thinklogical®

A BELDEN BRAND

PoE Touch Panels

Thinklogical's 7-inch and 10-inch PoE Touch Panels

Seamless integration with Thinklogical's SMP and Matrix Switches for full system control.

Revision C, July 2025

thinklogical, A BELDEN BRAND • 100 Washington Street • Milford, CT 06484, U.S.A.

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Copyright Notice

Initial release date: November, 2020

Subject: PoE Touchpanel Product Manual
Revision: C, July 2025

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MADE IN USA

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Preface

About Thinklogical, A BELDEN BRAND

Thinklogical, a Belden Brand, is the leading manufacturer and provider of fiber-optic and CATx video, KVM, audio, and peripheral extension and switching solutions used in video-rich, big-data computing environments.

Thinklogical is headquartered in Milford, Connecticut and is owned by Belden, Inc., St. Louis, MO (http://www.belden.com). For more information about Thinklogical products and services, please visit https://www.thinklogical.com.

About This Manual

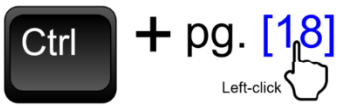
Active Links

This document contains active cross-reference links in the *Table of Contents* and for referenced pages throughout, shown in this format: [18], and for active hyperlinks, shown in this format: link.format.

For **.pdf**: *point/left click*

For **.doc**: *Ctrl/point/left click*

To **return to the front of the document:** *Ctrl/Home.*



Note and Warning Symbols

Throughout this manual you will notice certain symbols that bring your attention to essential information. These are **Notes** and **Warnings**. *Please read this information thoroughly*. Examples are shown below.

Note: A note is meant to call the reader's attention to helpful or valuable information at a point in the text that is relevant to the subject under discussion.

Warning! A warning is meant to call the reader's attention to critical information at a point in the text that is relevant to the subject under discussion.

Connection to the Product

Connections and installation hardware for our products use industry-standard devices and methods. All wiring connections to the customer equipment are designed to minimize proprietary or customized connectors and cabling. Power connections are made with regionally appropriate power cords and approved methods.

Introduction

Thinklogical's TPL-10 and TPL-7 Power-over-Ethernet Touch Panels are Linux based computers with widescreen color PCAP (**P**rojected **CAP**acitive) LCD displays with Gigabit Ethernet control and feature a secured version of a Mozilla Firefox web browser operating in kiosk mode.

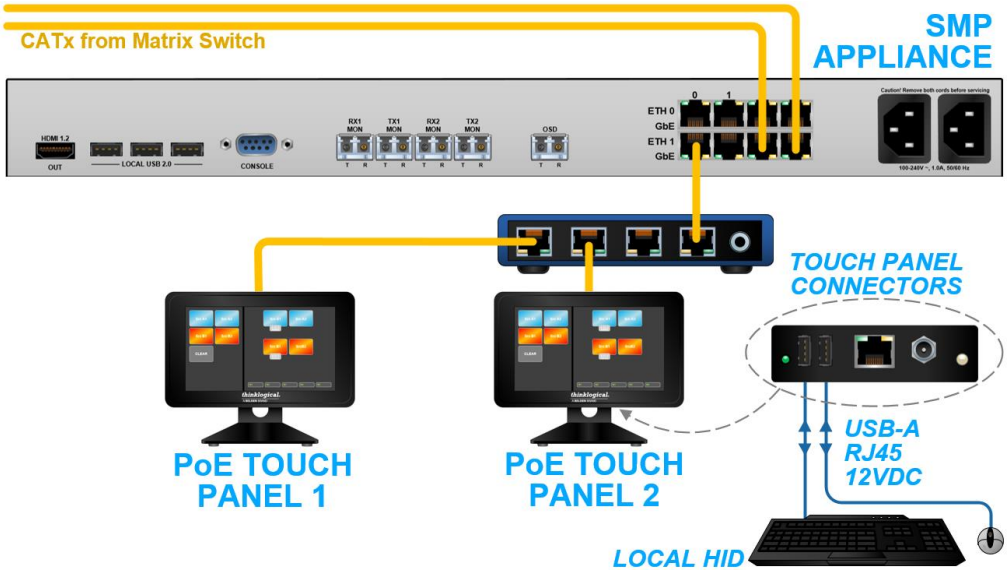
TPL-10 and TPL-7 Touch Panels are used with Thinklogical's SMP solutions to facilitate control of TLX, VX and MX Matrix Switches.

Features Include:

- Secure Linux distribution – Ubuntu (non-ADM version is CentOS)
- HTTPS, secure Firefox private browser
- Forced kiosk mode
- No desktop application
- Resolutions supported: 1280x800 (10"), 800x480 (7")
- PCAP LCD – 7" or 10"
- PoE+ or DC power supply
- Gigabit ethernet
- Fanless design
- Time to boot: 1.5 minutes with network, 2.5 minutes without network

At turn-on, the Touch Panel auto-boots to a FIREFOX browser in kiosk mode to https://192.168.13.9:60090 (SMP web-server default URL). This IP address is configurable during installation if necessary.

PoE Touch Panels are web-clients that display a customizable graphical user interface provided by an SMP Appliance or SMP Module webserver. The Touch Panel operates on a closed, isolated network in kiosk mode to limit access to only the SMP webserver. The system administrator can configure the SMP so that each Touch Panel's GUI has a unique set of sources, destinations and macros.

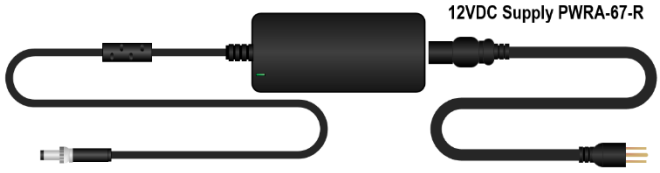


A typical PoE Touch Panel application with Thinklogical's SMP Appliance

The 10-inch and 7-inch PoE Touch Panel Design

- **T**hin-**F**ilm-**T**ransistor (TFT) **P**rojective **Cap**acitive (PCAP) Touch Panel.
- i.MX 6 QUAD (Freescale) Processor platform, featuring an ARM Cortex-A9 MPCore 4 x CPU and Gigabit Ethernet Controller
- TPL-10's **10" display** has 1280 x 800 resolution. TPL-7's **7" display** has 800 x 480 resolution.
- The 4.5" x 4.8" steel base with rubber feet adds desktop stability.
- Standard VESA mounts are provided on the rear panel. Maximum #8-32 screw depth: 10-inch panel =.19", 7-inch panel =.25".
- High-impact aluminum enclosure and display housing. Friction-lock hinge for easy adjustment.
- Two USB-A ports provide external Keyboard and Mouse connections for initial configuration and installation.
- Choice of Input Power: *Power is applied when either the PoE cable is connected or the 12VDC supply is plugged in.*

  - The unit is powered by either PD class 4, 25.5W POE+ Ethernet via the GbE connector or by +12V 25W external power supply (PWRA-67) via the 2mm external power connector. (If both are present, the 12V external power supply will power the unit.)



  - The unit connects to the network via a 10/100/1000 Ethernet POE+ RJ45, indicated by Orange(1G), Green(100M), and Yellow(10M) LEDs. The unit is categorized as a Type 2 (Class 4) POE+ PD (powered device), meaning that its signature to the POE+ PSE (power sourcing equipment) will request 25.5W.
  - A lit green External Power LED on the bottom panel indicates that +12V is available, either from the POE+ circuit or the external power supply.

- An illuminated button indicates operating system status with a bi-color LED (see pg. 9).

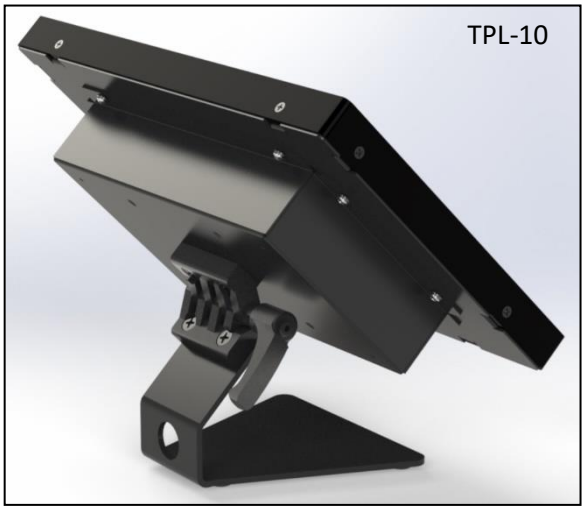
Adjust the Viewing Angle

Featured on both models, a rear-mounted friction hinge with a spring-loaded lever allows easy adjustment of the viewing angle.

- **Press the lever in and turn it to loosen the friction hinge.**
- **Adjust the panel to the desired angle, up to 90°.**
- **Press the lever in and turn it to secure the friction hinge in place, then release.**

The Base

Both PoE Touch Panel models have the same broad-based stand with 4 rubber feet for desktop stability.



Ordering Information

PoE Touch Panel Part Numbers

TPL-000007 7” Power-over-Ethernet Touch Panel

TPL-000010 10” Power-over-Ethernet Touch Panel

PWRA000067 Power Supply Assembly, 12VDC, 5A, Desktop

Setup & Installation

The Contents of your Order

When you receive your Thinklogical® PoE Touch Panel, you should find the following items in the quantities specified in your order:

- PoE Touch Panel – *TPL-000010 or TPL-000007*
- 12VDC Power Supply/Cord – *PWRA000067*

Unpacking the PoE Touch Panel

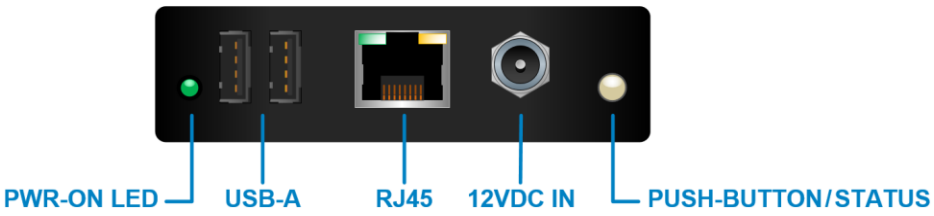
The Thinklogical® PoE Touch Panel is a desktop device. All physical connections to the product use industry-standard connectors. Non-supplied cables that may be needed are commercially available. All connections are found on the rear of the unit.

Carefully remove the Touch Panel from its shipping package and inspect it to make certain that it is in good condition. When the device has been inspected and found to be in suitable condition the installation process can begin.

Order of Installation Events

Please refer to the **Quick Start Guide** included with your products for detailed instructions. The **PoE Touch Panel Quick Start Guide** is also available in **Appendix A** on pg. 18.

Connecting to the PoE Touch Panel



The PoE Touch Panel interfaces located under the panel housing

- The Power-ON LED illuminates when the unit is connected to either PoE or 12VDC.
- The 12VDC IN receptacle accepts the supplied Power Supply
- The illuminated push-button indicates operation status (see pg. 9)
- Two USB-A ports support local HID for initial configuration and set-up.
- The RJ45 port supports CATx Ethernet cable

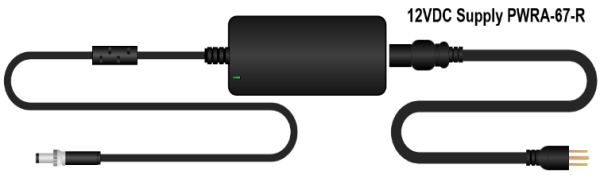
Compatible Thinklogical® Products:

- **SMP2, SMP3** (System Management Portfolio 2.0, 3.0)
- **SMP Appliance**
- **SMP Module**
- **SMP i7 Appliance**

Warning! Do not open or disassemble this product. No user serviceable parts inside.

Choice of Input Power

- The unit is powered by either PD class 4, 25.5W POE+ Ethernet via the GbE connector or by +12V 25W external power supply (PWRA-67) via the 2mm external power connector. (If both sources are present, the 12V external power supply will power the unit.)



- The unit connects to the network via a 10/100/1000 Ethernet POE+ RJ45, indicated by Orange(1G), Green(100M), and Yellow(10M) LEDs. The unit is categorized as a Type 2 (Class 4) POE+ PD (powered device), meaning that its signature to the POE+ PSE (power sourcing equipment) will request 25.5W.
- A lit green External Power LED on the back panel indicates that +12V is available, either from the POE+ circuit or the external power supply.

Note: Adding a power supply while the unit is running on Power-over-Ethernet may cause an improper shut-down. TPL-000010, TPL-000007 are compliant with hardware-based 2-event classification for PDs of 802.3at Class 4 (supports 25.5 Watts).

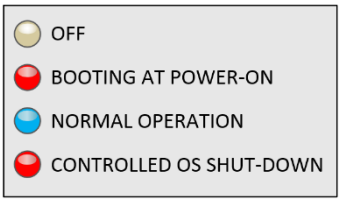
Warning! Network switches will need to be manually configured for 30W per Touchpanel port. TPL-000010, TPL-000007 are not compliant with software-based (LLDP – layer 2 network protocol) 2-event classification for PDs of 802.3at Class 4.

Warning! Removing power from a Touchpanel without a proper shutdown may result in software corruption.

The OS Shut-down Switch

Operating System status is indicated by a bi-color LED/push-button.

- At power-on, a red LED indicates that the i.MX 6 processor is booting.
- Blue indicates normal operation.
- **Pressing the button during operation initiates a controlled software shut-down** and the LED will turn red. The unit will remain powered until it is physically disconnected from its power source. The LED will then extinguish.

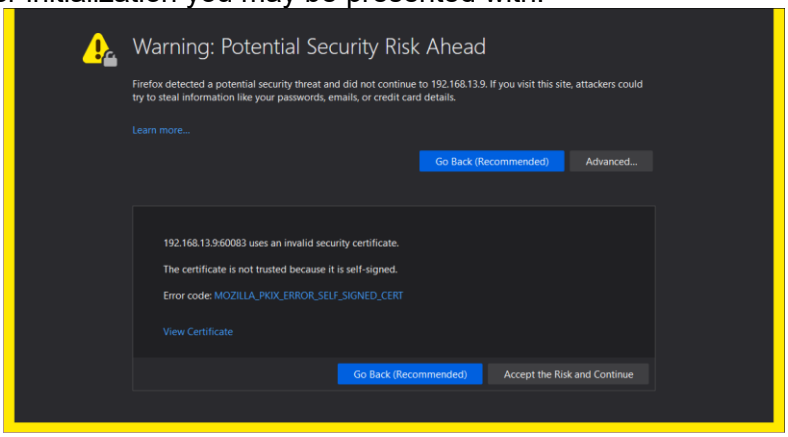


Accessing the Linux Terminal (locally)

- Connect a USB keyboard to the Touchpanel.
- Then type <Ctrl><Alt><F1>
- Login prompt (default user/pwd) = user / user, then su, with password root

Return to the Firefox Browser (locally)

- Type <Ctrl><Alt><F7> for non-ADM version.
- Type <Ctrl><Alt><F2> for ADM version.
- During the browser initialization you may be presented with:



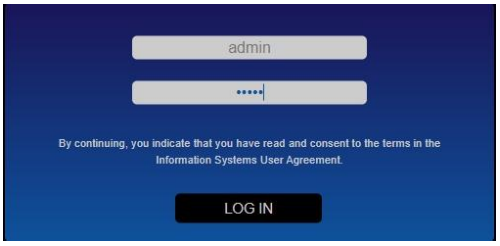
Click on Advanced… and then Accept the Risk and Continue

Network Configuration – ADM

(May 2024 and later)

Browse to the Touchpanel ADM interface from the SMP or another network device.

The factory default URL is: https://192.168.13.111:60087. Login credentials are admin/admin.



Navigate to the SMP tab at the bottom, then enter the correct IP address of the SMP the Touchpanel needs to login to.

Note: For convenience, it is best to do this first, prior to changing the IP address.

Navigate to the NETWORK tab at the bottom, then the ETH0 tab at the top. Enter the correct IP address for the Touchpanel, then hit [SET ETH0]. The change will take place immediately and the Touchpanel application will restart. If necessary, you will need to browse to ADM at the new IP address.

These are the minimum requirements to install the Touchpanel in your system. For information on the other features, select them and click on the ABOUT tab for descriptions.

TECH NOTES: *Enabling F11 (kiosk mode toggle)*

The F11 key is disabled by default for a keyboard directly connected to a Touchpanel. This is done to prevent unauthorized use / reconfiguration. However, there may be environments where it is not possible to browse to the Touchpanels default IP address to configure it. To enable the F11 key to allow kiosk mode toggle:

1. Connect power, keyboard and a mouse to the Touchpanel.
2. Hit ctrl+alt+F1 to get to the Linux prompt.
3. Login as user/user, then su to root, password is root (can be changed later).
4. You will be in the /home/user directory. We need to edit the **.xinitrc** file.
5. Locate the line "/usr/bin/xmodmap -display $DISPLAY -e "keycode 95 = " and add a "#" in front of it as "#/usr/bin/xmodmap -display $DISPLAY -e "keycode 95 = "". This comments out the disable F11 command.
6. Reboot the Touchpanel.

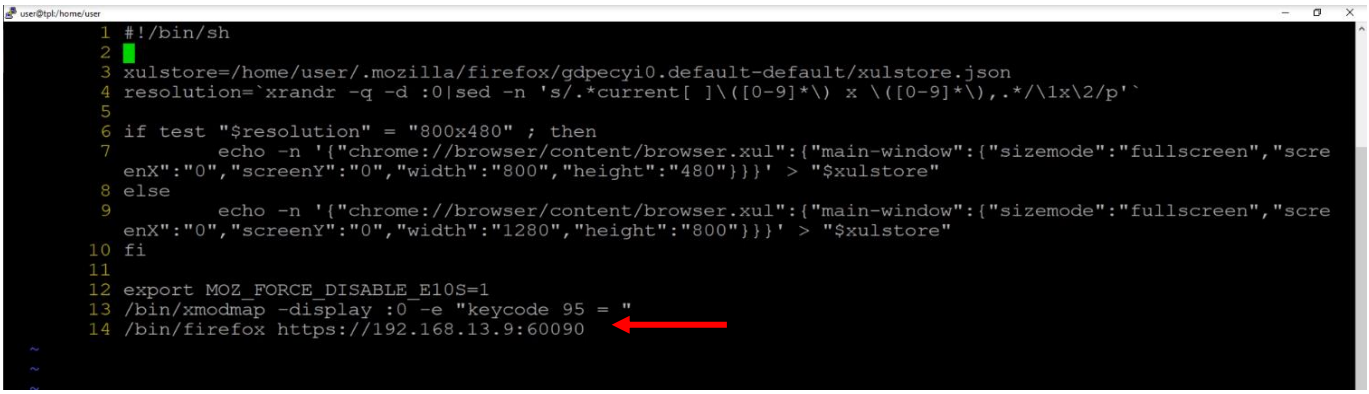
You will now be able to toggle out of kiosk mode, and access the ADM tab at the top to complete your configuration changes. You may wish to disable kiosk mode toggle afterwards.

Network Configuration – non-ADM
(April 2024 and earlier)

Modify the default SMP web-server URL via the Linux Terminal as 'user' or 'root'

Access **/home/user/.xinitrc** (as '**user**' or '**root**')

To change the default SMP web-server's address, modify **/home/user/.xinitrc** accordingly (see line 14, below):



- Press i to enter *insert mode,* then modify the last line to change the touch panel's IP address
- Type a colon < : > to return to the *vi command line*
- Type wq and press <Enter> to save and quit

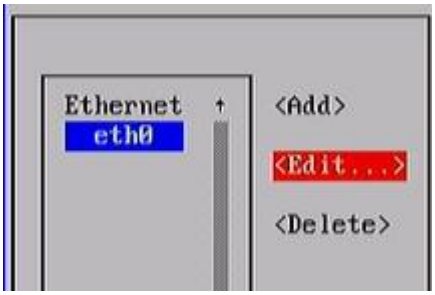
Modify the TPL's IP Address locally as 'root' user

To modify the Touch Panel's IP address, utilize the 'nmtui' (Network Manager Text User Interface) tool at the Linux terminal as 'root' user*:*

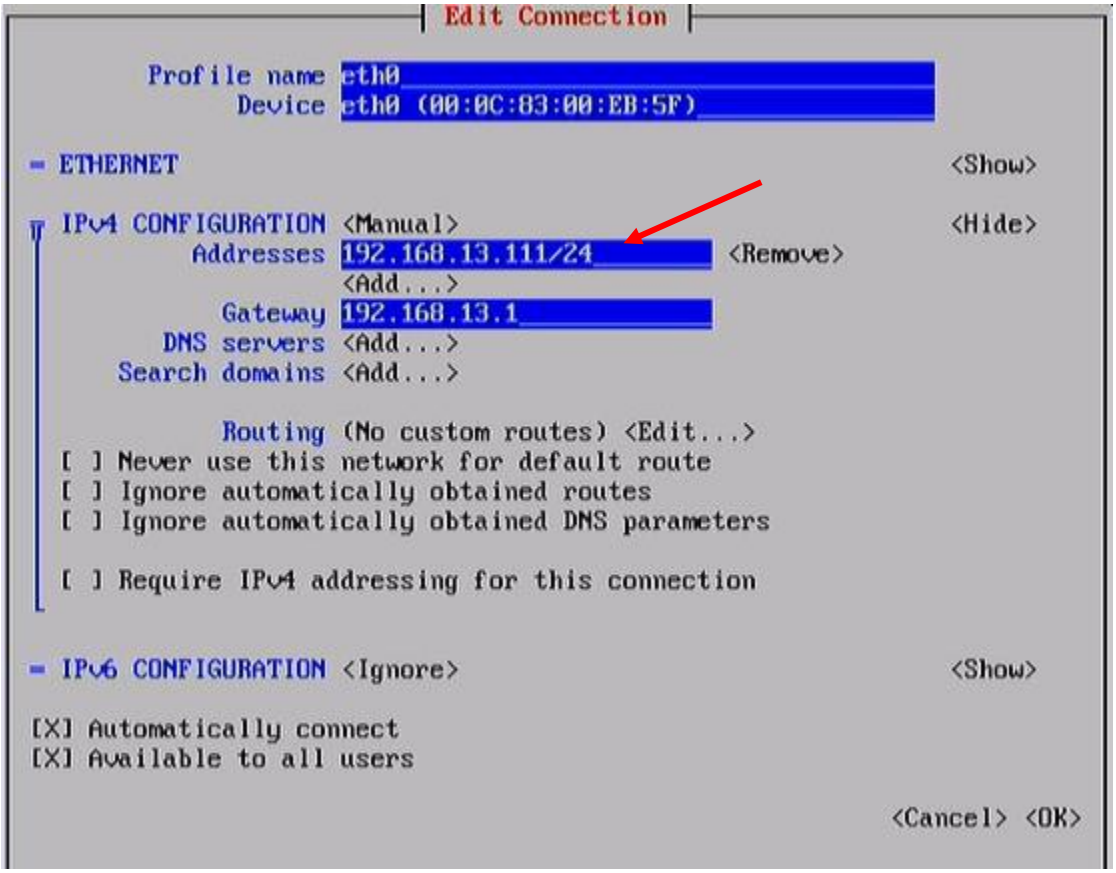
[root@tpl user]# nmtui

1. Select Edit a connection. <Enter>

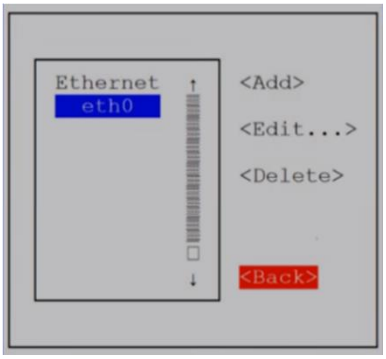
2. Arrow right to <Edit…> <Enter>

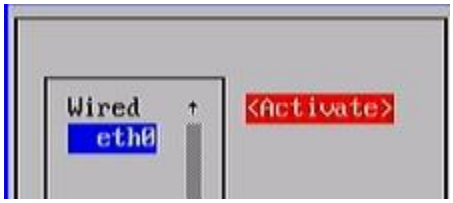


3. Arrow down to Addresses. Modify IPV4 accordingly. Arrow down to <OK> then hit <Enter>



4. Arrow down to <Back>
5. When modifications are complete, select Activate a connection
6. First deactivate eth0, then activate eth0, to take effect.





Modify the TPL's Hostname via 'nmtui' tool as 'root' user. (optional)

Network hostname - Not required for SMP integration

1. Arrow down to Set system hostname, then hit <Enter>

2. Arrow down to the Hostname and make the desired modifications.

3. Arrow down to <OK> then hit <Enter>

4. Verify that the change is correct by selecting <OK>.

5. Arrow down to Quit, then hit <Enter>
   Reboot for the hostname modification to be implemented.

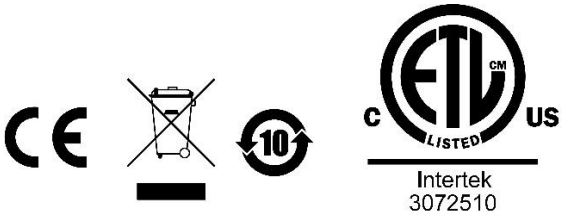
Technical Specifications

PHYSICAL	
PoE Touch Panels (including housing)	**TPL-10 Panel Dimensions:** Height: **7.20”** (182.9 mm) Depth: **2.30"** (58.4 mm) Width: **10.4"** (264.2 mm) Weight: **2.92 lbs.** (1.32 kg) Shipping Weight: **5 lbs.** (2.27 kg) **TPL-7 Panel Dimensions:** Height: **4.72”** (119.9 mm) Depth: **2.25"** (57.2 mm) Width: **7.72"** (196.1 mm) Weight: **2.67 lbs.** (1.21 kg) Shipping Weight: **5 lbs.** (2.27 kg) Stand Width: **4.77”** (121.2 mm), Stand Depth: **4.50”** (114.3 mm)
Interfaces	1 **RJ-45** Jack, GbE Network. 2 **USB-A**. 1 **12VDC** Power In. 1 **Bi-color LED push-button** OS status/shut-down. 1 **LED** power indicator
Included Cables	**PWRA-67** 12VDC Power Supply/Cord
ENVIRONMENTAL	
Temperature	Operating: **0° to 50°C** (32°F to 122°F) **Ambient** Storage: **-10°C to 60°C** (-4°F to 158°F)
Humidity	Operating: **0% to 90% @ 35°C, non-condensing** Storage: **Unlimited**
Altitude	Operating: **Thinklogical components are rated to 1000m max. elevation. Max. operating temp. de-rates by 3% for every 330m > 1000m** Storage: **Unlimited**
ELECTRICAL	
LCD	Display Type 10.1” / 7.0” TFT LCD Display Resolution 1280x800 (10”), 800x480 (7”) Viewing Angle V150°, H150° Backlight Unit LED
Touch Screen	Type Projected Capacitive Input Method Finger/Capacitive Stylus
Connectivity	Gigabit Ethernet control Linux distribution Ubuntu (non-ADM version has CentOS) Mozilla Firefox web browser
Power In: PoE+	**PD Class 4, 25.5W**
Power In: 12V PS	**100-240VAC, 5A, 50-60Hz**
Max. DC Power Consumption	**20 Watts**
THERMAL	**68.2 BTU** Heat load (BTU/HR): *Equal to DC Power consumption x 3.41*
RELIABILITY	**MTBF** (calculated)**:** TPL-7, **29,547 hrs.** TPL-10, **29,891 hrs.**
REGULATORY	**US / Canada EN 90650, FCC 47 CFR Part 15, ICES, CE**
WARRANTY	**One year from date of shipment. Extended warranties available.**

Regulatory & Safety Requirements

Symbols Found on Our Products

Markings and labels on our products follow industry-standard conventions. Regulatory markings found on our products comply with all required domestic and many international requirements.



Regulatory Compliance

Thinklogical's® products are designed and made in the U.S.A. These products have been tested by a certified testing laboratory and found compliant with the following standards for both domestic USA and many international locations:

North America

Safety
ETL Listed US/CAN
UL 62368-1:2014 Ed.2
CSA C22.2#62368-1:2014 Ed.2

LASER Safety
CDRH 21 CFR 1040.10
Class 1 LASER Product
Canadian Radiation Emitting Devices Act, REDR C1370
IEC 60825:2001 Parts 1 and 2
Class 1 LASER Product

Electromagnetic Interference
FCC 47CFR Part 15 Subpart B: 2013 Class A
Industry Canada ICES-003: 2016 Ed. 6

Australia & New Zealand

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 corrective action.

European Union

Declaration of Conformity

Manufacturer's Name & Address: **Thinklogical,** A **BELDEN** BRAND

100 Washington Street

Milford, Connecticut 06460 USA

Thinklogical's products comply with the requirements of the Low Voltage Directive 2014/35/EU, the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU, the WEEE Directive 2012/19/EU and carry the CE marking accordingly.

Standards with Which Our Products Comply

Safety

IEC 62368-1:2014Ed.2+C1

IEC 62368-3 Ed. 1.0 b:2017

CENELEC EN 62368-1

CB Scheme Certificate

Electromagnetic Emissions

CENELEC EN 55032:2015

Electromagnetic Immunity

EN 55024:2011+A1
CENELEC EN 55032:2015
EN 55024:2010+A1 radiated RF Immunity
EN 61000-3-2:2014 Harmonics
EN 61000-3-3:2013 Flicker
EN 61000-4-2:2009 Electro-Static Discharge Test
EN 61000-4-3:2006 A1:2008, A2:2010 Radiated Immunity Field Test
EN 61000-4-4:2004 Electrical Fast Transient Test
EN 61000-4-5:2006 Power Supply Surge Test
EN 61000-4-6:2009 Conducted Immunity Test
EN 61000-4-11:2004 Voltage Dips & Interrupts Test

Supplementary Information

The following statements may be appropriate for certain geographical regions and might not apply to your location:

- This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. *Cet appareil numérique de la classe A respecte toutes les exigencies du Règlement sur le matérial brouilleur du Canada*.
- 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 corrective action.
- This equipment has been tested and found compliant with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications in which case the user may be required to make adequate corrective measures at their own expense.
- This Class A digital apparatus complies with Canadian ICES-003 and has been verified as compliant within the Class A limits of the FCC Radio Frequency Device Rules (FCC Title 47, Part 15, Subpart B CLASS A), measured to CISPR 22:1993 limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment.
- The user may notice degraded audio performance in the presence of electro-magnetic fields.
- This equipment design typically applies to commercial or industrial equipment expected to be installed in locations where only adults are normally present.

» This equipment is not suitable for use in locations where children are likely to be present «

Thinklogical Support

Customer Support

- **Website:** https://www.thinklogical.com/downloads/

Visit our website for current products, support documents and useful information about all the products and services we offer, including:

- **FPGA Update Guides**
- **Quick-Start Guides**
- **User Manuals** (for viewing online or for download)
- **Visio Stencils**
- **Chat Live** with a Technical Support Representative.

Technical Support

For product support, technical issues/questions, product repairs or request for Return Merchandise Authorization, use any of the following methods:

- **Email:** support@thinklogical.com – (preferred)
- **Telephone: 1-203-647-8700 or 1-800-291-3211 -** Monday-Friday from 8:30am to 5:00pm, Eastern Time Zone.

Product Support

Warranty

Thinklogical warrants this product against defects in materials and workmanship for a period of one year from the date of delivery, with longer terms available at the time of purchase on most products. Thinklogical and its suppliers disclaim all other warranties. Please refer to your product invoice for the Warranty Terms & Conditions.

Defect remedy shall be the repair or replacement of the product, provided that the defective product is returned to the authorized dealer within a year from the date of delivery.

Return Authorization

If you wish to return your device, contact the Thinklogical-authorized dealer where you purchased the device, or if you need to return a product to Thinklogical directly, please use the support email above. Support will need the serial number and ask you to describe the issue and will provide you with an RMA number (Return Merchandise Authorization). Pack the device in its original box, if possible, and return it with the RMA# printed on the outside of the box. **DO NOT return a product to Thinklogical without a *Return Merchandise Authorization*.**

Our Address

If you need to write us or return a product, please use the following address:

Thinklogical, A **BELDEN** BRAND
100 Washington Street
Milford, CT 06460 USA
Attn: *RMA#*

Please include the Return Merchandise Authorization number.

TPL-10
TPL-7
PoE+ TOUCH PANELS

QUICK-START GUIDE

As used with *Thinklogical's*® TLX Video Extension Systems

This example features an SMP Appliance and TLX Receiver Extenders

PoE Touch Panels are web-clients that display a customizable GUI provided by an SMP Appliance's or SMP Module's webserver.
Both the 10" and the 7" models support seamless integration with Thinklogical's SMP solutions to facilitate control of TLX, VX and MX Matrix Switches.

*Thinklogical's TPL-10 and TPL-7 Power-over-Ethernet Touch Panels are Linux based computers with widescreen color PCAP (**P**rojected **CAP**acitive) LCD displays **controlled with the touch of a finger or capacitive stylus**. Both use Gigabit Ethernet control and feature a secured version of a Mozilla Firefox web browser operating in kiosk mode.*
Both can be powered over the Ethernet or with a 12VDC Power Supply.

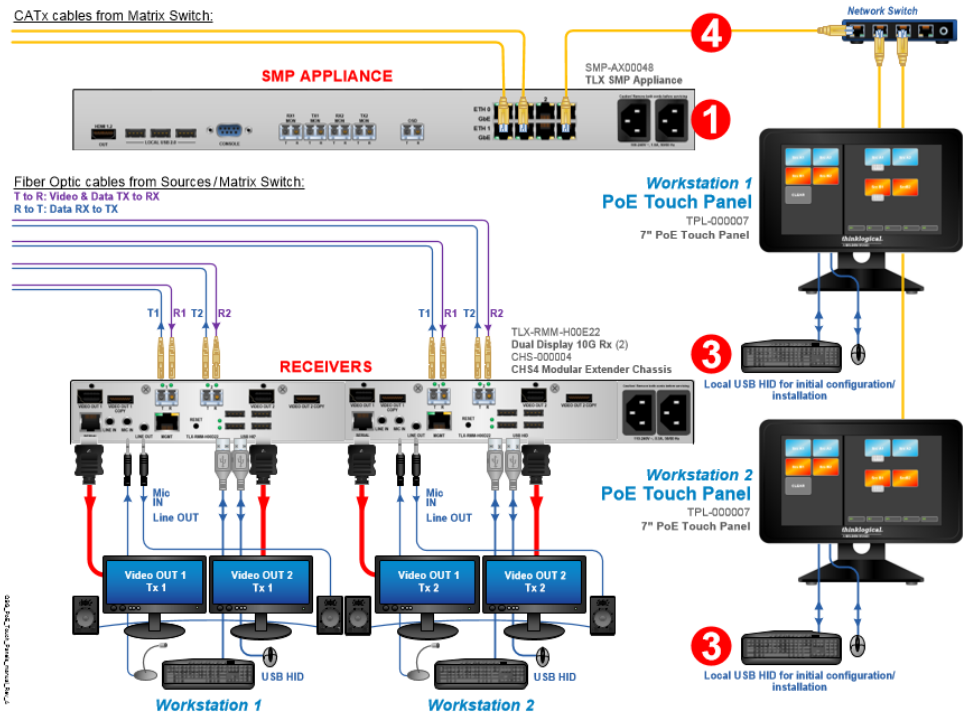
Features include:

Enhanced Security
- Secure Linux distribution CentOS
- Secure private browser (no retained history)
- Forced kiosk mode
- FIPS compliant
- HTTPS

Design
- PCAP LCD - 10" or 7"
- PoE+ or a 12V brick supply
- Gigabit Ethernet control
- Linux distribution CentOS
- Mozilla Firefox web browser
- Fan-less

PD Class 4 *Power over Ethernet* Touch Panel Web-Clients

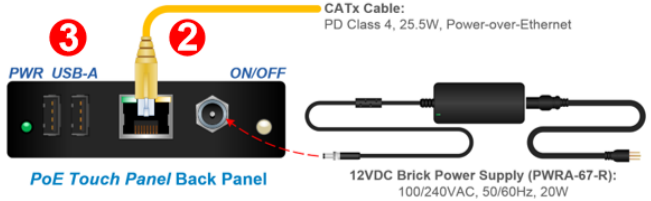
Please contact Thinklogical for configurations specific to your application requirements



Complete Steps 1-4, in order, to connect your Thinklogical Fiber-Optic Extension System with PoE+ Touch Panel control:

STEP 1: Configure the SMP Appliance to support installations with touch panels. See the *SMP Product Manuals*, available online, for more information.

STEP 2: PoE+ Touch Panels can be powered through the **GbE RJ45** connector or by installing the **12V Brick Power Supply** into the power receptacle on the back panel (see below). If both sources are present, the external 12VDC will supply the device. No mounting is required. Standard VESA mounts are provided on the rear panel.



STEP 3: PoE Touch Panels feature two USB-A Ports to support local HID for initial configuration and setup.

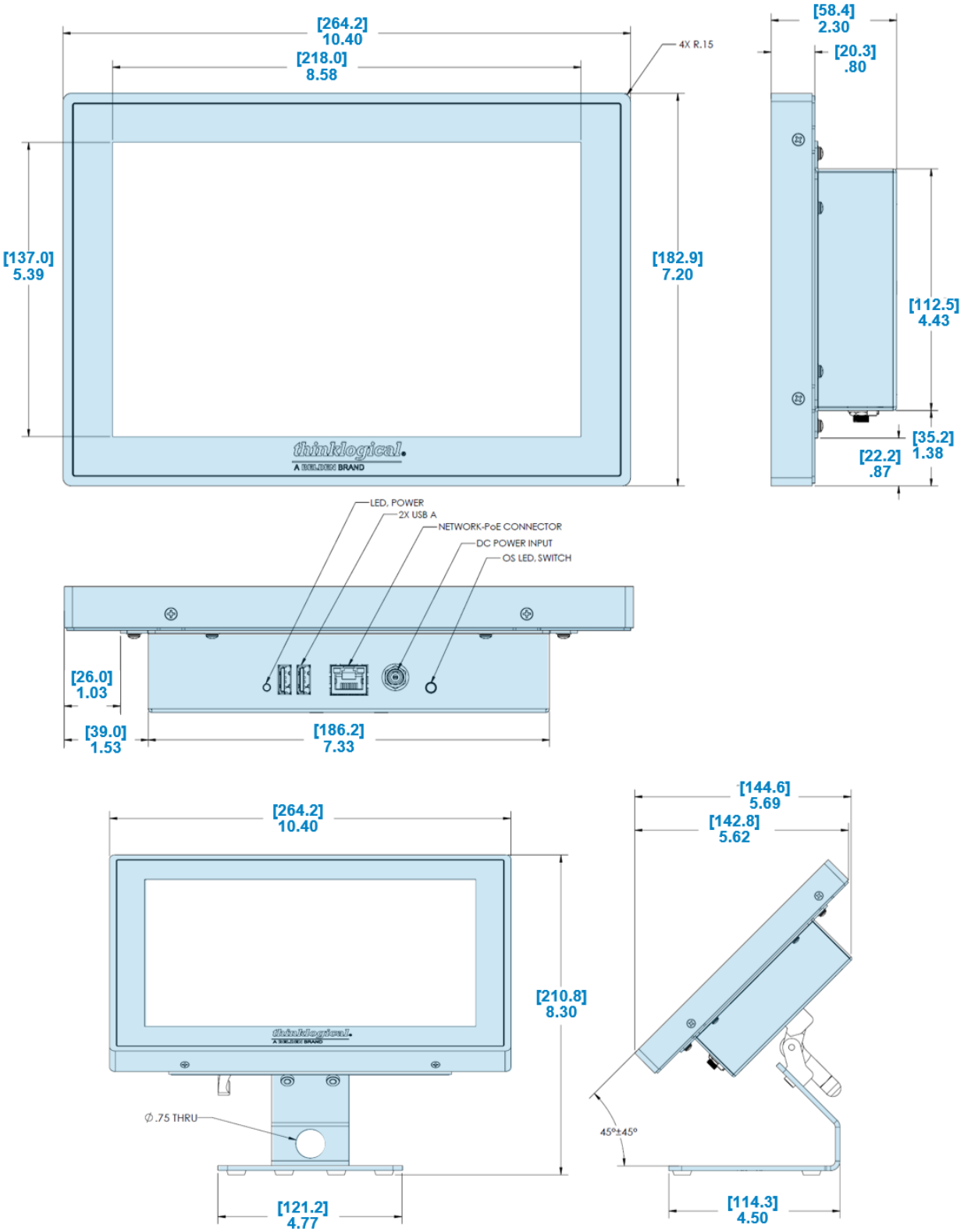
STEP 4: With CATX cable, connect the **PoE Touch Panels** and the **SMP Appliance ETH 0** port to an active **Network Switch**.

Upon completion of this procedure, the PoE Touch Panel will be fully operational.

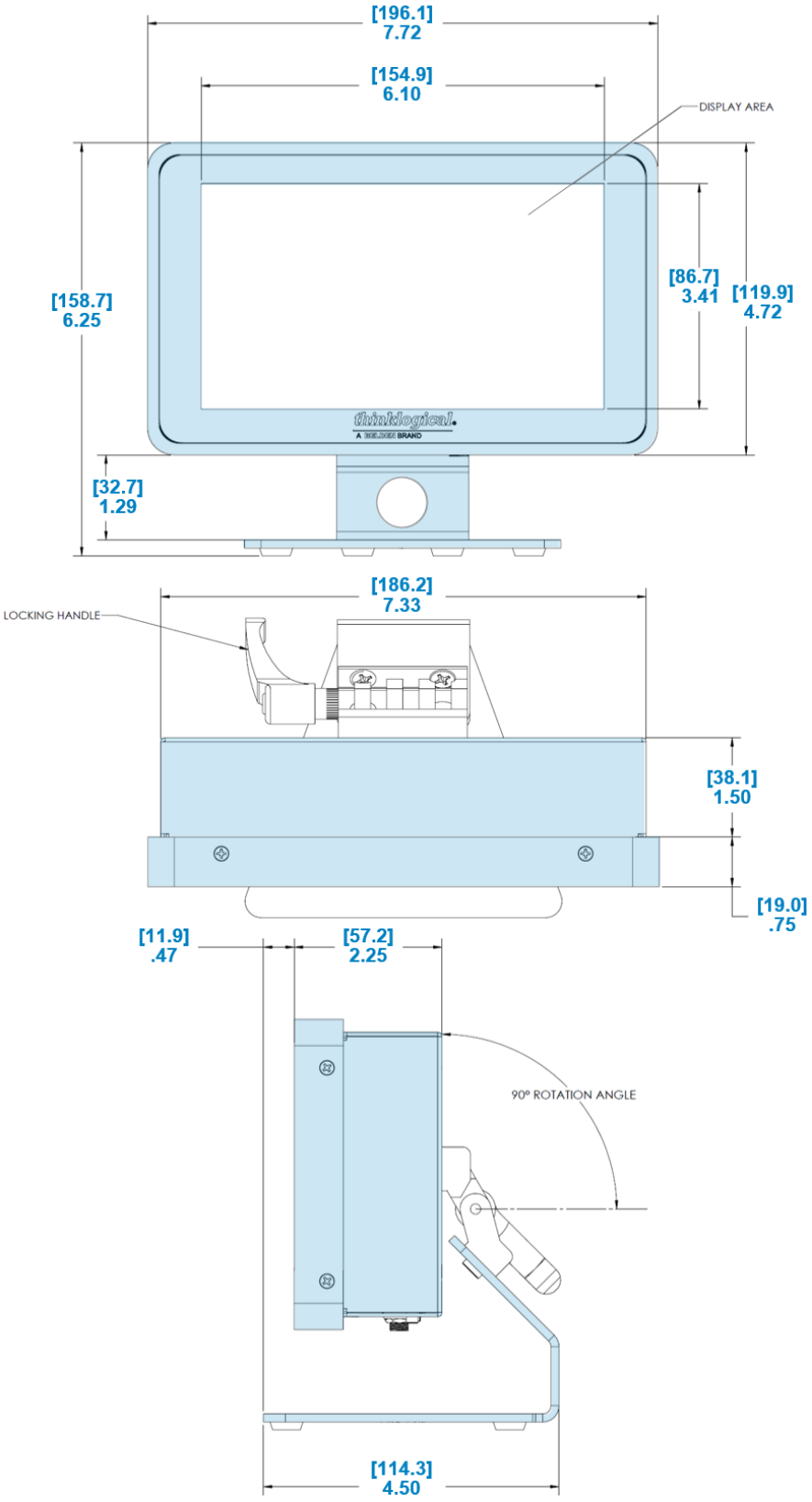
At turn-on, the Touch Panel auto-boots to a FIREFOX browser in kiosk mode to https://192.168.13.9:60090 (SMP web-server default URL).
- Resolutions supported: 1280x800 (10"), 800x480 (7")
- Time to boot: 1.5 minutes with network, 2.5 minutes without network
- See the *PoE Touch Panel Product Manual*, available online, for more information.

Appendix B: PoE Touch Panel Dimensions

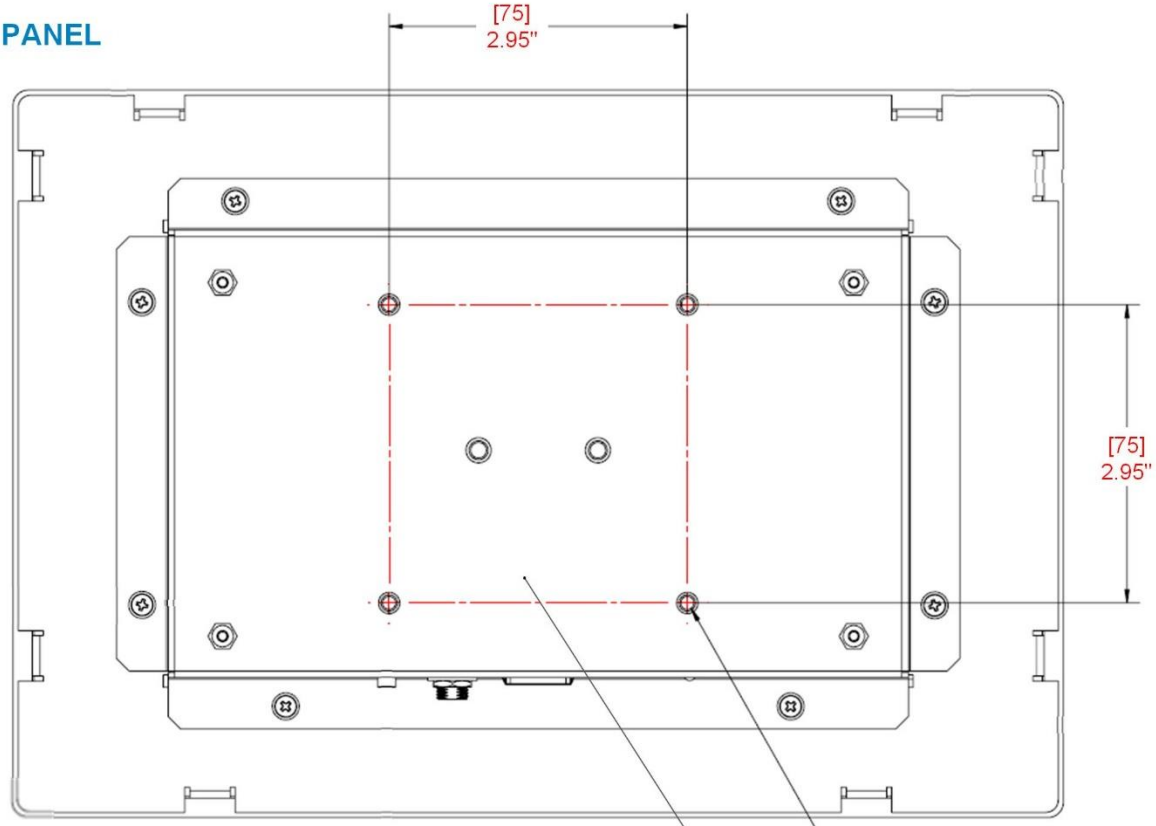
TPL-10 Dimensions:



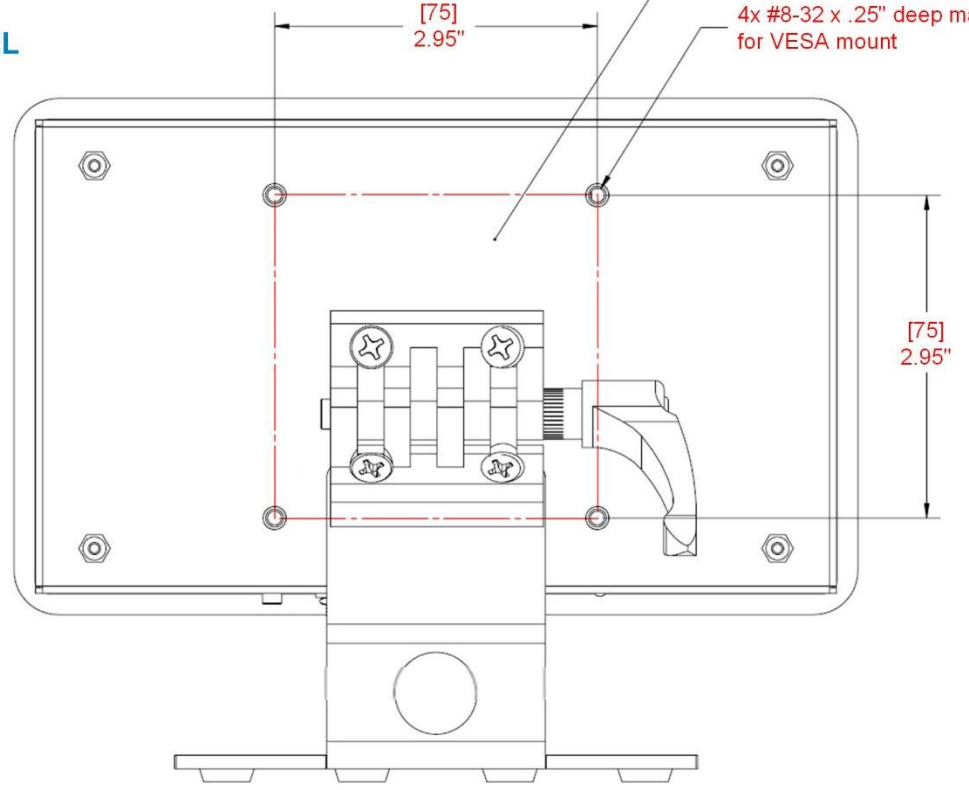
TPL-7 Dimensions:



10" PANEL



7" PANEL



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