4x M4x8 securing screws for VESA100 mounting

### 1.5 Installation

The installation of the system is described in this documentation. Refer to chapter 3

### 1.6 Safety Recommendations and Warnings

The product is intended for measurement, control and communications applications in industrial environments. The products must be installed by specially trained people. The strict observation of the installation guideline is mandatory.

The use of the product in systems in which the life or health of persons is directly dependent (e.g. life support systems, patient monitoring systems, etc.) is not allowed.

The use of the product in potentially explosive atmospheres requires additional external protection circuitry which is not provided with the product.

In case of uncertainty or of believed errors in the documentation please immediately contact the manufacturer (address see chapter 10). Do not use or install the product if you are in doubt. In any case of misuse of the product, the user is solely liable for the consequences.

### 1.7 EMC



#### Important note

This is a Class A product and not intended to be used in domestic environments. The product may cause electromagnetic interference. Appropriate measures must be taken.

### 1.8 Electro Static Discharge



#### Important note

Electronic boards are sensitive to Electro-Static Discharge (ESD). Please ensure that the product is handled with care and only in a ESD protected environment. Otherwise a proper operation is not guaranteed.

Electronic boards are sensitive to Electro-Static Discharge (ESD). Please ensure that the product is handled with care and only in a ESD protected environment. Otherwise a proper operation is not guaranteed.

## 1.9 Life Cycle Information

### 1.9.1 Transportation and Storage

During transportation and storage the product must be in the original packing. It is recommended, to keep the original packing in case of return of the product to the factory for repair. Note that the packing is recyclable.

### 1.9.2 Assembly and Installation

Observe the EMI-precautions against static discharge. Carefully read the installation documentation before unpacking the product. The installation procedures must be strictly observed. Note that deviations from the installation guidelines may result in degraded operational reliability or in unfavourable EM-radiation or EM-susceptibility.

### 1.9.3 Operation

The operating environment must guarantee the environmental parameters (temperature, power supply, etc.) specified in the technical specification section of this document.

The main functionality of the product is defined by the application programs running. The application programs are not part of the delivery by Syslogic but are defined, developed and tested by the customer or a system-integrator for each specific application. Refer to the respective documentation for more information.

### 1.9.4 Maintenance and Repair

In the rare case of a product hardware-failure or malfunction, the complete product should be exchanged. The faulty product must be returned to the factory for repair. Please use whenever possible the original packing for return of the product (EMI and mechanical protection).

### 1.9.5 Disposal

At the end of the lifespan product must be properly disposed. The product contains a multitude of elements and must be disposed like computer parts. Packaging not needed anymore must be fairly disposed or be returned for disposal to the manufacturer or distributor. The wrapping contains the following materials: Cardboard box and transportation protection.

Materials	Description
Front Glas	Safety glas
Front Touch	Glas, Plastic, Copper
Front frame	Metal /AlMg 4.5 Mn)
Hoods	Galvanized sheet steel
Mounting plates	Galvanized sheet steel
Display LED	1 Disposal quality
Print boards	1 Disposal quality

Tab. 1 Disposal Materials

## 1.10 Warranty

Our products are covered by a world-wide manufacturer's warranty. The warranty period starts at the delivery time from our official distributor to the customer. The duration of the warranty period is specified in the respective product catalogues and the offers. All products carry a date code and a job number for identification. The manufacturing data and deliveries are registered in a high level Quality Management System. The warranty covers material and manufacturing defects. All products must be returned via the official distributor to the factory for repair or replacement. The warranty expires immediately if the products are damaged of operation outside of the specified recommended operating conditions. The warranty also expires if the date code or job number listed on the product is altered or rendered unintelligible. The warranty does not include damage due to errors in firmware or software delivered with the products.

### 1.10.1 RoHS

The product of the IPC/NETIPC-6 family are designed and produced according to the Restriction of Hazardous Substances (RoHS) Directive (2002/95/EC).

### 1.10.2 WEEE

The products of the IPC/NETIPC-6 are not designed ready for operation for the end-user and intended for consumer applications. Therefore the Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC) is not applicable. But users should still dispose the product properly at the end of life.

## 1.1 Explanation of Symbols

### 1.1.1 Danger warnings

The following information is for your personal safety and the prevention of damage to the product described or connected devices. Safety instructions and warnings for the prevention of danger to the life and health of users or service personnel, and for the prevention of damage are highlighted in this document by the pictograms specified below. "Warning" and "Information" pictograms are shown in this document.

### 1.1.2 Warnings indicate the following:

Death, serious injury or substantial material damage may occur if the related safety measures are not implemented.

The individual "Warning" pictograms have the following meaning:



**Attention! General!**

Is an instruction that must be observed in order to ensure protection before, while and after using the device. The correct procedure must be observed.



**Attention! Electric shock!**

Persons may be exposed to dangerous voltages in electrical installations.  
There is a danger of electric shock if a live part is touched.



**Attention! Observe ESD measures!**

Electrostatic discharge may destroy electronic components.

### 1.1.3 Information pictograms indicate the following:

Important information about the product or the relevant section of the document, requiring the particular attention of the reader.



The "Information" pictogram has the following meaning:

Indicates important and instructional information.

## 2 Product Description

### 2.1 Benefits of Syslogic's Projected Capacitive Touch Monitor

- Different screen sizes
- Robust touch screen technology
- Front protection to IP65

The product meets all the requirements of state-of-the-art advanced touch monitors.

The product is a rugged information display and input device that is specially developed for operation in harsh environments.

The TFT technology makes a wide range of applications possible with a perfect and clear picture on an absolutely flat surface.

The absolutely flat PCT (Projected capacitive Touch) touch panel offers the latest Dual-Touch technology. PCT Touch Screen can be used with fingers or with special capacitive touch gloves or pens/stylus. Calibration of the touch screen can be easily made with the Touch driver software described in chapter 2.4.

A metal housing with a solid front frame and scratch resistant safety glass protects the device

Reliably during long and rugged periods of use (front protection: IP65) and requires little care and maintenance.

### 2.2 Intended use

The products are intended for measurement, control and communications applications in industrial environments. The products must be assembled and installed by specially trained people. The strict observation of the assembly and installation guidelines is mandatory.

The use of the products in systems in which life or health of persons is directly dependent (e.g. life support systems, patient monitoring systems, etc.) is not allowed.

The use of the products in potentially explosive atmospheres requires additional external protection circuitry which is not provided with the products.

In case of uncertainty or of believed errors in the documentation please immediately contact the manufacturer (address see chapter 10). Do not use or install the products if you are in doubt. In any case of misuse of the products, the user is solely liable for the consequences.

Ensure that the power supply is disconnected from the device before working on the device (connecting interfaces, replacing flash cards, batteries, opening the enclosure, etc.).

Please read the safety instructions of the power supply before installing/connecting the device.

#### 2.2.1 Variants

Syslogic provides two interface variants within the PROTOUCH Monitor Series.

##### **LVDS Monitors**

The LVDS Interface uses an FPD2 Link interface. In addition USB is transmitted on the same cable. This variant is intended for minimal system wiring effort. Therefore there is only one cable used to connect the host device with the monitor to provide full functionality.

##### **DVI Monitors**

DVI Monitors are designed for maximum flexibility and compatibility to standard computer interfaces. The DVI monitors require an USB and a DVI cable to connect the host device with the monitor.

#### 2.2.2 Intended use of Projected Capacitive Touch Monitors

The Projected Capacitive Touch Panel is designed for:

- Visualization and process control
- PLC visualization
- General control and automation tasks
- Industrial use
- For medical technology
- For multi-media systems



– Operation in the ambient conditions specified in the technical data

This device description is designed as a reference guide for the installation, connection, Operation and maintenance of all versions of the Projected Capacitive Panel, and also provides all the relevant technical data.

## 2.1 Device Versions

The Projected capacitive touch panels are available in the following versions:

Order code	Flat screen	Mounting type	Display connection
TFT/PB104PU-A101E	10.4" XGA	Flush mounting	LVDS
TFT/PB104PU-A102E	10.4" XGA	Flush mounting	DVI-D
TFT/PB121PU-A102E	12.1" XGA	Flush mounting	DVI-D
TFT/PB150PU-A102E	15.0" XGA	Flush mounting	DVI-D
TFT/PV121PU-A102E	10.4" XGA	VESA mounting	DVI-D
TFT/PV150PU-A102E	12.1" XGA	VESA mounting	DVI-D
TFT/PV104PU-A102E	15.0" XGA	VESA mounting	DVI-D

Tab. 2 Projected capacitive touch monitor versions

## 2.2 Additional software products

### 2.1 Accessories

The following accessories are not necessarily supplied with the device. These parts could be ordered additionally or downloaded from [www.syslogic.com](http://www.syslogic.com):

Accessories	
Type designation	Description
Touch driver software	Touch driver software for Windows 9x / Me / 2000 / XP / 7 / Embedded
Monitor driver software	Monitor configuration tool to configure the device. (Windows/Debian)
PIR and Brightness Sensor	Additional Brightness sensor to automatically adjust the Brightness of the backlight and a Motion Sensor to disable the display if nobody is watching.

Tab. 3 Projected capacitive touch monitor accessories

### 3 Installation Guide

#### 3.1 LVDS Monitor TFT/PxxxxPU-A101E

- Make sure you are aware of the safety instructions of this manual.
- Connect a power supply 24V to the power connector and the host.
- Connect the display port of the host and the monitor using a special LVDS cable. (Max 5m)
- Connect shield
- Power up the device.

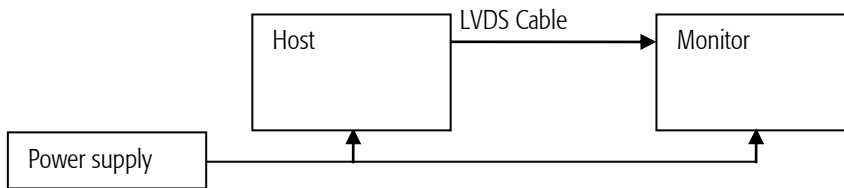


Fig. 1 LVDS Monitor System Setup

#### 3.2 DVI Monitor TFT/PxxxxPU-A102E

- Make sure you are aware of the safety instructions of this manual.
- Connect a power supply 24V to the power connector.
- Connect the Display connector to a computer (host) using a DVI cable.
- Connect the USB B connector to the USB Port of the computer (host).
- Connect shield
- Connect any peripheral device to the USB Hub if required.
- Power the host computer and the monitor.

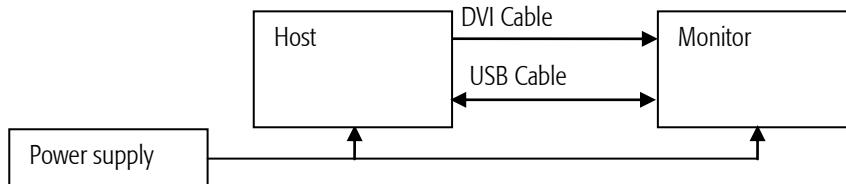


Fig. 2 LVDS Monitor System Setup

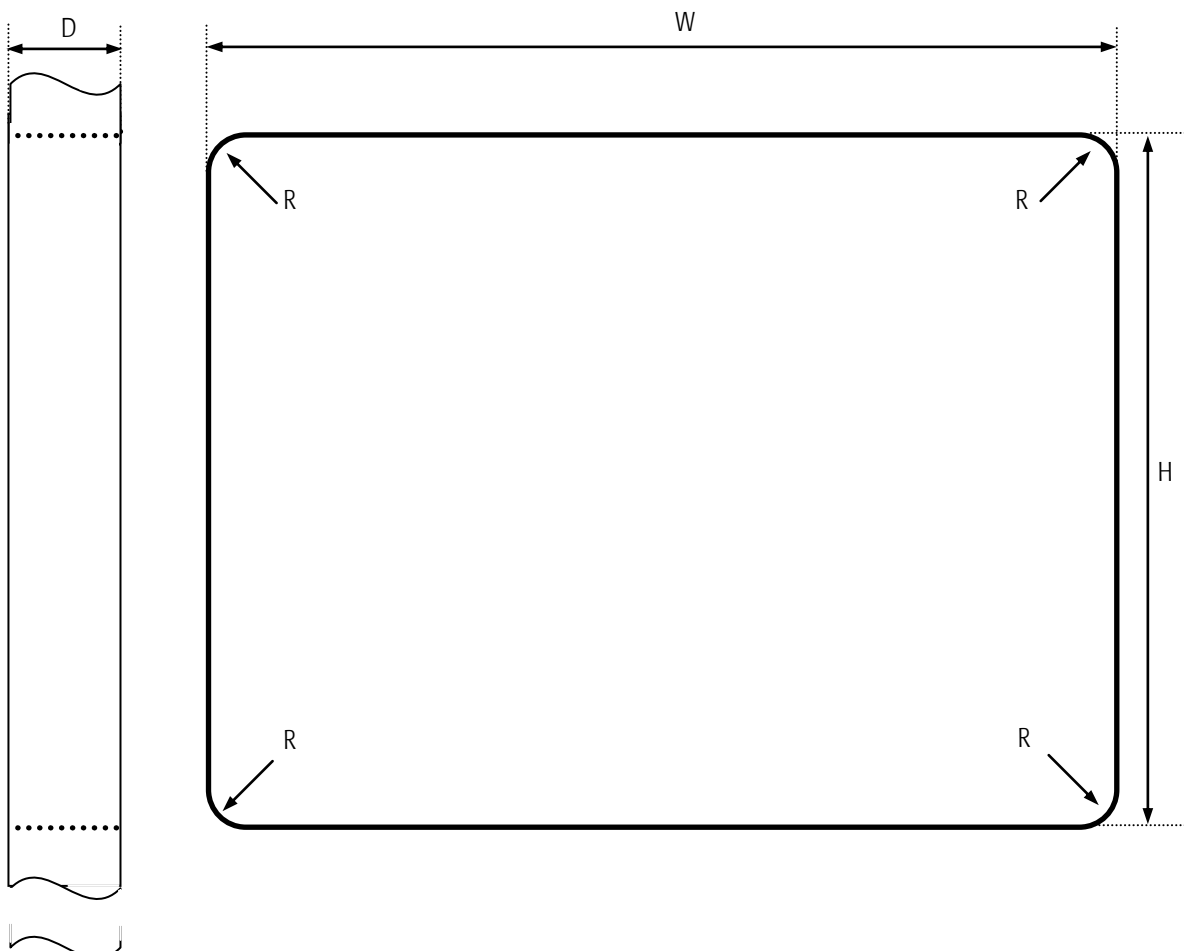
### 3.3 Mounting

#### 3.3.1 TFT/PBxxxPU-A102E

The desired mounting place must have a cut out and wall thickness regarding the following overview.

Device #	Front cut out dimensions		Edge radius	Wall thickness
	W [mm]	H [mm]	R [mm]	D [mm]
TFT/PB104PU-A102E	271 <sup>-0/+2</sup>	217 <sup>-0/+2</sup>	Max. 3mm	1 to 7
TFT/PB121PU-A102E	316 <sup>-0/+2</sup>	258 <sup>-0/+2</sup>		
TFT/PB150PU-A102E	378 <sup>-0/+2</sup>	295 <sup>-0/+2</sup>		

Tab. 4 TFT/PBxxxPU-A102E Mounting dimensions



**Mounting Angle:**

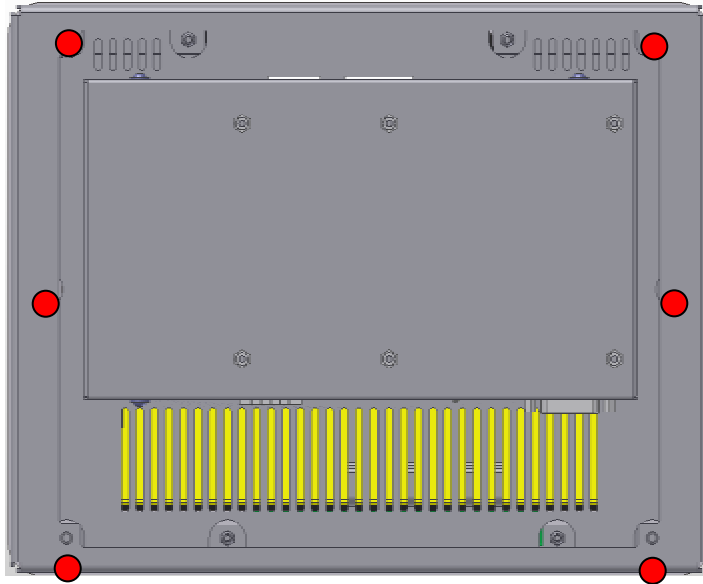
Mounting Angle must be 90°

**Cooling Space:**

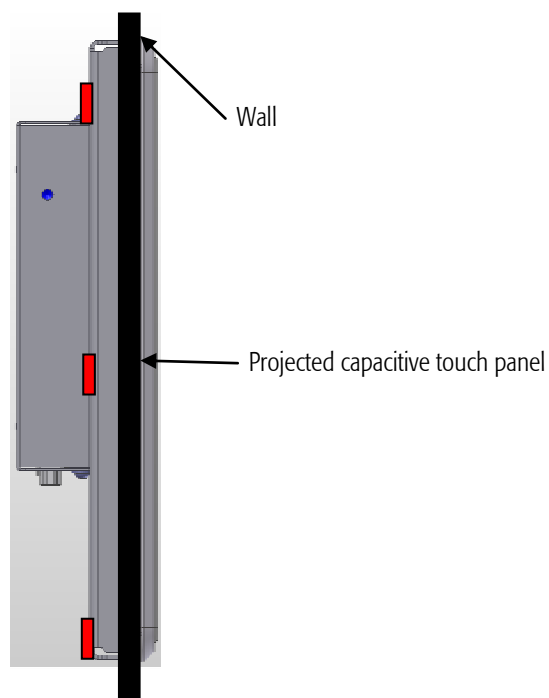
To ensure cooling leave at least 10cm of free space around product.

### Mounting procedure TFT/PBxxxPU-A102E

- Remove the screws highlighted in red and then remove the mounting frame.

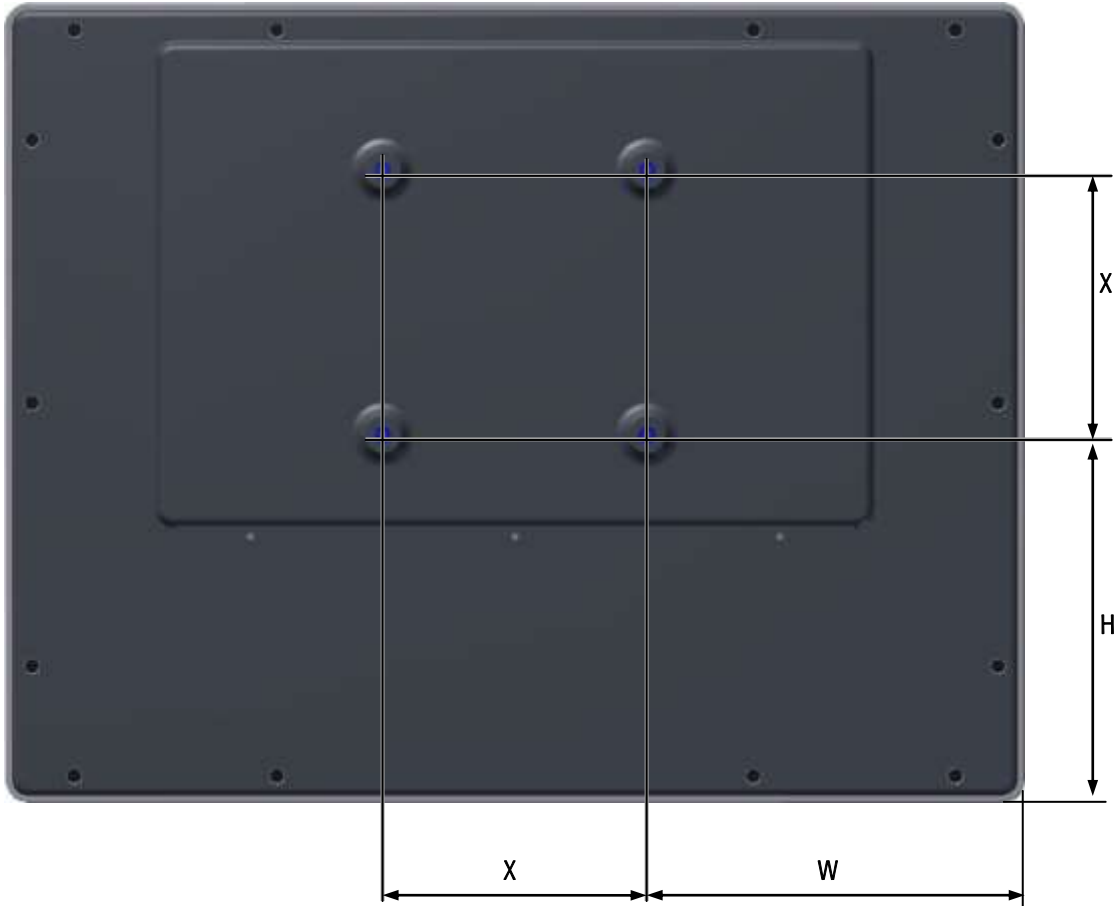


- The seal is delivered separately. Please insert the seal in the groove on the backside of the front. The ends of the seal must fit tight together for a perfect sealing.
- Insert the projected capacitive touch panel from the front into the cut out and make sure that the sealing fits properly.
- Reattach the mounting frame and fix it into place by reattaching the screws highlighted in red.
- The product is now installed properly.



### 3.3.2 Mounting procedure TFT/PVxxxPU-A102E

- All TFT/PVxxxPU-A102E are equipped with a VESA100 (100x100mm) mounting system delivered with M4x8 Philips screws.
- Screw hole deepness is 7mm. The screw must fit at least 5mm into the screw holes.



Device #	X [mm]	W [mm]	H [mm]
TFT/PV104PU-A102E	100	89	74
TFT/PV121PU-A102E	100	111.5	102
TFT/PV150PU-A102E	100	142.5	139

Tab. 5 PVxxxPU-A102E VESA dimensions



**Mounting Angle:**  
**Cooling Space:**

Mounting Angle must be  $90^\circ \pm 15^\circ$

To ensure cooling leave at least 10cm of free space around product.

## 4 Hardware Description

### 4.1 Features

#### 4.1.1 HBxxxPU7F16-A101E

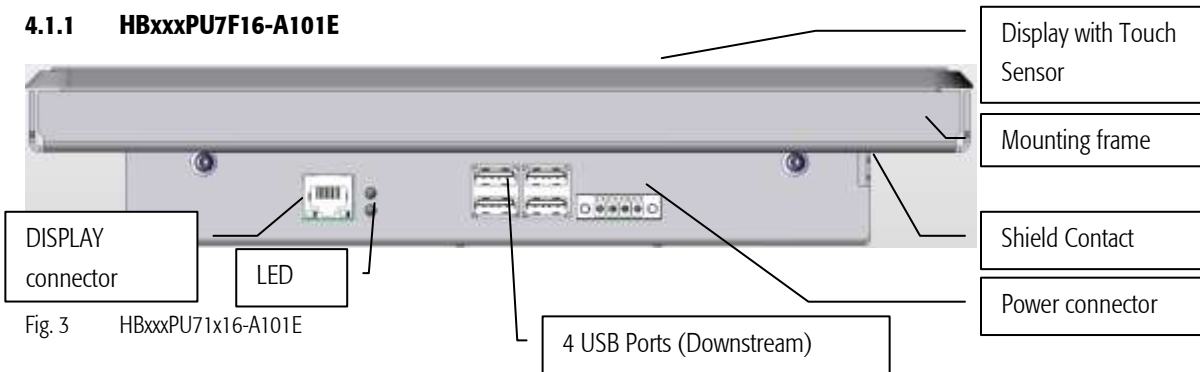


Fig. 3 HBxxxPU71x16-A101E

#### 4.1.2 HBxxxPU7F16-A102E

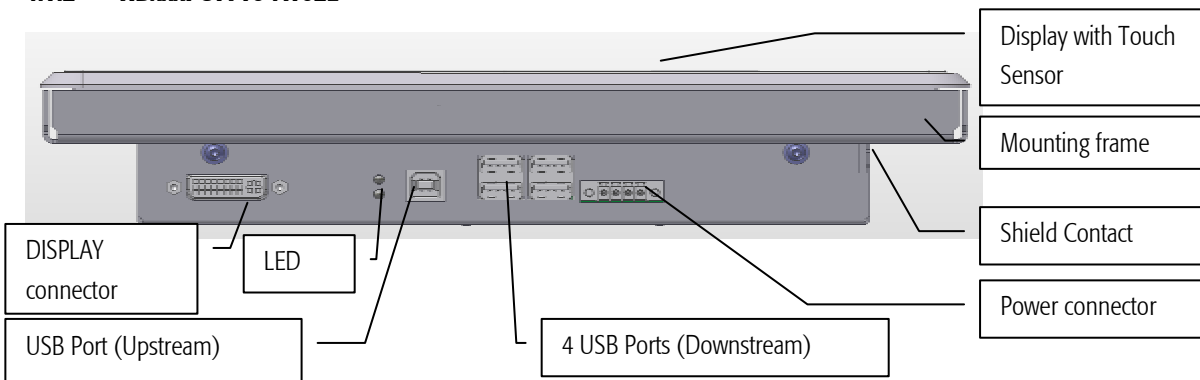


Fig. 4 HBxxxPU71x16-A102E

#### 4.1.3 HVxxxPU7F16-A102E

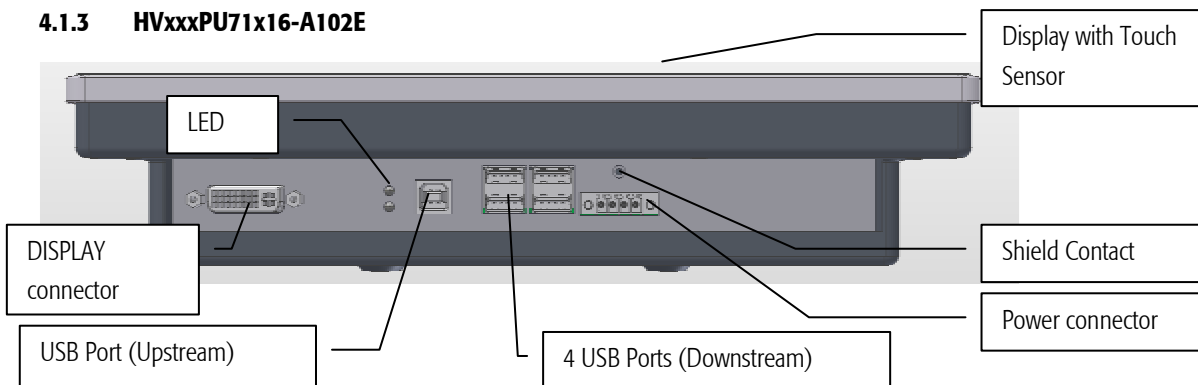
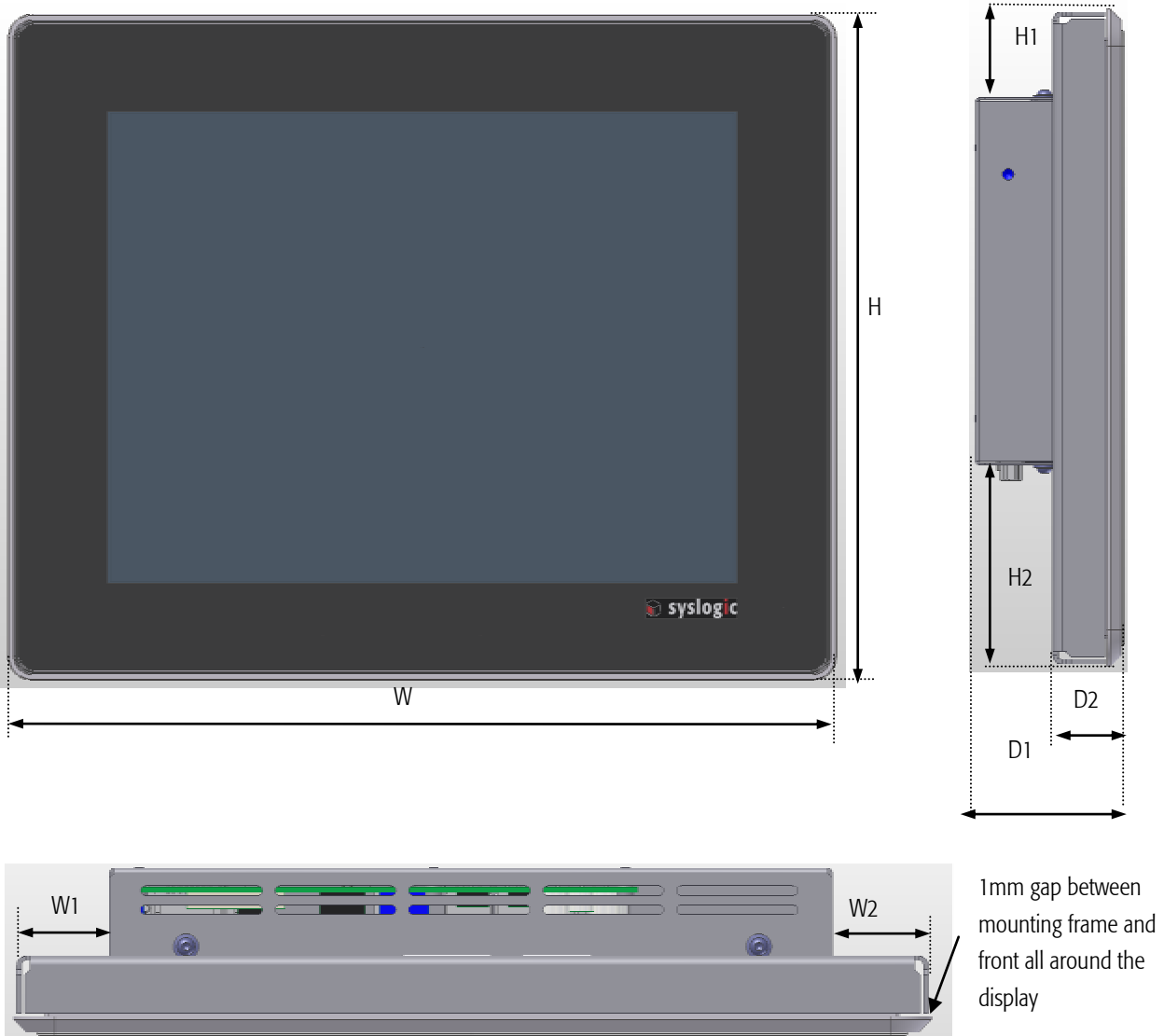


Fig. 5 HVxxxPU7F16-A102E

## 4.2 Dimensions

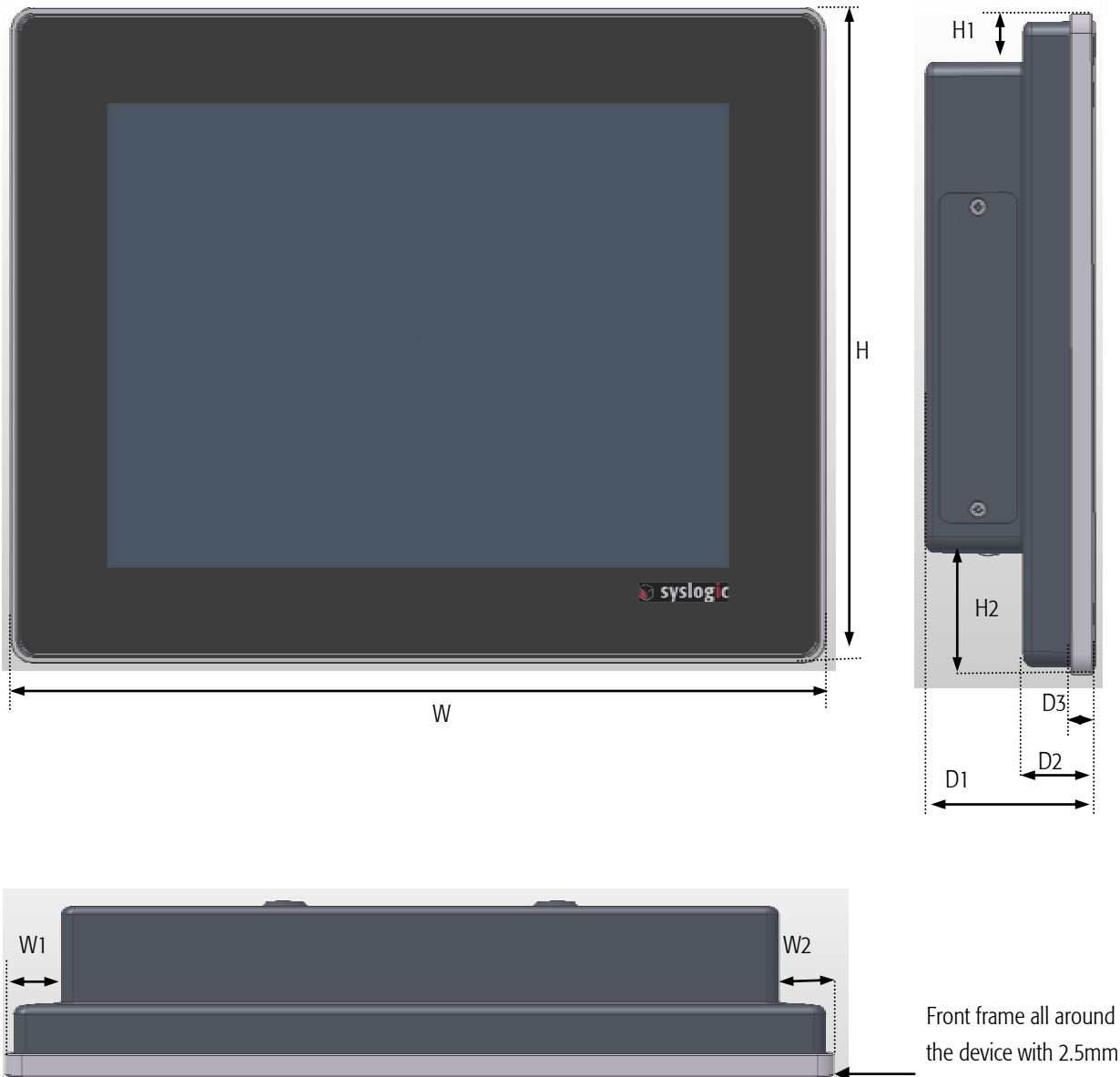
### 4.2.1 HBxxxPU71x16-xxx



Device #	W [mm]	W1 [mm]	W2 [mm]	H [mm]	H1 [mm]	H2 [mm]	D1 [mm]	D2 [mm]
TFT/PB104PU-A102E	288	30	31	234	31	71.5	52.5	22
TFT/PB121PU-A102E	333	52.6	53.6	275	31	112	52.5	22
TFT/PB150PU-A102E	395	84.7	83.7	312	31	150.7	54.5	24

Tab. 6 PBxxxPU71-A102E dimensions

#### 4.2.2 HVxxxPU71x16-xxx



Device #	W [mm]	W1 [mm]	W2 [mm]	H [mm]	H1 [mm]	H2 [mm]	D1 [mm]	D2 [mm]	D3 [mm]
TFT/PV104PU-A102E	279	15	15	224	14	39,5	62	24,5	8,5
TFT/PV121PU-A102E	324	26.5	26.5	266	15	67.5	62	24,5	8,5
TFT/PV150PU-A102Eb	386	57.5	57.5	303	15	104.5	65	27,5	8,5

Tab. 7 HVxxxPU71x16-xxx dimensions



## 4.3 Interface Description

### 4.3.1 Power Supply

The processor and its peripherals are powered by a non-isolated, integrated power supply which generates all internal voltages.



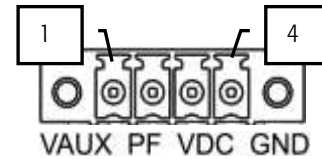
#### Power Supply requirements:

- The power supply used must fulfil surge protections according to the application.
- Always use a short circuit protected power supply.
- Do not use power supplies wires or cables longer than 3m.

The device uses a connector Weidmüller SC-SMT 3.81/04/90 LF RL (186398000).

A mating connector Weidmüller BCZ 3.81/04/180F SN SW (1792970000) is delivered with the device.

Pin	Signal	Marking	Remarks
1	+24VDC_AUX	VAUX	Additional, permanent power supply
2	Fail/Remote on/off	PF	Power fail input
3	+24VDC	VDC	+10V..+30V
4	GND	GND	GND (/shield)



Tab. 8 Power supply connector P1 (1x4 pin)

For normal operation the external power supply has to be connected to the pins 3 (+24VDC) and 4 (GND) of the connector P1.

Pin 1 (+24VDC\_AUX) is used to extend battery life time if the device main power is disabled.

Pin 2 is used as an input for either a power fail on remote on/off signal.

#### Power supply requirements

- minimal power: 30W
- voltage range: 15...30Vdc
- efficiency > 88%
- integrated over-current limitation
- compliant with the directives 2004/1008/EC (EMC) and 2006/96/EC (LVD)
- compliant with the standards EN 61000-6-1, EN 61000-6-2, EN 61000-6-3 and EN 61000-6-4, FCC Part 15 Class B
- compliant with EN 60950-1
- Syslogic recommends the use of the Syslogic DIN Rail power supply *PSU/DR24V60W* (input voltage: 230Vac, output voltage: 24Vdc, power: 60W).
- Please make sure that the input voltage does not exceed 30V otherwise the base board could get damaged. If the input voltage drops below 10V the system doesn't work properly, correct operation cannot be guaranteed.



#### Important notes

Please read the safety and installation instructions of the power supply before connecting it to the monitor.  
If connecting additional devices to the power supply the specified maximum power must not be exceeded.

### 4.3.1 LVDS Interface (TFT/PxxxxPU-A101E only)

This RJ45 connector carries the LVDS signals as well as the USB interface.

Pin number	Signal	Remarks
1	FPD-Link2 -	
2	FPD-Link2 +	
3	GND	Ground
4	Reserved	Not used
5	Reserved	Not used
6	VUSB	5V USB Supply
7	D-	USB Data
8	D+	USB Data

Tab. 9 LVDS Connector

### 4.3.1 DVI Interface (TFT/PxxxxPU-A102E only)

This is the display data input interface. Connect this connector to a computer or other source using a DVI-D (single link) cable. Make sure the selected display resolution of the source device corresponds with the product.

PIN	Description	Remark	Pin	Description	Remark
Pin 1	TMDS data 2+	Digital red	Pin 16	Hot plug detect	Hot plug detect
Pin 2	TMDS data 2+	Digital red+	Pin 17	TMDS data 0-	Digital blue-
Pin 3	TMDS data 2/4	shield	Pin 18	TMDS data 0+	Digital blue+
Pin 4	TMDS data 4	Not connected	Pin 19	TMDS data 0/5	shield
Pin 5	TMDS data 4	Not connected	Pin 20	TMDS data 5-	Not connected
Pin 6	DDC clock		Pin 21	TMDS data 5	Not connected
Pin 7	DDC data		Pin 22	TMDS clock shield	
Pin 8	A. vertical sync	Not connected	Pin 23	TMDS clock+	Digital clock+
Pin 9	TMDS data 1--	Digital green-	Pin 24	TMDS clock-	Digital clock-
Pin 10	TMDS data 1+	Digital green+	C1	Analog red	Not connected
Pin 11	TMDS data 1/3	shield	C2	Analog green	Not connected
Pin 12	TMDS data 3-	Not connected	C3	Analog blue	Not connected
Pin 13	TMDS data 3+	Not connected	C4	A. horizontal sync	Not connected
Pin 14	+5 V	5V Supply	C5	Analogue ground	Not connected
Pin 15	Ground	Ground			

Tab. 10 DVI-D Connector Pin description

### 4.3.2 USB Interface

The USB interface has an internal USB hub providing the following functionalities:

- The monitor controller interface is implemented as USB-HID device and can be controlled either with the configuration tool or directly using the USB-HID interface. The monitor controller interface provides functions to set the brightness of the device or to disable the backlight.
- The touch controller is implemented using an EETI eGalay Touch Controller. Basic functionality is supported from most operating system without any additional tools or drivers. To use extended features of the controller use EETI eGalaxTouch software.
- Connection to four external (USB A) and one internal USB 2.0 Ports to be used for any USB device.

USB Host Connector (Type: USB B) (TFT/PxxxxPU-A102E only)		
Pin number	Signal	Remarks
1	VddUSB	5V supply
2	D-	Data signal -
3	D+	Data signal +
4	GND	GND (/shield)

Tab. 11 USB Host Connector

External USB device connector (Type: USB A)		
Pin number	Signal	Remarks
1	VddUSB	5V supply (max 500mA)
2	D-	Data signal -
3	D+	Data signal +
4	GND	GND (/shield)

Tab. 12 External USB Device Connector

### 4.3.3 Indication LED

The device has two LED indicating the following state:

- Red: Device not ready (start up, over current or over temperature or general error)  
 Green: Device OK

### 4.3.4 Brightness control

The Brightness can be controlled using the USB interface. Refer to the software manual to adjust the brightness of the monitor.

The Brightness can be adjusted using the potentiometer on the rear of the panel. For VESA Monitors the service cover has to be removed. For built in Monitors the Potentometer is available from the outside.

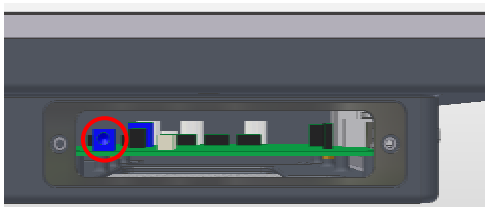


Fig. 6 Brightness Adjust TFT/BVxxxPU-A10xE

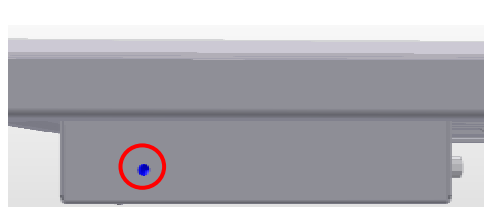


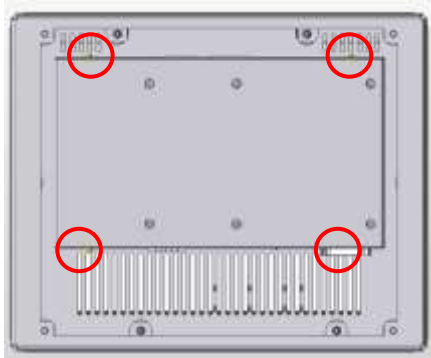
Fig. 7 Brightness adjust (TFT/BVxxxPU-A10xE)

Turn it to the left to increase or turn it to the right to decrease the brightness of the monitor. Use the USB interface to configure the potentiometer as the source of the brightness control.

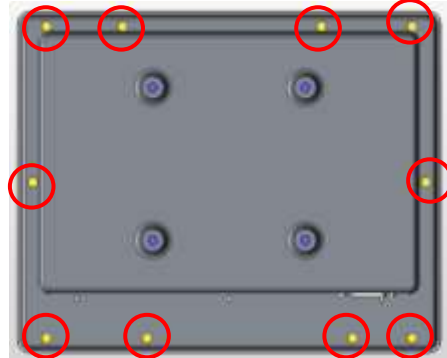
### 4.3.5 Fuse

The onboard fuse prevents the destruction of the product in cause of a malfunction. The fuse must be replaced by an instructed person/technician and in an ESD protected environment. The fuse F600 is located next to the power connector on the PCB.

1. Make sure that the device is not connected to a power supply!
2. Remove screws

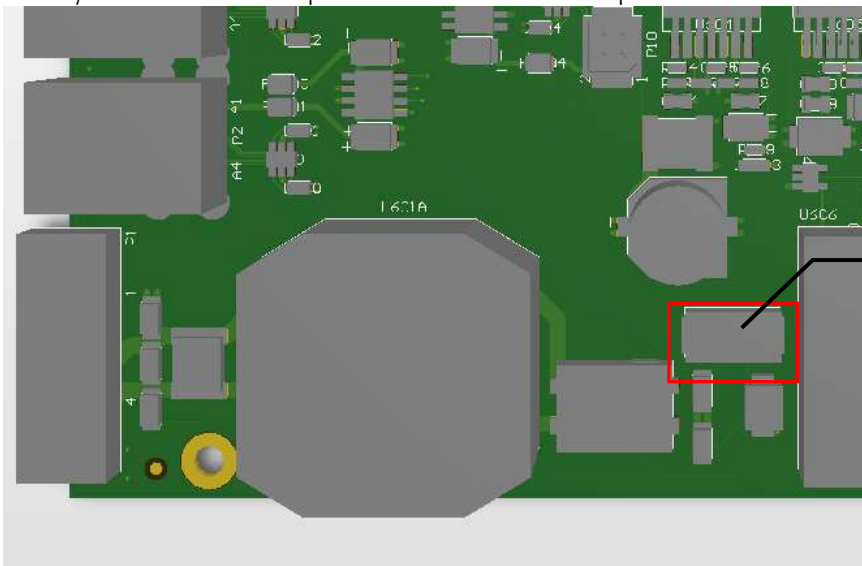


Flush mounting versions



Vesa Mounting versions

3. Remove the cover of the case.
4. Carefully remove the fuse with a pair of tweezers or needle-nosed pliers.



F1701: Littlefuse Nano<sup>2</sup> Slo-Blo 3A  
Ordercode: 0452.003MRL

Fig. 8 Open side view with Reset button, battery and Cfast

Type for F1701: Littlefuse Nano<sup>2</sup> Slo-Blo 3A: 0452.003MRL

Please note that in the code above the package code for tape and reel and quantity 1000pcs is included.

For further information on how to replace the battery please contact the manufacturer.

## 4.4 Internal connectors and configuration

### 4.4.1 Backlight connector

The Backlight connector is connected to the display backlight port or to LED driver board.

External USB Device Connector (Molex Picoblade 6 Pin)		
Pin Number	Signal	Remarks
1	BLVcc	Backlight voltage selected by JP600, JP601
2	BLVcc	Backlight voltage selected by JP600, JP601
3	GND	Ground
4	GND	Ground
5	BLenable	Backlight Enable, 5V= On, 0V = Off
6	BRIGHTNESS	0-5V, 0-2.5V analog or 5V PWM (3.3kHz)

Tab. 13 External USB Device Connector

### 4.4.2 PIR and Brightness Sensor Interface (P12)

The Interface offers to connect a PIR (passive infrared) Sensor to detect motion and enable or disable the backlight.

External USB Device Connector (Molex Picoblade 6 Pin)		
Pin Number	Signal	Remarks
1	VccPir	3.3V Supply for PIR Sensor (PIR sensor drain)
2	PIR	PIR Sensor signal (PIR Sensor source)
3	GND	Ground (PIR sensor ground)
4	VccLight	3.3V Supply for Brightness sensor
5	Light	Analog brightness sensor signal 0..3.3V
6	GND	Ground

Tab. 14 External USB Device Connector

#### 1.1.1. External Potentiometer connector (P13)

If required, use an external potentiometer to control the brightness. Connect a 1kOhm Potentiometer and configure the external potentiometer to control the brightness.

External USB Device Connector (Molex Picoblade 6 Pin)		
Pin Number	Signal	Remarks
1	Vcc	Voltage supply potentiometer
2	Brightness	Control value of the brightness (middle contact)
3	GND	Ground

Tab. 15 External potentiometer connector (P13)

### 4.4.3 Programming interface

P14 and P15 are internally used interface to program the onboard devices. Do not use these connectors.

#### 4.4.4 Shield Connection J200

Jumper J200		
Pin	Feature	Description
1-2	Shield Connection (default)	Shield and DGND are connected
2-3	Shield Connection	Shield and DGND are not connected (1k)

Tab. 16 Shiled Connection J200

### 4.5 Notes on the Touch Screen

#### 4.5.1 Basic functions of the touch screen

The touch screen operates using the PCT (Projected Capacitive Touch) technology.

Therefore the touch must be manipulated using fingers or special gloves or pens/stylus that are made for use with capacitive touch panels. Depending on the driver version and Operating System the PCT touch supports Dual-touch which means you can operate the touch screen with two fingers for drawing or selecting.



The calibration should be carried out with a touch stylus in order to ensure the optimum functioning of the touch screen.

#### 4.5.2 Using OnScreenKeyboard (OSK) with Windows7

When using the OnScreenKeyboard (OSK) for Tablet Computer TabTip.exe under Windows 7 you need to use the original Windows7 driver that is automatically installed instead of the separate touch driver provided by Syslogic to allow TabTip.exe to work properly.

If you use TabTip.exe in Windows7 instead of OSK.exe you will benefit from some comfort features like automatic activation of the OnScreenKeyboard when you activate a text input field. To use TabTip.exe just copy TabTip.exe into the Autostart procedure.

To calibrate the touch with the Windows7 original touch driver use the following steps:

Tap the Start button, Control Panel and then Hardware and Sound.

Under Tablet PC Settings, tap Calibrate the screen for pen or touch input.

On the Display tab, under Display options, tap Calibrate and then Yes to allow the program to make changes. Follow the on-screen instructions to calibrate the touch screen.

Note:

If you need to use the special features that the separate touch driver provides you can use OSK.exe instead of TabTip.exe. But the automatic activation of the OnScreenKeyboard when you activate a text input field will not work.

## 4.6 Cleaning the Projected capacitive touch panel

### 4.6.1 Cleaning the glas front

For cleaning the glass front please use a soft cloth and a standard glas cleaning detergent.



Do not clean the touch screen if the application is running or take special measure to prevent from misapplication.  
**Cleaning the touch sensor can cause unwanted behaviour of your application**

### 4.6.2 Cleaning the metal housing

For cleaning the metal housing please use a soft cloth and a metal polish.



Do not use a coarse scouring cloth, scouring powder or solvent.  
**Cleaning should only be carried out when the device is switched off!**

## 6 Programming Information

### 6.1 Overview

The monitor has an internal controller that is responsible for the control of the backlight. This controller is connected to the host system using a USB connection and implements an USB HID RAW interface. For Windows operating system there is a graphical tool available to control the Monitor. For Linux there is a command line tool available. In any cases the device may be controlled directly accessing the HUSB HID tool

#### 6.1.1 Raw HID Commands and responses

The Controller supports the following commands used either by command line tools or by direct access.

CMD	Description	Response
!PE	Set an external potentiometer to set the brightness*	[OK]: Ext. poti set [ERR]: Ext. poti not present
!PI	Set internal potentiometer to control the brightness	[OK]: Int. poti set
!PL	Configure to use the light sensor to control the brightness*	[OK]: Lightsensor set [ERR]: Lightsensor not present
!PVxx	Set brightness. xx = set point 01..99, two characters required	[OK]: PWM value saved [ERR]: Invalid PWM value
!DE	Enable display	[OK]: Startup display
!DD	Disable display	[OK]: Shutdown display
!TE	Enable PIR Timer*	[OK]: PIR enabled
!TD	Disable PIR Timer*	[OK]: PIR disabled
!TVxxx	Set PIR Timeout value to xxx*10s xxx: set point value 001..360 (three characters)	[OK]: PIR timeout saved [ERR]: Invalid timeout value
	General response	[ERR]: No such command!
!BL	Enable bootloader (do not use except to update firmware) <sup>1</sup>	
!R0	Read setting of external Potentiometer <sup>1</sup>	[OK]: !R0*x (x= potentiometer setting) [ERR]: !R0*-1 (potentiometer not connected)
!R1	Read setting of internal Potentiometer <sup>1</sup>	[OK]: !R1*x (x= potentiometer setting)
!R2	Read light sensor value <sup>1</sup>	[OK]: !R2*x (x= light sensor value) [ERR]: !R2*-1 (sensor not connected)
!R3	Set Display brightness set with PV command <sup>1</sup>	[OK]: !R3*x (x= setting)
!R4	Read selected brightness source <sup>1</sup>	[OK]: !R4*0 (External potentiometer) !R4*1 (internal potentiometer) !R4*2 (light sensor) !R4*3 (Fixed value)
!R5	Read Backlight state <sup>1</sup>	[OK]: !R5*1 (backlight enabled) !R5*0-(backlight disabled)
!R7	Read PIR timeout <sup>1</sup>	[OK]: !R7*x (x=10-3600s)
!R8	Read PIR timer <sup>1</sup>	[OK]: !R7*x (x=10-3600s) [ERR]: !R7*-1 (PIR disabled)
	General response	[ERR]: No such command!

Tab. 17 Controller commands

\* Requires additional hardware, <sup>1</sup> Available since #1.1

#### 6.1.2 USB HID Raw Command Package

The HID RAW Package is structured as followed:

Byte	Description	Remark
63	Report number is always 63 (0x3F)	Header
N	Number of valid bytes (without header)	Header (To transmit data it is required to send N+2 bytes)
Data	ASCII Coded command with N bytes (not zero terminated)	Payload

Tab. 18 USB Hid write command message

#### Example:

Display disable command package looks as followed:

0x3F(dec 63), 0x03, 0x21(!), 0x44('D'), 0x44('D')



## 7 Technical Data

### 7.1 General technical Data

#### Important Note

Do not operate the COMPACT base board outside of the recommended operating conditions. Otherwise lifetime and performance will degrade. Operating the board outside of the absolute maximum ratings may damage the hardware.

#### Absolute Maximum Ratings (over free air temperature range)

Parameter	Symbol	min	nom	max	Unit
power supply voltage	Vcc	-30	24	30	Vdc
Maximum Power	Pmax			22	W
Required fuse	Ibreak			8	A
isolation logic to chassis (AC, 60s, 500m a.s.l., Ta=25°C)		1000			Vrms
creepage distance logic to chassis and PCB boarder		1.5			mm
storage temperature range	Tst	-30		80	°C
Humidity					

Tab. 19 General Absolute Maximum Ratings

#### Recommended Operating Conditions

Parameter	Symbol	min	nom	max	Unit
power supply voltage	Vcc	15	24	30	Vdc
operating free-air temperature range	Ta	-20		65	°C
Humidity (not condensing)	Rh	5		95	RH

Tab. 20 General Recommended Operating Conditions

#### Maximum cable length

Parameter	Length	Remark
Power supply	30m	
DVI	30m	Maximum working cable length depends on resolution and refresh rate
USB to Host	5m	
USB to peripherals	5m	

Tab. 21 Maximum Cable length

## 7.2 EMI / EMC Specification

The device applies to the following directives:

- Directive 2004/108/EC EMC
- Directive 2011/65/EU ROHS

The device is compliant to the following standards:

- EN 61000-6-2: 2005 Generic standards Immunity for industrial environments
- IEC 61000-6-2:2005
- EN 55024:2010 Immunity characteristics - Limits and methods of measurement
- EN 61000-6-4: 2007+A1:2011 Generic standards - Emission standard for industrial environments
- IEC 61000-6-4:2006+A1:2010-i1
- EN 55022:2010 Radio disturbance characteristics - Limits and methods of measurement
- EN 50581: 2012 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

### Important Note

This is a Class A product and not intended to be used in domestic environments. The product may cause electromagnetic interference. Appropriate measures must be taken.

## 8 Firmware

Firmware Revision	Remarks
TFT/BMPANPU_131101	Original Release
TFT/BMPANPU_20151020	Upgraded to new board design, new commands added

Tab. 22 Firmware revisions

## 9 Product Revision History

For details regarding the integrated IPC see separate product documentation DOC/COMPACT71

Hardware Revision	Product Revision	Remarks
TFT/PxxxPU-A102E	1.0	Original Release
TFT/PxxxPU-A102E	1.1	New Hardware (Control electronics), New Firmware
TFT/P150PU-A102E	2.0	Display changed.

Tab. 23 Hardware Revision State

## **10 Manufacturer Information**

### **10.1 Contact**

Our distributors and system integrators will gladly give you any information about our products and their use. If you want to contact the manufacturer directly, please send a fax or email message containing a short description of your application and your request to the following address or use one of the information or technical support request forms on our internet homepage:

Syslogic Datentechnik AG  
Taefernstrasse 28  
CH-5405 Baden-Daettwil/Switzerland

e-mail: [support@syslogic.com](mailto:support@syslogic.com)  
Web: [www.syslogic.com](http://www.syslogic.com)  
T: +41 56 200 90 50  
F: +41 56 200 90 40