SECTION 25 13 16

INTEGRATED AUTOMATION CONTROL AND MONITORING NETWORK INTEGRATION PANELS

Major Equipment Specified in this section:

Touch Screen Type 1: Crestron TSW-730

Touch Screen Type 2: Crestron TPMC-4SM-FD

Touch Screen Type 3: Crestron TPMC-3SM

Touch Screen Type 4: Crestron TPMC-8X-GA

Touch Screen Type 5: Crestron TPMC-V15

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SECTION 25 13 16

INTEGRATED AUTOMATION CONTROL AND MONITORING NETWORK INTEGRATION PANELS

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1. GENERAL
	1. SUMMARY
		1. Section Includes
			1. Network touch screen user interfaces.
			2. Network room scheduling touch screen user interfaces.
		2. Related Requirements:
			1. Section 12 24 13 Roller Window Shades
			2. Section 25 08 00 Commissioning of Integrated Automation
			3. Section 25 10 00 Integrated Automation Network Equipment
			4. Section 25 11 13 Integrated Automation Network Servers
			5. Section 25 13 13 Integrated Automation Control and Monitoring Network Supervisory Control
			6. Section 25 13 19 Integrated Automation Control and Monitoring Network Interoperability
			7. Section 25 15 16 Integrated Automation Software for Control and Monitoring Networks
			8. Section 25 50 00 Integrated Automation Facility Controls
			9. Section 26 05 00 Common Work Results For Electrical
			10. Section 26 27 26 Wiring Devices
			11. Section 26 51 00 Interior Lighting
			12. Section 27 15 00 Communications Horizontal Cabling
			13. Section 27 41 00 Audio-Video Systems
2. PRODUCTS
	1. TOUCH SCREEN TYPE 1:
		1. Manufacturers:
			1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Crestron Electronics, Inc., Rockleigh, NJ 07647**, Phone 800-237-2041, Fax: 201-767‑1903, [www.crestron.com](http://www.crestron.com) **[**or comparable products from a single manufacturer approved by Architect prior to bidding**]**, with the following components and characteristics.
		2. Basis of Design Product:
			1. Crestron TSW-730
		3. Minimum Characteristics:
			1. Touch screen:
				1. 7 inch diagonal TFT active-matrix compact color LCD touch screen 800 by 480 15:9 WVGA resolution display.
				2. 18-bit, 262K color graphics. Dynamic graphics and text capability. Enables custom control screen programming.
				3. Video display: Scalable display on device screen.
			2. User Interface buttons:
				1. Dual color backlit button Controls: 10 engraved backlit tactile pushbuttons for programmable functions, optional custom engravable button cover kit.
				2. Customizable WAV file audible button press feedback.
			3. Sensors:
				1. Built-in proximity sensor.
			4. Communication:
				1. Bidirectional 10/100 Mbps Ethernet communication.
			5. Streaming Video:
				1. H.264
				2. MJPEG
			6. Audio
				1. Built-in microphone and speaker.
				2. Intercom:

Compatible with SIP capable devices from same manufacturer.

* + - * 1. VoIP:

SIP compatible server

* + - 1. Control Ports:
				1. 2 Digital sensing inputs.
			2. Power:
				1. IEEE 802.3at Type 2 PSE with LLDP, 16 Watt
				2. IEEE 802.3at Class 4 Type 2 PSE without LLDP, 25.5 Watt
				3. IEEE 802.3af Class 3 PoE Powered Device, 12.95 Watt
			3. Mounting:
				1. 2-gang electrical box.
			4. Memory:
				1. LPDDR2 RAM: 1 GB
				2. Flash: 4 GB
			5. Multiple language support when used in scheduling mode with server software by same manufacturer:
				1. Chinese (Simplified)
				2. Chinese (Traditional)
				3. Dutch (Netherlands)
				4. English (US)
				5. English (UK)
				6. French
				7. German
				8. Italian
				9. Japanese
				10. Russian
				11. Spanish
		1. Operating Modes:
			1. Control user interface.
			2. Room scheduling with compatible scheduling server.
	1. TOUCH SCREEN TYPE 2:
		1. Manufacturers:
			1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Crestron Electronics, Inc., Rockleigh, NJ 07647**, Phone 800-237-2041, Fax: 201-767‑1903, [www.crestron.com](http://www.crestron.com) **[**or comparable products from a single manufacturer approved by Architect prior to bidding**]**, with the following components and characteristics.
		2. Basis of Design Product:
			1. Crestron TPMC-4SM-FD
		3. Minimum Characteristics:
			1. Touch screen:
				1. 4.3 inch TFT active-matrix compact color LCD touch screen 800 by 480 16:9 WVGA resolution display.
				2. 16-bit color graphics. Dynamic graphics and text capability. Enables custom control screen programming.
				3. Video display: Scalable display on device screen.
			2. User Interface buttons:
				1. Dual color backlit button Controls: 10 engraved backlit tactile pushbuttons for volume, channel, and on-screen menu navigation and programmable functions, optional custom engravable button kit.
				2. Customizable WAV file audible button press feedback.
			3. Sensors:
				1. Built-in proximity sensor.
			4. Communication:
				1. Bidirectional 10/100 Mbps Ethernet communication.
			5. Streaming Video:
				1. H.264
				2. MJPEG
			6. Audio
				1. Built-in microphone and speaker.
				2. Intercom:

Compatible with SIP capable devices from same manufacturer.

* + - * 1. VoIP:

SIP compatible server

* + - 1. Control Ports:
				1. 2 Digital sensing inputs.
			2. Power:
				1. IEEE 802.3af Class 3 PoE Powered Device
			3. Mounting:
				1. 1-gang or 2-gang electrical box.
		1. Operating Modes:
			1. Control user interface.
			2. Room scheduling with compatible scheduling server.
	1. TOUCH SCREEN TYPE 3:
		1. Manufacturers:
			1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Crestron Electronics, Inc., Rockleigh, NJ 07647**, Phone 800-237-2041, Fax: 201-767‑1903, [www.crestron.com](http://www.crestron.com) **[**or comparable products from a single manufacturer approved by Architect prior to bidding**]**, with the following components and characteristics.
		2. Basis of Design Product:
			1. Crestron TPMC-3SM
		3. Minimum Characteristics:
			1. Touch screen:
				1. 2.8 inch TFT active-matrix compact color LCD touch screen 240 by 320 3:4 QVGA resolution display.
				2. 16-bit color graphics. Dynamic graphics and text capability. Enables custom control screen programming.
				3. Video display: Scalable display on device screen.
			2. User Interface buttons:
				1. Dual color backlit button Controls: 2 backlit tactile pushbuttons.
			3. Communication:
				1. Bidirectional 10/100 Mbps Ethernet communication.
			4. Streaming Video:
				1. MJPEG
			5. Power:
				1. IEEE 802.3af Class 2 PoE Powered Device
			6. Mounting:
				1. 1-gang electrical box.
		4. Operating Mode:
			1. Room scheduling with compatible scheduling server.
	2. TOUCH SCREEN TYPE 4:
		1. Manufacturers:
			1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Crestron Electronics, Inc., Rockleigh, NJ 07647**, Phone 800-237-2041, Fax: 201-767‑1903, [www.crestron.com](http://www.crestron.com) **[**or comparable products from a single manufacturer approved by Architect prior to bidding**]**, with the following components and characteristics.
		2. Basis of Design Product:
			1. Crestron TPMC-8X-GA
		3. Minimum Characteristics:
			1. Touch screen:
				1. 8.4 inch active-matrix touch screen display
				2. 800 by 600 SVGA display resolution.
				3. 16-bit color graphics.
				4. Video display: Scalable display on device screen.
			2. User Interface buttons:
				1. Button Controls: programmable button functions.
				2. Customizable WAV file audible button press feedback.
			3. Communication:
				1. 802.11a/b/g WiFi wireless Ethernet communication.
			4. Streaming Video:
				1. H.264
				2. MJPEG
			5. Audio
				1. Built-in microphone and speaker.
				2. Intercom:

Compatible with SIP capable devices from same manufacturer.

* + - * 1. VoIP:

SIP compatible server

* + - 1. Embedded Software Applications:
				1. Microsoft Internet Explorer.
				2. Microsoft Media Player.
				3. Microsoft Powerpoint.
				4. Microsoft Word.
				5. Microsoft Excel.
				6. Adobe Acrobat.
			2. Power:
				1. Built-in Power management.
				2. Internal Li-Ion battery.
				3. [Optional] external Li-Ion battery pack.
			3. Mounting:
				1. [Optional] Desktop docking station.
				2. [Optional] Wall mounted docking station.
		1. Operating Modes:
			1. Control user interface.
			2. Room scheduling with compatible scheduling server.
	1. TOUCH SCREEN TYPE 5:
		1. Manufacturers:
			1. Basis-of-Design Manufacturer: Subject to compliance with requirements, provide products of **Crestron Electronics, Inc., Rockleigh, NJ 07647**, Phone 800-237-2041, Fax: 201-767‑1903, [www.crestron.com](http://www.crestron.com) **[**or comparable products from a single manufacturer approved by Architect prior to bidding**]**, with the following components and characteristics.
		2. Basis of Design Product:
			1. Crestron TPMC-V15-TILT
		3. Minimum Characteristics:
			1. Touch screen:
				1. 15.3 inch active-matrix touch screen display
				2. 1280 by 768 WXGA display resolution.
				3. 24-bit color graphics.
				4. Video display: Scalable display on device screen.
			2. User Interface buttons:
				1. Button Controls: programmable button functions.
				2. Customizable WAV file audible button press feedback.
			3. Communication:
				1. Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, and DHCP
				2. Control bus: slave mode for control and console
			4. Analog video input:
				1. Composite video

NTSC

PAL

* + - * 1. Resolution

480i

576i

* + - 1. Streaming Video:
				1. H.264
				2. MJPEG
				3. Windows Media Player supported formats
			2. Audio
				1. Built-in microphone and speaker.
				2. Intercom:

Compatible with IP intercom capable devices from same manufacturer.

* + - 1. Embedded Software Applications:
				1. Microsoft Internet Explorer.
				2. Microsoft Media Player.
				3. Microsoft Powerpoint.
				4. Microsoft Word.
				5. Microsoft Excel.
				6. Adobe Acrobat.
			2. Power:
				1. 24 VDC, 35 Watts
			3. Stand:
				1. Tabletop tilt stand

0° to 35° adjustable screen tilt, optional swivel mount sold separately

* + 1. Operating Modes:
			1. Control user interface.

END OF SECTION 25 13 16