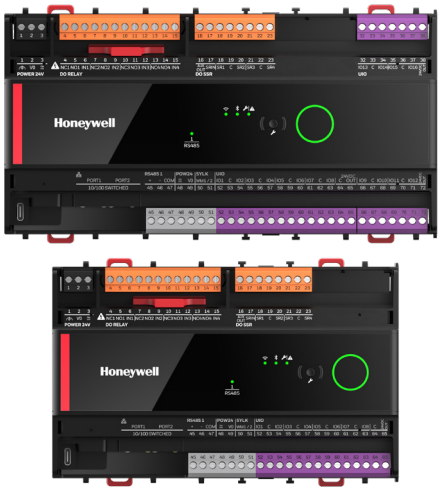
COMFORTPOINT™ OPEN UNITARY CONTROLLER

ComfortPoint Open 24 VAC/VDC Unitary Controllers provide flexible, freely programmable, demand-led control to help reduce energy use while providing new functionality and efficiency in buildings today.

These new controllers offer BACnet™ IP, BACnet™ T1L, or BACnet™ MS/TP as their backbone communication protocol and Sylk™, Modbus RTU as embedded integration protocols, flexible universal input/output (UIOs), power relays, and solid-state relays (SSRs).

Controllers are programmed and serviced using the CPO Studio Tool Suite.



ComfortPoint Open Unitary Controllers are available in large and small housing options

FEATURES AND HIGHLIGHTS

SIMPLE AND FLEXIBLE ENGINEERING

- UIOs configurable as analog input, binary input, binary output, analog output and supports accumulator datapoint.
- High inrush current relays.
- Solid-state relays with increased current support compared to standard Triac outputs.
- Sylk™ two-wire polarity insensitive interface connects to Honeywell Sylk™ wall modules without hardware I/O.
- Modbus RTU for integration.
- Daisy chain ethernet connection ensures reliable data speed over greater distance.
- Engineering tools including function block library and sample application templates ensuring a consistent experience from the room, plant controllers, and supervisor.
- Replaces legacy controllers with application migration feature (future release).

EFFICIENCY AND SAFETY ON SITE

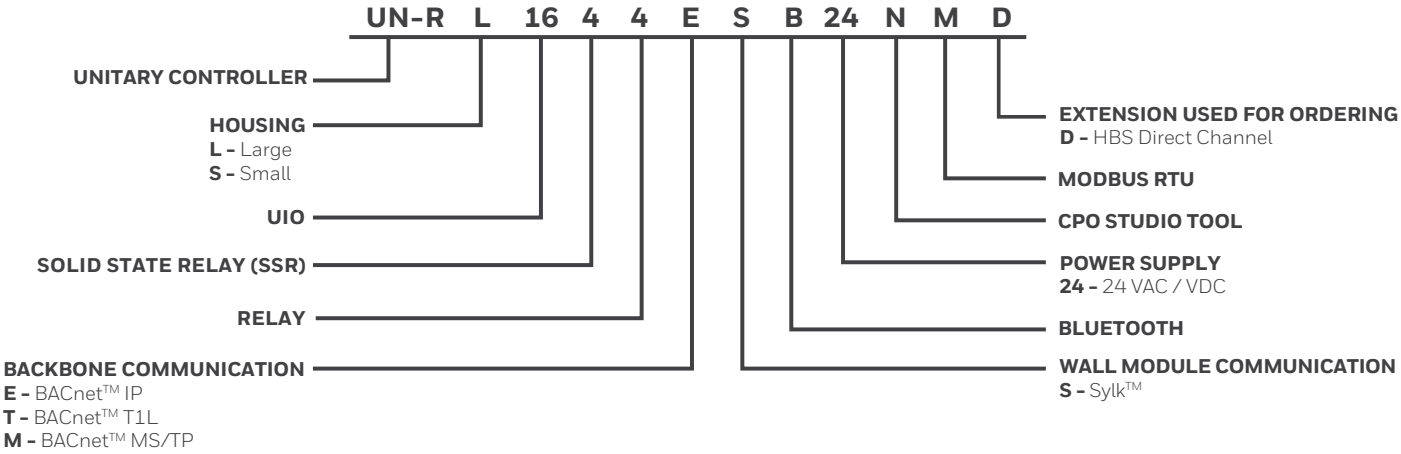
- Easy to install into fuse box (DIN43880) or on DIN rail, surface mount.
- Optional terminal covers for protection.
- Color-coded, removable terminal blocks to simplify wiring and replacement.
- Power failure detection and data recovery.
- Easy pairing with mobile apps via integrated Bluetooth Low Energy (BLE) independent of local IT infrastructure and without needing to open the ceiling for recalibration.
- Honeywell Mobile Start-up app support for wire and checkout.

EASY UPGRADE TO IP

- RJ45 and twisted pair T1L available as IP communication standards.
- Increased network speeds compared to traditional building automation systems.
- Support of standard BMS and IT protocols, such as BACnet™, offering an open system for interconnectivity.
- Possibility to reuse installed wiring as T1L uses two-core twisted pair cables with screw terminals.
- Honeywell T1L devices support daisy chains with distances between devices of up to 984 ft. (300 m), way above the 328 ft. (100 m) limit of standard RJ45 ethernet and allowing greater wiring lengths.

Honeywell

CONTROLLER PART NUMBERS DESCRIPTION



PART NUMBERS

UNITARY CONTROLLER PART NUMBERS

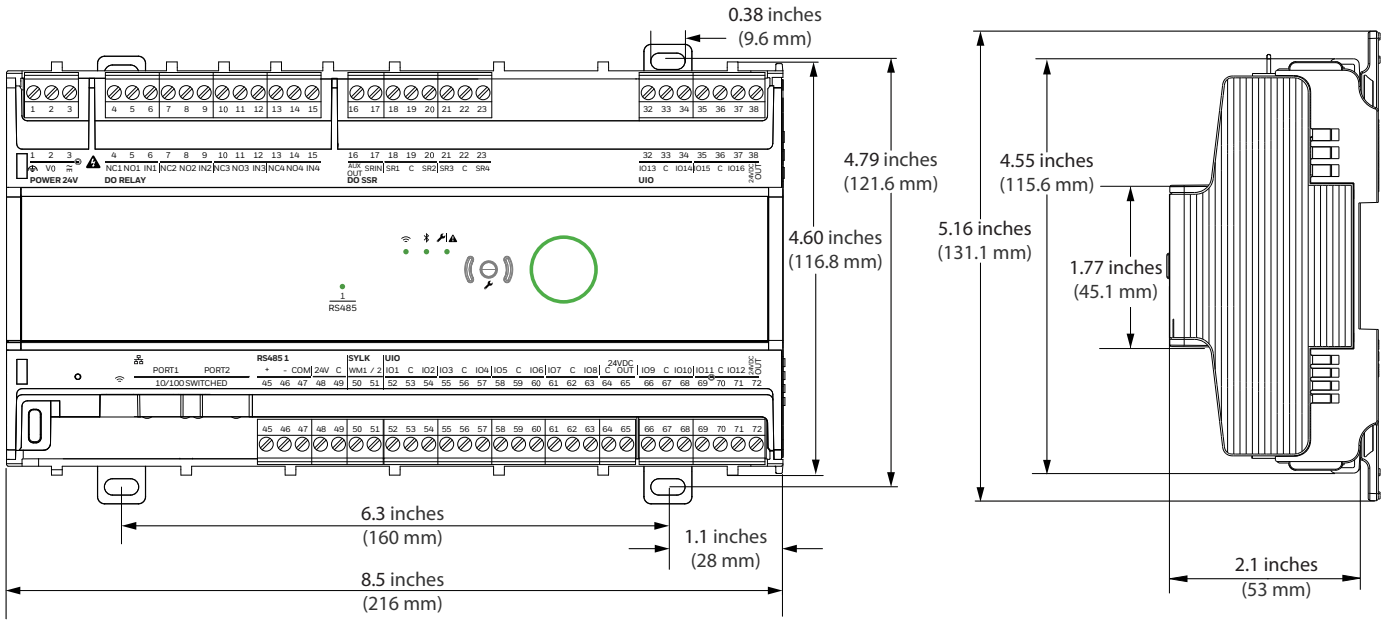
PART NUMBER	HOUSING	UNIVERSAL IO	SOLID STATE RELAY (SSR)	RELAY	COMMUNICATION	SYLK™ BUS	BLUETOOTH
UN-RS0844ES24NMD	Small	8	4	4	BACnet™ IP	Yes	No
UN-RS0844ESB24NMD	Small	8	4	4	BACnet™ IP	Yes	Yes
UN-RS0844MS24NMD	Small	8	4	4	BACnet™ MS/TP	Yes	No
UN-RS0844MSB24NMD	Small	8	4	4	BACnet™ MS/TP	Yes	Yes
UN-RS0844TS24NMD	Small	8	4	4	BACnet™ T1L	Yes	No
UN-RS0844TSB24NMD	Small	8	4	4	BACnet™ T1L	Yes	Yes
UN-RL1644ES24NMD	Large	16	4	4	BACnet™ IP	Yes	No
UN-RL1644ESB24NMD	Large	16	4	4	BACnet™ IP	Yes	Yes
UN-RL1644MS24NMD	Large	16	4	4	BACnet™ MS/TP	Yes	No
UN-RL1644MSB24NMD	Large	16	4	4	BACnet™ MS/TP	Yes	Yes
UN-RL1644TS24NMD	Large	16	4	4	BACnet™ T1L	Yes	No
UN-RL1644TSB24NMD	Large	16	4	4	BACnet™ T1L	Yes	Yes

ACCESSORIES/REPLACEMENT PARTS

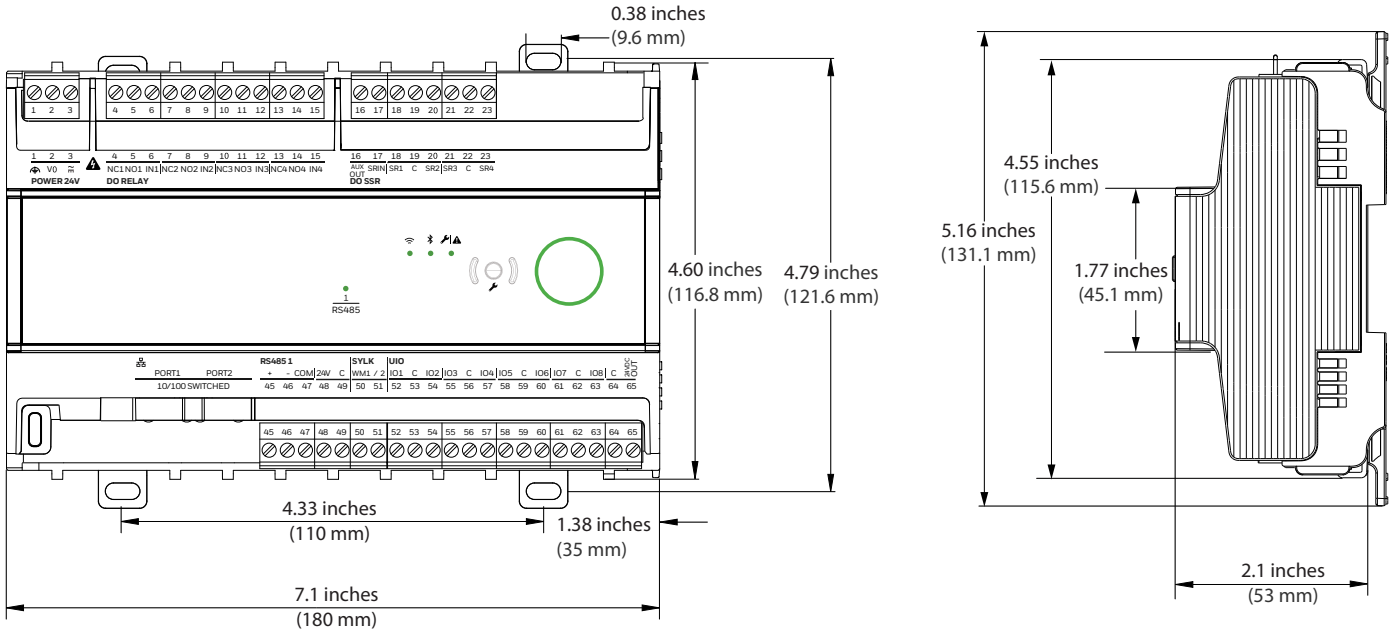
PARAMETER	SPECIFICATION
CW-Cov-L-Unitary	Terminal cover for the L-version of the unitary controller (sold in pack of 10)
CW-Cov-S-Unitary	Terminal cover for the S-version of the unitary controller (sold in pack of 10)
10BASE-T1L-ADAPT-0	IP-T1L single pair media adapter that allows converting 10BASE-T traffic to 10BASE-T1L (without power supply)
SCRW-TB-UNI-L	Set of removable terminal blocks covering all models of Unitary controllers
IO-JUMPER-4-10	4-pin relay output Jumper Bar to connect 4 relays IN terminals (sold in pack of 10)

DIMENSIONS AND WEIGHTS

LARGE HOUSING



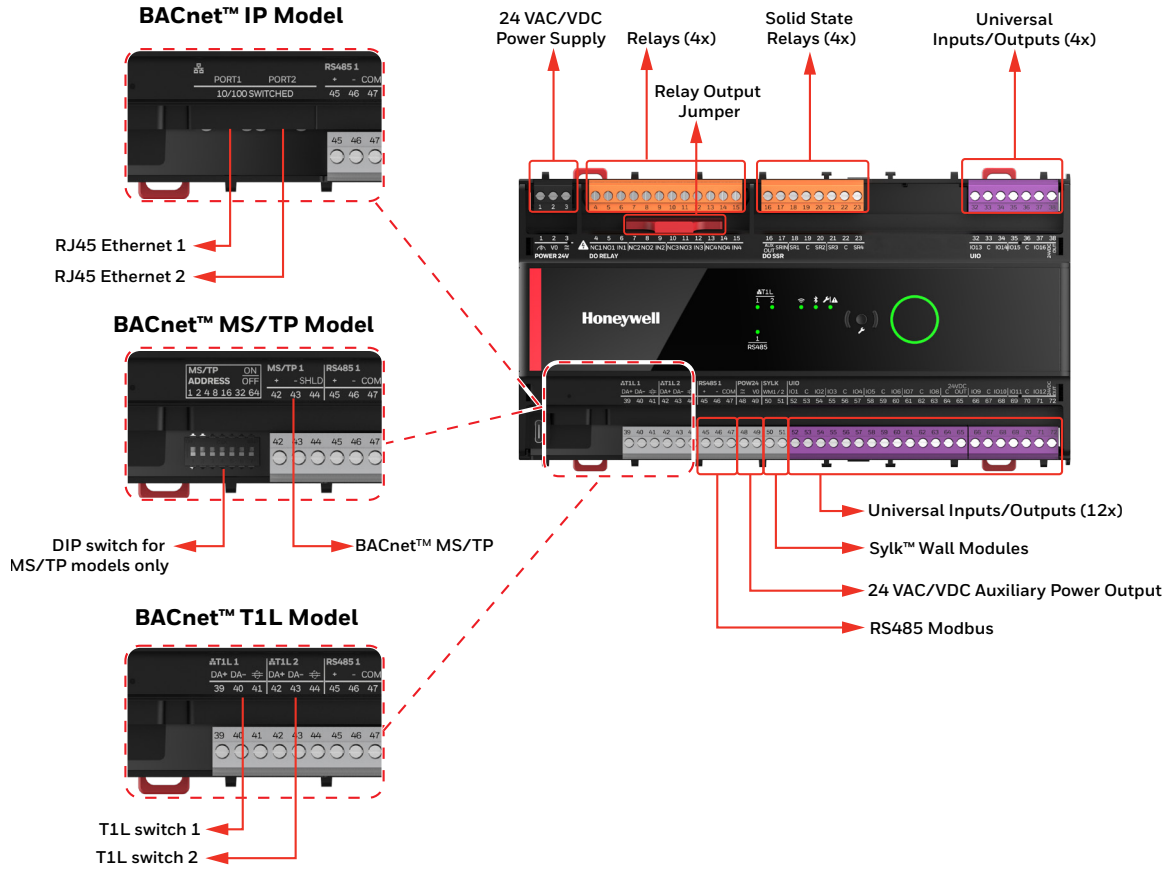
SMALL HOUSING



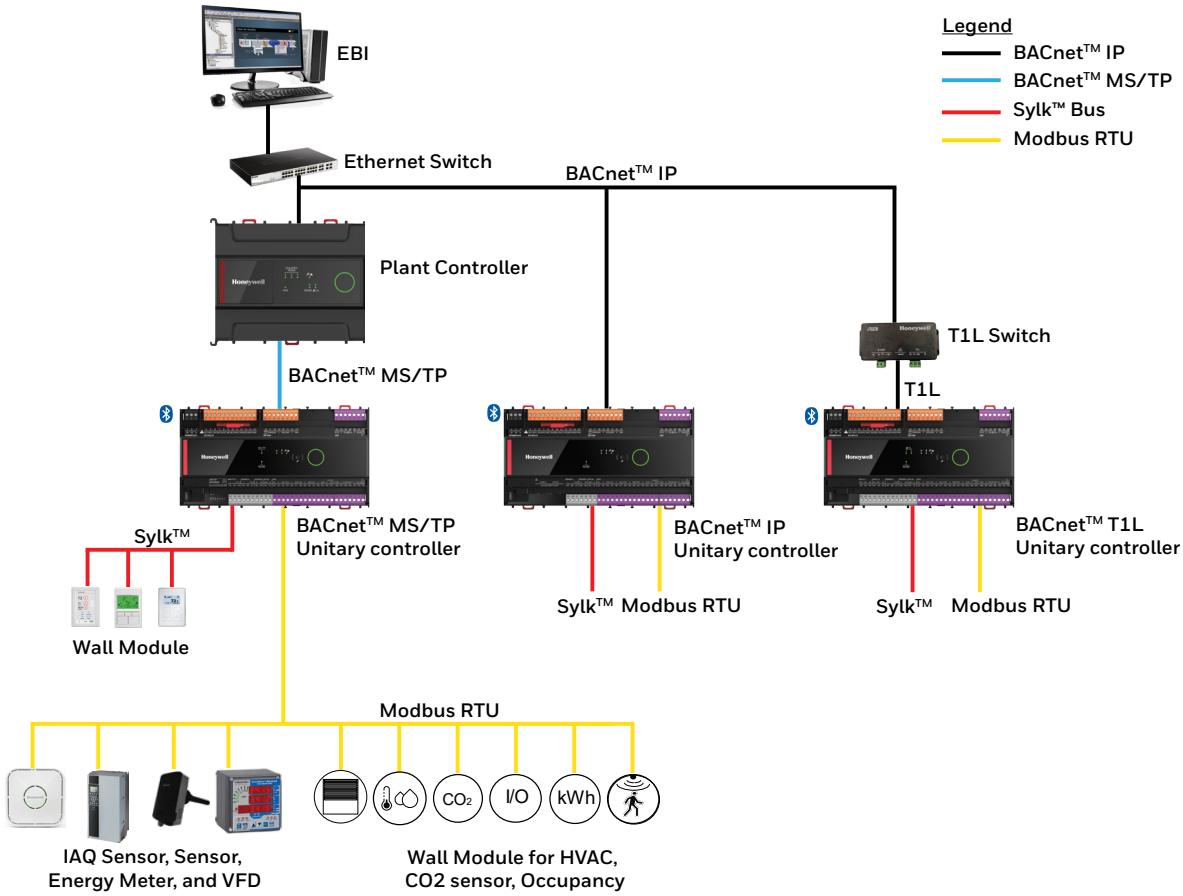
All dimensions are in inches (mm).

WEIGHT AND DIMENSIONS	
PARAMETER	**SPECIFICATION**
Dimension (L x W x H)	Large - 8.5 inches x 4.79 inches x 2.1 inches (216 mm x 121.6 mm x 53 mm) Small - 7.1 inches x 4.79 inches x 2.1 inches (180 mm x 121.6 mm x 53 mm)
Weight	Large - 1.256 lbs. (570 grams) Small - 1.064 lbs. (483 grams)
Mounting	Mounting in fuse boxes (DIN43880), on DIN rails or surface mounted with optional protection covers.

HARDWARE OVERVIEW



SYSTEM OVERVIEW



HVAC, SMART ROOM CONTROL AND ENERGY METERING*

* Devices subject to local availability. Contact your local sales representative for information on available devices in your region.

PRODUCT SPECIFICATION

HARDWARE	
PARAMETER	**SPECIFICATION**
CPU	Crossover processor NXP I.MRT, Cortex M7
Memory capacity	16 MB QSPI Flash, 16 MB SDRAM
Ethernet	BACnet™ IP: 2 x RJ-45 Ethernet ports with a protection that allows loop topology to continue the communication with other controllers even if one node fails, when used with an RSTP supporting device.
Real Time Clock	24 hours backup after power failure After 24 hours, the time will reset to factory default time until the user performs a BACnet™ Time Sync.
Small LEDs	Transmission or reception of communication signal (green).
Large LED	Controller status (green, yellow and red).

ELECTRICAL		
PARAMETER	**SPECIFICATION**	
Rated Input Voltage	20 - 30 VAC / 24 - 30 VDC	
Nominal Power Consumption	• BACnet™ IP : 8 VA • BACnet™ MS/TP : 8 VA • BACnet™ T1L : 8 VA	
Full Load Power Consumption (Maximum load including external devices, Sylk™, Communication, Bluetooth Universal IO output, and 24 VDC output, excluding the load on the SSRs and Relays). **Note:** For the current consumption of SSR, refer SSR section table below.	• BACnet™ IP : 30 VA • BACnet™ MS/TP : 30 VA • BACnet™ T1L : 30 VA	
Frequency Range	50 - 60 Hz	
Auxiliary Power Output	Large	1 x 24 VAC/VDC at 300 mA 3 x 24 VAC/VDC at 75 mA
	Small	1 x 24 VAC/VDC at 300 mA 1 x 24 VAC/VDC at 75 mA
Impulse Voltage	330 VAC	

OPERATIONAL ENVIRONMENT	
PARAMETER	**SPECIFICATION**
Storage Temperature	-40 °F to 150 °F (-40 °C to 66 °C)
Operating Temperature	-40 °F to 122 °F (-40 °C to 50 °C)
Humidity	5 % to 95 % RH., non-condensing
Protection	IP20, NEMA 1
Pollution Level	2

SUPPORTED DEVICES	
Sylk™ wall modules	TR40, TR40-H, TR40-CO2, TR40-H-CO2, TR42, TR42-H, TR42-CO2, TR42-H-CO2, TR50-3D, TR50-3N, TR50-5D, TR50-5N, TR100-THC-G, TR100-TH-G.
Sylk™ Sensors	TR50-5D, TR50-5N, TR50-3D, TR50-3N, TR40, TR40-H, TR40-CO2, TR40-H-CO2
Hardwired Wall Modules	TR21, TR22, TR23, TR24, T7460A, T7460B, T7460C, T7460D, T7460E, T7460F and T7770A, T7770B, T7770C, T7770D, T7770E, T7770F, T7770G
Modbus devices	Modbus RTU devices from any manufacturer (including Honeywell Modbus devices, for example, TR50, TR100, TR80 as third party) can be used.

SOLID STATE RELAY (SSR)
SSR works with maximum 24 VAC / VDC.
1.5 A constant current across all 4 outputs; 3.5 A inrush for 0.1 seconds per SSR output.
Factory installed jumper between 24 VAC or 24 VDC supply and SSR input shared by all SSRs.
The fuse should be 5 A, for example, 0AGC005.V, OAGW005.VP or BK/AGW-5, and the fuse holder, for example, 150603 or BK/HRK-R.

RELAYS
Up to 277 VAC / 230 VAC (+20 %).
3 contacts per relay (normally open (NO), normally closed (NC), common (IN)).
10 A constant current on normally open (NO) contact and 100 A inrush for 100 ms.
Total current across all relays is limited to 12 A if all commons are connected via a relay jumper.
The fuse should be 12.5 A, for example, 021812.5MXEP or 21812.5MXP, and the fuse holder, for example, 150603 or 01500520H.

PRODUCT SPECIFICATION

UNIVERSAL IO

PARAMETER	SPECIFICATION
AI	16-bit A/D resolution
UI	• 0-10 V direct/reverse, and 4-20 mA input, Setpoint Absolute, Setpoint Relative and Bypass Fan. • Sensors: NTC20k, PT1000, NI1000TK5000 • Dry contact binary input with direct/reverse. • Pulse input with maximum frequency 100 Hz, minimum pulse width 5 ms. Compatible with the S0 interface for pulse counters.
AO	• 0-10 V direct/reverse, and current output with 4-20 mA • Floating and PWM Actuator
DO	Dry contact binary output with direct/reverse, 4 SSR and 4 relay outputs.

Note:
(1) 10K Ohm NTC Type II, 10K Ohm NTC Type III, 10K3A1, PT100, NI1000 Class B DIN43760, PT3000, 100 Ohm to 100K Ohm resistive (custom characteristic) sensors are supported only in Niagara.
(2) Current output with 0...20 mA direct/reverse are supported only in Niagara.

COMMUNICATION

PARAMETER	SPECIFICATION
Protocol supported	• BACnet™ IP (RJ45, T1L) • BACnet™ MS/TP* • Modbus RTU (Modbus client) • Bluetooth (Optional)
IP Addressing Modes	• Dynamic: DHCP and Link-local • Static: Assigned
Sylk™	2-wire, polarity-insensitive

* Auto Baud rate detection is provided only for the BACnet™ MS/TP controllers.

STANDARDS AND APPROVALS

CE mark
BACnet™ BTL®-Listed; IP Unitary model and MS/TP Unitary model as BACnet™ Advanced Application Controller (B-AAC). (BTL certification is in the process).
UL 916
UL/ULC 60730-1
FCC/IC Product Class B
Plenum tested (according to UL 2043)

T1L COMMUNICATION

PARAMETER	SPECIFICATION
10BASE-T1L Standard	802.3cg-2019
Connection	Screw terminal, auto MDI-X
Cable type	Single twisted pair, 18AWG, shielded or unshielded. Belden 74040NH, 9841NH or equivalent.
Distance	Maximum 984 ft. (300 m) to Honeywell T1L controller in daisy chain. Maximum 2,952 ft. (900 m) to any other T1L device without a daisy chain.
Transmission rate	10 Mbps

UIO OUTPUT TYPE VS LOAD

OUTPUT TYPE	LOAD
0 to 10 VDC, 20 mA max.	≥ 1k ohm
4 to 20 mA	≤ 550 ohm

APPLICABLE TECHNICAL LITERATURE

TITLE	REFERENCE
Mounting Instructions	mu1b0332-ie10
Installation Instructions	en1b0331-ie10

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