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 B, February 2021

Copyright Notice

Website: https://www.thinklogical.com
Facebook: www.facebook.com/ThinklogicalUSA
LinkedIn: www.linkedin.com/company/thinklogical
Google+: http://plus.google.com/u/0/109273605590791763795/about
YouTube: www.youtube.com/user/thinklogicalNA
Twitter: @thinklogical

MADE IN USA

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PREFACE
About Thinklogical A **BELDEN** BRAND

thinklogical®
A **BELDEN** BRAND
**100 Washington St.
Milford, CT 06460 USA**

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 offers the only fiber-optic KVM Matrix Switches in the world that are accredited to the Common Criteria EAL4, TEMPEST SDIP 24 Level B, and NATO NIAPC Evaluation Scheme: GREEN and the U.S. DoD DISA JITC UCR 2013 APL information assurance standards. And Thinklogical Velocity products are the first system with both KVM and video matrix switching capabilities to be placed on the Unified Capabilities Approved Product List (UC APL) under the Video Distribution System (VDS) category.

Thinklogical products are designed and manufactured in the USA and are certified to the ISO 9001:2015 standard.

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 Product Manual

This product manual is divided into four sections: **PoE Touch Panel Features, Set-Up & Installation, Regulatory & Safety Requirements** and **Thinklogical Support.** These are sub-divided to help you find the topics and procedures you are looking for. This manual also contains an Appendix.

Section 1 – PoE Touch Panel Features: **Pg. 5**. Details the features and functions of your equipment.

Section 2 – Set-Up and Installation: **Pg. 8**. Contains all the requirements and procedures necessary to connect and install your equipment, including FPGA updates.

Section 3 – Safety & Regulatory Requirements: **Pg. 15**. Thinklogical® strongly recommends that you read this section prior to starting the hardware assembly.

Section 4 – Thinklogical Support: **Pg. 17**. Thinklogical provides the best customer support available. If you have any questions or need to contact us for any reason, please refer to this section of the manual.

Appendix A: PoE Touch Panel Quick Start Guide: **Pg. 18**. Get started with easy-to-follow, step-by-step instructions.

Appendix B: PoE Touch Panel Dimensions: **Pg. 19**. Detailed dimensions of the 10" and 7" models.
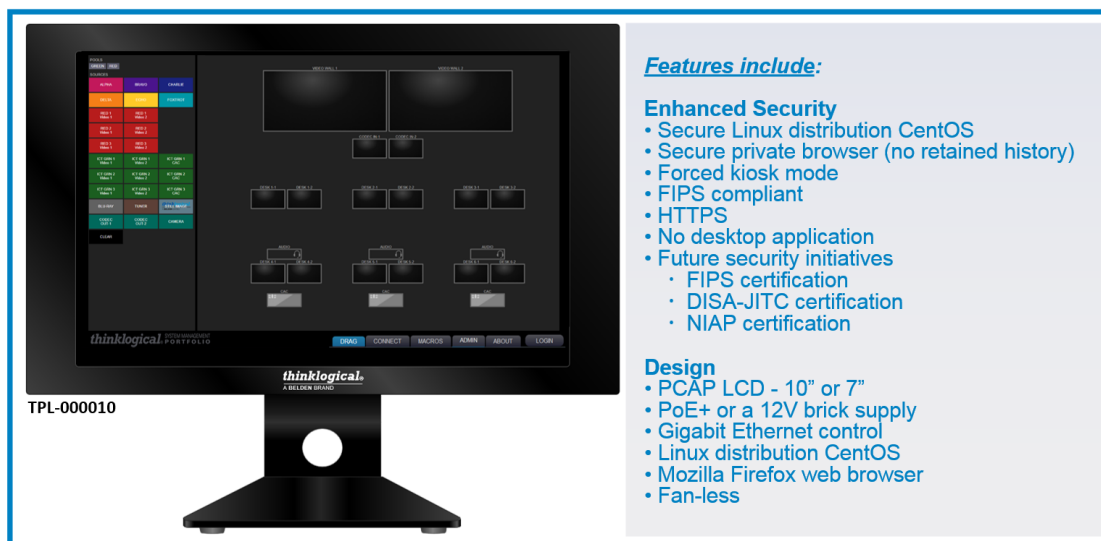
Section 1: PoE Touch Panel Features

The Logical Solution

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 support seamless integration with Thinklogical's SMP solutions to facilitate control of TLX, VX and MX Matrix Switches.

At turn-on, TPL 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

TPL-000010

Features include:

Enhanced Security
- Secure Linux distribution CentOS
- Secure private browser (no retained history)
- Forced kiosk mode
- FIPS compliant
- HTTPS
- No desktop application
- Future security initiatives
  - FIPS certification
  - DISA-JITC certification
  - NIAP certification

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

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.
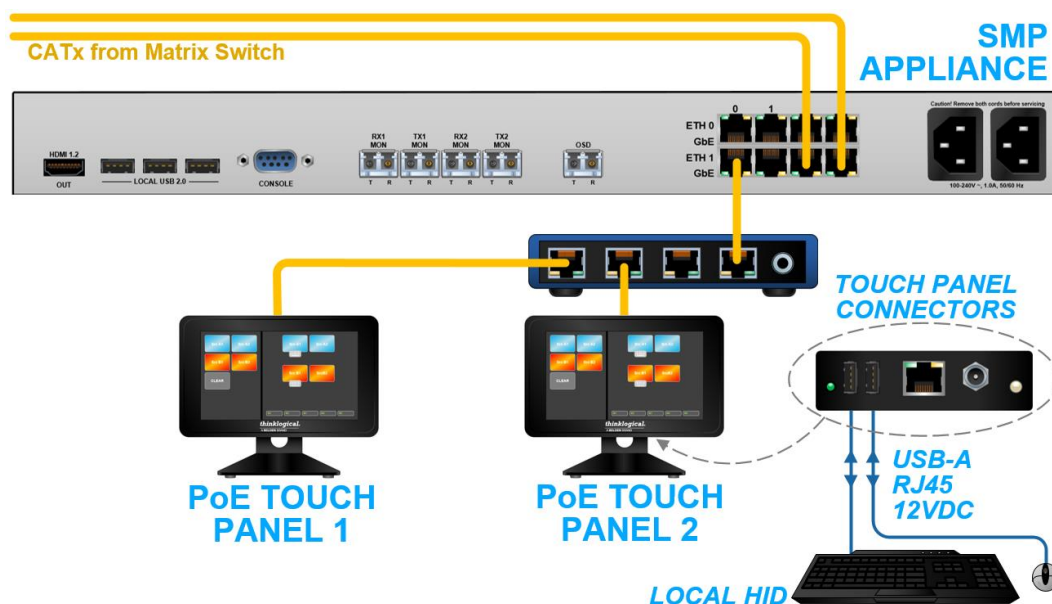

A typical PoE Touch Panel application with Thinklogical's TLX Extenders & Matrix Switch
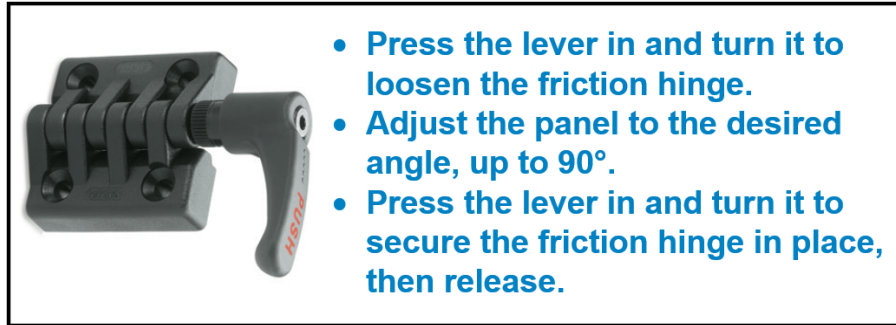
The 10-inch and 7-inch PoE Touch Panel Design

TPL-7

- **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 provided on the rear panel.
- 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.*

  12VDC Supply PWRA-67-R

  ➢ 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 center taps of the input pairs provide the POE+ power, if available. 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).
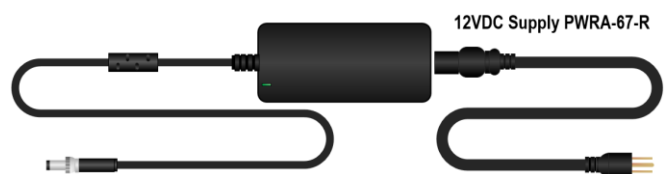
Adjust the Viewing Angle

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.

TPL-7

TPL-10
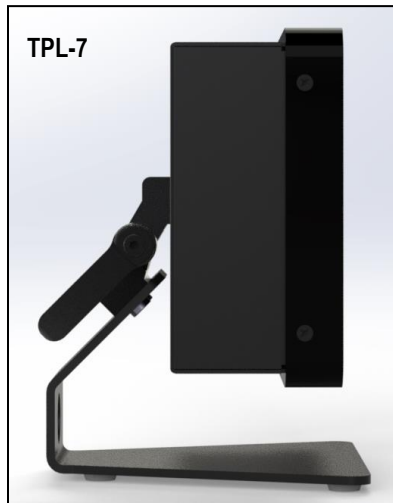
Ordering Information

PoE Touch Panel Part Numbers
TPL-000007   7" Power-over-Ethernet Touch Panel
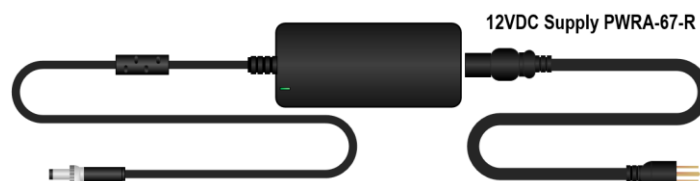**TPL-000010**   10" Power-over-Ethernet Touch Panel

Section 2: Set-Up & 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-10 or TPL-7*
- 12VDC Power Supply/Cord – *PWRA-67*
- Product Manual CD
- Product Quick Start Guide

12VDC Supply PWRA-67-R

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.

READ THE INSTRUCTIONS THOROUGHLY BEFORE STARTING ANY PROCEDURE!

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

PWR-ON LED — USB-A — RJ45 — 12VDC IN — PUSH-BUTTON/STATUS
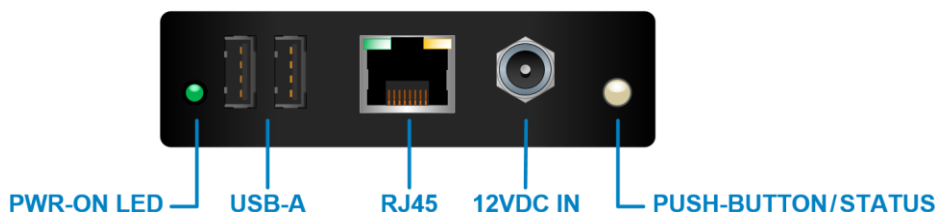
The PoE Touch Panel interfaces located under the panel housing

- 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:

- **SMP, SMP2** and **SMP3** (System Management Portfolio 1.0, 2.0, 3.0)
- **SMP Appliance**
- **SMP Module**

STOP **WARNING! Do not attempt to open or disassemble this product. Please contact your dealer or *thinklogical* for qualified servicing.** 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.)

12VDC Supply PWRA-67-R

- 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 center taps of the input pairs provide the POE+ power, if available. 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.
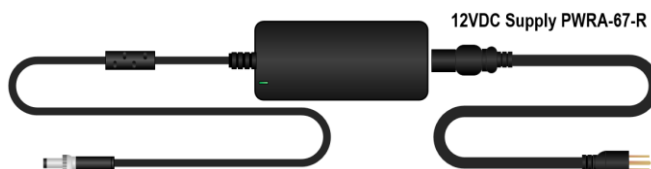
⚠️ **Note: Adding a power supply while the unit is running on Power-over-Ethernet may cause an improper shut-down.**

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.

⬤ OFF
🔴 BOOTING AT POWER-ON
🔵 NORMAL OPERATION
🔴 CONTROLLED OS SHUT-DOWN
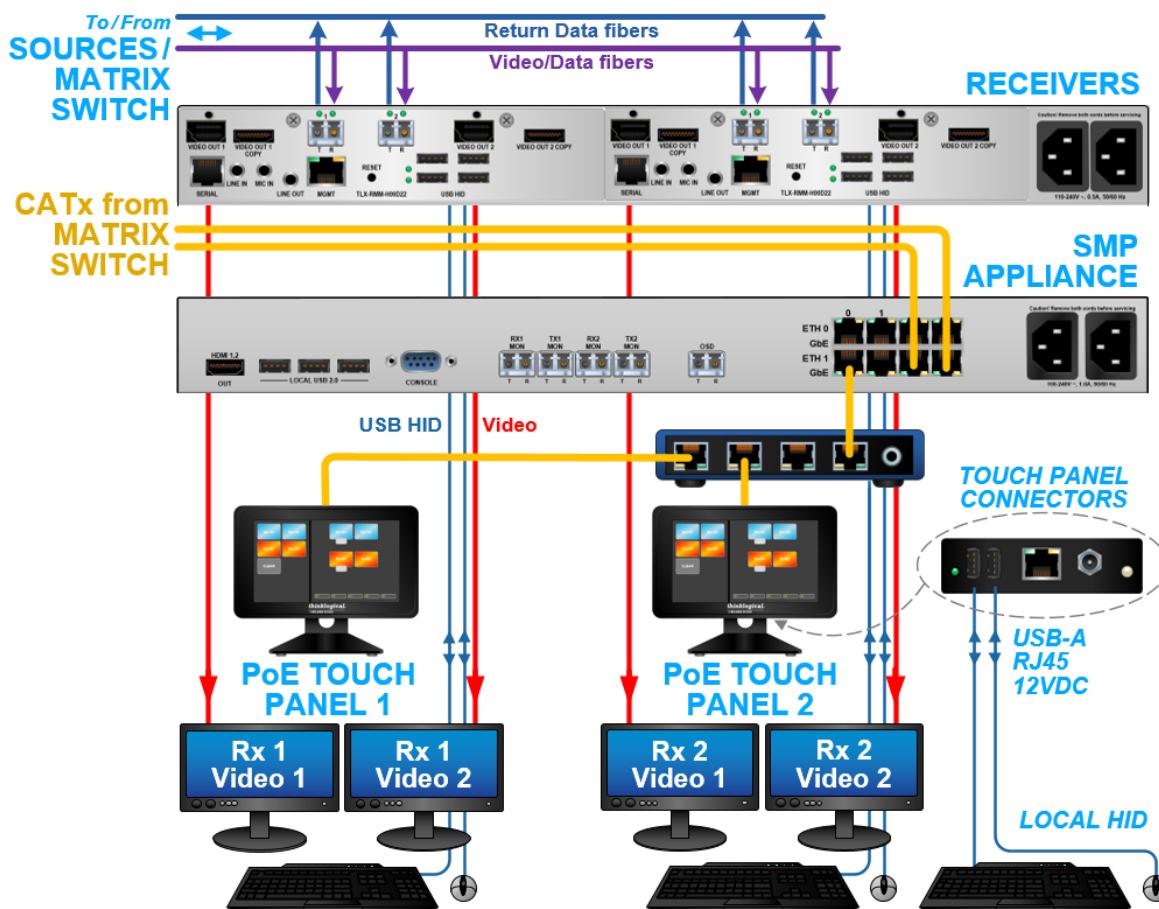
A typical PoE Touch Panel workstation application with Thinklogical's TLX Extenders
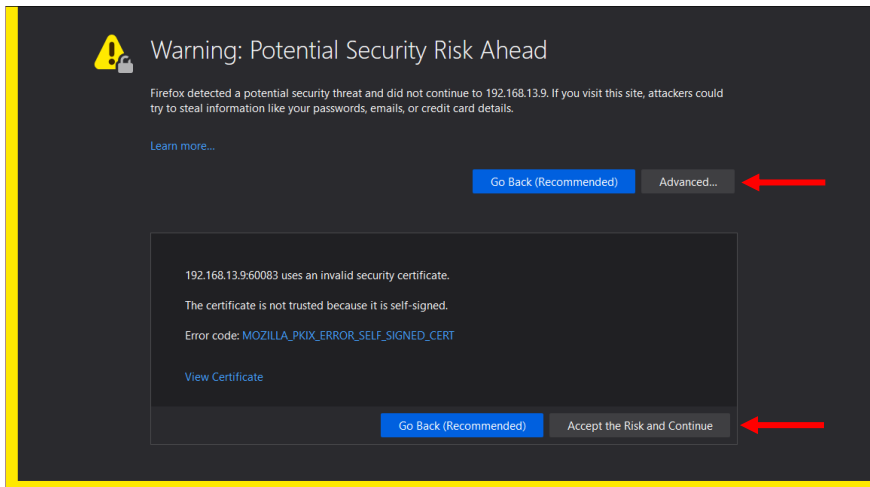
Network Configuration

Accessing the Linux Terminal (locally)

- <Ctrl><Alt><F1>
- Login prompt (default user/pwd) – user / user, then su, with password root

Return to the Firefox Browser (locally)

- <Ctrl><Alt><F7>
- During the browser initialization you may be presented with:

Click on Advanced… and then Accept the Risk and Continue

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*
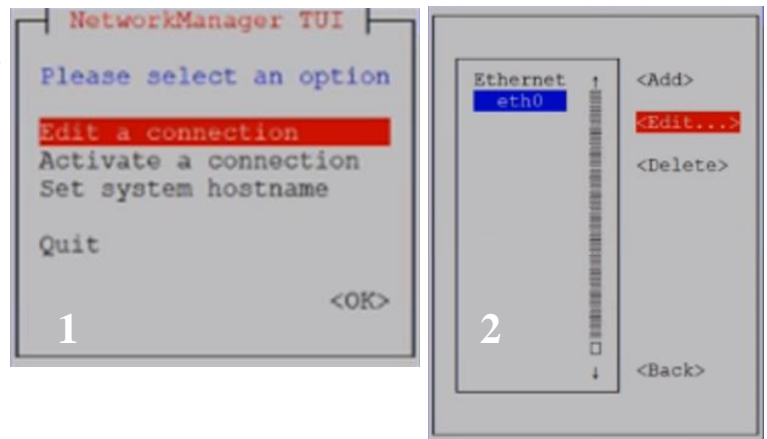- Type wq and press <Enter> to save and quit

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:
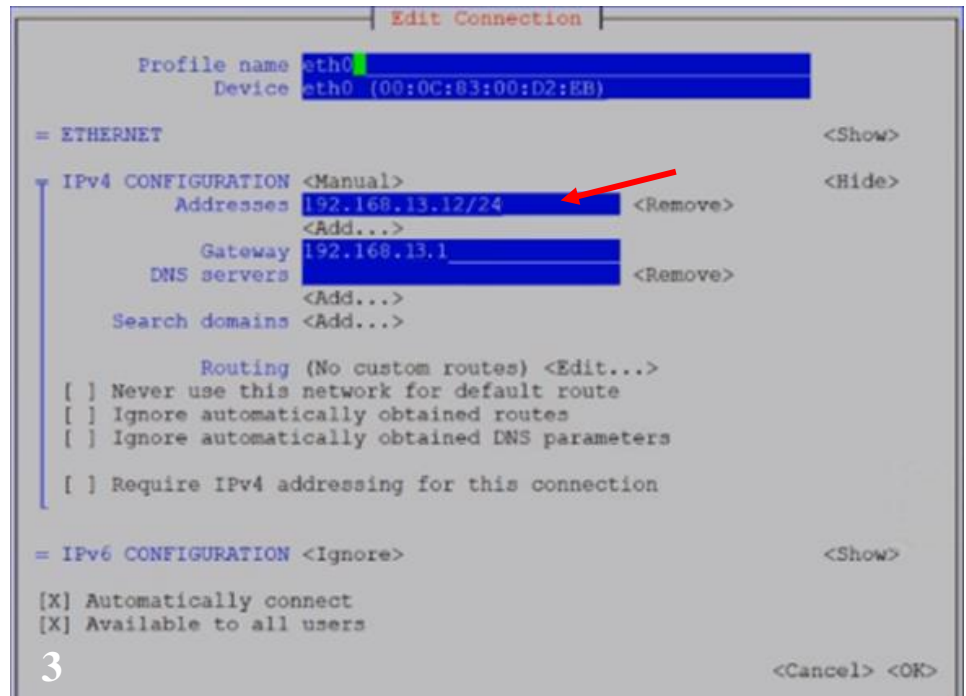
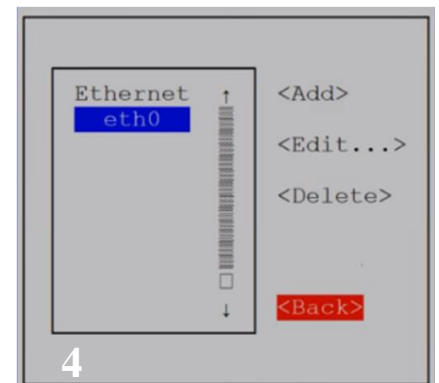[root@tpl user]# nmtui

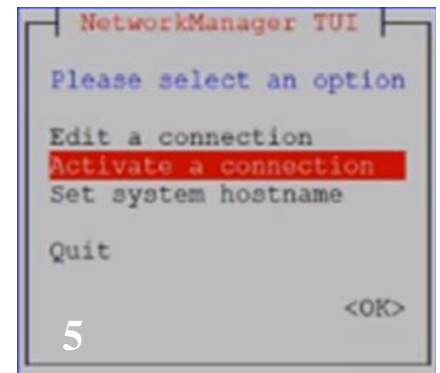1. Select `Edit a connection`. <Enter>

2. Arrow right to <`Edit…`> <Enter>

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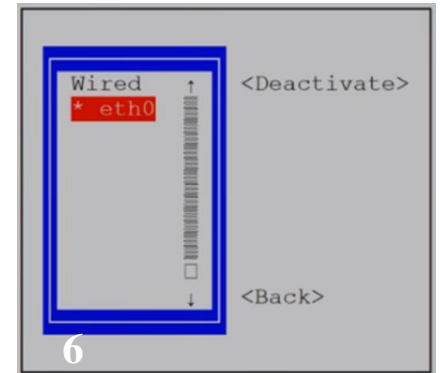

4. Arrow down to <`Back`>

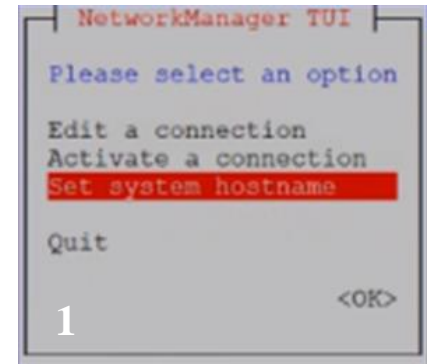5. When modifications are complete, select `Activate a connection`

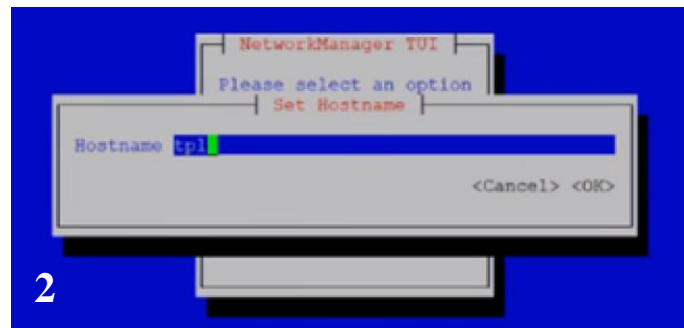6. First deactivate `eth0`, then activate `eth0`, to take effect.

Modify the TPL's Hostname via 'nmtui' tool as 'root' user. (optional)
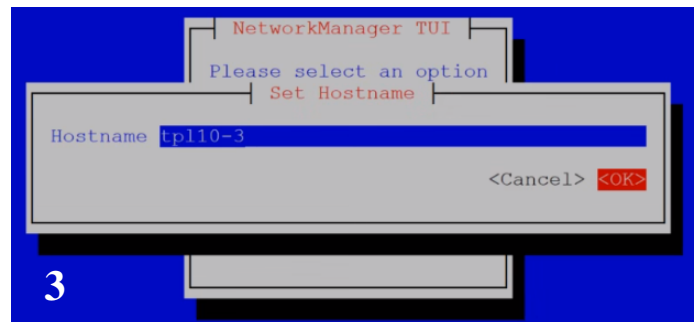
Not required for SMP integration

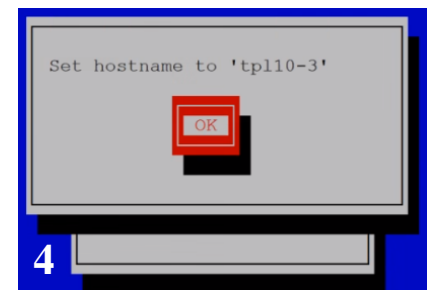1. Arrow down to `Set system hostname`, then hit <Enter>

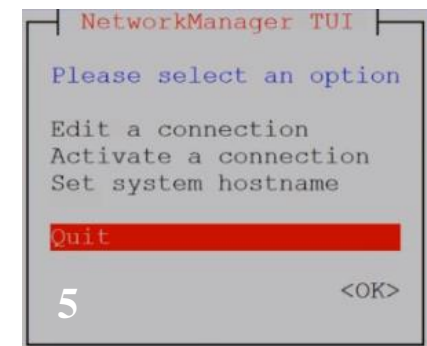2. Arrow down to the `Hostname` and make the desired modifications.

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.

Power-Over-Ethernet Touch Panel 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) Stand Width: **4.77"** (121.2 mm), Stand Depth: **4.50"** (114.3 mm) **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)
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") Response Time 25ms typical Viewing Angle V150°, H150° Backlight Unit LED Backlight Lifetime 50K hours Surface Treatment Anti-Glare Color Configuration RGB Vertical Stripe
Touch Screen	Type Projected Capacitive Input Method Finger/Capacitive Stylus
Connectivity	Gigabit Ethernet control Linux distribution 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.**

Section 3: 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 matériel 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 «**

Product Serial Number

Thinklogical products have a unique serial number, which includes a date-code, printed on an adhesive label that is affixed to the unit. The format for the date-code is *2 digits for the month*, dash, *2 digits for the year*, plus *at least four digits for a unique unit number*. For example:
01-210037 indicates the unit was built in the **1**st month of 20**21** and is unit number **37**.

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.

Section 4: How to Contact Us

Customer Support

Website: https://www.thinklogical.com

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

- **Technical Specification Sheets**
- **Quick-Start Guides**
- **Product Manuals** (for viewing online or for download)
- **Chat live with a Technical Service Representative**

Email: mailto:support@thinklogical.com

For product support, technical issues or questions, product repairs and request for Return Merchandise Authorization.

Telephone: 1-203-647-8700

Please contact our expert sales staff in Milford, CT **Monday - Friday from 8:30am to 5:00pm**, Eastern Time Zone. If leaving a voice message, please provide a preferred time to call back.

Fax: 1-203-783-9949

Please indicate the nature of the fax on your cover sheet and provide contact information.

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 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.

If you wish to return your device, contact the Thinklogical authorized dealer where you purchased the device, or if you purchased directly, call Thinklogical at **1-800-647-8700**.

Return Authorization

If you must return a product to Thinklogical directly, please contact us at **1-203-647-8700**. Customer Support will ask you to describe the problem and will issue you a **R**eturn **M**erchandise **A**uthorization **number** (RMA#). 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 have any product issues or questions or need technical assistance with your Thinklogical system, please call us at **1-203-647-8700** and let us help. If you need to write us or return a product, please use the following address:

Please include the Return Merchandise Authorization number: **Thinklogical,** A **BELDEN** BRAND
100 Washington Street
Milford, CT 06460 USA
Attn: *RMA#*

Appendix A: PoE Touch Panel Quick Start Guide

Appendix B: PoE Touch Panel Dimensions
TPL-10 Dimensions:

TPL-7 Dimensions: