

OptiFlex™ OF028-NR Controller

PART NUMBER: OF1628-NR-A



Smarter Control, Optimized Environments

The Automated Logic OptiFlex™ OF028-NR controller (OF028-NR-A) is a powerful, scalable BACnet/ARCNET building controller designed to support complex HVAC control and integrated building systems. Engineered for seamless interoperability, it combines native BACnet/IP, BACnet/ARCNET, and MS/TP communications with robust processing and flexible I/O to deliver precise, reliable control. Fully integrated with the WebCTRL® building automation system, the OF028 enables efficient system management, enhanced energy performance, and optimized occupant comfort across new and existing facilities.

Key Features and Benefits

Enhanced Interoperability with BACnet and ARCNET:

Native BACnet/IP, BACnet/ARCNET, and BACnet MS/TP support helps ensure seamless integration with a wide range of building automation systems and devices, providing maximum interoperability and future-proofing system designs.

Enhanced Third-Party Integration: Supports integration of up to 1500 third-party BACnet points and 200 Modbus points, expanding system connectivity and interoperability within WebCTRL.

WebCTRL Integration and Access: Seamless WebCTRL integration provides a unified platform with web-based access for efficient configuration, monitoring, and operation.

EIKON® Programming: Leverages EIKON graphical programming software, an object-oriented tool providing flexibility for custom control sequences and advanced system configuration within WebCTRL.

Scalable Control: Adapts to specific project requirements, optimizing cost-effectiveness for projects of any size.

Flexible I/O Configuration: On-board universal inputs are configurable for diverse sensor and actuator types, supporting a wide range of control strategies.

Expandable I/O: Expand I/O capacity using FIO modules for increased system scalability and design flexibility.

Advanced Control Logic: Powerful processing supports sophisticated control algorithms to optimize building performance, energy efficiency, and occupant comfort.

Installation Flexibility: Designed for versatile installation with DIN rail or screw mounting, suitable for installation in mechanical rooms, equipment boxes, and other suitable weather-tight locations (refer to installation guidelines).

Robust Construction: Durable hardware ensures reliable operation in demanding environments, minimizing downtime and maintenance costs.

WebCTRL®

The WebCTRL building automation system gives you the ability to understand your building operations and analyze the results. Integrate environmental, energy, security and safety systems into one powerful management tool that helps you reduce energy consumption, increase occupant comfort, and achieve sustainable building operations.



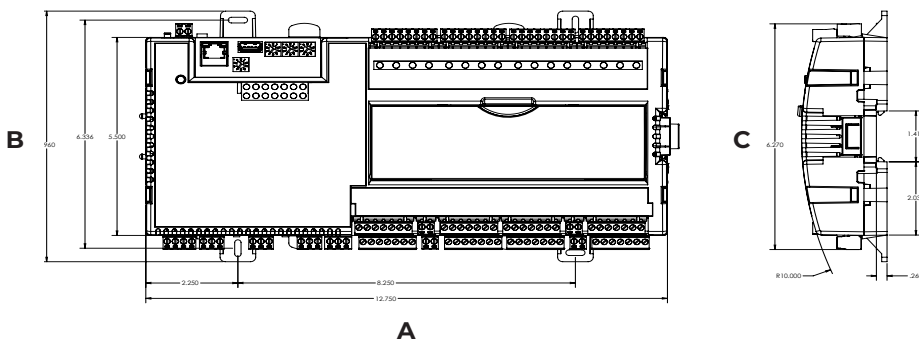
Specifications

Part # OF028-NR-A	
BACnet Conformance	Conforms to the BACnet Building Controller (B-BC) and BACnet Broadcast Management Device (B-BBMD) profiles as defined in Annex L of the BACnet standard. The device is certified to the BACnet standard ISO 16484-5 protocol revision 1.15 and protocol revision 15 (135). The product supports multiple data link layers including BACnet/IP (Annex J), MS/TP, Ethernet, and ARCNET (see BTL listing page https://www.bacnetinternational.net/btl/index.php?m=11 for details).
BACnet Objects	Maximum number of BACnet objects: 12,000 depending upon available memory.
Power	24 Vac +/- 15% , 50 - 60Hz, 100 VA 24 Vdc +/- 10%, 48 W
I/O Expanders	Supports up to 9 FIO expanders
Control Programs	Maximum number of control programs: 999 depending upon available memory.
Third-Party Integration	Supports up to 1,500 third-party BACnet points and 200 Modbus points depending upon available memory.
Communication	
BAS Primary Port	10/100/1000 BaseT, full duplex, Ethernet port for BACnet/IP and/or BACnet/Ethernet, or Modbus TCP/IP communication
Serial Port 1	For communication with either of the following: <ul style="list-style-type: none"> · A BACnet ARCNET network at 156 kbps · A BACnet MS/TP network at 9,600 to 115,200 bps · A Modbus serial network at 9,600 to 115,200 bps
Serial Port 2	For communication with a Modbus serial network at 9600 to 115200 bps.
Rnet Port	<ul style="list-style-type: none"> · Supports Up to 15 ZS wireless and/or ZS sensors, and one Equipment Touch or OptiPoint™ interface · Supports local connection for a laptop running the WebCTRL® application · Supplies 12 Vdc power less than or equal to 162.5 mA when the controller is powered from an AC source and less than or equal to 262.5 mA when powered by a DC source.
Act Net Port	Supports up to 16 OptiPoint smart valves and Automated Logic actuators
Service Port	Ethernet port at 10 or 100 Mbps for setting up the controller and troubleshooting through a local connection to a computer or connecting to the OptiPoint™ interface Supports local connection for a laptop running the WebCTRL® application
Aux 24V+ DC	8 terminals: supplies 24Vdc to external I/O devices, max 200 mA total (when controller is powered by AC) or max 500 mA total (when controller is powered by DC)
I/O Bus Port	Provides communications for up to 9 wired FIO expanders
I/O Bus Edge Connector	6-pin connector that provides communication and power to a directly-connected FIO expander (DC only).
USB Port	USB 2.0 host port for device recovery
Universal Inputs	28 inputs are configurable in the control program for 0-5 Vdc, 0-10 Vdc, 0-20 mA, RTD, thermistor, dry contact, or pulse counter
Input Resolution	16 bit A/D
Input Pulse Frequency	60 pulses per second. Minimum pulse width (on or off time) required for each pulse is 8.33 msec
Output Resolution	12 bit D/A
Controller Microprocessor	32-bit ARM, Cortex-A8, 600 MHz, processor with multi-level cache memory
I/O Microprocessor	Two 32-bit microprocessors with 256 kB Flash memory and 64 kB SRAM

Specifications—continued

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Memory	8 GBs eMMC Flash memory and 512 MB DDR3 DRAM (22 MB available)
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days
Environmental Range	-40° F to 158° F (-40° to 70° C), 10–95% relative humidity, non-condensing. Install in a UL listed enclosure only.
Protection	Protected by 2 fast acting 5 mm x 20 mm glass fuses: 2.5A fuse; 4A fuse for the I/O bus edge connector
Compliance	United States: FCC compliant to Title CFR47, Part 15, Class B. UL Listed, File E143900; CCN PAZX, UL916, Energy Management Equipment; Canada: cUL, UL 916, CCN PAZX7, Energy Management Equipment, Industry Canada Compliant, ICES-003, Class A
Enclosure	Fire-retardant plastic ABS, UL94-5VA
Mounting	35mm DIN rail mounting or screw mounting

Figure 1: Physical Dimensions



	in.	cm
Length (A):	12.75	32.38
Width (B):	6.95	17.68
Depth (C):	2.09	5.31
Weight:	2.7 lbs	1.22 kg