3-Series® Automation Processor Assembly for CAEN Automation Enclosures
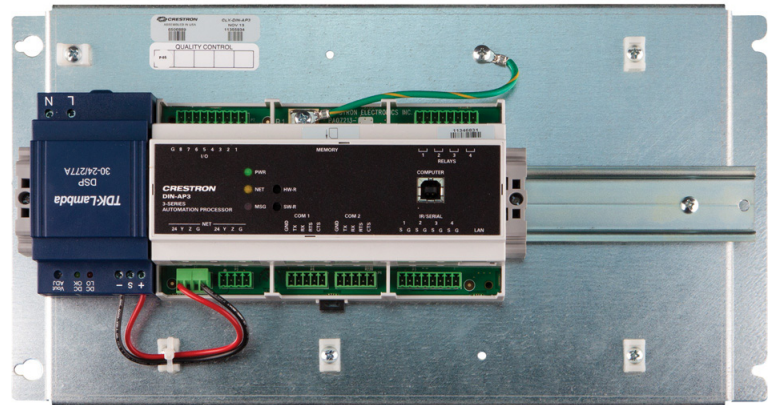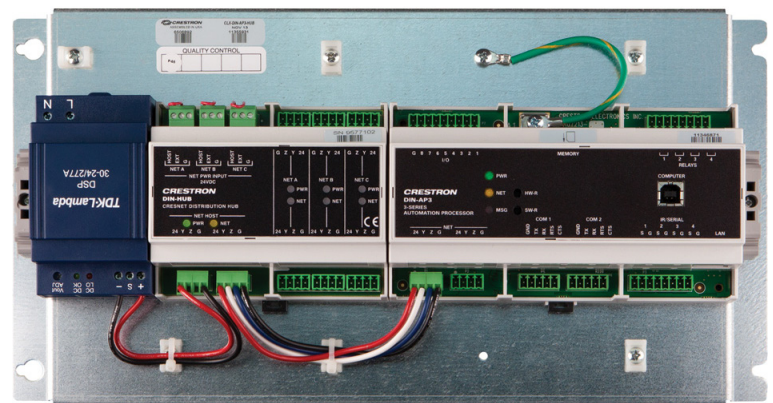
> A prewired 3-Series® automation processor assembly for CAEN Series enclosures

> 3-Series Control Engine — substantially faster and more powerful than other control systems

> Exclusive modular programming architecture

> Programmable astronomical time clock for scheduled events

> Onboard 256MB RAM & 4GB Flash memory

> Memory card slot

> Industry-standard Ethernet and Cresnet® wired communications

> XPanel with Smart Graphics™ computer and web based control

> iPhone®, iPad®, and Android™ control app support

> Crestron Fusion® Cloud Enterprise Management Service support

> SNMP remote management support

> Two RS-232/422/485 COM ports with hardware and software handshaking

> Four IR/serial, four relay, and eight Versiport I/O ports

> Native BACnet™/IP support [1]

> Installer setup via Crestron Toolbox™ software or web browser

> C#, symbol based, and drag-and-drop programming environments

> Full Unicode (multi-language) support

> Increased network throughput and security

> Secure access through full user/group management or Active Directory integration

> Hardware level security using 802.1X authentication

> TLS, SSL, SSH, and SFTP network security protocols

> FIPS 140-2 compliant encryption

> IIS v.6.0 Web Server

> IPv6 ready

> Front panel USB computer console port

> 30 Watts universal Cresnet power supply [2]

> Optional 3-segment Cresnet hub

> Designed for mounting inside a CAEN, CAEN-MLO, or CAENIB enclosure

Model: CLX-DIN-AP3

Model: CLX-DIN-AP3-HUB

3-Series® Control Systems

Today's commercial buildings and custom homes comprise more technology than ever before, and all these systems need to be networked, managed, and controlled in fundamentally new ways. The IP based 3-Series platform is engineered from the ground up to deliver a network-grade server appliance capable of faithfully handling everything from lighting and shading control to total building management.

3-Series embodies a distinctively robust, dynamic, and secure platform to elevate your system designs to higher levels of performance and reliability. Compared to other control systems, Crestron 3-Series provides a pronounced increase in processing power and speed with more memory, rock solid networking and IP control, and a unique modular programming architecture.

The Crestron® CLX-DIN-AP3 provides a 3-Series Control System® designed for use with a CAEN, CAEN-MLO, or CAENIB Automation Enclosure. Two models are available. The CLX-DIN-AP3 includes a DIN-AP3 3-Series® Automation Processor and DIN-PWS30-277 30 Watt Cresnet® Power Supply prewired and mounted together on a CAEN-UMP1X2 Mounting Plate. Model CLX-DIN-AP3-HUB includes the DIN-AP3 and DIN-PWS30-277, and adds a DIN-HUB Cresnet Distribution Hub. For additional details, refer to the individual spec sheet for each product listed above.

Modular Programming Architecture

Designed for enhanced scalability, the CLX-DIN-AP3 affords high-speed, real-time multi-tasking to seamlessly run multiple programs simultaneously. This exclusive modular programming architecture lets programmers independently develop and run device-specific programs for lighting, shades, HVAC, security, AV, etc., allowing for the optimization of each program, and allowing changes to be made to one program without affecting the whole. Even as your system grows, processing resources can easily be shifted from one 3-Series processor to another without rewriting any code. The end benefit is dramatically simplified upgradability with minimal downtime, whether implementing changes on site or remotely via the network.

Robust Ethernet & IP Control

IP technology is the heart of 3-Series, so it should be no surprise that its networking abilities are second to none. High-speed Ethernet connectivity enables integration with IP-controllable devices and allows the CLX-DIN-AP3 to be part of a larger managed control network. Whether residing on a sensitive corporate LAN, a home network, or accessing the Internet through a cable modem, the CLX-DIN-AP3 provides secure, reliable interconnectivity with IP-enabled touch screens, computers, mobile devices, video displays, media servers, security systems, lighting, HVAC, and other equipment — whether on premises or across the globe.

Control Apps & XPanel

Years ago, Crestron pioneered the world's first IP-based control system unleashing vast new possibilities for controlling, monitoring, and managing integrated systems over a LAN, WAN, and the Internet. Today, Crestron offers more ways than ever to control your world the way you want. Using a computer, smartphone, or tablet device, Crestron lets you control anything in your home or workplace from anywhere in the world.

Native to every 3-Series control system, Crestron XPanel technology transforms any laptop or desktop computer into a virtual Crestron touch screen. Crestron control apps deliver the Crestron touch screen experience to iPhone®, iPad®, and Android™ devices, letting you safely monitor and control your entire residence or commercial facility using the one device that goes with you everywhere.

Crestron Fusion® Cloud

Crestron Fusion Cloud provides an integrated platform for creating truly smart buildings that save energy, enhance worker productivity, and prolong the life-span of valuable equipment. As part of a complete managed network in a corporate enterprise, college campus, convention center, or any other facility, the CLX-DIN-AP3 works integrally with Crestron Fusion Cloud to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk. It also enables organizations to reduce energy consumption by tracking real-time usage and automating control of lighting, shades, and HVAC.

Astronomical Time Clock Feature

Scheduled events may be programmed on the CLX-DIN-AP3 according to an astronomical time clock. As a result, events can be set to occur at specific times or at an offset from sunrise or sunset.

SNMP Support

Built-in SNMP support enables integration with third-party IT management software, allowing network administrators to manage and control Crestron systems on the network in an IT-friendly format.

Cresnet®

Cresnet provides a dependable network wiring solution for Crestron keypads, lighting controls, shade motors, thermostats, occupancy sensors, and other devices that don't require the higher speed of Ethernet. The Cresnet bus offers easy wiring and configuration, carrying bidirectional communication and 24VDC power to each device over a simple 4-conductor cable. To assist with troubleshooting, the CLX-DIN-AP3 includes our patent-pending Network Analyzer which continuously monitors the integrity of the Cresnet network for wiring faults, marginal performance, and other errors.

Cresnet Hub

By itself, the CLX-DIN-AP3 supports approximately 20 typical Cresnet devices. For larger systems with up to 80 devices, use the CLX-DIN-AP3-HUB, which includes a 3-segment Cresnet hub.

Cresnet Power Supply

A 30 Watt Cresnet Power Supply is included to provide power for the DIN-AP3 and DIN-HUB, plus a limited number of additional Cresnet devices. Refer to the specifications for details on the amount of Cresnet power available. The power supply provides compatibility for both 120 and 230 Volt AC systems.

Onboard Control Ports

In addition to Ethernet, the CLX-DIN-AP3 includes a variety of control ports for interfacing with third-party equipment. Its two bidirectional COM ports and four IR ports allow for interfacing with security systems, small appliances, and AV devices. Four programmable relay ports are provided for controlling projection screens, lifts, power controllers, and other contact-closure actuated equipment. Eight "Versiport" I/O ports enable the integration of power sensors, motion detectors, door switches, alarms, or anything else that provides a dry contact closure, low-voltage logic, or 0-10 Volt DC signal.

BACnet™/IP

Native support for the BACnet/IP communication protocol provides a direct interface to third-party building management systems over Ethernet, simplifying integration with HVAC, security, fire & life safety, voice & data, lighting, shades, and other systems. Using BACnet/IP, each system runs independently with the ability to communicate together on one platform for a truly smart building.[1]

SPECIFICATIONS

Control Engine

Crestron 3-Series; real-time, preemptive multi-threaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

Memory

DDR3 SDRAM: 256 MB
Flash: 4 GB
Memory Card: supports SD and SDHC cards up to 32 GB

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1X, SNMP, BACnet/IP [1], IPv4 or IPv6, Active Directory authentication, IIS v.6.0 Web Server, SMTP e-mail client
Cresnet: Cresnet master mode
USB: Supports computer console via front panel USB 2.0 device port

RS-232/422/485: For 2-way device control and monitoring, supports RS-232, RS-422, or RS-485 up to 115.2k baud with hardware and software handshaking

IR/Serial: Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

Connectors – DIN-PWS30-277

L, N: (2) Captive screw terminals;
100-277 Volt AC line power input

+, S, –: (3) Captive screw terminals 24 Volt DC power output, prewired to DIN-AP3 NET port (or DIN-HUB NET HOST port)

Connectors & Card Slots – DIN-AP3

I/O 1 – 8: (1) 9-pin 3.5 mm detachable terminal block;
Comprises (8) "Versiport" digital input/output or analog input ports (referenced to GND);
Digital Input: Rated for 0-24 Volts DC, input impedance 20k Ohms, logic threshold >3.125V low/0 and <1.875V high/1;
Digital Output: 250 mA sink from maximum 24 Volts DC, catch diodes for use with "real world" loads;
Analog Input: Rated for 0-10 Volts DC, protected to 24 Volts DC maximum, input impedance 21k Ohms with pull-up resistor disabled;
Programmable 5 Volts, 2k Ohms pull-up resistor per pin

Ground: (1) Captive screw terminal;
Chassis ground lug;
Prewired to CAEN-UMP1X2

MEMORY: (1) SD memory card slot;
Accepts one SD or SDHC card up to 32 GB for memory expansion

RELAYS 1 – 4: (1) 8-pin 3.5 mm detachable terminal block;
Comprises (4) normally open, isolated relays;
Rated 1 Amp, 30 Volts AC/DC;
MOV arc suppression across contacts

COMPUTER: (1) USB Type B female;
USB 2.0 computer console port (6 ft cable included);
For setup only

NET: (2) 4-pin 3.5 mm detachable terminal blocks, paralleled;
Cresnet master port and 24 Volt DC power input;
Prewired to DIN-PWS30-277 (or DIN-HUB NET HOST port)
Also provides connection to CAEN-BLOCK (sold separately)

COM 1 – 2: (2) 5-pin 3.5 mm detachable terminal blocks;
Bidirectional RS-232/422/485 ports;
Up to 115.2k baud; hardware and software handshaking support

IR/SERIAL 1 – 4: (1) 8-pin 3.5 mm detachable terminal block;
Comprises (4) IR/Serial output ports;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 115.2k baud

LAN: (1) 8-pin RJ45 jack;
10Base-T/100Base-TX Ethernet port

Connectors – DIN-HUB (CLX-DIN-AP3-HUB only)

NET HOST: (2) 4-pin 3.5 mm detachable terminal blocks, paralleled;
Prewired to DIN-PWS30-277 and DIN-AP3 NET port

NET PWR INPUT 24VDC, NET A – C: (3) 3-pin 3.5 mm detachable terminal blocks;
Cresnet power selection connectors for each segment;
Connect to external Cresnet power supplies, or to local "host" power source via jumpers, to power Cresnet devices connected to the NET A-C ports;
Maximum Load per Segment: 75 Watts (3.13 Amps @ 24 Volts DC)

NET A – C: (6) 4-pin 3.5 mm detachable terminal blocks;
Comprises (2) Cresnet ports (paralleled) per each of (3) segments

Controls & Indicators – DIN-AP3

PWR: (1) Dual-color green/amber LED, indicates operating power supplied from the DIN-PWS30-277, turns amber while booting and green when operating
NET: (1) Amber LED, indicates communication with the Cresnet system
MSG: (1) Red LED, indicates processor has generated an error message
HW-R: (1) Recessed miniature pushbutton for hardware reset
SW-R: (1) Recessed miniature pushbutton for software reset
LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity

Indicators – DIN-HUB (CLX-DIN-AP3-HUB only)

NET HOST, PWR: (1) Green LED, indicates Cresnet power supplied from the DIN-PWS30-277
NET HOST, NET: (1) Yellow LED, indicates Cresnet bus activity at either NET HOST port
NET A – C, PWR: (3) Green LEDs, indicate Cresnet power is available at the NET ports of each corresponding hub segment
NET A – C, NET: (3) Yellow LEDs, indicate Cresnet bus activity at the NET ports of each corresponding hub segment

Power

Main Power: 100-277 Volts AC, 50/60 Hz
Available Cresnet Power:
    CLX-DIN-AP3: 22 Watts (0.92 Amp @ 24 Volts DC);
    CLX-DIN-AP3-HUB: 21 Watts (0.88 Amp @ 24 Volts DC)

Environmental

Temperature: 32° to 104° F (0° to 40° C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: CLX-DIN-AP3: 26 BTU/hr;
                 CLX-DIN-AP3-HUB: 28 BTU/hr

Construction

Mounting Plate: Metal with attached DIN rail and tie-down anchors
DIN Modules: Polycarbonate housings, UL94 V-0 rated, 35 mm DIN EN 60715 rail mount, DIN 43880 form factor

CRESTRON®

Dimensions

Height: 7 13/32 in (188 mm)
Width: 14 in (356 mm)
Depth: 3 in (77 mm)

Weight

CLX-DIN-AP3: 2.3 lb (1.1 kg);

CLX-DIN-AP3-HUB: 2.7 lb (1.3 kg)

MODELS & ACCESSORIES

Available Models

CLX-DIN-AP3: 3-Series® Automation Processor Assembly for CAEN Automation Enclosures
CLX-DIN-AP3-HUB: 3-Series® Automation Processor Assembly with Hub for CAEN Automation Enclosures

Included Accessories

DIN-AP3: DIN Rail 3-Series™ Automation Processor (Qty. 1 included with CLX-DIN-AP3 & CLX-DIN-AP3-HUB)
DIN-HUB: DIN Rail Cresnet Distribution Hub (Qty. 1 included with CLX-DIN-AP3-HUB only)
DIN-PWS30-277: DIN Rail 30 Watt Cresnet Power Supply, 277V (Qty. 1 included with CLX-DIN-AP3 & CLX-DIN-AP3-HUB)
CAEN-UMP1X2: Universal Mounting Plate for CAEN Automation Enclosures, fits 2 Module Slots, 1H x 2W (Qty. 1 included with CLX-DIN-AP3 & CLX-DIN-AP3-HUB)

Available Accessories

CAEN-BLOCK: Cresnet® Terminal Block for CAEN Automation Enclosures
CNSP-XX: Custom Serial Interface Cable
IRP2: IR Emitter Probe w/Terminal Block Connector
Crestron® App: Control App for Apple® iOS® and Android™
XPanel: Crestron Control® for Computers
myCrestron: Dynamic DNS Service
Crestron Fusion®: Enterprise Management Platform
SW-3SERIES-BACNET: BACnet™/IP Support for 3-Series®
CSP-LIR-USB: IR Learner

Notes:

1. License required. The CLX-DIN-AP3 supports a maximum of 500 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity.
2. Refer to the specifications for actual Cresnet power available.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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