SECTION 25 50 00

INTEGRATED AUTOMATION FACILITY CONTROLS

Equipment Specified in this section:

CONTROL PROCESSOR: Crestron CP3

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SECTION 25 50 00

INTEGRATED AUTOMATION FACILITY CONTROLS

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1. GENERAL
	1. SECTION INCLUDES
		1. Control Processor
			1. Central control processor for automation and control systems. Control processor is capable of integrated system control including native intersystem communication with equipment and processors by same manufacturer as well as scheduling and management servers. Control processor shall be the central connecting point for equipment and devices under control in a specified system. As the central element of communication for system devices under control, and all devices and sensors providing status, and feedback, the control processor integrates multiple disparate devices and systems without requiring multiple third party protocol adaptors, translators, or gateways. The control processor is also capable of sharing status, state, and feedback information from other connected devices.

Specifier: Related requirements paragraph is optional. If retaining, edit and coordinate list of sections below to correspond to Project requirements.

* + 1. Related Requirements
			1. Section 12 24 13 — Roller Window Shades
			2. Section 23 09 23 — Direct Digital Control System for HVAC
			3. Section 25 08 00 — Commissioning of Integrated Automation
			4. Section 25 10 00 — Integrated Automation Network Equipment
			5. Section 25 11 13 — Integrated Automation Network Servers
			6. Section 25 13 13 — Integrated Automation Control and Monitoring Network Supervisory Control
			7. Section 25 13 16 — Integrated Automation Control and Monitoring Network Integration Panels
			8. Section 25 13 19 — Integrated Automation Control and Monitoring Network Interoperability
			9. Section 25 15 16 — Integrated Automation Software for Control and Monitoring Networks
			10. Section 26 09 43.13 — Digital-Network Lighting Controls
			11. Section 26 05 00 — Common Work Results for Electrical
			12. Section 26 09 23 — Lighting Control Devices
			13. Section 26 09 36 — Modular Dimming Controls
			14. Section 26 09 43 — Network Lighting Controls
			15. Section 27 15 00 — Communications Horizontal Cabling
			16. Section 27 41 00 — Audio-Video Systems
1. PRODUCTS
	1. CONTROL PROCESSOR
		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 CP3**
		3. Minimum Characteristics:
			1. Operating System:
				1. Modular architecture supports multiple simultaneous running programs.

Number of simultaneously running user programs: 10

* + - * 1. Real-time, preemptive multithreaded/multitasking kernel.
				2. Vector floating point coprocessor.
				3. Utilize a real time, event driven, multi-tasking, multi-threaded operating system.
			1. Communication:
				1. Control Processor shall support direct communication with the following devices:

Connected Ethernet devices.

Devices connected to built-in control ports.

Proprietary control network devices.

BACnet IP devices.

Control processors of same type.

* + - 1. Native BACnet/IP

Specifier:

A free license for 50 BACnet objects is available for the CP3. The CP3 processor may be upgraded to support a maximum of 1000 BACnet IP objects.

* + - * 1. Number of BACnet objects supported: 1000
			1. File Structure:
				1. Transaction-safe extended FAT32 file system
			2. Memory:
				1. RAM:

512 MB

* + - * 1. Flash:

Built-In: 4 GB

USB or MMC slot: up to 32 GB

* + - * 1. External Storage

Supports up to 1 TB.

* + - 1. Network:
				1. Built-in 10/100BaseT Ethernet port.
				2. Built-In Web Server: IIS v.6.0
				3. SNMP remote management.
				4. Active Directory support.
				5. IPv6 ready.
				6. TCP/IP Communications
				7. DHCP and DNS Support
				8. Native Email Client
				9. Remote Diagnostics
				10. Remote Program Loading and Administration
				11. SSL security plug in
				12. Support user assigned or dynamic IP address.
		1. External Ports

The control system shall be equipped with the following external connection ports:

* + - 1. Infrared Output Port
				1. Number of built-in ports: 8
				2. Connector: 2 8-pin 3.5mm detachable terminal blocks.
				3. Signal:

One-way infrared: up to 1.2 MHz

One-way serial output: TTL/RS-232 (0-5 Volts)

Baud rate: 9600 to 115,200 baud

* + - 1. Serial Communication Port - Type 1
				1. Number of built-in ports: 1
				2. Connector: 5-pin 3.5mm detachable terminal blocks.
				3. Signal:

Bidirectional RS-232

Baud rate: 1200 to 115,000 baud

Software handshaking: off or XON

Bidirectional RS-422 or RS-485

Baud rate: 1200 to 115,000 baud

Hardware handshaking: CTS, RTS, or RTS/CTS

Software handshaking: off or XON

* + - 1. Serial Communication Port - Type 2
				1. Number of built-in ports: 2
				2. Connector: 3-pin 3.5mm detachable terminal blocks.
				3. Signal:

Bidirectional RS-232

Baud rate: up to 115,000 baud

Software handshaking.

* + - 1. Input Output Port
				1. Number of built-in ports: 8
				2. One 9-pin 3.5mm detachable terminal block.
				3. Individual programmable 2Kohm pull-up resistor.
				4. Individually configurable to one of three modes.
				5. Digital Input Mode

Digital contact closure inputs

Rating:

0-24 VDC

Impedance: 20Kohm

Logic threshold High: >3.125V

Logic threshold Low: < 1.875V

Rated for 0-24 Volts DC, referenced to GND.

* + - * 1. Digital Output Mode

Rating:

250 mA sync from maximum 24 VDC

* + - * 1. Analog Input Mode

Rating:

0-10 VDC

Protection: 24 VDC maximum

Impedance: 21Kohm

* + - 1. Relay Port
				1. Number of built-in ports: 8
				2. Two 8-pin 3.5mm detachable terminal blocks.

Normally open, isolated relays.

Rating:

1 Amp, 30 Volts AC/DC.

MOV arc suppression across contacts.

* + - 1. Ethernet
				1. Number of built-in ports: 1
				2. One 8-wire RJ45 with 2 LED indicators.

10/100BaseT Ethernet port.

Ethernet Link LED indicator.

Ethernet activity LED indicator.

* + - 1. Communication Network
				1. Number of built-in ports: 1
				2. Four 4-pin 3.5mm detachable terminal block.

Master net communications port.

* + - 1. USB Type 1
				1. Programming and configuration interface.

Number of built-in ports: 1

Connector:

USB Type-B female USB 2.0

* + - 1. USB Type 2
				1. Memory storage device port.
				2. Number of built-in ports: 1
				3. Connector:

USB Type-A female USB 2.0

* + 1. Memory Expansion Card Slot
			1. Number of built-in slots: 1
			2. Slot Type:
				1. MMC
			3. Slot Capacity
				1. 32 GB maximum
		2. BACnet Protocol Implementation:
			1. BACnet Standardized Device Profile:
				1. Application Specific Controller (B-ASC)
			2. BACnet Interoperability Building Blocks Supported:
				1. Data Sharing-ReadProperty-A (DS-RP-A)
				2. Data Sharing-ReadProperty-B (DS-RP-B)
				3. Data Sharing - ReadProperty Multiple - A (DS-RPM-A)
				4. Data Sharing - ReadProperty Multiple - B (DS-RPM-B)
				5. Data Sharing-WriteProperty-A (DS-WP-A)
				6. Data Sharing-WriteProperty-B (DS-WP-B)
				7. Data Sharing – COV – A (DS-COV-A)
				8. Data Sharing – COV – B (DS-COV-B)
				9. Device Management-Dynamic Device Binding-A (DM-DDB-A)
				10. Device Management-Dynamic Device Binding-B (DM-DDB-B)
				11. Device Management-Dynamic Object Binding-B (DM-DOB-B)
				12. Device Management-DeviceCommunicationControl-B (DM-DCC-B)
			3. Standard Object Types Supported:
				1. Device Object
				2. Analog Input Object
				3. Analog Value Object
				4. Binary Input Object
				5. Binary Value Object
				6. Multi-State Input
				7. Multi-State Value
			4. Data Link Layer Options:
				1. BACnet IP
				2. BACnet IP, Foreign Device
			5. Network Options:
				1. BACnet/IP Broadcast Management Device (BBMD)

Supports registration by foreign devices.

* + - 1. Character Set Supported:
				1. ANSI X3.4
		1. Mounting
			1. Standard 19 inch rack mount, 1 rack unit high.
			2. Rack mounting ears shall be removable for free standing applications.
		2. Front Panel Controls
			1. Hardware reset button
			2. Software reset button
		3. Front Panel Indicators
			1. Power
			2. Control Network Communication
			3. Control Processor Error
		4. Power Requirements:
			1. 15 Watts at 24 VDC
1. EXECUTION

Not Used

END OF SECTION 25 50 00