MACH-ProZone

BACnet Controller

Get in the zone

Small, durable, and packed with flexibility, the Reliable Controls MACH-ProZone™ is a fully programmable BACnet Building Controller (B-BC) with highly scalable inputs and outputs in a compact footprint.

Better by design

RELIABLECONTROLS.COM/MPZ

Product features

Dynamic Database
- Create up to 160 objects of any supported type in any model of controller.
- Maximum of 128 objects of a single type.
- Refer to the Typical Object Configuration table below for memory usage.

Programs
- 16,000 bytes of programmable control strategy in a readable, BASIC-like language.
- 3,200 bytes per program.

Values
- Select standard and custom ranges as well as fixed or program-driven values.

Single-point Trend Logs
- Record values at user-defined intervals or based on change of value.
- Dynamic; user assigned.

Runtime Report
- Total on time and record the on/off times of every binary object.
- Automatically generated.

Calendars
- Designate days of the year as holidays.

Tables
- For creating custom scaling functions.

SMART-Net Port
- Network up to eight SMART-Net devices.

64 Net Ins
- The maximum number of shares from other devices.

Protocol
- BACnet MS/TP.

Outputs
- Universal ranges.
- Use jumper to select as 0–12 VDC or solid-state relay driver.

Loops
- Standard P, PI, or PID controllers for closed loop control.

Multipoint Trend Logs
- Store up to eight objects in each trend log.
- Record values at user-defined intervals.
- Dynamic; user assigned.

System Groups
- Group related objects on one display.
- 80 unique objects per group.

Schedules
- Seven on/off times for each weekday or exception.

Arrays
- Up to 128 elements in a one-dimensional array.

Custom Units
- Eight analog engineering units.
- Eight binary engineering units.
- Eight multistate units with eight states, 32 characters each.

32 Net Outs
- The maximum number of writes to other devices.

Warranty
- 5 years.

Technical specifications

Processor
- 66 MHz high-performance 32-bit embedded microcontroller with onboard Flash memory.
- Controller database stored in robust nonvolatile memory. Value and log data stored in 3-day battery-backed memory.
- Easily update system firmware at any time over the network.

Supply Voltages
- 24 VAC ±10% 25 VA maximum, 50/60 Hz.
- 24 VDC ±10% 12 W maximum.

Communication Options
- One EIA-485 (RS-485) port that supports a baud rate up to 76.8 Kbps. Auto-baud detection.
- Two SMART-Net ports, one RJ11 and one 4-wire terminal block, that support up to eight devices.

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Technical specifications

Universal Inputs

- 12-bit A/D converter.
- Use software to select thermistor/dry contact, 4–20 mA, or 0–10 VDC.
- Impedance:
  - 3 MΩ on 0–10 VDC range.
  - 250 Ω on 4–20 mA range.
  - 20 kΩ on thermistor range.
- Pulse counting up to 40 Hz. Supports flow meters.
- 24 VAC overvoltage protection.

Terminal Blocks

- 16–28 AWG.
- Stranded or solid core.
- Copper conductors only.

Dimensions

- 19.1 cm W x 10.9 cm H x 4.6 cm D (7 1/2" W x 4 5/16" H x 1 13/16" D).

Weight

- 0.3 kg (0.7 lb).

Certifications

- BTL Listed (B-BC).
- CE.
- CFR 47 Part 15 Class B.
- UL 916 Listed.
- WEEE.

Universal Outputs

- 12-bit D/A converter.
- Analog: 0–12 VDC.
- Binary: Software configurable between 0–12 VDC.
- Output power: 75 mA at 12 VDC.
- 24 VAC overvoltage and short protection.
- Use jumper to select solid-state relay.

Solid-State Relay Outputs

- Switch 24 VAC/VDC.
- 500 mA maximum.

Memory and Real-Time Clock Backup (-C Option)

- Capacitor backup maintains clock operation for 72 hours after power loss.
- Real-time clock accurate to ±5 seconds per month.

Mounting

- #8 clearance holes on 17.8 cm W (7" W) centerline.
- Option to mount to DIN rail accessory.

Ambient Limits

- Operating: -20°C to 55°C (-4°F to 131°F).
- Shipping: -40°C to 60°C (-40°F to 140°F).
- Humidity: 10%–90% RH noncondensing.

Ordering

Models

MPZ-44

- MACH-ProZone with four inputs and four outputs.

MPZ-48

- MACH-ProZone with four inputs and eight outputs.

MPZ-84

- MACH-ProZone with eight inputs and four outputs.

MPZ-88

- MACH-ProZone with eight inputs and eight outputs.

Options

- -C adds capacitor backup for the real-time clock.

Accessories

MPZ-DL-LASER

- MACH-ProZone door label sheet for laser printer.

KN-JB4

- Package of 10 four-position insulated jumper bars.

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Ordering

Build Your Order

To create the order number, add your options to the base model. For example, MPZ-84-C is the order number for a MACH-ProZone with eight inputs, four outputs, and capacitor backup for the real-time clock.

Typical object configuration

The number of inputs, outputs, and SMART-Net devices you can connect to a MACH-ProZone is physically limited. For other object types, create up to 128 objects of a single type. The total number of objects, including inputs, outputs, and SMART-Net devices, is limited to 160 and also limited by the onboard memory. The table below details typical databases that fit in all models.

Variables	Loops	Schedules	Calendars	Tables*	Groups	Multipoint Trend**	Runtime	Arrays	Program	SMART-Sensor devices
64	8	4	2	4	4	10	128	4	16	4

* Runtime reports and tables are not counted in the 160 object limit, but inputs and outputs are.

** Trends are configured to store 128 samples.

Product images

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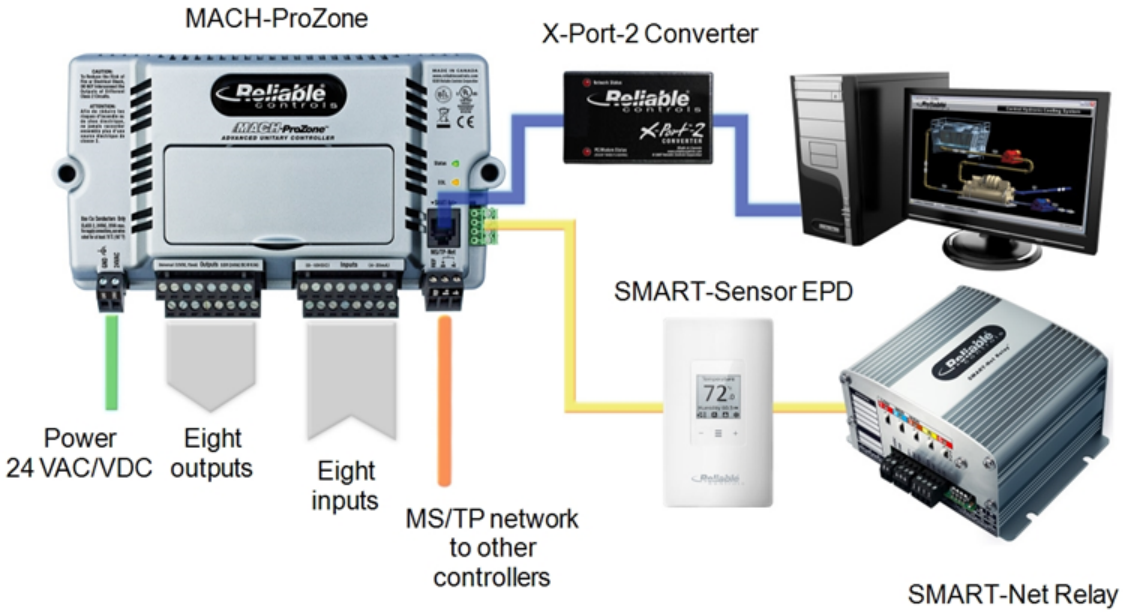
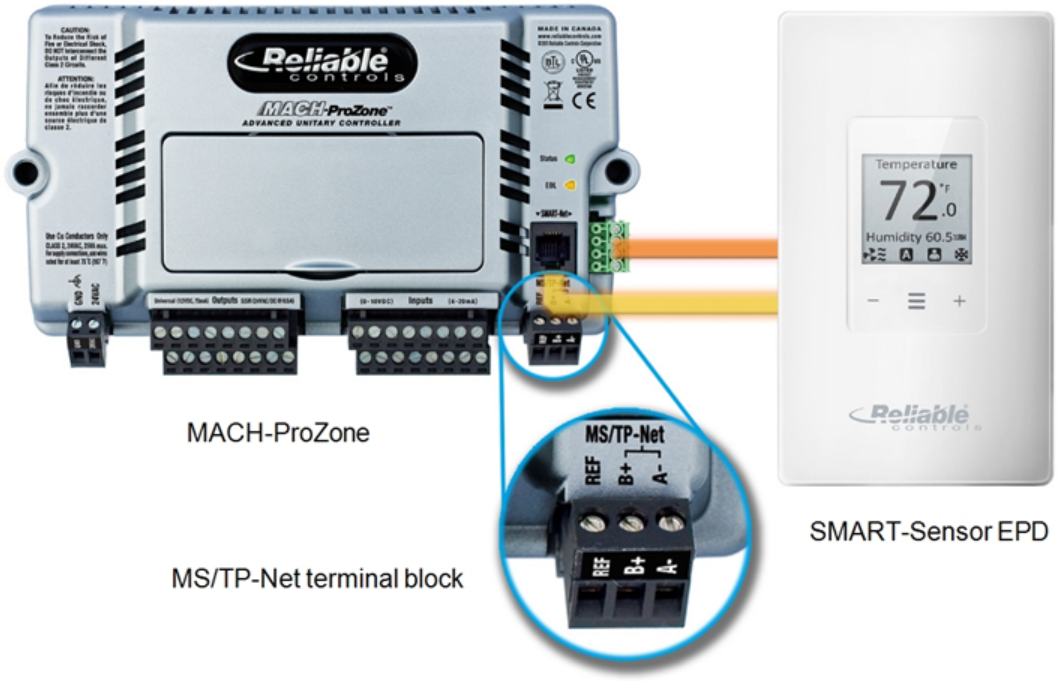
Diagrams



SMART-Net connection



MS/TP connection

Dealer Information:

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