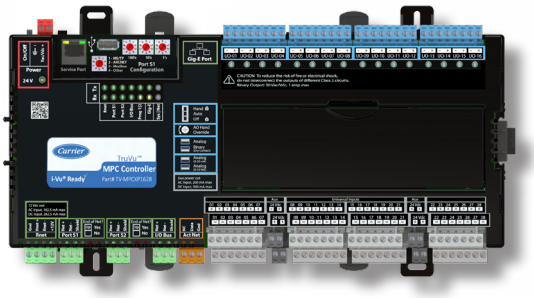
Carrier

TruVu



i-Vu® Building Automation System

TruVu™ MPCXP1628 Controller

Part Numbers: TV-MPCXP1628, TV-MPCXP1628-NR

i Vu

The Carrier® TruVu™ MPCXP1628 controller provides multi-purpose monitoring and control for a variety of HVAC system applications. Flexible and versatile, it supports multiple I/O configurations for accomplishing both common and custom HVAC control strategies.

The TruVu MPCXP1628 controller features built-in routing and integration capabilities, 44 universal I/O points, and support for up to nine TruVu MPC I/O expansion modules for a total of 224 hardware control points.

The TruVu MPCXP1628-NR controller has the same features as the TruVu MPCXP1628, but does not support BACnet routing.

Application Features

- Comprehensive library of factory-engineered control programs available for complete air-side and water-side system control
- Graphically programmable using the Snap programming tool
- Supports Carrier communicating room sensors, which allow for local setpoint adjustment and local overrides

Hardware Features

- Gig-E 1000 Mbps Ethernet port supports BACnet/IP, Modbus TCP/IP and DHCP addressing
- Local access 10/100 Ethernet port for system startup and troubleshooting
- Real-time clock keeps time in the event of power failure for up to 3 days without batteries
- Capable of system or stand-alone operation
- Can be din-rail or screw mounted
- Supports up to 9 TruVu MPC I/O expanders
- Act Net bus supports up to 16 communicating i-Vu smart valves

System Benefits

- Fully plug-and-play with the Carrier i-Vu building automation system
- Supports demand limiting and optimal start for maximum energy savings
- Supports up to 1,500 third-party BACnet points and up to 200 Modbus points for system integration

BACnet Features

- Conforms to the BACnet Building Controller (B-BC), BACnet Router (B-RTR, not applicable to -NR version), and BACnet BBMD (B-BBMD), standard device profiles
- Supports BACnet interoperability and routing with and between BACnet/IP, BACnet MS/TP, and BACnet over ARC156
- High-speed, BACnet over ARC156 communications delivers information quickly and effectively
- Can serve as a BACnet Broadcast Management Device (BBMD)
- Supports BACnet Foreign Device Registration (FDR)

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Specifications

BACnet Support	Conforms to the BACnet Building Controller (B-BC), BACnet Router (B-RTR, not applicable to -NR version), and BACnet BBMD (B-BBMD) device profiles as defined in in BACnet 135-2012 Annex L Protocol Revision 14
Communication Ports	**Gig-E:** 10/100/1000 BaseT Ethernet port for BACnet/IP and/or BACnet/Ethernet and/or Modbus TCP/IP communication **S1 ARC/MSTP:** High-speed EIA-485 port with **End of Net** switch for connecting one of the following: • BACnet ARCnet network at 156 kbps or BACnet MS/TP network at 9600 to 115.2 kbps • Modbus RTU at 9600 to 115.2 kbps **S2 MSTP:** Electrically isolated EIA-485 port with **End of Net** switch for connecting one of the following: • BACnet MS/TP network at 9600 to 115.2 kbps or Modbus RTU at 9600 to 115.2 kbps **Service:** 10/100 Base T Ethernet port for system start-up and troubleshooting and for connecting to TruVu EQT2 touch screens **IO Bus port:** Provides communication for wired TruVu MPC I/O expanders **IO Bus edge connector:** 6-pin connector that provides communication and power to a directly-connected TruVu MPC I/O expander **ActNet:** Communication port for connecting up to 16 smart actuators / valves **Rnet:** For connecting Carrier communicating room sensors and Carrier's touchscreen user interface
Third Party Integration	Supports up to 1,500 third-party BACnet points and 200 Modbus points (memory dependent).
Physical	Fire-retardant plastic ABS, UL94-5VA
Universal Inputs	**16 Bit A/D** with 28 channels electronically configured to any of the following input types: **Dry Contact** OR **Pulse Counting** inputs up to 60Hz OR **Voltage** (0-10 Vdc) OR **Current** (0-20 mA) OR **Thermistor** (Precon Type II 10kΩ OR Precon Type III 10kΩ OR Carrier YSI 5kΩ OR S-5700-850 10kΩ w/ 11kΩ shunt) OR **RTD** (Platinum RTD TS-8000 1kΩ @ 32°F (0.00385 TCR) OR Platinum RTD 1kΩ @ 32°F (0.00375 TCR) OR Nickel-iron RTD 1kΩ @ 70°F, 699 Ω @ -40°F OR Balco (Nickel-iron) TS8000 RTD 1kΩ @ 70°F, 779 Ω @ -40°F) **24VDC auxiliary sensor power:** 200mA max. (AC power input) 500 mA max. (DC power input)
Universal Outputs	D/A Resolution (analog out) 12 bits; 16 channels configurable to any of the following output types: **Voltage** (0-10 Vdc) OR **Current** (0-20 mA) OR **Relay contacts**, potential free, normally open, rated 24VAC/DC @ 1 Amp (resistive) Hand/Auto/Off override switches for all outputs, Potentiometer for manual adjustment of all analog outputs, Status LED for all outputs
Protection	Two fast acting, 5mm x 20mm glass fuses: • A 2.5A fuse for the TV-MPCXP1628's power • A 4A fuse for the I/O bus edge connector The power and network ports comply with the EMC requirements EN50491-5-2.
Compliance	**United States of America:** FCC compliant to Title CFR47, Chapter 1, Subchapter A, Part 15, Subpart B, Class B; UL listed to UL916, PAZX, Energy Management Equipment **Canada:** Industry Canada Compliant, ICES-003, Class A; cUL listed UL 916, PAZX and Energy Management Equipment **Europe:** EN50491-5-2:2009; Low Voltage Directive: 2014/35/EU; RoHS Compliant: 2011/65/EU **Australia and New Zealand:** C-Tick Mark, AS/NZS 61000-6-3
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days.
Environmental Operating Range	**Operating:** -40 to 158ºF (-40 to 70ºC) 10 to 95% RH, non-condensing
Power Requirements	24VAC ± 15%, 50-60Hz; 100 VA power consumption; 24VDC ± 10% 48W; Single Class 2 source only, 100 VA or less
Dimensions	**Overall: Length:** 12.75 in. (32.38 cm) **Width:** 6.95 in. (17.68 cm) **Depth:** 2.09 in. (5.31 cm) **Mounting:** DIN rail or screw **Weight:** 2.80 lbs (1.3 kg)

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For more information, contact your local Carrier Controls Expert.

Controls Expert Locator:
www.carrier.com/controls-experts