Reliable® controls

MACH1™

BACnet® Controller

Perennial performance

A workhorse of the industry, the Reliable Controls® MACH1™ is a rugged, flexible and fully programmable BACnet Building Controller (B-BC) ideal for mid-sized rooftop equipment or small mechanical room applications.

5 year Warranty

Better by design

BACnet International

LISTED OPEN ENERGY MANAGEMENT EQUIPMENT 69DM

UUKL864 SMOKE CONTROL SYSTEM EQUIPMENT

www.reliablecontrols.com/M1

MACH1™

Tech Specs

Processor
- 25 MHz, high-performance, 16-bit embedded microcontroller

Memory
- 512k NV RAM user database
- 512k Flash EEPROM operating system firmware and controller configurations

Supply Voltages
- 24 VAC/VDC, 24 VA max.

Communications
- EIA-485 @ 76.8 kbps max.
- EIA-232 @ 57.6 kbps max. PC or Modem
- SMART-Net™ (8 SMART-Sensors™ max.)

Universal Inputs
- 8 universal inputs
- 10-bit A/D converter
- Analog: 0–5 VDC, 4–20 mA, thermistor
- Digital: dry contact
- Impedance: 15k Ω on 0–5 VDC range 250 Ω on 4–20 mA range 10k Ω on thermistor range
- 40 Hz pulse counting (supports flow meters)
- 24 VAC over-voltage protection

Universal Outputs
- 8 universal outputs
- 8-bit D/A converter
- Analog: 0–12 VDC
- Digital: 0–12 VDC
- Manual ON provides 14.1 VDC
- LED indicator (glows proportionally)
- Output power: 75 mA @ 12 VDC
- 24 VAC over-voltage and short protection

Real-Time Clock
- ± 1 second per day

Memory/RTC Backup
- 72 hour capacitor backup
  Optional battery backup for 1 year lithium (offline)

Dimensions
- 21.7 cm L x 13.2 cm W x 4.3 cm H (8 1/2" L x 5 3/16" W x 1 11/16" H)

Mounting
- #8 clearance holes on 20.3 cm L x 12 cm W (8" L x 4 11/16" W)

Weight
- 0.4 kg (1.0 lb.)

Ambient Limits
- Operating: -20 °C to 55 °C (-4 °F to 131 °F)
- Shipping: -20 °C to 60 °C) (-4 °F to 140 °F)
- Humidity: 10% to 90% RH non-condensing

Features

Protocol
- BACnet®
  - MS/TP (EIA-485)
  - PTP (EIA-232)
- Reliable Controls Protocol
  - Network (EIA-485/Token Bus)
  - PC & Modem (EIA-232)

8 Control-BASIC™ Programs
- User programmable control strategy in a readable, BASIC-like language
- 2500 bytes per program

8 Inputs
- Universal ranges
- DIP switch selectable 0–5 VDC, 4–20 mA, thermistor / dry contact

8 Outputs
- Universal ranges
- Optional switch control (Hand/Off/Auto)
- HOA position feedback to RC-Studio® 2.0

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

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

8 Trend Logs
- Each Trend Log stores 255 samples of 6 points at programmable time intervals

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

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

4 Weekly Schedules
- 4 On/Off times for each weekday and 2 override days

2 Annual Schedules
- Days of the year designated as holidays

4 Variable Arrays
- Up to 128 elements in a one-dimensional array

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

5 Custom Tables
- For creating custom input ranges

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

SMART-Net™ Port
- Networks up to 8 SMART-Sensors™

127 Network In Points
127 Network Out Points
Real-Time Clock
Warranty
- 5 years

Certification
- BTL Listed (B-BC)
- ISO 16484-5
- UL916 Listed
- UUKL Listed

Ordering

M1 (base model)
- MACH1™ controller with 8 universal inputs and 8 universal outputs

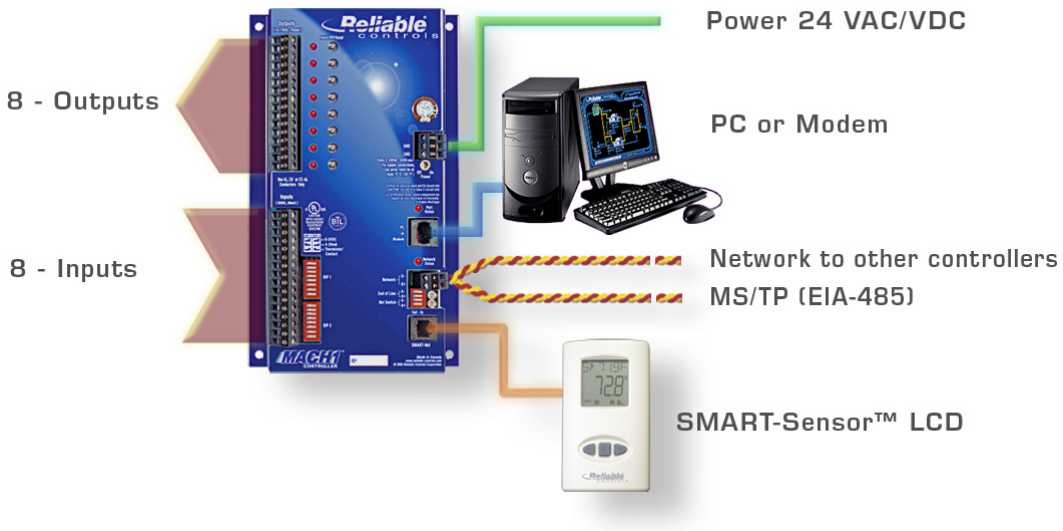
M1-HC
- Base model with HOA switches

M1-B
- Base model with battery

M1-HC-B
- Base model with HOA switches and battery

(Add "-SMK" to order # for UUKL models)

Application Diagram



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