Crestron® **TPMC-4SM-FD**
4.3″ Room Scheduling Touch Screen with Full Duplex Audio

Installation & Operations Guide

CRESTRON®

Regulatory Compliance

As of the date of manufacture, the TPMC-4SM-FD has been tested and found to comply with specifications for CE marking.

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Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna

- Increase the separation between the equipment and receiver

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected

- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

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4.3" Room Scheduling Touch Screen with Full Duplex Audio: TPMC-4SM-FD

Introduction

With its clean, contoured appearance, the Crestron® TPMC-4SM-FD Touch Screen makes an elegant statement in any environment. Perfectly at home in the most modern office building, hotel, or residence, the device's high tech good looks underline its power for simplifying everyday tasks and functions throughout any facility, all in a very affordable device that is versatile and easy to install. It mounts over a standard electrical box or small hole on a wall or similar surface*, achieving a thin profile and small footprint.

The TPMC-4SM-FD provides a customizable touch screen controller featuring Smart Graphics™ technology, H.264 streaming video, audio feedback, and Rava® SIP intercom, which are all cohesively merged into one seamless user interface. Additional features include dual-color backlit buttons, a built-in proximity sensor, PoE (Power over Ethernet) network power, occupancy sensor inputs, and out-of-the-box room scheduling capability for use with Crestron Fusion® Cloud On-Premises Enterprise Management software.

Features and Functions

- Modern, contoured appearance
- Thin profile and small footprint
- Affordable and easy to install
- 4.3" (~109 mm) widescreen active matrix color touch screen
- 800 x 480 WVGA display resolution
- Smart Graphics technology support

(Continued on following page)

* Requires a minimum cut out or electrical box opening of 1/7" (~43 mm) high x 2.0" (~51 mm) wide. Refer to "Specifications" which starts on page 6 for electrical box compatibility.

Features and Functions

(Continued)

- High-performance H.264 streaming video
- Rava SIP Intercom and phone technology
- Full-duplex voice communication
- Customizable audio feedback
- Built-in microphone and speaker
- Built-in proximity sensor
- 10 optional "hard key" push buttons
- Dual-color button backlighting and feedback
- Custom engravable button text
- Crestron Fusion Cloud software *Room Scheduling* mode
- Room occupancy sensor option[1]
- Single-wire Ethernet connectivity
- PoE network powered
- Surface mountable over a 2" (~51 mm) square hole or electrical box[2]
- Available with black or white smooth finish

Advanced Touch Screen Control

A Crestron touch screen offers an ideal user interface for controlling all the technology in a home, boardroom, classroom, courtroom, or command center. Touch screens do away with piles of remote controls, cluttered wall switches, and cryptic computer screens, simplifying and enhancing the technology. Crestron touch screens are fully customizable for controlling audio, video, lighting, shades, HVAC, security, and other systems with easy to use controls and icons, true feedback and real-time status display, live streaming video, and advanced navigation of digital media servers, tuners, and other devices.

Smart Graphics Technology

Crestron touch screens use Smart Graphics technology to deliver the ultimate user experience and the ultimate value by enabling the creation of dynamically-rich user interfaces with incredible efficiency and unparalleled functionality. Using Smart Graphics technology, programmers can swiftly integrate fluid gesture-driven controls, animated feedback, metadata, embedded apps, and full-motion video for a deeply engaging and ultra-intuitive touch screen experience.

Crestron Smart Graphics technology includes the following enhancements:

- Cool-looking graphical buttons, sliders, knobs, and gauges that are intuitive and fun to use.

- Kinetic effects enhance the feeling of realism with lists and toolbars that scroll with momentum at the flick of a fingertip.

- Drag and drop objects snap into place, offering an easy way to switch sources.

- Dashboard widgets personalize the touch screen with clocks, weather, news, and other information.

1. Item(s) sold separately.
2. Requires a minimum cut out or electrical box opening of 1/7" (~43 mm) high x 2.0" (~51 mm) wide. Refer to "Specifications" which starts on page 6 for electrical box compatibility.

- Customizable themes allow a completely different look and feel for every user, event, or season.

- Fully developed SmartObjects® technology enables sophisticated control over complex devices with minimal programming.

Dual Color Backlit Buttons

The TPMC-4SM-FD comes standard with 10 programmable "hard key" push buttons for quick access to commonly used functions. Each button features a translucent button cap with a choice of red or green LED backlighting for each column of buttons. The backlighting is fully dimmable, either globally or separately, for the left side and right side. Alternatively, each button LED can be programmed (via SIMPL Windows) to provide discrete feedback, affording a clear indication of the status of each individual button.

The TPMC-4SM-FD comes standard with its buttons pre-labeled for room scheduling functions. Customized labeling can be attained using Crestron Engraver software. For a clean appearance, either column of buttons may be removed and covered using the no-button covers provided.

Room Scheduling Mode

The TPMC-4SM-FD works directly with Crestron Fusion Cloud On-Premises Enterprise Management software to provide a powerful room scheduling solution. Installed outside the entrance to every meeting room, the TPMC-4SM-FD provides an immediate view of each room's availability, with the ability to look up the calendar for any room on the network and even to book the room right on the spot. The dual-color buttons give a clear indication of a room's status at a glance, lighting green when the room is available and red when it is in use. The touch screen's contoured shape assures that the buttons remain clearly visible at a distance to either side, even when mounted in a narrow hallway.

The TPMC-4SD is only compatible with on-premises installations of Crestron Fusion Cloud software (it is not compatible with cloud deployments or hosted scheduling). For more information, refer to the latest version of the Crestron Fusion Cloud Software Installation Guide (Doc.7892), at www.crestron.com/manuals.

Occupancy Sensing

Crestron GLS-series room occupancy sensors can be connected directly to the TPMC-4SM-FD to allow automation of the room's lighting, climate control and other devices. In *Room Scheduling* mode, the sensors allow Crestron Fusion Cloud software to detect when no one has shown up for a scheduled meeting, so even if the meeting is not cancelled or rescheduled by its host, the calendar can be updated automatically to make the room available to other users.

Proximity Sensor

The TPMC-4SM-FD senses as the user approaches it, waking its display automatically without having to touch the screen, so it is always ready for use.

Streaming Video

High performance streaming video capability makes it possible to view security cameras and other video sources over the network right on the touch screen. Native support for H.264 and MJPEG formats allows the TPMC-4SM-FD to display live video images from IP cameras and servers such as the Crestron CEN-NVS200 Network Video Streamer (sold separately).

Rava SIP Intercom

Rava SIP Intercom technology enables hands free VoIP communication between any two Rava-enabled Crestron touch screens. Rava technology works over Ethernet, supporting 2-way intercom, video intercom[1], paging, and room monitoring without any special wiring. VoIP phone capability is also possible through integration with a SIP-compatible IP phone system or SIP server, allowing hands free telephone functionality complete with speed dialing, caller ID, custom ringers and other enhancements. Built-in echo cancellation affords true duplex performance for clear, seamless voice communication using the TPMC-4SM-FD's integrated microphone and speakers.

Audio Feedback

Customized audio files can be loaded on the TPMC-4SM-FD to add another dimension to its touch screen graphics using personalized sounds, button feedback, and voice prompts.

Single Wire Connectivity

A simple Ethernet LAN connection is all that is required to wire the TPMC-4SM-FD, containing all control, video, intercom, and power signals within a single wire.

Power over Ethernet

Using PoE technology, the TPMC-4SM-FD gets its operating power through the LAN wiring. PoE eliminates the need for a local power supply or any dedicated power wiring. A PoE Injector (PWE-4803RU, sold separately) connects inline with the LAN cable, allowing for installation at any convenient location. Crestron PoE switches (CEN-SW-POE-5, CEN-SWPOE-16 or CEN-SWPOE-24, all sold separately) may also be used to provide a total networking solution with built-in PoE.
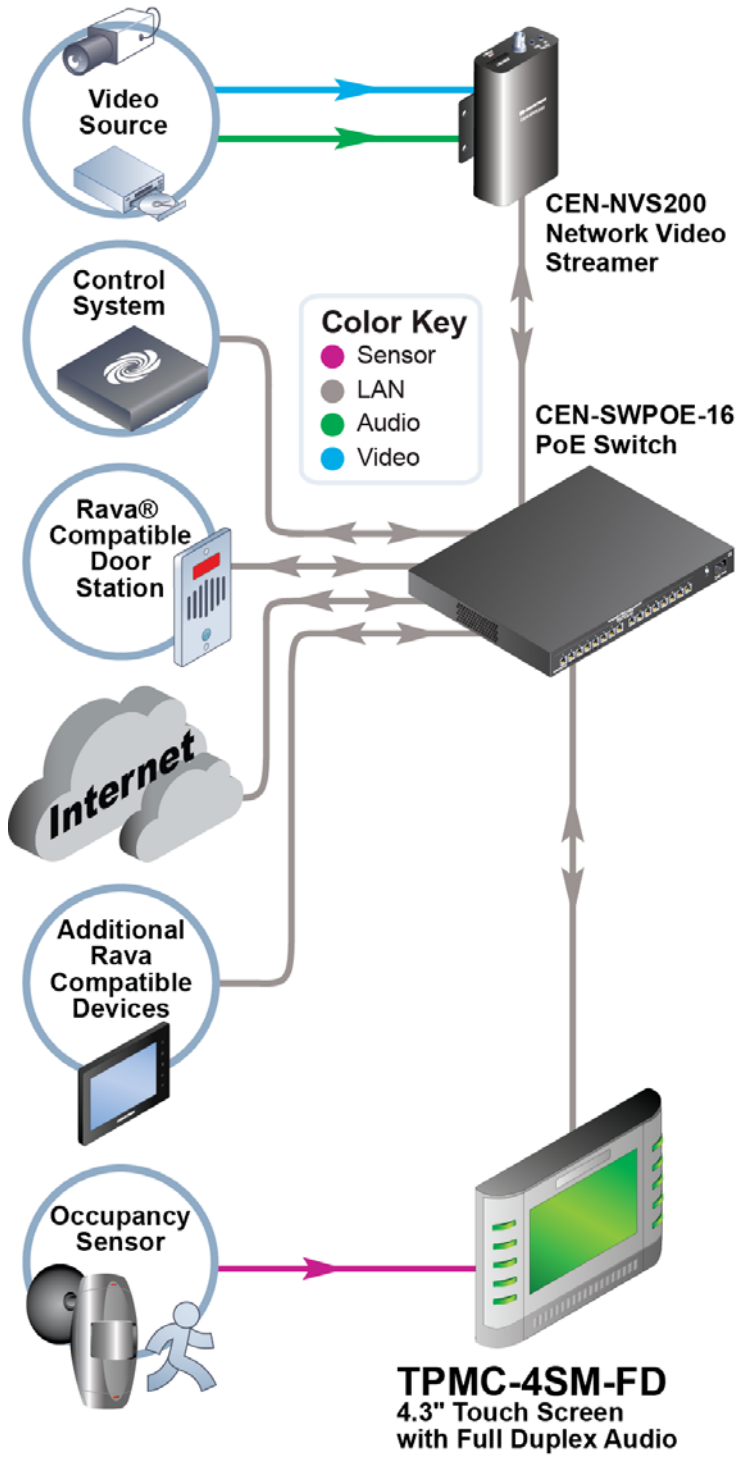
Simple, Versatile Mounting

The TPMC-4SM-FD installs easily using a 1 or 2-gang electrical box or a 2-gang UK electrical box. It can also be attached directly to drywall and other surfaces over the front of a roughly 2 inch (~51 mm) square hole. It requires only 1/2 inch (~13 mm) mounting depth while protruding less than an inch (~25 mm) from the wall surface.[2]

1. H.264 compatible camera required.
2. Requires a minimum cut out or electrical box opening of 1/7" (~43 mm) high x 2.0" (~51 mm) wide. Refer to "Specifications" which starts on page 6 for electrical box compatibility.

Applications

The following diagram shows a TPMC-4SM-FD in a typical application.

TPMC-4SM-FD in a Typical Application

Video Source

CEN-NVS200 Network Video Streamer

Control System

Color Key
- Sensor
- LAN
- Audio
- Video

CEN-SWPOE-16 PoE Switch

Rava® Compatible Door Station

Internet

Additional Rava Compatible Devices

Occupancy Sensor

TPMC-4SM-FD
4.3" Touch Screen with Full Duplex Audio

Specifications

Specifications for the TPMC-4SM-FD are listed in the following table.

TPMC-4SM-FD Specifications

SPECIFICATION	DETAILS
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
Contrast	300:1
Color Depth	16-bit, 64k colors
Illumination	Backlit LED
Viewing Angle	±80º horizontal, ±80º vertical
Touch Screen	Resistive membrane
Proximity Sensor[1]	
Type	Active infrared beam and receiver
Range	3-4 feet (0.9-1.2 meters)
Memory	
SDRAM	256 MB
Flash	2 GB
Maximum Project Size	60 MB
Graphics Engine	Supports Smart Graphics technology or "traditional" GUI projects
Communications	
Ethernet	10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP, IEEE 802.3af and 802.3at compliant
Video	
Streaming Formats	H.264 (MPEG-4 part 10 AVC), MJPEG
Audio	
Features	Built-in microphone and speaker, Rava SIP Intercom, Crestron IP Intercom, 60 dB echo cancellation
Amplification	Mono, 0.5 watts
Audio Feedback Formats	MP3 using Smart Graphics technology, WAV using "traditional" graphics
Power Requirements	
Power over Ethernet	IEEE 802.3af (802.3at Type 1) Class 3 PoE powered device
Default IP ID[2]	03

(Continued on following page)

TPMC-4SM-FD Specifications (Continued)

SPECIFICATION	DETAILS
Environmental	
Temperature	32º to 104ºF (0º to 40ºC)
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 pre-labeled button covers, custom engraving sold separately, no-button covers also included
Mounting[3]	Surface mount or mounts in a 1 or 2-gang electrical box or 2-gang UK (BS 4662) electrical box; choice of standard or security screws provided
Dimensions	
Height	4.00 in (102 mm)
Width	6.20 in (158 mm)
Depth	1.28 in (33 mm)
Weight	10 oz (268 g)
Available Models	
TPMC-4SM-FD-B-S	4.3" Wall Screen with Full Duplex Audio & Room Scheduling, Black Smooth
TPMC-4SM-FD-W-S	4.3" Touch Screen with Full Duplex Audio & Room Scheduling, White Smooth
Available Accessories	
4SM-BTNO-[B, W]-S	Engravable Button Covers, set of two (specify color)
CEN-NVS200	Network Video Streamer
CEN-SW-POE-5	5-Port PoE Switch
CEN-SWPOE-16	16-Port Managed PoE Switch
CEN-SWPOE-24	24-Port Managed PoE Switch
GLS Series	Crestron Green Light® Occupancy Sensors
PWE-4803RU	PoE Injector
VMK-WIN	TouchPoint® Virtual Mouse & Keyboard Software for Windows® Software

1. Wakes the touch screen and backlight.
2. Refer to "Identity Code" on page 11 for details.
3. Requires a minimum cut out or electrical box opening of 1/7" (~43 mm) high x 2.0" (~51 mm) wide. Refer to "Specifications" which starts on page 6 for electrical box compatibility.
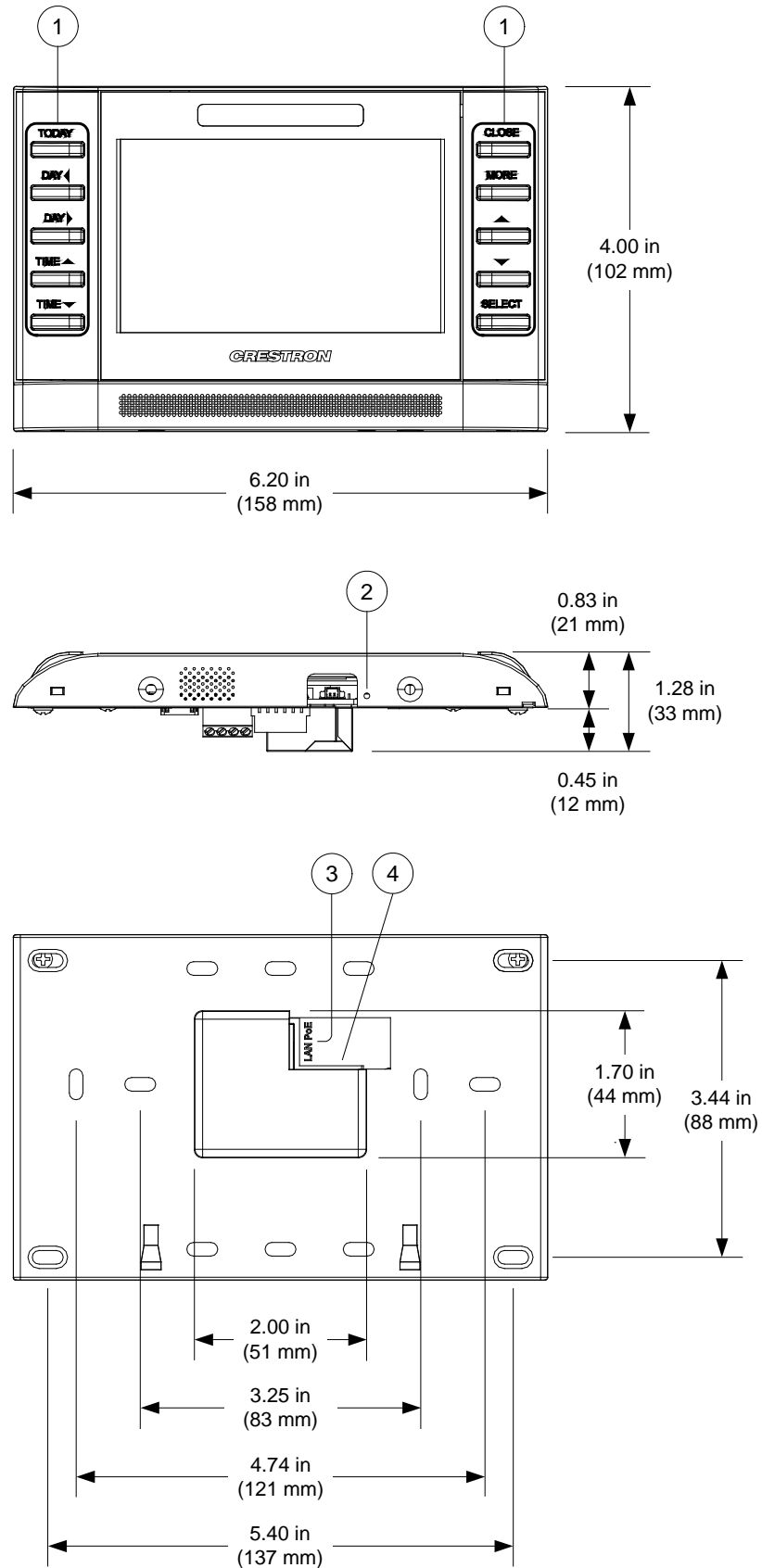
Physical Description

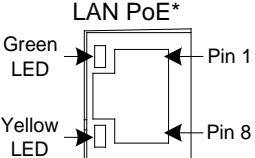This section provides information on the connections, controls, and indicators available on the TPMC-4SM-FD.

TPMC-4SM-FD Physical View

TPMC-4SM-FD Overall Dimensions (Front, Bottom and Rear Views)

① ①

4.00 in
(102 mm)

6.20 in
(158 mm)

②

0.83 in
(21 mm)

1.28 in
(33 mm)

0.45 in
(12 mm)

③ ④

LAN PoE

1.70 in
(44 mm)

3.44 in
(88 mm)

2.00 in
(51 mm)

3.25 in
(83 mm)

4.74 in
(121 mm)

5.40 in
(137 mm)

Connectors, Controls, and Indicators

#	CONNECTORS, CONTROLS, AND INDICATORS	DESCRIPTION
1	Hard Keys with Feedback/ Backlight	(10) Optional programmable push buttons, translucent backlit with (1) red and (1) green LED per hard key, with each button column programmable for color and each color programmable for backlighting
2	Reset	(1) Recessed push button behind pinhole for hardware reset (press and hold for four seconds)
3	LAN PoE* Green LED — Pin 1 Yellow LED — Pin 8	(1) 8-pin RJ-45 with two LED indicators; 10BASE-T/100BASE-TX Ethernet port, Power over Ethernet compliant Green and yellow LEDs indicate Ethernet port status

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

#	CONNECTORS, CONTROLS, AND INDICATORS	DESCRIPTION
4	Occupancy Sensor Input	(4) Captive screw terminals comprising (2) voltage sensing inputs (referenced to ground) with 24 Vdc power output; Input voltage range: 0-30 Vdc; Sensing threshold: ≥ 4.5 Vdc active, ≤ 1 Vdc inactive; Maximum dc load: 4 watts @ 24 Vdc, provides operating power for up to four Crestron GLS Series occupancy sensors

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

Setup

Network Wiring

When wiring the Ethernet network, consider the following:

- Use Crestron Certified Wire.

- Use Crestron power supplies for Crestron equipment.

- Provide sufficient power to the system.

  CAUTION: Insufficient power can lead to unpredictable results or can cause damage to the equipment. Please use the Crestron Power Calculator to help calculate how much power is needed for the system (www.crestron.com/calculators).

Unlike other Crestron network devices, the TPMC-4SM-FD does not use the Cresnet® network for communications between the device and the control system. The TPMC-4SM-FD requires the use of a high-speed Ethernet connection for control system communications.

For general information on connecting Ethernet devices in a Crestron system, refer to the latest version of the Crestron e-Control® Technology Reference Guide (Doc. 6052) at www.crestron.com/manuals.

Identity Code

NOTE: The latest software can be downloaded from www.crestron.com/software.

The IP ID is set within the TPMC-4SM-FD's IP table using Crestron Toolbox™ software. For information on setting an IP table, refer to the Crestron Toolbox software help file. The IP IDs of multiple TPMC-4SM-FD devices in the same system must be unique.

When setting the IP ID, consider the following:

- The IP ID of each unit must match an IP ID specified in the Crestron Studio® software or SIMPL Windows program.

- Each device using IP to communicate with a control system must have a unique IP ID.

Configuring the Touch Screen

NOTE: The only connection required to configure the touch screen is power. Refer to "Hardware Hookup" on page 32 for details.

NOTE: The TPMC-4SM-FD can take up to 45 seconds to boot to a display after initial power up.

The setup screens allow basic configuration procedures prior to regular operation of the touch screen. To enter the setup screens, touch the screen while applying power to the unit. The setup screens can also be entered by pressing the top four push buttons on the left side of the screen twice in sequence (1, 2, 3, 4, 1, 2, 3, 4). Refer to the following illustration for push button numbering.

Push Button Layout and Join Number Assignment
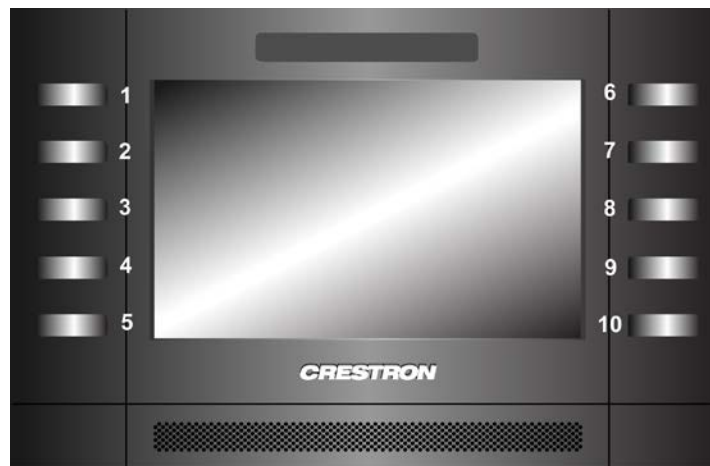
The **Panel Setup Options** menu opens. The functions provided by each button are detailed in subsequent paragraphs.
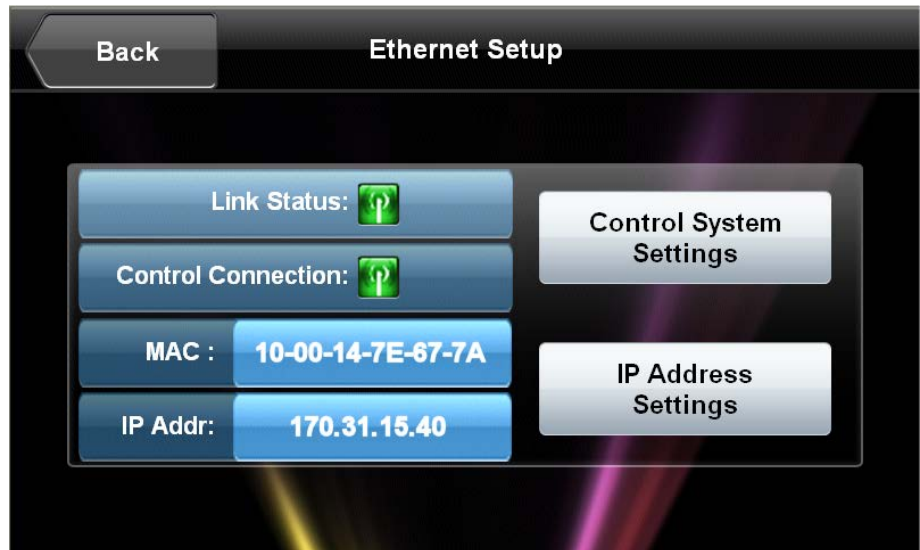
Panel Setup Options Menu
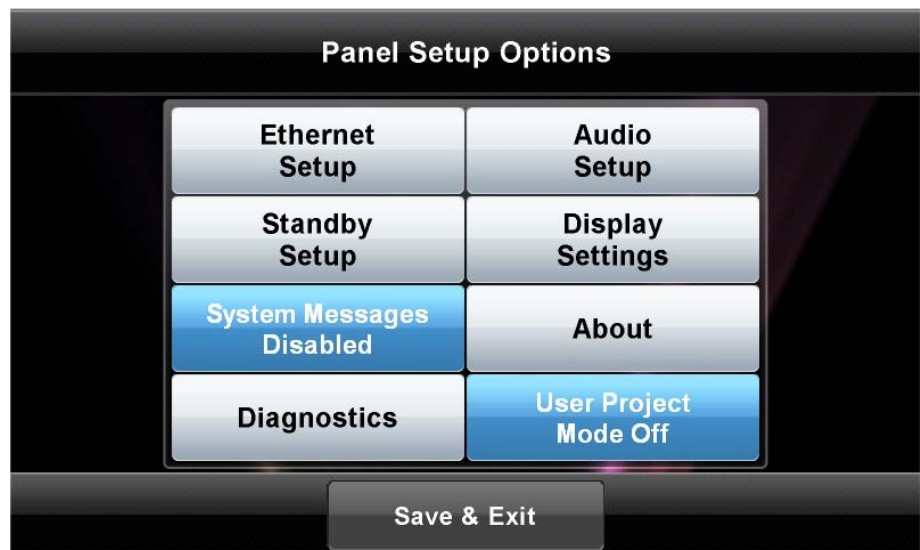
Ethernet Setup

Touch **Ethernet Setup** to display information about the link status, control connection, MAC and IP addresses and to access the **Control System Settings** and **IP Address Settings** buttons and their respective submenus. Touch **Back** to return to the **Panel Setup Options** menu.
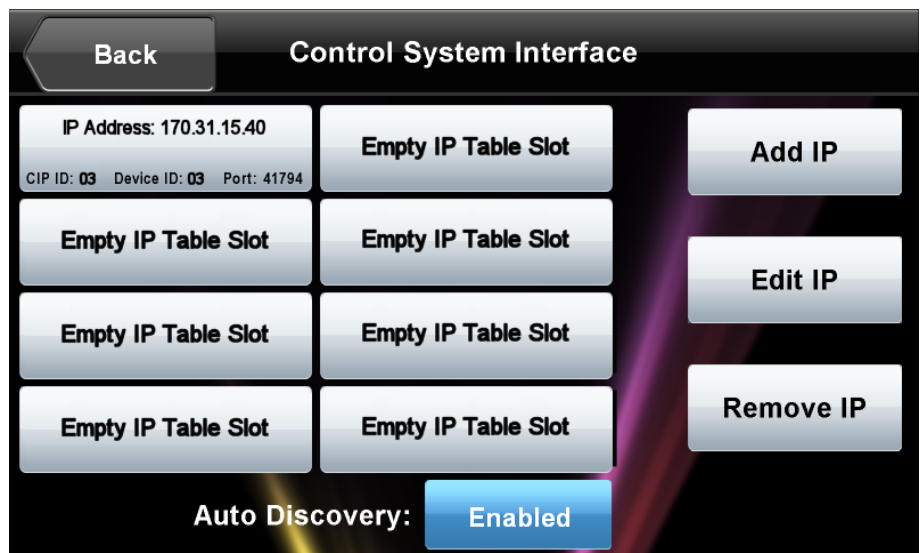
Ethernet Setup Menu

Touch **Control System Settings** to access the **Control System Interface** menu.

The **Control System Interface** menu contains buttons for eight IP Table slots as well as **Add IP**, **Edit IP** and **Remove IP** buttons to facilitate editing entries. The **Auto Discovery** button toggles between **Enabled** and **Disabled**.
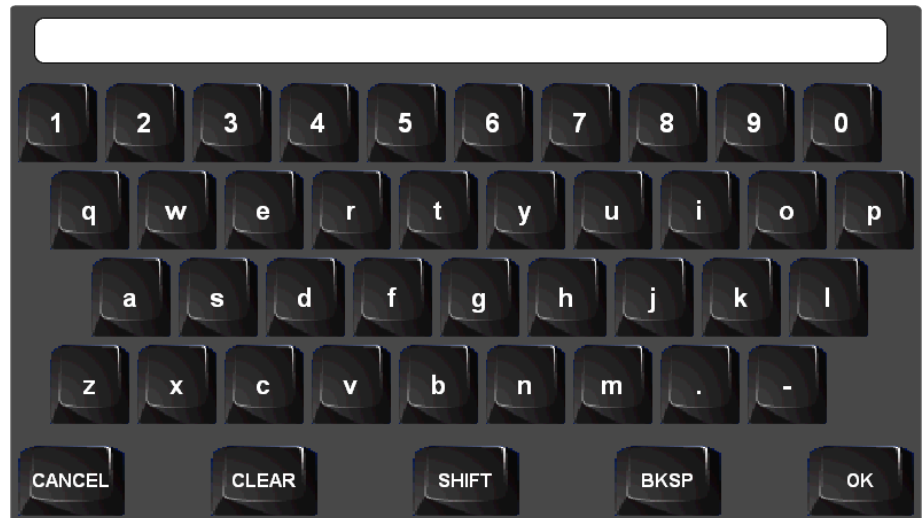
Control System Interface Menu

To add an IP entry to a blank slot, first touch **Add IP**. The **Edit Control System Settings** screen opens.

Edit Control System Settings Screen

Touch the **IP Address / Hostname** button. The on-screen keyboard appears.

On-Screen Keyboard

Touch **CLEAR** to remove any previous entry, and then enter the address required. Touch **OK** to accept the entry or **CANCEL** to cancel the entry. This hides the on-screen keyboard and returns the display to the **Edit Control System Settings** screen.

On the **Edit Control System Settings** screen, touch **Save** to keep the change or **Cancel** to cancel the change and return to the **Control System Interface** menu.

To edit the port, CIP ID or device ID, touch the appropriate button. Touching the **Port (41794)** button opens the numeric keypad. Touching the **CIP ID** or **Device ID** buttons opens a hex keypad.

Hex Keypad

Touch **CLEAR** to remove any previous entry, and then enter the ID required. Touch **OK** to accept the entry or **CANCEL** to cancel the entry. This hides the hex keypad and returns the display to the **Edit Control System Settings** screen.

On the **Edit Control System Settings** screen, touch **Save** to keep the changes or **Cancel** to cancel the changes and return to the **Control System Interface** menu.

From the **Control System Interface** menu, to edit or remove an IP entry, first touch the appropriate button containing the entry, and then touch **Edit IP** or **Remove IP** as appropriate. Editing an entry displays the **Edit Control System Settings** screen (refer to illustration at the top of page 14). Removing an entry displays a message saying "Please Confirm IP Table Entry Removal By Pressing the OK Button."

Confirm IP Table Entry Removal Screen
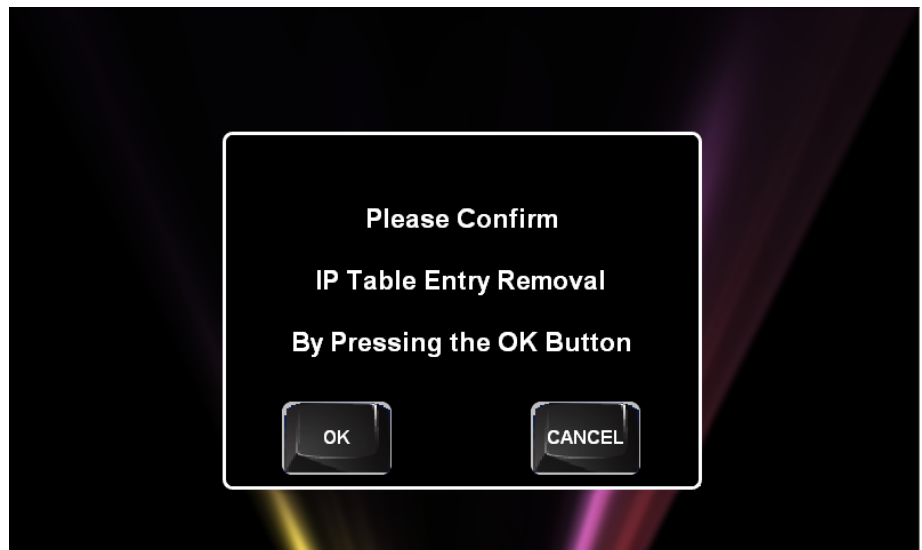
Touch **OK** to confirm the removal or touch **CANCEL** to cancel the removal. The display returns to the **Control System Interface** menu (refer to the illustration at the bottom of page 13). From the **Control System Interface** menu, touch **Back** to return to the **Ethernet Setup** menu.

On the TPMC-4SM-FD, DHCP is enabled by default. To switch to a static IP address, touch **IP Address Settings** on the **Ethernet Setup** menu, to access the **Edit IP Address Settings** screen. (Touch **Back** to return to the **Panel Setup Options** menu.)

Edit IP Address Settings Screen

Touch the **Enabled/Disabled** button to toggle between DHCP enabled and disabled. Then touch the button for the **Static IP Address**, **Static Subnet Mask**, or **Static Default gateway** desired. The on-screen keyboard appears. After entering the addresses, touch **OK** to add the entries or **CANCEL** to cancel them.

On the **Edit IP Address Settings** screen, touch **Edit DNS Servers** to enter the screen for editing these addresses.

Touch **Save** to keep the new setting or **Cancel** to cancel it.

Edit IP Address Settings Screen (Showing DNS and WINS Servers)

Audio Setup

On the **Panel Setup Options** menu, touch **Audio Setup** to display the **Audio Setting**s screen. This screen provides controls for Master Volume, KeyClick Volume, Wave Volume, Mute controls for all three volumes, and a **Play Test Wave** button. Touch **Back** to return to the **Panel Setup Options** menu.

Audio Settings Screen

Standby Setup

On the **Panel Setup Options** menu, touch **Standby Setup** to display the **Standby Timeouts** screen. This screen provides controls to adjust Standby Timeout from 0 to 120 minutes (select 0 for no timeout). Touch **Back** to return to the **Panel Setup Options** menu.

Standby Timeouts Screen

Display Settings

On the **Panel Setup Options** menu, touch **Display Settings** to enter the **Display Settings** menu. This menu provides controls to adjust Green LED Brightness, LCD Brightness, and Red LED Brightness, as well as providing buttons to enter the **Left LED Color Settings**, **LCD Wake Options**, and **Right LED Color Settings** screens. Touch **Back** to return to the **Panel Setup Options** menu.

Display Settings Menu

Touch **Left LED Color Settings** to enter the **Display Settings** screen for Left Bank LED Color. Options are **Green**, **Red**, and **Off**. Touch **Back** to return to the main **Display Settings** menu.

Display Settings Screen (for Left Bank LED Color)

NOTE: The **Right LED Color Settings** button opens a similar screen, where the **Right Bank LED Color** can be selected.

On the main **Display Settings** menu, touch **LCD Wake Options** to display the **LCD Wake Options** screen. This screen provides controls for turning the Hard Key Wakes LCD and Proximity Sensor Wakes LCD functions **ON** or **OFF**. Touch **Back** to return to the main **Display Settings** menu.

LCD Wake Options Screen
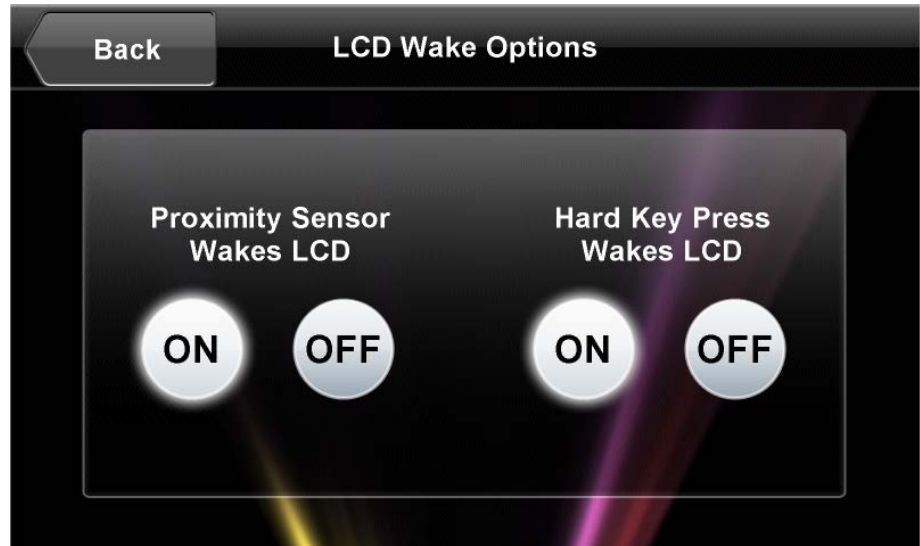
On the main **Display Settings** menu, touch **Key Options** to display the **Key LED Options** screen. This screen provides controls for turning the Key LEDs State when in Standby **ON** or **OFF**. Touch **Back** to return to the main **Display Settings** menu.

Key LED Options Screen

System Messages Enabled/Disabled

On the **Panel Setup Options** menu, the **System Messages Disabled** button toggles between this state and **System Message Enabled**, allowing system messages to be turned on or off. By default, system messages are disabled.

About

On the **Panel Setup Options** menu, the **About** button opens a small window displaying the Firmware Version and the OS Image Version. Click **OK** to close the window.

Diagnostics

On the **Panel Setup Options** menu, touch **Diagnostics** to display the **Diagnostics** menu, which shows information about Total RAM, Free RAM, Link Status, Control Connection, MAC and IP addresses, and provides **Keypad Test**, **Touch Test**, **Sensor Test**, **Calibrate Touch**, **Mic Test**, and **Test Patterns** buttons. Touch **Back** to return to the **Panel Setup Options** menu.
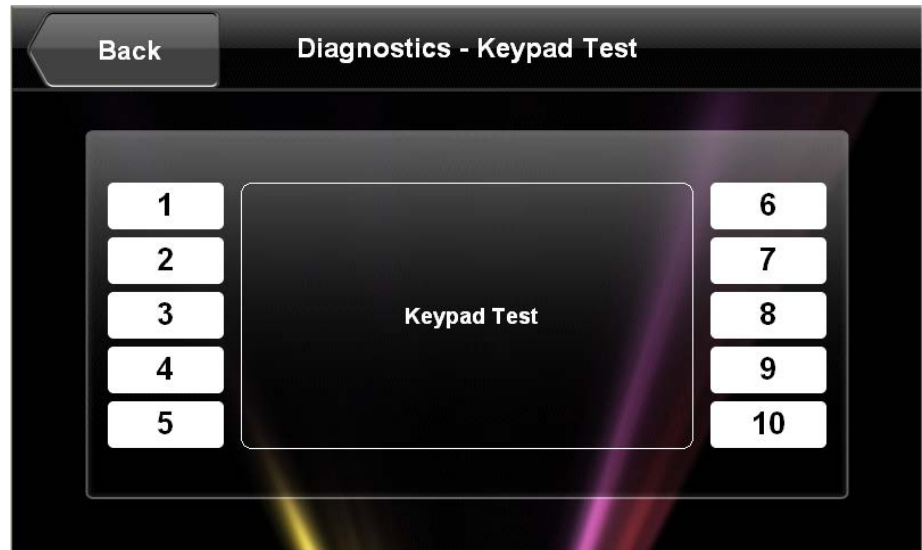
Diagnostics Menu

Keypad Test

Touch **Keypad Test** to display the **Diagnostics – Keypad Test** screen. Use this screen to test the function of the hard key push buttons on either side of the screen. When a button is pressed, its corresponding button lights on the screen. Touch **Back** to return to the main **Diagnostics** menu.

Diagnostics – Keypad Test Screen

Touch Test/Calibrate Touch

On the main **Diagnostics** menu, touch **Touch Test** to display the following screen, which includes a **Calibrate** button to initiate touch screen calibration. The **Calibrate Touch** button on the **Diagnostics** menu also initiates touch screen calibration.

Touch Test Screen

During touch screen calibration, a crosshair appears at the center of the screen. Touch the center of the crosshair, which then moves to the upper left part of the screen.

Touch the center of the crosshair again, and it moves to another part of the screen. Continue touching the center of the crosshair until calibration is complete, and then touch **Return** to return to the main **Diagnostics** menu.

NOTE: When touching the screen during calibration, be as accurate as possible. For best results, use the tip of a capped pen or the eraser end of a pencil.

Sensor Test

On the main **Diagnostics** menu, touch **Sensor Test** to display the **Diagnostics – Sensor Tests** screen. If contact sensors are connected to the TPMC-4SM, the respective indicator changes from Inactive to Active as appropriate for each sensor's activity. Similarly, the TPMC-4SM's own proximity sensor's indicator changes from Inactive to Active when the TPMC-4SM senses motion in front of the unit. Touch **Back** to return to the main **Diagnostics** menu.
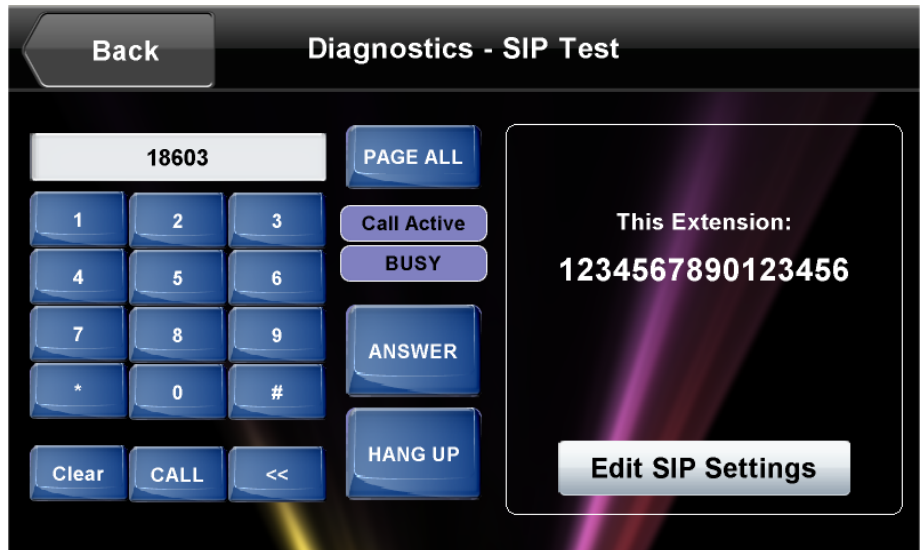
*Diagnostics – Sensor Tests Screen*
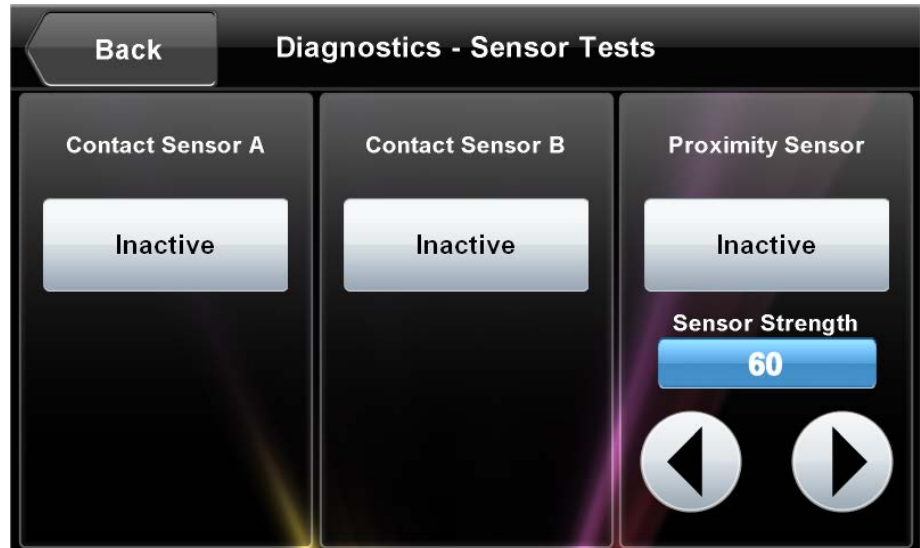
SIP Test

On the main **Diagnostics** menu, touch **SIP Test** to display the **Diagnostics – SIP Test** screen. This screen provides controls for test the SIP function for intercom and VoIP communication. Touch **Back** to return to the main **Diagnostics** menu.

Diagnostics – SIP Test Screen

Touch **Edit SIP Settings** to display the **Edit SIP Settings** screen, which allows entry of the extension assigned to this touch screen. Touch the number box to open the numeric keyboard for entry or editing of the number. Touch **Save** to keep the new setting or **Cancel** to return to the **Diagnostics – SIP Test** screen without saving the number.

Edit SIP Settings Screen
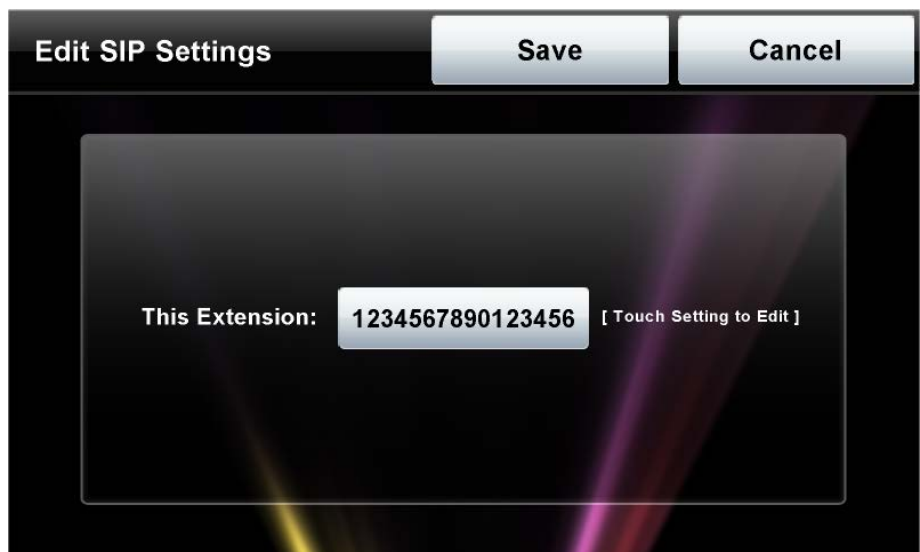
On the main **Diagnostic**s menu, touch **Mic Test** to perform a test of the TPMC-4SM-FD's built-in microphone. The button label changes to **RECORDING/PLAYBACK** and the screen displays a "Mic test in progress" message.

Mic Test In Progress Screen
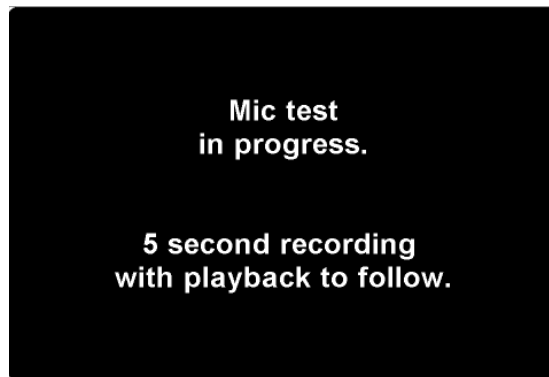
Speak into the microphone on the front of the TPMC-4SM (for five seconds), and the recording is played back to confirm the microphone is functioning. After playback, the button reverts to its original **Mic Test** label.

Test Patterns

On the main **Diagnostics** menu, touch the **Test Patterns** button to display the **Test Patterns** menu, which contains buttons for selecting the different available test patterns: **Display Color Bars**, **Display Vertical Lines**, **Display Gray Scale**, **Display Grid Pattern** and **Display Test Pattern**. Touch **Back** to return to the main **Diagnostics** menu.

Test Patterns Menu
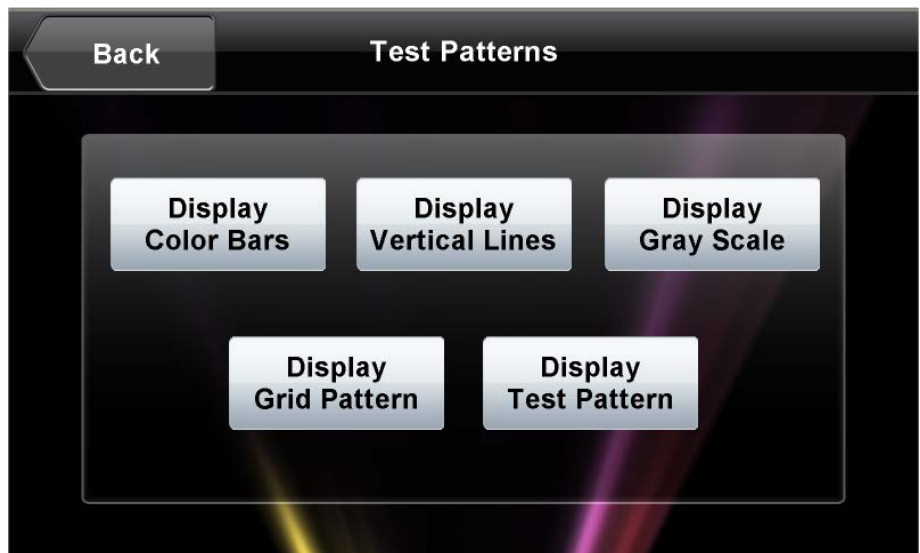
User Project Mode Off / User Project Mode On

On the **Panel Setup Options** menu, the **User Project Mode Off** button toggles between this mode and **User Project Mode On**. **User Project Mode Off** is the default state for using the TPMC-4SM-FD with the Crestron Fusion Cloud software interface.

Save & Exit

On the **Panel Setup Options** menu, touch **Save & Exi**t to save all settings, to exit the setup screens, and to return to the main project.
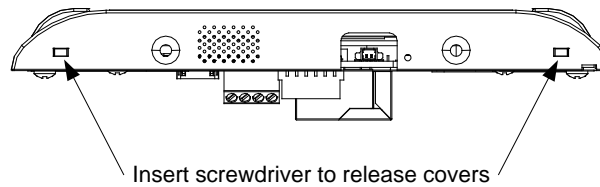
Changing the Button Inserts

The TPMC-4SM-FD ships with 10 "hard key" push buttons for quick access to commonly used functions. For a clean appearance, either column of buttons may be removed and covered using the no-button covers provided.

To change the inserts, use the following procedure:

1. Insert a small, slot-head screwdriver into the appropriate hole on the bottom of the TPMC-4SM-FD to release its cover. Refer to the following illustration.

Insertion Points for Button Cover Release


Insert screwdriver to release covers

2. With the bottom of the cover released, gently remove it from the TPMC-4SM-FD.

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 TPMC-4SM-FD. Refer to the following illustration for the press and lift points on the button insert.

TPMC-4SM-FD with Button Inserts

Use screwdriver to release button insert
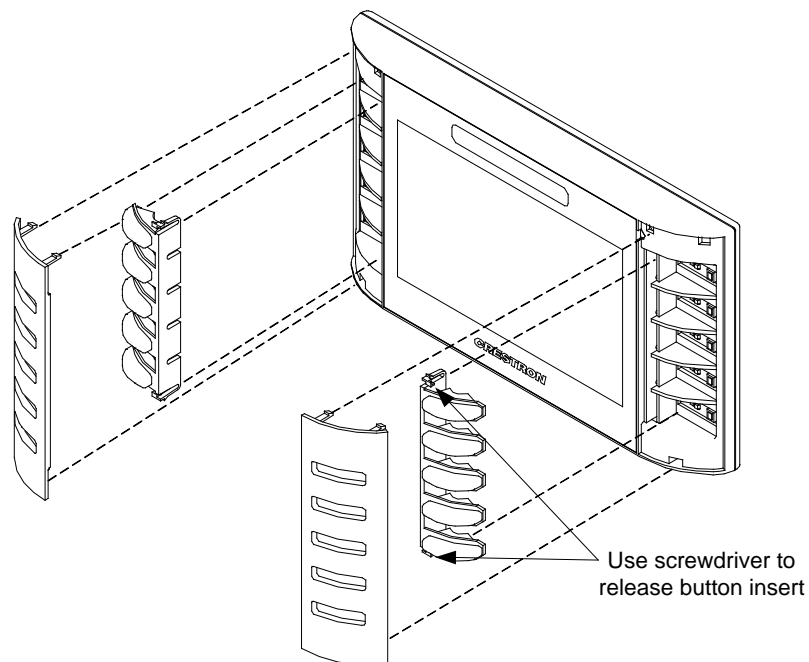
4. Gently place the new cover in position and press it into place.

TPMC-4SM-FD with No-Button Covers
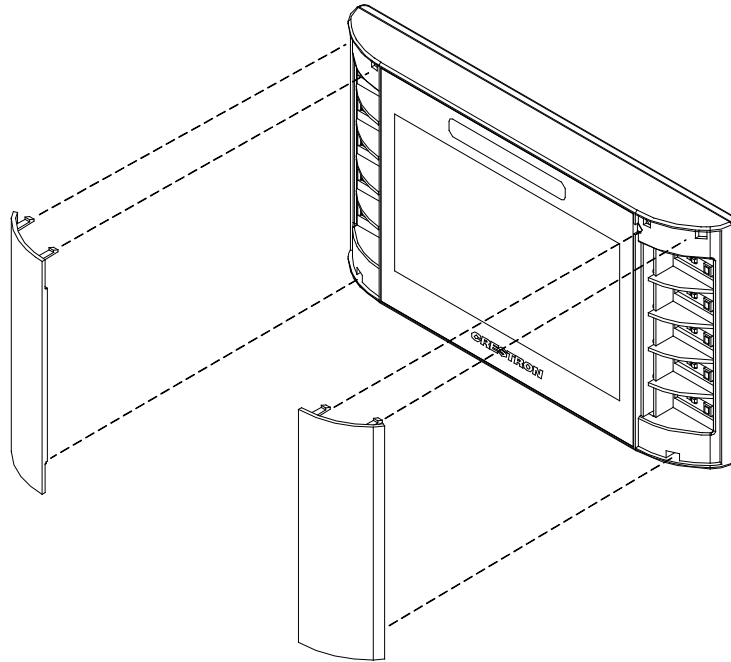
Installation

The TPMC-4SM-FD touch screen installs simply and cleanly into a standard electrical box.

The TPMC-4SM-FD is supplied with screws for installation into an electrical box.

Mounting in a US Electrical Box

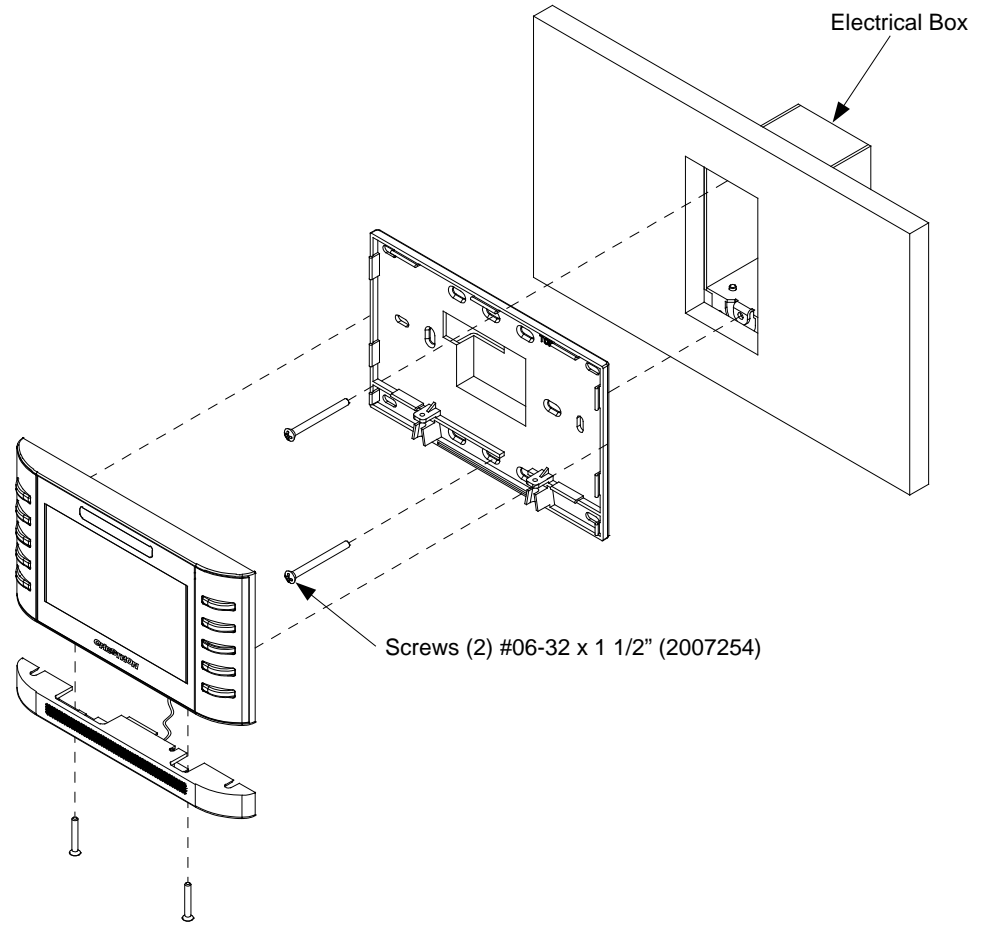To mount the TPMC-4SM-FD into an electrical box, use the following procedure:

1. Insert a small slot-head screwdriver into the hole shown in the following illustration and gently separate the back of the TPMC-4SM-FD.

Insertion Point for Separation of Back Panel
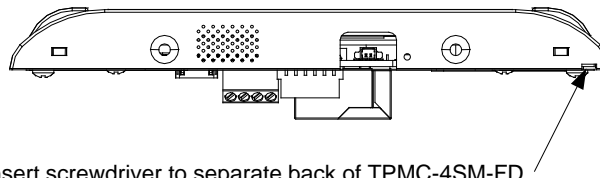
Insert screwdriver to separate back of TPMC-4SM-FD

2. Use two of the four included #06-32 x 1 1/2" screws (2007254) to attach the back panel to a 1-gang electrical box or use all four to attach to a 2-gang electrical box. Refer to the following illustrations.

Mounting the TPMC-4SM-FD into an Electrical Box

Electrical Box

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

Mounting the TPMC-4SM-FD into a 2-Gang Electrical Box

2-Gang
Electrical Box

Screws (4) #06-32 x 1 1/2" (2007254)
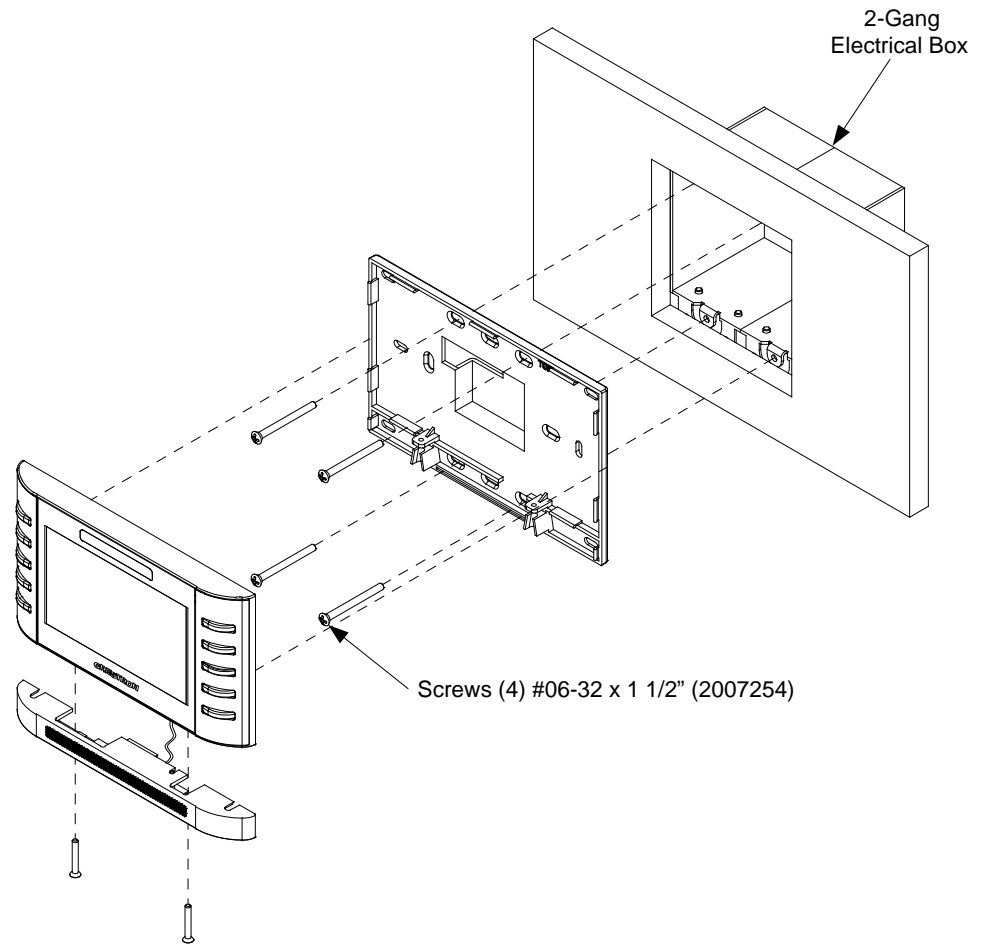
Mounting the TPMC-4SM-FD into an Horizontally Installed Electrical Box
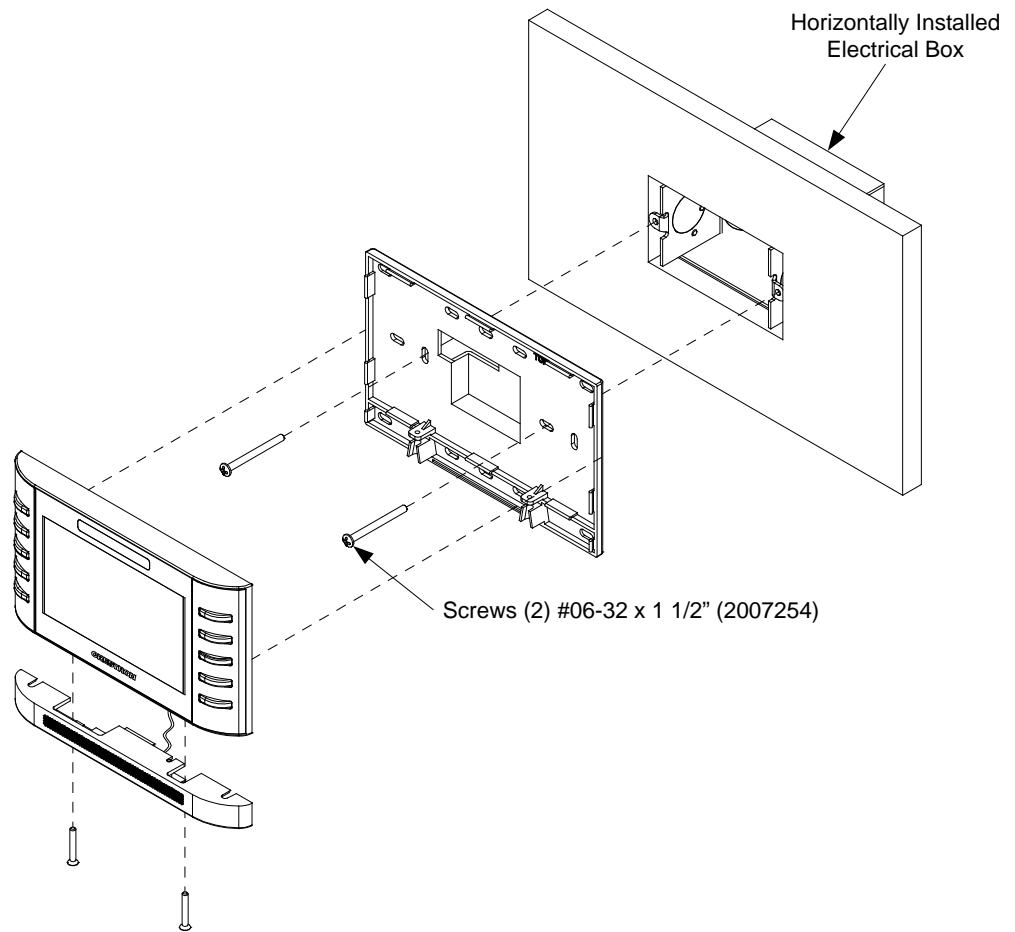

Horizontally Installed
Electrical Box

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

3. Carefully position the front of the TPMC-4SM-FD over the back panel and gently snap it into place, as shown in the following illustration.

Snap the TPMC-4SM-FD into Place

Screws (2) #04-40 x 3/4"

For standard applications: Phillips
(2029111 or 2029110)

For secure applications: security type Torx
(2029108 or 2029112)
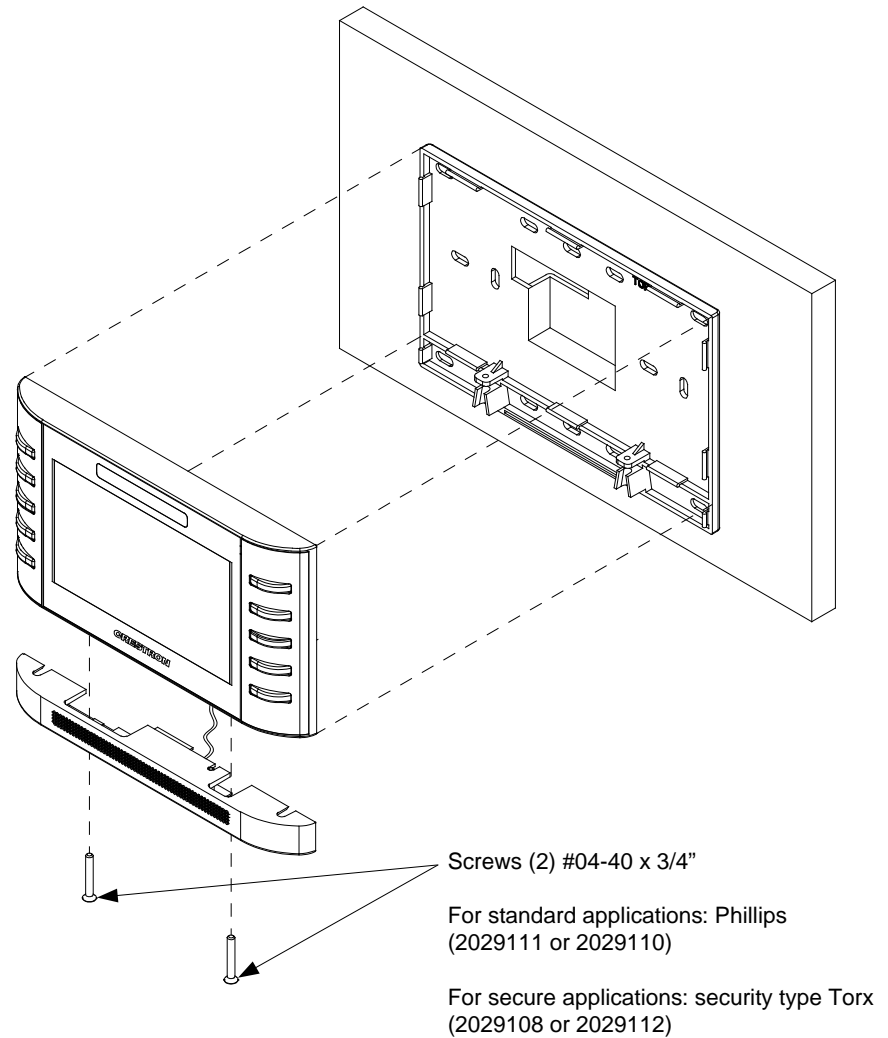
4. Use two of the included #04-40 x 3/4" screws to attach the speaker
    assembly and secure the TPMC-4SM-FD, as shown in the illustration
    above:

    a. For standard applications, use the Phillips screws (2029111 or
        2029110).

    b. For secure applications, use the security type Torx® screws (2029108 or
        2029112) along with the included Torx screwdriver bit (2025915).
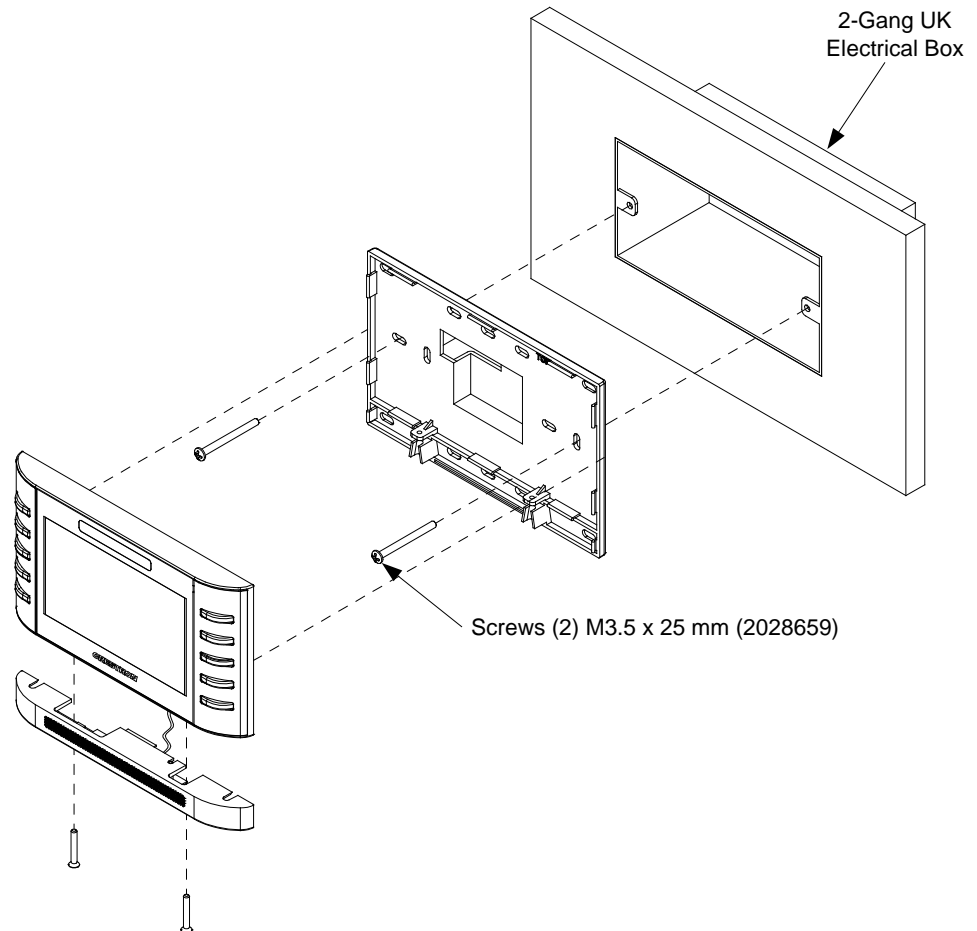
NOTE: Parts 2029111 and 2029108 come with black models.
Parts 2029110 and 2029112 come with white models.

Mounting in a European Electrical Box

To mount the TPMC-4SM-FD into a European electrical box, use the following procedure:

1. Insert a small slot-head screwdriver into the hole shown in the illustration at the bottom of page 26 and gently separate the back of the TPMC-4SM-FD.

2. Use the two included #M3.5 x 25 mm" screws (2028659) to attach the back panel to the electrical box, as shown in the following illustration.

Mounting the TPMC-4SM-FD into a European Electrical Box

2-Gang UK
Electrical Box

Screws (2) M3.5 x 25 mm (2028659)

3. Carefully position the front of the TPMC-4SM-FD over the back panel and gently snap it into place, as shown in the illustration on page 30.

4. Use either the two included #04-40 x 3/4" Phillips screws (2029111 or 2029110) or the two included #04-40 x 3/4" security type Torx screws (2029108 or 2029112) along with the included Torx screwdriver bit (2025915) to attach the speaker assembly and secure the TPMC-4SM-FD, as shown in the illustration on page 30.

NOTE: Parts 2029111 and 2029108 come with black models.
Parts 2029110 and 2029112 come with white models.

Hardware Hookup

Make the necessary connections as called out in the illustration that follows this paragraph.

When making connections to the TPMC-4SM-FD, use Crestron power supplies for Crestron equipment. Apply power after all connections have been made.

Hardware Connections for the TPMC-4SM-FD
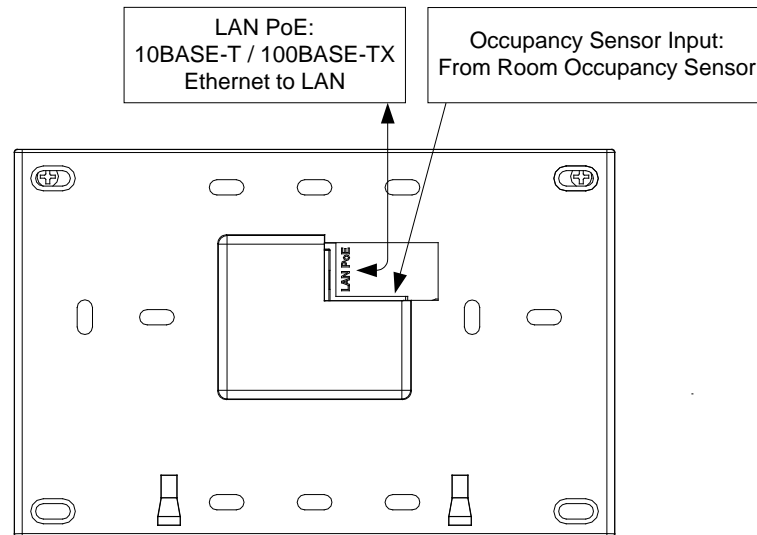
NOTE: To prevent overheating, do not operate this product in an area that exceeds the environmental temperature range listed in the table of specifications.

Recommended Cleaning

Keep the surface of the touch screen free of dirt, dust, or other materials that could degrade optical properties. Long-term contact with abrasive materials can scratch the surface, which may detrimentally affect image quality.

For best cleaning results, use a clean, damp, non-abrasive cloth with any commercially available non-ammonia glass cleaner. Bezels may not provide a complete watertight seal. Therefore, apply cleaning solution to the cloth rather than to the surface of the touch screen. Wipe the touch screen clean and avoid getting moisture beneath the bezels.

CAUTION: Do not apply excessive pressure to the touch screen display during handling. Doing so can crack the screen and damage the device.

Uploading and Upgrading

Crestron recommends using the latest programming software and that each device contains the latest firmware to take advantage of the most recently released features. However, before attempting to upload or upgrade it is necessary to establish communication. Once communication has been established, files (for example, programs, projects or firmware) can be transferred to the control system (or device). Finally, program checks can be performed (such as changing the device ID or creating an IP table) to ensure proper functioning.

NOTE: Crestron software and any files on the website are for authorized Crestron dealers and Crestron Service Providers (CSPs) only. New users must register to obtain access to certain areas of the site (including the FTP site).

Establishing Communication

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

Ethernet Communication
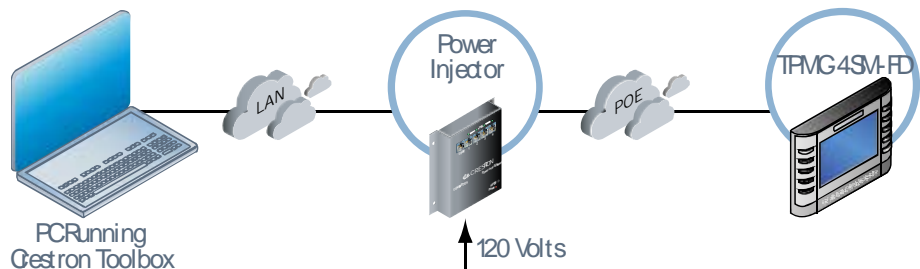
The TPMC-4SM-FD connects to PC via Ethernet:

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

2. Click on the TPMC-4SM-FD to display information about the device.

Programs, Projects and Firmware

Program, project, or firmware files may be distributed from programmers to installers or from Crestron to dealers. Firmware upgrades are available from the Crestron FTP website as new features are developed after product releases. One has the option to upload programs and projects via the programming software or to upload and upgrade via the Crestron Toolbox software. For details on uploading and upgrading, refer to the Crestron Studio software help file, the SIMPL Windows help file, the VT Pro-e® software help file, or the Crestron Toolbox software help file.

Crestron Studio Software or SIMPL Windows

If a Crestron Studio (or SIMPL Windows) program is provided, it can be uploaded to the control system using Crestron Studio software (or SIMPL Windows) or Crestron Toolbox software.

Crestron Studio Software or VT Pro-e Software

Upload the Crestron Studio software (or VT Pro-e software) file to the touch screen using Crestron Studio software (or VT Pro-e software) or Crestron Toolbox software.

Firmware

Check ftp://ftp.crestron.com to find the latest firmware. (New users must register to obtain access to certain areas of the site, including the FTP site.)

Upgrade TPMC-4SM-FD firmware via Crestron Toolbox software.

1. Establish communication with the TPMC-4SM-FD and display the **System Info** window (**Tools > System Info**).

2. Select **Functions > Firmware...** to upgrade the TPMC-4SM-FD firmware.

Program Checks

Using Crestron Toolbox software, open the **System Info** window (**Tools > System Info**) and select the **Functions** menu to display actions that can be performed on the TPMC-4SM-FD.

Be sure to use Crestron Toolbox software to create the TPMC-4SM-FD IP table.

1. Select **Functions > IP Table Setup...**.

2. Add, modify or delete entries in the IP table. The TPMC-4SM-FD can have only one IP table entry.

3. A defined IP table can be saved to a file or sent to the device.

Edit the control system's IP table to include an entry for the TPMC-4SM-FD. The entry should list the TPMC-4SM-FD's IP ID (specified on the TPMC-4SM-FD's IP table), and the internal gateway IP address 127.0.0.1.

Problem Solving

Troubleshooting

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

TPMC-4SM-FD Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Device does not function.	Device is not communicating with the network.	Use Crestron Toolbox software to poll the network. Verify network connection to the device.
	Device is not receiving power from a Crestron power source.	Use the provided Crestron power source. Verify connections.
	Device is not receiving sufficient power.	Use the Crestron Power Calculator to help calculate how much power is needed for the system.
TPMC-4SM-FD is not responding.	No IP address configured/obtained.	Use the internal setup menu (refer to "Ethernet Setup," which starts on page 13) or Crestron Toolbox software to create/verify Ethernet settings.
	Invalid control system IP address / IP ID set up on the TPMC-4SM-FD.	The IP address (or host name) for the control system is invalid or the IP ID does not match the one defined in the SIMPL program. Refer to "Ethernet Setup," which starts on page 13 to define IP addresses.
TPMC-4SM-FD boots up in setup screens every time.	Invalid VT Pro-e software project or no VT Pro-e software project is loaded.	Load/reload VT Pro-e software project using the Crestron Toolbox software.

Reference Documents

All documents mentioned in the guide are available at www.crestron.com/manuals.

List of Related Reference Documents

DOCUMENT TITLE
Crestron e-Control Technology Reference Guide
Crestron Fusion Cloud Software Installation Guide

Further Inquiries

To locate specific information or to resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876]. For assistance within a particular geographical region, refer to the listing of Crestron worldwide offices at www.crestron.com/offices.

To post a question about Crestron products, log onto www.crestron.com/onlinehelp. First-time users must establish a user account to fully benefit from all available features.

Future Updates

As Crestron improves functions, adds new features, and extends the capabilities of the TPMC-4SM-FD, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron website periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

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