MACH-ProWebSys™

Web-Enabled Controller

Web server. Simplified.

Publish your building automation system to the Web quickly and easily with the Reliable Controls® MACH-ProWebSys™. The first 3-in-1 device of its kind, the MACH-ProWebSys™ combines a BTL-listed BACnet Building Controller (B-BC), a BTL-listed BACnet Operator Workstation (B-OWS), and a powerful web server, all in a single package with an installed footprint of a typical building controller.

5 year Warranty

Better by design

BACnet International

LISTED OPEN ENERGY MANAGEMENT EQUIPMENT 69DM

www.reliablecontrols.com/MPWS

MACH-ProWebSys™

Tech Specs

Processor
- 100 MHz, high-performance, 32-bit embedded microcontroller

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

Supply Voltages
- 24 VAC ±10% 75 VA max.
- 24 VDC ±10% 25 W max.

Communications
- IEEE 802.3 Ethernet 10/100 BaseT
- 2 EIA-485 @ 76.8 kbps max.
- 1 EIA-232 @ 115.2 kbps max. PC or modem
- SMART-Net port @ 16 sensors max.

Browser Support
- IE 8, Firefox 3, Chrome 5, Safari 5, or higher
- JavaScript must be enabled on client
- Flash required for animations and flood fill

Universal Inputs
- 12 universal inputs
- 12-bit A/D Converter
- Analog: 0–5 VDC, 0–10 VDC 4–20 mA, thermistor
- Digital: dry contact
- Impedance:
  1 M Ω for 0–5 VDC range
  1 M Ω for 0–10 VDC range
  250 Ω for 4–20 mA range
  20 kΩ pull-up for thermistor/ dry contact range
- 150 Hz pulse counting (supports flow meters)
- 24 VAC over-voltage protection

8 Outputs
- 12-bit A/D Converter
- First four outputs are socketed to accommodate relay, TRIAC, or universal modules (output modules sold separately)
- Analog: 0–12 VDC
- Digital: 0–12 VDC
- Manual ON provides adjustable 0–12 VDC (HOA only)
- LED indicator (glows proportionally)
- Output power: 75 mA @ 12 VDC
- 24 VAC over-voltage and short protection

Expansion Modules
- Up to 7 MACH-ProPoint™ expansion modules

Peripheral Power
- Onboard variable 15–24 VDC power supply providing up to 200 mA of DC power to peripheral devices (If powered with 24 VDC, the maximum voltage output is 22 VDC)

Features

Protocol
- BACnet®
  - B/IP x 2, Ethernet, MS/TP and PTP
- HTTP/1.1
  - Hyper Text Transfer Protocol
- Reliable Controls Protocol
  - Backward compatibility with previous generation systems
- Modbus
  - Supports both RTU and TCP in both master and slave configurations
- SMTP
  - Provides standard email communications for broadcasting email alarms
- SMS
  - GSM/GPRS modem
- SNMP
  - Simple Network Management Protocol

12 Inputs
- Universal ranges
- Expandable using MACH-ProPoint™ expansion modules
- Maximum possible inputs of 128

8 Outputs
- Outputs 1–4 are wired to unpopulated sockets
- Outputs 5–8 are universal (no sockets)
- Expandable outputs using MACH-ProPoint™ expansion modules
- Maximum possible outputs of 64

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

64 PID Loops
- Standard P, PI, or PID controllers for closed loop control
- BACnet loops supported

32 Weekly Schedules
- 4 On/Off times for each weekday and 2 override days
- BACnet schedules supported

8 Annual Schedules
- Days of the year designated as holidays
- BACnet calendar supported

20 Custom Tables
- For creating custom scaling functions

64 System Groups
- Allows related points to be grouped on to one display
- 160 points/group

128 Control-BASIC™ Programs
- User programmable control strategy in a readable, BASIC-like language
- 3200 bytes per program

96 Trend Logs
- Each Trend Log stores 512 samples and up to 6 points
- Values recorded at user defined intervals
- BACnet Trend Logs supported

128 Runtime Logs
- Totals the On time and records the On/Off times of a digital point
- Holds 200 events

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

16 Custom Units
- 8 analog engineering units
- 8 digital engineering units

SMART-Net™ Port
- Networks up to 16 SMART-Sensors™

Real-Time Clock

Warranty
- 5 years

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

Ordering

MPW-S
- MACH-ProWebSys™ controller/Web server

Options
-H adds HOA (Hand/Off/Auto) switches and pot adjust

Accessories

MPP-IO
- MACH-ProPoint™ I/O expansion module with 12 universal inputs and 8 outputs

MPP-IO-H
- MPP-IO with HOA (Hand/Off/Auto) switches and pot adjust

MPP-IO-DL
- Door lid decal kit for MP-S, MP-S-H, MPW-S, MPW-S-H, MPP-IO, and MPP-IO-H

MPP-I
- MPP Input expansion module with 24 universal inputs

MPP-I-DL
- Door lid decal kit for MPP-I

RM
- Relay output module (package of 10)

TM
- TRIAC output module (package of 10)

UM
- Universal output module (package of 10)

Real-Time Clock
- ±1 second per day

Memory/RTC Backup
- 72 hour backup
- 10 years for database

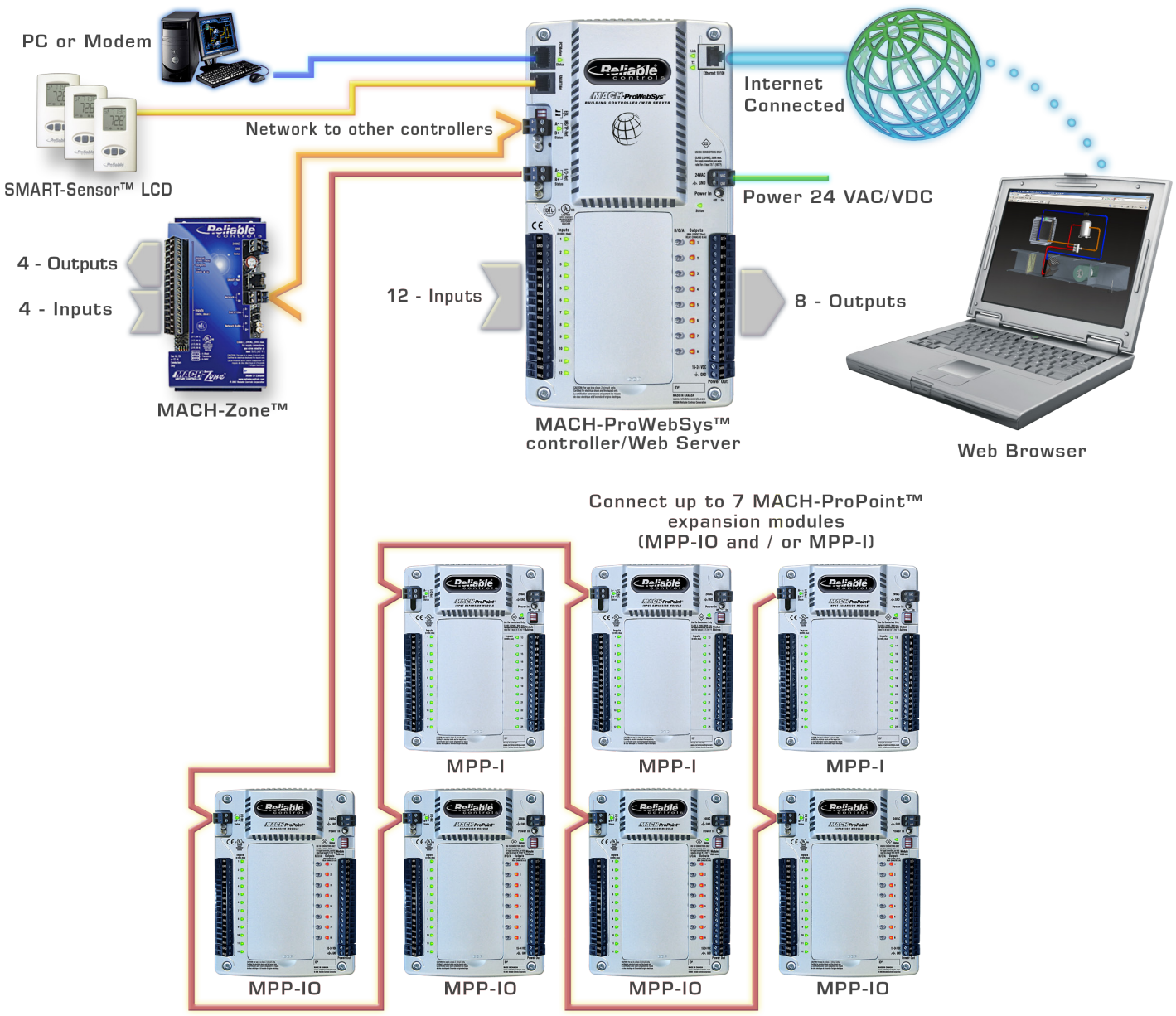
Dimensions
- 25.4 cm L x 13.7 cm W x 3.9 cm H (10" L x 5 3/8" W x 1 1/2" H)

Mounting
- #8 clearance holes on 23.0 cm L x 11.0 cm W (9 1/16" L x 4 5/16" W)
- Screw depth 25 mm (1")

Weight
- 1.3 kg (2.7 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% RH non-condensing

Application Diagram



Connect up to 7 MACH-ProPoint™ expansion modules (MPP-IO and MPP-I) with a maximum possible input count of 128, a maximum possible output count of 64, and a maximum total I/O of 160 per controller.

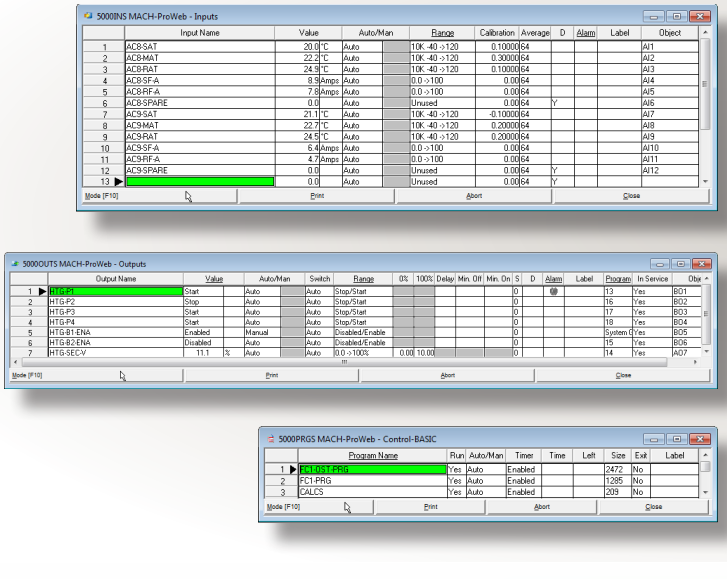
2011 AHR Expo® INNOVATION AWARDS Value Impact Application Honorable Mention

MACH-ProWebSys™

The Reliable Controls® MACH-ProWeb™ combines the field controller, configurable Web server and browser driven workstation into a single device which is simple to use, flexible to engineer and highly economical.

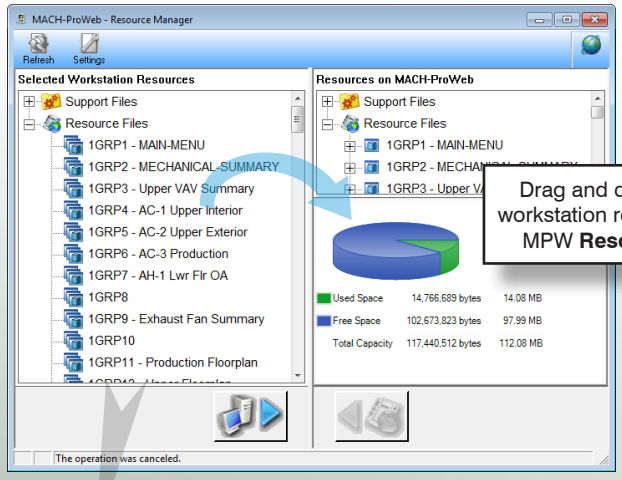
Field Controller

Program the MACH-ProWeb™ point database, Control-BASIC sequence, and graphics just as you would for any other Reliable Controls® product. The MACH-ProWeb™ is a fully functional BACnet Building Controller (B-BC).

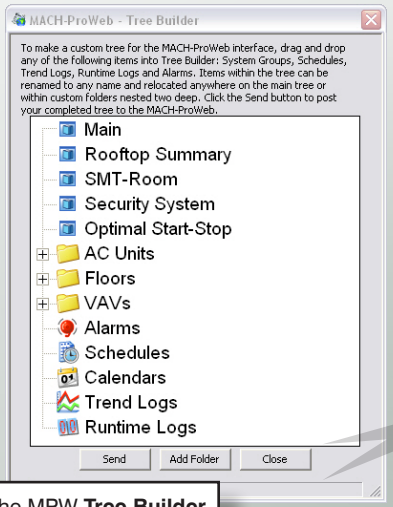


Web Server

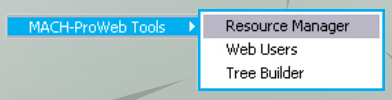
Using the MACH-ProWeb™ Tools in RC-Studio® 2.0, it is extremely simple to select and post resource files to the MACH-ProWeb™ and manage future changes.

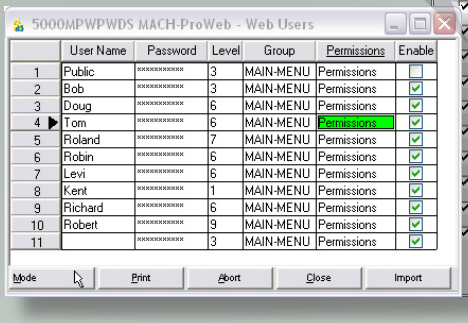


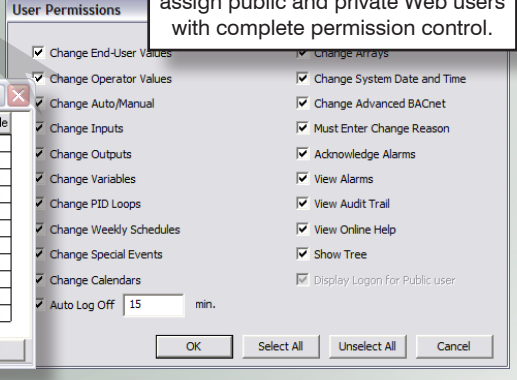
Drag and drop selected PC workstation resources using the MPW **Resource Manager**.



With the MPW **Tree Builder**, drag and drop graphics and objects to make your own customized navigation tree.



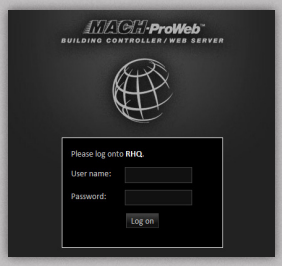




With the MPW **Web Users** tool, assign public and private Web users with complete permission control.

WORKSTATION

The MPW interface provides total functionality required for day-to-day building operations, and is a BTL-listed BACnet Operator Workstation (B-OWS). Using a standard browser (IE 8, Firefox 3, Chrome 5, Safari 5, or greater) on a PC or Mac, enter the URL of the MACH-ProWeb™ and navigate through the system to access and print point values, alarms, schedules, trend logs, runtime logs, and audit trails.



Public users can hit the MACH-ProWeb™ URL and access the system graphics assigned for public views.

Private users log in with credentials.

The MACH-ProWeb™ is the first three-in-one device of its kind, combining B-BC, B-OWS, and Web server capabilities into a single package with an installed footprint of a typical building controller.