

Reliable[®] controls

...people and technology
you can rely on[™]

BACNET[®] LISTED DEVICE (PENDING)

MOUNTS DIRECTLY TO EQUIPMENT OR IN AN ENCLOSURE

FULLY PROGRAMMABLE, AND NETWORKABLE BUILDING CONTROLLER

IDEAL FOR ROUTING LAN/WAN COMMUNICATIONS TO TWISTED PAIR MS/TP NETWORKS

EXPANDABLE TO 160 UNIVERSAL INPUTS/OUTPUTS CONFIGURED BY USER

EASY TO WIRE 45 DEGREE REMOVABLE CONNECTORS

ETHERNET 10/100 AND EMAIL ONBOARD

FLASH BACKUP OF DATABASE

5 YEAR WARRANTY

MACH-ProCom[™] BUILDING CONTROLLER



The Reliable Controls[®] MACH-ProCom[™] controller is an excellent solution for Ethernet-based building control applications and ships with the Reliable Controls[®] *industry best* 5 year warranty.

BACnet
International

5 year
Warranty

Reliable Control[®] Corporation, 120 Hallowell Road, Victoria BC, V9A 7K2
Toll Free: 1(877) 475-9301 Tel: (250) 475-2036 Fax: (250) 475-2096

Reliable Controls[®] MACH-System

The Reliable Controls® MACH-ProCom™ is a sleek and powerful 32-bit based BACnet® device that delivers unprecedented value in a high performance building controller. The MACH-ProCom™ provides high speed 10/100 Ethernet, SMART-Net communications, expandable I/O, and protocol support for BACnet®, RCP, SMTP, and Modbus RTU and TCP (both master and slave). The MACH-ProCom™ controller database allows users to define up to 160 universal I/O on a single address. Points are added to the MACH-ProCom™ using convenient MACH-ProPoint™ I/O expansion modules. Up to 8 MACH-ProPoint™ expansion modules can be added to each MACH-ProCom™ controller.

TECHNICAL SPECIFICATIONS

Processor

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

Memory

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

Supply Voltages

- 24 VAC/VDC, 20 VA 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.

I/O Expansion Modules

- Up to 8 MACH-ProPoint™ expansion modules with 12 universal inputs and 8 universal outputs each*
- 12-bit ADC inputs
- 12-bit DAC outputs

Real-Time Clock

- ±1 second per day

Memory/RTC Backup

- 72 hour backup
- 10 years for database

* The first 4 outputs are socketted to be populated with relay or universal output modules. Output modules sold separately.

FEATURES

Protocol

- BACnet®
 - B/IP x 2, Ethernet, MS/TP and PTP
- RCP
 - Reliable Controls Protocol (RCP) for backward compatibility with previous generation systems
- SMTP
 - Provides standard email communications for broadcasting email alarms
- Modbus
 - Supports both RTU and TCP in both master and slave configurations

96 Inputs

- Universal ranges
- Expandable using MACH-ProPoint™ expansion modules

64 Outputs

- Universal ranges
- Expandable using MACH-ProPoint™ expansion modules

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
- 2500 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

ORDERING

MPC

- MACH-ProCom™ Controller

MPP

- MACH-ProPoint™ I/O Expansion Module

MPP-H

- MACH-ProPoint™ with HOA (hand/off/auto) switches

PHYSICAL SPECIFICATIONS

Dimensions

- 15 cm L x 13.6 cm W x 3.62 cm H
- (5.9" L x 5.35" W x 1.43" H)

Mounting

- #8 clearance holes on 12.7 cm L x 10.97 cm W (5" L x 4.31" W)
- screw depth 25 mm (1")

Weight

- 0.25 kg (0.6 lb.)

Ambient Limits

- Operating: 0 °C to 40 °C (32 °F to 104 °F)
- Shipping: -40 °C to 60 °C (-40 °F to 140 °F)
- Humidity: 10% to 90% RH non-condensing



APPLICATION DIAGRAMS

