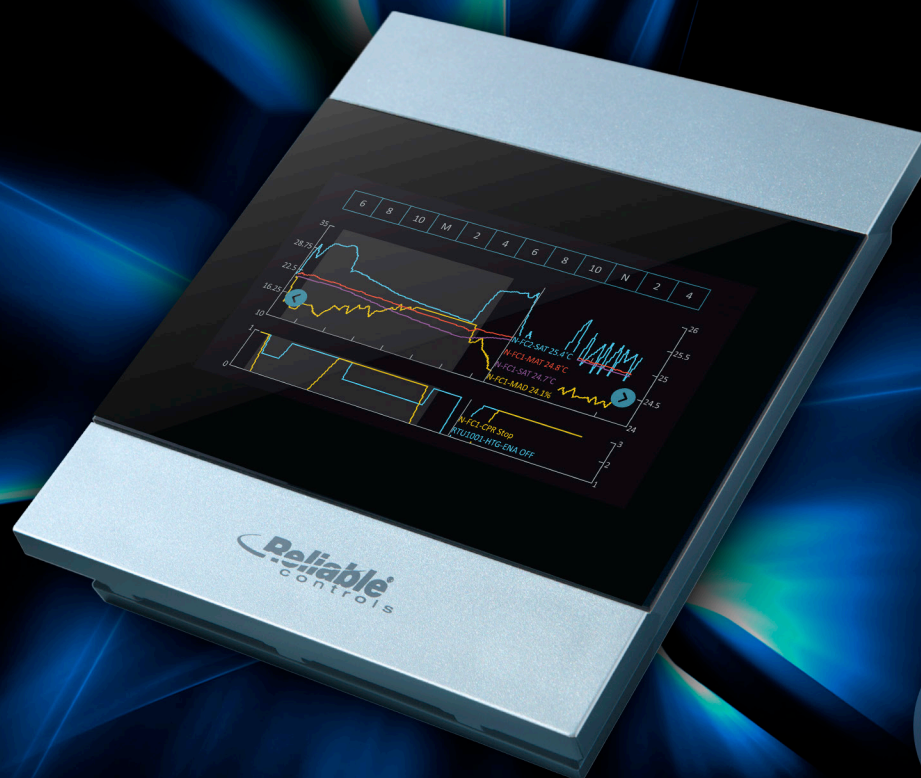




MACH-ProView™ LCD
BACnet Controller

Elegant views of efficiency

The Reliable Controls MACH-ProView LCD is a powerful and elegant BACnet Building Controller (B-BC) and BACnet Operator Display (B-OD) which provides a plenitude of attractive, high resolution, graphical interfaces to access, control, and monitor the comfort and energy of any space.



Member of
BACnet
International



Better by design

www.reliablecontrols.com/MPV-L

Tech Specs

Processor

- 147 MHz, high-performance, 32-bit embedded microcontroller

Memory

- 8 MB operating RAM
- 1 MB non-volatile RAM (trends and dynamic values)
- 32 MB Flash EEPROM operating system, database, and controller configuration

Supply Voltages

- 24 VAC $\pm 10\%$ 93 VA max 50/60 Hz
- 24 VDC $\pm 10\%$ 9 W max

Communications (depends on model)

- 1 IEEE 802.3 (Ethernet 10/100 BaseT)
- 1 IEEE 802.3af (PoE)
- 1 IEEE 802.11b/g/n (Wi-Fi)
- 1 EIA-485 (RS-485) @ 76.8 kbps max
- 1 SMART-Net port @ 4 sensors max

Display

- Full color, 480 x 272 pixel
- 4.3" Wide Quarter VGA (WQVGA)
- Thin Film Transistor (TFT)
- Projective Capacitive Touch (PCAP)
- Display Area 57 mm x 96 mm (2 1/4" x 3 3/4")

Universal Inputs

- 12-bit A/D converter
- Analog: 0–10 VDC 4–20 mA, thermistor
- Binary: dry contact
- Impedance:
 - 1 M Ω for 0–10 VDC range
 - 250 Ω for 4–20 mA range
 - 20 k Ω pull-up for thermistor/dry contact range
- Pulse counting up to 150 Hz (supports flow meters)
- 24 VAC over-voltage protection

Universal Outputs

- 12-bit D/A converter
- Analog: 0–12 VDC
- Binary: 0/12 VDC
- Output power: 75 mA @ 12 VDC
- 24 VAC over-voltage and short protection

Relay Outputs

- Solid state
- Switches 24VAC/VDC
- 500 mA max

Temperature Specifications

- 12-bit A/D converter
- Range: 0 °C to 40 °C (32 °F to 104 °F)
- 0.1 °C (0.18 °F) resolution
- User calibrated to ± 0.1 °C (0.18 °F) accuracy

Temperature Sensor

- Range -20 to 55 °C
- ± 0.1 °C (0.18 °F) resolution
- User Calibrated to ± 0.1 °C (0.18 °F) accuracy

CO₂ Sensor (for -CO2 models)

- Non Dispersive Infrared Optical Sensor
- 400–2000 ppm range
- Accuracy ± 40 ppm
- Automatic calibration built in
- Non Linearity < 1% of full scale

Humidity Range (for -H models)

- 0.1% display resolution
- 10–90% range
- $\pm 3\%$ RH max from 20 to 80%, $\pm 2\%$ typical, see table

Occupancy Sensor (for -OC models)

- Passive Infrared Radiation (PIR) sensor
- 64 detection zones
- 94° horizontal range / 82° vertical range
- 5 m (16.4 ft.) max detection distance

Real-Time Clock

- ± 1 second per day

Memory/RTC Backup

- 72 hour backup
- 10 years for database

Wiring Terminals

- 16 to 24 AWG (1.31 mm² to 0.21 mm²)
- Stranded or solid core
- Copper conductors only

Dimensions

- 14.5 cm L x 12.2 cm W x 2.7 cm H
(5 11/16" L x 4 13/16" W x 1 1/16" H)

Mounting

- See backplate dimension diagram
- Two 6-32, 1" TRUSS head Phillips mounting screws included for 1-gang and 2-gang boxes
- Two 8-32, 5/8" long, Phillips wafer head machine screws included for 4" x 4" and 4 11/16" boxes
- Minimum opening in wall
46 mm W x 72 mm H (1 13/16" x 2 13/16")

Weight

- 0.28 kg (0.6 lb.)

Ambient Limits

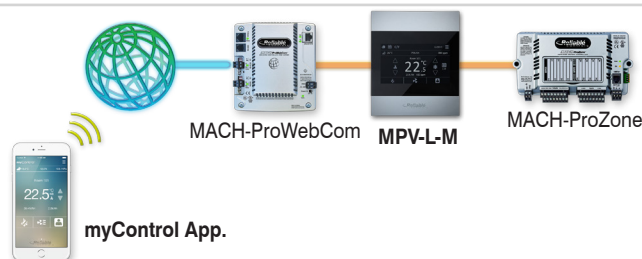
- Operating: -20 °C to 55 °C (-4 °F to 131 °F)
- Shipping: -40 °C to 60 °C (-40 °F to 140 °F)
- Humidity: 10% to 90%

APPLICATION DIAGRAMS

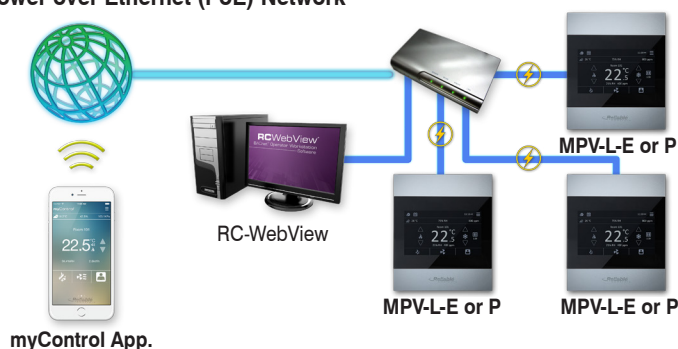
Wi-Fi Network



MS/TP Network



Ethernet or Power over Ethernet (PoE) Network



Features

Protocols

- BACnet: B/IP x 1, Ethernet, MS/TP, or RC-RemoteAccess®
- DHCP: Dynamic Host Configuration Protocol
- SMTP: Simple Mail Transfer Protocol
 - Provides standard email communications for broadcasting email alarms
 - Supports TLS/SSL security
- SNTP: Simple Network Time Protocol
- Wi-Fi (for -W models)
 - Supports WPA and WPA2 protected access
- SMART-Net

Large Touch Screen Display

- Displays full color graphics, runtime logs, alarms, and schedules
- Display can be configured to be always on or to blank after 10-100 seconds of idle time

Languages

- English
- French
- German
- Italian
- Mandarin
- Portuguese
- Spanish

32 Views

- Allows related objects to be displayed on and accessed from the LCD
- Configurable screens include SPACEview, LISTview, STATview, TRENDview, ALARMview, SCHEDULEview, RUNTIMEview, and CONFIGURATIONview

64 System Groups

- Allows related objects to be grouped onto one display
- 160 unique objects/group

6 Inputs

- Universal ranges
- Software selectable 0–10 VDC, 4–20 mA, thermistor/dry contact

Optional Inputs

- CO₂
- Humidity
- Occupancy

6 Outputs

- First 4 have jumper selectable universal ranges
- Last 2 are binary solid state relay only

512 Values

- Selectable standard and custom ranges, as well as fixed program-driven values

64 Loops

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

32 Schedules

- 14 On/Off times for each weekday or exception

16 Calendars

- Days of the year designated as holidays

Multipoint Trend Logs

- Each Trend Log stores up to eight objects
- Values recorded at user-defined intervals
- Dynamically assigned

Single-Point Trend Logs

- Values recorded at user-defined intervals or based on change of value (COV)
- Dynamically assigned

Runtime Report

- Totals the On time and records the On/Off times of every binary object
- Dynamically assigned

129 Notification Classes

- Specifies alarm configuration, broadcast destination, and email recipients

64 Programs

- Freely programmable control strategy in a readable, BASIC-like language
- 3200 bytes per program

128 Arrays

- Up to 128 elements in a one-dimensional array

20 Tables

- For creating custom scaling functions

SMART-Net Port

- Networks up to 4 SMART-Sensors

128 User Passwords

- Protects access to system
- Each user is assigned a user name and an access level

24 Custom Units

- 8 analog engineering units
- 8 binary units
- 8 multistate units with 8 states, 30 characters each

256 Net Ins

128 Net Outs

- The total maximum number of writes and shares to other devices

Real-Time Clock

Warranty

- 5 years

Certification

- BTL Listed (B-BC)
- BTL Listed (B-OD)
- UL 916 Listed
- FCC CFR 47 Part 15/B
- CE

SPACEVIEW (SHOWING COOLING SETPOINT)



Ordering

MPV-L-M (base model)

- MACH-ProView controller with LCD, 6 universal inputs, onboard thermistor, 6 outputs (4 universal/relay and 2 relay) and MS/TP network, silver color

MPV-L-E (base model)

- MACH-ProView controller with LCD, 6 universal inputs, onboard thermistor, 6 outputs (4 universal/relay and 2 relay) and Ethernet network, silver color

MPV-L-P (base model)

- MACH-ProView controller with LCD, 6 universal inputs, onboard thermistor, 6 outputs (4 universal/relay and 2 relay) and Power over Ethernet network, silver color

MPV-L-W (base model)

- MACH-ProView controller with LCD, 6 universal inputs, onboard thermistor, 6 outputs (4 universal/relay and 2 relay) and Wi-Fi network, silver color

Options

- CO2 adds CO₂ sensor
- H adds humidity sensor
- OC adds occupancy sensor
- /W for white enclosure (e.g. MPV-L-M-CO2-H/W)

ACCESSORIES

CC-MPV-XP2 (FOR "-M" MODELS ONLY)

- Cable from MPV-L controller to XP2 converter for local EIA-485 communications

LISTVIEW

2:04 PM

Name	Value
Rm-101-Fan	Auto
Rm-101-Occ	Occupied
Value: <input type="text" value="Occupied"/>	Auto/Man: <input type="text" value="Auto"/>
Rm-101-Setpoint	26.5°C
Rm-102-Fan	Auto
Rm-102-Occ	Occupied

STATVIEW

11:59 AM

26 °C
 75% RH
 800 ppm

Room 101

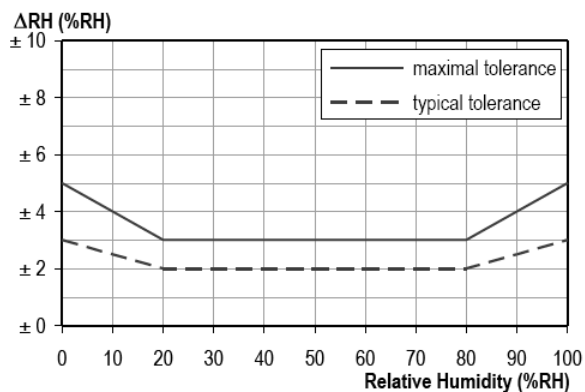
22.5 °C

 21% RH 400 ppm

SCHEDULEVIEW

M	18.0°C	19.0°C	22.0°C	21.0°C	18.0°C
T	18.0°C	19.0°C	22.0°C	21.0°C	18.0°C
W	18.0°C	19.0°C	22.0°C	21.0°C	18.0°C
T	18.0°C	19.0°C	22.0°C	21.0°C	18.0°C
F	18.0°C	19.0°C	22.0°C	21.0°C	18.0°C
S	18.0°C	15.0°C	17.0°C	10.0°C	15°C
S	18.0°C	15.0°C	17.0°C	10.0°C	15°C

MN | | | | 6A | | | | N | | | | 6P | | | | MN



Dealer Information: