

DIN Rail 3-Series® Automation Processor

- > Next generation control system
- > 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®, Android™, and Samsung Smart TV® control app support
- > Crestron Fusion® Enterprise Management Software support
- > SNMP support
- > Two RS-232/422/485 COM ports with hardware and software handshaking
- > 4 IR/serial, 4 relay, and 8 Versiport I/O ports
- > Native BACnet™/IP support^[2]
- > Installer setup via Crestron Toolbox™ or Internet Explorer®^[3]
- > Backwards compatible to run existing SIMPL programs
- > Full Unicode (multi-language) support
- > Increased network throughput and security
- > Secure access through Active Directory integration or standalone account management
- > Hardware level security using 802.1x authentication
- > IIS v.6.0 Web Server
- > IPv6 ready
- > Front panel USB computer console port
- > 9M wide DIN rail mountable

The Crestron® DIN-AP3 is a 3-Series Control System® designed for DIN rail mounting applications. Featuring the 3-Series® control engine, the DIN-AP3 forms the core of any modern networked home or commercial building, managing and integrating all the disparate technologies throughout the facility to make life easier, greener, more productive, and more enjoyable.

DIN Rail Mounting

The DIN-AP3 is designed to snap onto a standard DIN rail for installation in a wall mount enclosure (Crestron [DIN-EN](#) series^[1] or similar) or on a wall panel. DIN rail mounting affords a very space-efficient, cost-effective, and modular solution for configuring complete automation systems using the DIN-AP3 along with additional Crestron and third-party DIN rail mountable devices.



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 AV system 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.

Modular Programming Architecture

Designed for enhanced scalability, the DIN-AP3 affords high-speed, real-time multi-tasking to seamlessly run multiple programs simultaneously. This exclusive 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 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 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.

DIN-AP3 DIN Rail 3-Series® Automation Processor

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, tablet, or Smart TV, 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. Even **Samsung Smart TV®** has a Crestron control app available.

Crestron Fusion® Enterprise Management

Crestron Fusion 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 DIN-AP3 works integrally with **Fusion RV®** Remote Asset Management Software to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk. **Fusion EM®** Energy Management Software 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 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, thermostats, 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 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.

The DIN-AP3 includes a pair of Cresnet master ports (paralleled) capable of supporting approximately 20 typical devices. Larger systems with more than 20 devices can be handled by adding the **DIN-HUB** Cresnet Distribution Hub^[1]. Connectivity for multiple homeruns can be facilitated using one or more **DIN-BLOCK** Cresnet Distribution Blocks^[1]. Additionally, at least one **DIN-PWS50** Cresnet Power Supply^[1] is required to power the DIN-AP3 and any connected Cresnet devices.

Onboard Control Ports

In addition to Ethernet, the 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, door strikes, and other contact-closure actuated equipment. Eight "Versiport" I/O ports enable the integration of occupancy sensors, power sensors, door switches, or anything else that provides a dry contact closure, low-voltage logic, or 0-10 Volt DC signal.

Additional control ports, lighting and motor controls, and other types of interfaces can be added easily using Crestron **DIN Rail series** lighting and automation modules.

BACnet™

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.^[2]

SPECIFICATIONS

Control Engine

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; 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]

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 & Card Slots

I/O 1 – 8: (1) 9-pin 3.5mm detachable terminal block; Comprises (8) "Versiport" digital input/output or analog input ports (referenced to GND);

DIN-AP3 DIN Rail 3-Series® Automation Processor

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: 250mA 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

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 3.5mm 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 3.5mm detachable terminal blocks, paralleled;

Cresnet master port and 24 Volt DC power input

COM 1 – 2: (2) 5-pin 3.5mm 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 3.5mm detachable terminal block comprising

(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-wire RJ45 jack;

10Base-T/100Base-TX Ethernet port

Controls & Indicators

PWR: (1) Dual-color green/amber LED, indicates operating power supplied from Cresnet network or power supply, 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

Power Requirements

Cresnet Power Usage: 8 Watts (0.33 Amp @ 24 Volts DC)

Environmental

Temperature: 32° to 104°F (0° to 40°C)

Humidity: 10% to 90% RH (non-condensing)

Heat Dissipation: 26 BTU/Hr

Enclosure

Light gray polycarbonate housing with polycarbonate label overlay, UL94 V-0 rated, 35 mm DIN EN 60715 rail mount, DIN 43880 form factor for enclosures with 45 mm front panel cutout, occupies 9 DIN module spaces (162 mm)

Dimensions

Height: 3.72 in (95 mm)

Width: 6.28 in (160 mm)

Depth: 2.29 in (59 mm)

Weight

9.8 oz (277 g)

MODELS & ACCESSORIES

Available Models

DIN-AP3: DIN Rail 3-Series® Automation Processor

Available Accessories

DIN-EN Series: Enclosures for DIN Rail Devices

DIN-PWS50: DIN Rail 50 Watt Cresnet Power Supply

DIN-PWS30-277: DIN Rail 30 Watt Cresnet Power Supply, 277V

DIN-BLOCK: DIN Rail Cresnet Distribution Block

DIN-HUB: DIN Rail Cresnet Distribution Hub

DIN-1DIM4: DIN Rail Dimmer, 1 feed, 4 channels

DIN-1DIMU4: DIN Rail Universal Dimmer, 1 feed, 4 channels

DIN-4DIMFLV4: DIN Rail 0-10V Fluorescent Dimmer, 4 feeds, 4 channels

DIN-8SW8: DIN Rail High-Voltage Switch, 8 feeds, 8 channels

DIN-8SW8-I: DIN Rail High-Voltage Switch with Digital Inputs

DIN-2MC2: DIN Rail Motor Control, 2 feeds, 2 channels

DIN-AO8: DIN Rail Analog Output Module

DIN-I08: DIN Rail Versiport Module

CNSP-XX: Custom Serial Interface Cable

IRP2: IR Emitter Probe w/Terminal Block Connector

Crestron® App: Control App for Apple® iOS®

Crestron Mobile Pro®: Control App for Apple® iOS® and Android™

XPanel: Crestron Control® for Computers

myCrestron: Dynamic DNS Service

Fusion EM®: Energy Management Software

Fusion RV®: Remote Asset Management Software

RoomView® Express: Remote Help Desk and Resource Management Software

SW-3SERIES-BACNET: BACnet™/IP Support for 3-Series®

CSP-LIR-USB: IR Learner

DIN-AP3 DIN Rail 3-Series® Automation Processor

Notes:

1. Item(s) sold separately.
2. License required. The 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.
3. Web-based installer setup requires the Microsoft® Internet Explorer® Web browser running on a Windows® PC.

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.

Crestron, the Crestron logo, 3-Series, 3-Series Control System, Cresnet, Crestron Control, Crestron Fusion, Crestron Mobile Pro, Crestron Toolbox, Fusion EM, Fusion RV, RoomView, and

Smart Graphics are either trademarks or registered trademarks of Crestron Electronics, Inc. in the United States and/or other countries. BACnet and the BACnet logo are either trademarks or registered trademarks of American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc. in the United States and/or other countries. Apple, iPad, and iPhone are either trademarks or registered trademarks of Apple Inc. in the United States and/or other countries. IOS is either a trademark or registered trademark of Cisco Technology, Inc. in the United States and/or other countries. Android is either a trademark or registered trademark of Google, Inc. in the United States and/or other countries. Microsoft, Internet Explorer, and Windows are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries. Samsung Smart TV is either a trademark or registered trademark of Samsung Electronics Co., Ltd. in the United States and/or other countries. SD and SDHC are either trademarks or registered trademarks of SD-3C, LLC in the United States and/or other countries. Other trademarks, registered trademarks, and trade names may be used in this document to refer to either the entities claiming the marks and names or their products. Crestron disclaims any proprietary interest in the marks and names of others. Crestron is not responsible for errors in typography or photography. Specifications are subject to change without notice.
©2014 Crestron Electronics, Inc.

