TPCS-4SM & TPCS-4SMD
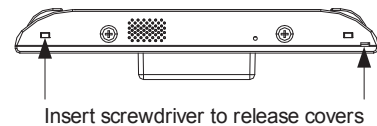
4.3" Touch Screen Control Systems

① Change the Button Inserts or Button Covers

The Crestron® TPCS-4SM and TPCS-4SMD ship with 10 "hard key" push buttons for quick access to commonly used functions. Optional, custom engravable button covers are available (4SM-BTNO-[B, W]-S and custom engraving sold separately). For a clean appearance, either column of buttons may be removed and covered using the no-button covers provided.

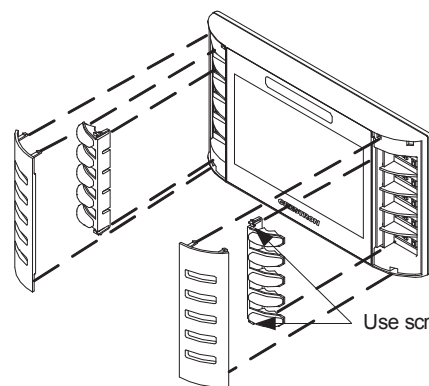To change the inserts or covers, use the following procedure:

1. Insert a small, slot head screwdriver into the appropriate hole on the bottom of the touch screen to release its cover. Refer to the following illustration.

   Insertion Points for Button Cover Releases
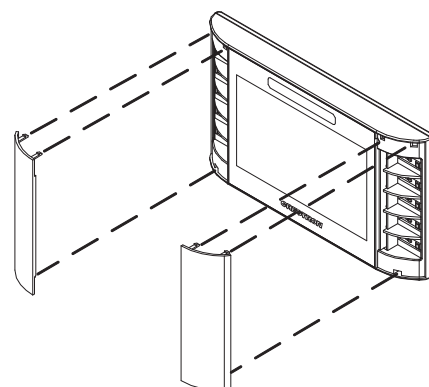

   Insert screwdriver to release covers

2. With the bottom of the cover released, gently remove it from the touch screen.

3. If removing the button insert, after releasing and removing the button cover, use a small slot head screwdriver to press and gently lift the button insert from the touch screen. Refer to the following illustration for the press and lift points on the button insert.

   Touch Screen with Button Inserts

   Use screwdriver to release button insert

4. Gently place the new cover in position and press it into place.

   Touch Screen with No-Button Covers

② Install the Touch Screen

The TPCS-4SM and TPCS-4SMD touch screens install simply and easily into a standard electrical box or onto virtually any flat surface.

A tabletop enclosure, the TTS-4SM and swivel mount, SMK-4SM are also available (both sold separately). For mounting onto a flat surface, use the MSMK-4SM Multi-Surface Mounting Kit (sold separately).

The TPCS-4SM and TPCS-4SMD are supplied with screws for installation into an electrical box.

NOTE: If using the touch screen with a C2N-IO Control Port Expansion Module, install the C2N-IO in the electrical box using the fastener included with the module. For details, refer to the latest version of the C2N-IO Operations & Installation Guide (Doc. 7236). It is available from the Crestron Web site (www.crestron.com/manuals).
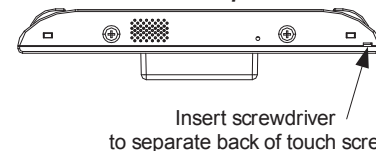
Mounting in a US Electrical Box

NOTE: When mounting the TPCS-4SM or TPCS-4SMD into an electrical box, the box must be installed horizontally.

To mount the TPCS-4SM or TPCS-4SMD into an electrical box, use the following procedure:

1. Insert a small slot head screwdriver into the hole shown in the following illustration and gently separate the back of the touch screen.
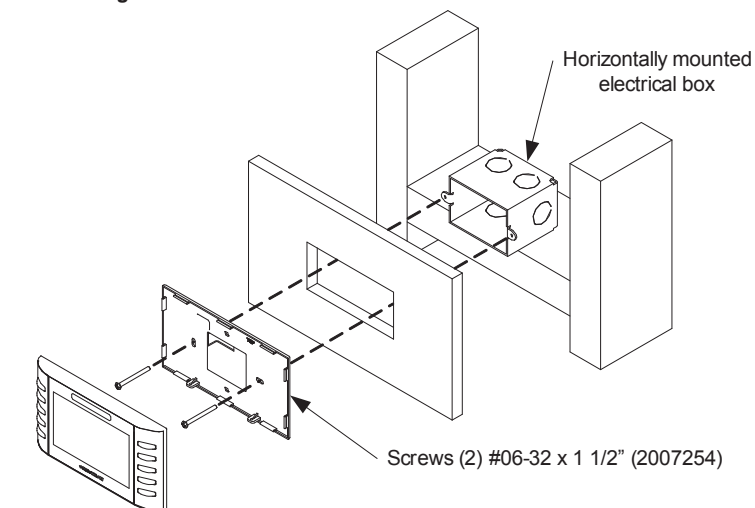
   Insertion Point for Separation of Back Panel

   Insert screwdriver
   to separate back of touch screen

2. Use the two included #06-32 x 1 x 1/2" screws (2007254) to attach the back panel to a horizontally mounted electrical box, as shown in the following illustration.
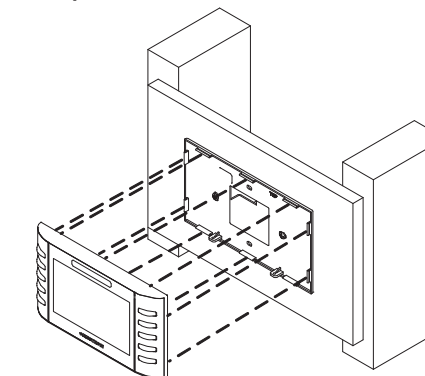
NOTE: Use the left and right screw holes for attachment to the electrical box.

Mounting the Touch Screen into an Electrical Box

Horizontally mounted electrical box

Screws (2) #06-32 x 1 1/2" (2007254)

3. Carefully position the front of the touch screen over the back panel and gently snap it into place, as shown in the following illustration.

   Snap the Touch Screen into Place

4. Use two of the included #04-40 x 1/4" screws to secure the touch screen, as shown in the following illustration:

   a. For standard applications, use the Phillips screws (2007152 or 2007160).

   b. For secure applications, use the security type Torx screws (2025311 or 2025312) along with the included Torx screwdriver bit (2025915).

For Regulatory Compliance information, refer to the latest version of Doc. 7229.

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TPCS-4SM & TPCS-4SMD

② Install the Touch Screen (Continued)

Secure the Touch Screen

Screws (2) #04-40 x 1/4"

For standard applications: Phillips (2007152 or 2007160)

For secure applications: security type Torx (2025311 or 2025312)

Mounting in a European Electrical Box

To mount the TPCS-4SM or TPCS-4SMD into a European electrical box, use the following procedure:

1. Insert a small slot head screwdriver into the hold shown in the illustration in step 1, in the middle column on the previous page, to gently separate the back of the touch screen.

2. Use the two included #4B x 3/4" screws (2019088) to attach the back panel to the electrical box, as shown in the following illustration.

NOTE: For European electrical boxes, use the top and bottom screw holes for attachment to the electrical box.

Mounting the Touch Screen into a European Electrical Box

Screws (2) #4B x 3/4" (2019088)

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3. Carefully position the front of the touch screen over the back panel and gently snap it into place, as shown in the illustration in step 3, in the last column on the previous page.
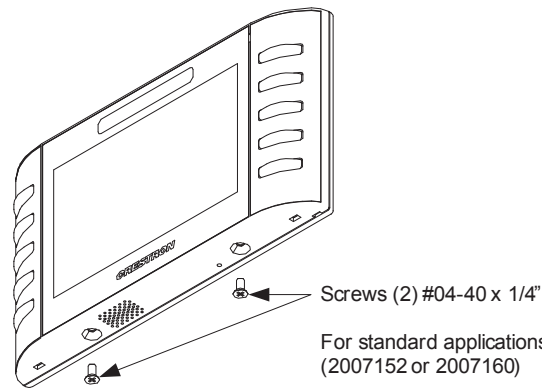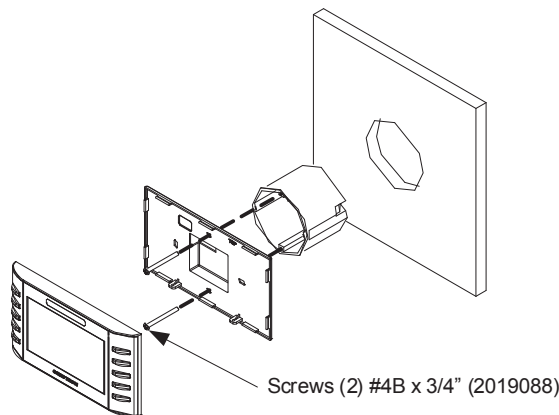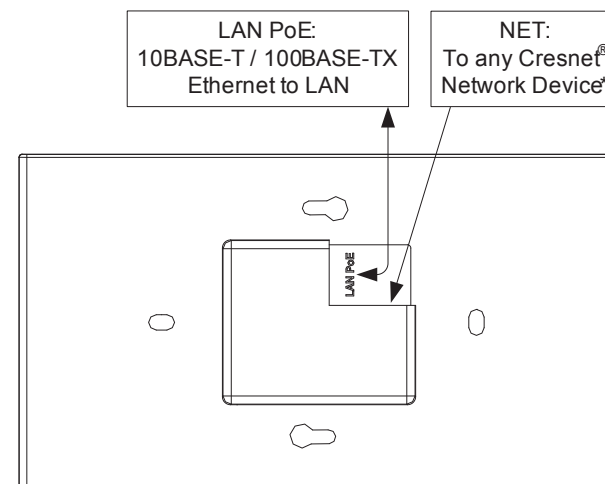
4. Use two of the included #04-40 x 1/4" screws to secure the touch screen, as shown in the illustration at the top of the column to the left:

    a. For standard applications, use the Phillips screws (2007152 or 2007160).

    b. For secure applications, use the security type Torx screws (2025311 or 2025312) along with the included Torx screwdriver bit (2025915).

③ Hardware Hookup

Make the necessary connections as called out in the illustration below. Apply power after all connections have been made.

When making connections to the TPCS-4SM or TPCS-4SMD, use Crestron power supplies for Crestron equipment.

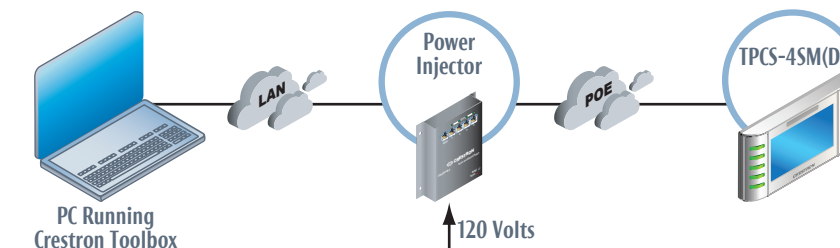*Hardware Connections for the TPCS-4SM or TPCS-4SMD*

LAN PoE: 10BASE-T / 100BASE-TX Ethernet to LAN	NET: To any Cresnet® Network Device*

*   When used with a C2N-IO Control Port Expansion Module, connect to one of its **NET** ports.

NOTE: To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications. Refer to section ⑧ "Specifications" on page 4 for details.

④ Establish Communication

Use Crestron Toolbox™ for communicating with the TPCS-4SM and TPCS-4SMD; refer to the Crestron Toolbox help file for details. There is a single method of communication: TCP/IP communication.

Ethernet Communication

Power Injector

TPCS-4SM(D)

LAN

POE

PC Running Crestron Toolbox

120 Volts

The TPCS-4SM or TPCS-4SMD connects to PC via Ethernet:

1. Use the Device Discovery Tool (click the icon) in Crestron Toolbox to detect all Ethernet devices on the network and their IP configuration. The tool is available in Toolbox version 1.15.143 or later.

2. Click on the TPCS-4SM or TPCS-4SMD to display information about the device.

2

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⑤ Configure the Touch Screen

NOTE: The only connection required to configure the touch screen is power. Refer to section ❸ "Hardware Hookup" on page 2 for details.

NOTE: The TPCS-4SM and TPCS-4SMD can take up to 45 seconds to boot to a display after initial power up.

The main "Setup" menu is the starting point for configuration of the TPCS-4SM or TPCS-4SMD. To enter the "Setup" menu, touch the screen while applying power to the unit.

The Power of 3
3
Setup

Touch the **Setup** button to display the TPCS-4SM or TPCS-4SMD main "Setup" menu, as shown in the illustration below. The setup menus enable basic configuration procedures prior to regular operation of the touch screen.
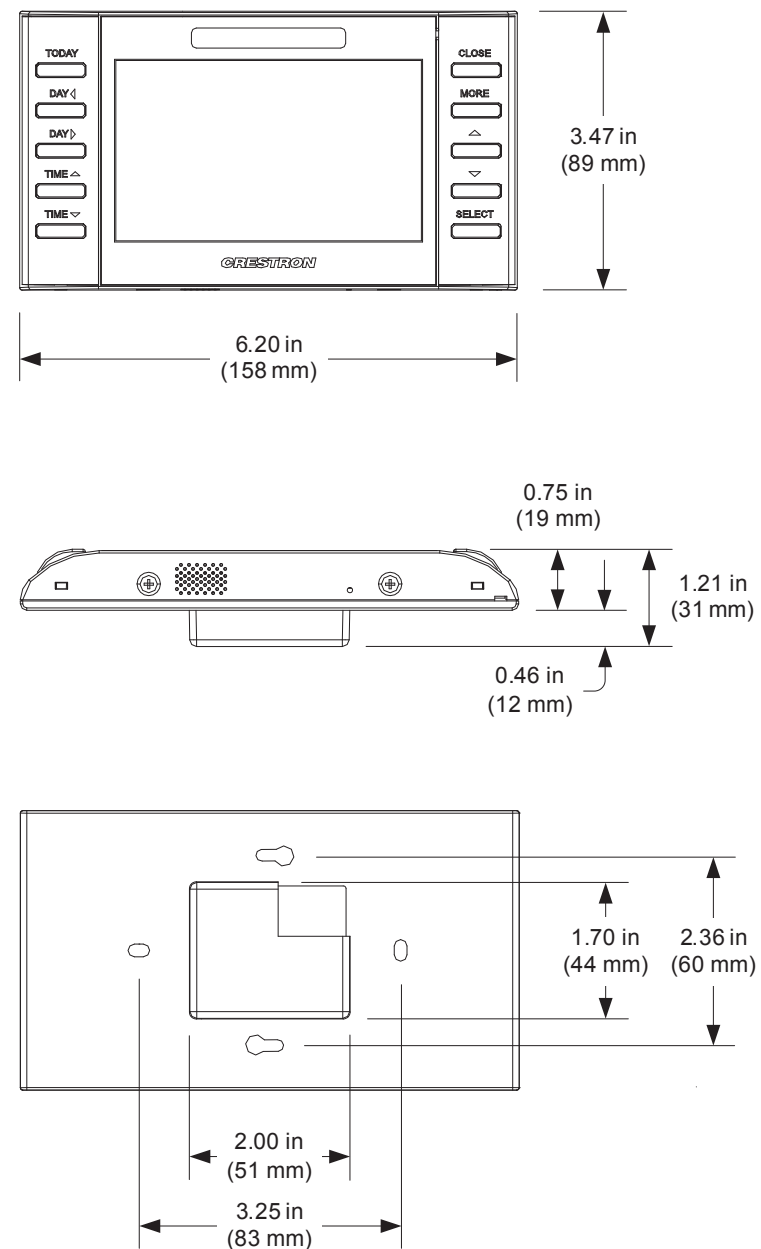
TPCS-4SM Setup

IP Address: 170.31.15.40
Hostname: TPCS-4SM 1
MAC Address: 10:00:14:7E:87:7A

Ethernet Setup	Audio Setup	Display Setup
Application Setup	Standby Timeout	Diagnostics
About	Save & Exit

NOTE: During regular operation of the touch screen, there are two ways to activate the setup functions:

1. Place a button on the project main page and assign the reserved join number (17242) that activates setup.

2. Press hard keys 1, 2, 3 and 4, on the left side of the touch screen display (the top four of the five buttons), in sequence twice (press 1, 2, 3, 4, 1, 2, 3, 4) within a 5 second period.

NOTE: For details on configuring the TPCS-4SM and TPCS-4SMD, refer to the latest version of the TPCS-4SM & TPCS-4SMD Configuration Guide (Doc. 7332).
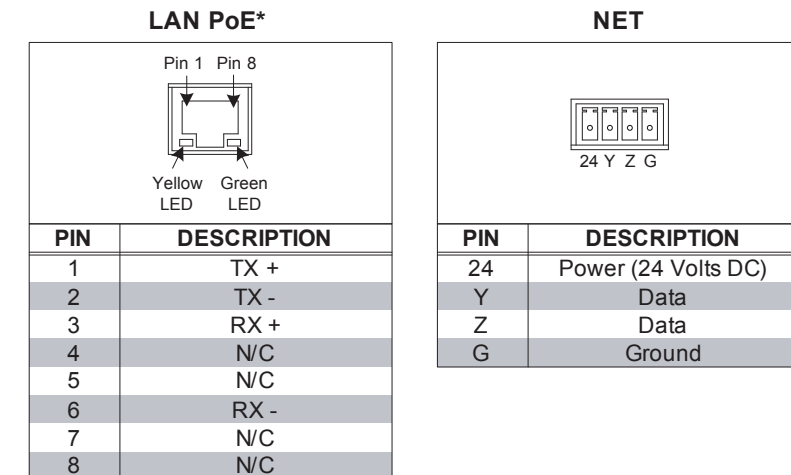
⑥ Dimensions

TPCS-4SM and TPCS-4SMD Overall Dimensions (Front, Bottom and Rear Views, TPCS-4SM Shown)

TODAY
DAY◁
DAY▷
TIME△
TIME▽

CLOSE
MORE
△
▽
SELECT

CRESTRON

3.47 in
(89 mm)

6.20 in
(158 mm)

0.75 in
(19 mm)

1.21 in
(31 mm)

0.46 in
(12 mm)

1.70 in
(44 mm)

2.36 in
(60 mm)

2.00 in
(51 mm)

3.25 in
(83 mm)

⑦ Pinout Reference

The TPCS-4SM and TPCS-4SMD have the following ports.

LAN PoE*

Pin 1 Pin 8

Yellow LED Green LED

PIN	DESCRIPTION
1	TX +
2	TX -
3	RX +
4	N/C
5	N/C
6	RX -
7	N/C
8	N/C

NET

24 Y Z G

PIN	DESCRIPTION
24	Power (24 Volts DC)
Y	Data
Z	Data
G	Ground

* The pinout table indicates signal connections. dc power applied by Ethernet power sourcing equipment (PSE) can connect to either signal pins or N/C pins.

TPCS-4SM & TPCS-4SMD

For Regulatory Compliance information, refer to the latest version of Doc. 7229.

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8 Specifications

Control Engine

3-Series™; real time, preemptive multithreaded/multitasking kernel; Transaction-Safe Extended FAT file system[1]

Graphics Engine

Supports Smart Graphics™

Memory

SDRAM: 256 MB
Flash: 2 GB
Maximum Touch Screen Project Size: 60 MB

Communications

Ethernet: 10/100 Mbps; auto-switching; auto-negotiating; auto-discovery; full/half duplex; industry-standard TCP/IP stack; UDP/IP; CIP; DHCP; SSL; IEEE 802.1X; SNMP; BACnet®/IP[2]; IPv4 or IPv6; Active Directory authentication; IIS v.6.0 Web Server; SMTP e-mail client; installer setup via Crestron Toolbox or MSIE[3]; supports all XPanel, Crestron Mobile®, Crestron Fusion™ and RoomView® applications, IEEE 802.3af and 802.3at Type 1 compliant
Model TPCS-4SM, also features Fusion RV™ *Room Scheduling* mode
Cresnet: Cresnet® master mode

Audio

Audio Feedback Format: MP3

Touch Screen Display

Display Type: TFT Active matrix color LCD
Size: 4.3 inch (109 mm) diagonal
Aspect Ratio: 16:9 WVGA
Resolution: 800 x 480 pixels
Brightness: 270 nits (cd/m^2)
Contrast: 300:1
Color Depth: 16-bit, 64k colors
Illumination: Backlit LED
Viewing Angle: ±80° horizontal, ±80° vertical
Touch Screen: Resistive membrane

Buttons

Hard Keys: (10) Optional programmable push buttons, translucent backlit
Feedback/Backlight:
    TPCS-4SM: (1) red and (1) green LED per hard key, programmable for feedback and backlighting
    TPCS-4SMD: (1) white LED per hard key, programmable for feedback and backlighting
Reset: (1) Recessed push button behind pinhole for hardware reset

Proximity Sensor

Type: Active infrared beam and receiver
Range: 3-4 feet
Wakes the touch screen and backlight

Connectors

LAN PoE: (1) 8-wire RJ-45 with two LED indicators
10BASE-T/100BASE-TX Ethernet port, Power over Ethernet compliant
Green and yellow LEDs indicate Ethernet port status

NET: (4) captive screw terminals
Cresnet master port
Connects to C2N-IO Control Port Expansion Module and other Cresnet devices (all sold separately)[1]

Power Requirements

Power over Ethernet: IEEE 802.3af (802.3at Type 1) Class 3 PoE Powered Device
Available Cresnet Power: 4 watts (167 mA @ 24 Vdc)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 14 Btu/h

Enclosure

Construction: Plastic, black or white, smooth finish
Front Bezel: Plastic, hard buttons installed with unlabeled button covers, custom engraving sold separately, "no-button" covers also included
Mounting: Requires a horizontally oriented 1-gang electrical box or plaster ring or a 1-Gang European (DIN 49073) electrical box; choice of standard or security screws provided; optional universal wall, multi-surface and table top mounting kits sold separately

Dimensions

Height: 3.47 in (89 mm)
Width: 6.20 in (158 mm)
Depth: 1.21 in (31 mm)

Weight

9 oz (249 g)

NOTES

1. Supports a maximum of 10 Ethernet devices, 10 Cresnet devices, one infiNET EX® wireless gateway and one Crestron Mobile device
2. License required. Supports a maximum of 250 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.
3. Web based installer setup requires Microsoft® Internet Explorer® Web browser running on a Windows® PC.

For Regulatory Compliance information, refer to the latest version of Doc. 7229.

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