

GENERAL DESCRIPTION

Expanded control capabilities

Through its flexibility and capacity for expansion, the Envirotrak Multi-purpose Controller (ENV-MPC) accommodates an extremely diverse environment to meet your specific control needs.



Stand-alone environment

Depending on your system requirements, the ENV-MPC can be used as either a stand-alone controller or as part of a controller network, providing the full complement of control functions available with the network. The ENV-MPC has a battery-backed, real-time clock for stand-alone operation.

Conforms to your particular application.

The ENV-MPC provides eight universal analog inputs that can be configured for platinum RTD and Balco series temperature sensors, 0-11Vdc and 4-20mA input signals, or as status contact inputs. The ENV-MPC also interfaces with the ENV-IS Series Intelligent Sensor and Intelligent Alarm Module (IAM). Two contact inputs are available for status or pulse monitoring of dry contacts. Two SPDT contact outputs are available for start/stop control.

Also, optional expansion modules are available for added input/output capacity. These modules connect directly to the ENV-MPC in one of the four expansion module slots provided on the controller.

User-defined programming (UDP).

Programmable control is available at the controller level, enhancing the stand-alone capability of the ENV-MPC.

Local operator interface communications port.

This port allows connection of handheld operator interface or laptop PC to provide easy local access to the controller database. This port is also used as the connection for the ENV-IS Series Intelligent Sensor and the IAM Intelligent Alarm Module.

Designed for dependability.

The ENV-MPC utilizes non-volatile memory (EEPROM) to maintain its programmed control strategies in the event of power loss.

Remote Communications Module.

The ENV-MPC is available equipped with a remote communication option for remote access and additional energy management functions (ENV-MPC-RC(M)). Refer to the following pages of this data sheet for additional information.

Optional Expansion Modules

The MicroSmart ENV-MPC Expansion Modules connect directly into any of the four option slots



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Model ENV-MPC, ENV-MPC-RC, ENV-MPC-RCM

**ENVIROTRAK MULTI-PURPOSE
CONTROLLERS**

available on the ENV-MPC to provide increased input/output capability to the controller. Up to four expansion modules may be used with each ENV-MPC, expanding the capabilities of the controller. Each module is listed below.

ENV-MPC-4CO

The MPC-4CO module provides four SPDT contact outputs, each with load override switches and LED indicators. The MPC-4CO also provides four contact inputs for status monitoring of dry contacts.

ENV-MPC-4AO

The MPC-4AO module provides four 0-15VDC or 4-20mA analog outputs for use with proportional actuators.

ENV-MPC-8AI

The MPC-8AI module provides eight analog inputs that may be individually configured for use with 1000 ohm Balco or platinum RTD temperature sensors, 0-11Vdc inputs, 4-20 mA inputs, or contact inputs.

ENV-MPC-8DO

The MPC-8DO module provides eight solid-state (triac) digital outputs for start/stop, staging control, floating control, or pulse width modulation of loads (ac only). The MPC-8DO module is used to control 24Vac devices.

ENV-MPC-SSR

This module provides eight solid-state relay outputs for start/stop, staging control, floating control, and pulse width modulation of loads. The MPC-SSR module can be used to control either 0-24Vac or Vdc devices.

ENV-MPC-2PO

The MPC-2PO module provides two 0-15 psig pneumatic outputs for controlling pneumatic damper and valve actuators in building automation systems. A maximum of four (4) MPC-2PO modules can be connected to the same ENV-MPC controller.

Optional Remote Communications Module

The MicroSmart Remote Communications Modules (RC and RCM) are factory installed option cards for a stand-alone ENV-MPC controller. Each card connects to the ENV-MPC and allows remote or local communications.

Communications Interface.

The RC(M) provides a communications interface between a stand-alone ENV-MPC controller and a local or remote PC via the MicroSmart Controller Access Systems software program. Local devices can be connected to the DB-9 RS-232 connector on the RC(M), which supports baud rates ranging from 300 to 9600 baud. Remote devices can be connected either by using the integral on-board Hayes compatible 2400 baud modem on the RCM version; or by using an external (1200 to 9600 baud) modem connected to the DB-9 RS-232 port on the RC version.



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NOTE

Use the ENV-MPC-RC version controller and an external modem that is compatible with the required communication protocol when used in countries other than the United States.

Remote alarming.

The RC(M) can route point alarms and service message alarms either locally or remotely. Alarms are prioritized and can be programmed to annunciate by auto-dialing a remote PC or terminal device.

The programmable phone list allows not only what numbers to call but also the time-of-day and day-of-week to call each particular number.

Advanced scheduling capabilities.

The RC(M) provides 16 separate 9 day, 6 event/day schedules to the ENV-MPC controller, in addition to the two schedules already contained in the ENV-MPC. Schedules can be created for any day of the week plus holidays and include daylight savings time programming.

SPECIFICATIONS

MODEL NO.: ENV-MPC (PART NO.: 006016)

ENV-MPC-RC (includes remote communications module).

ENV/MPC-RCM (includes remote communications module and on-board modem).

AGENCY LISTINGS: UL-916 (Energy Management Equipment, UL-873 (Temperature Indicating and Regulating Equipment, UL-864 (Smoke Control System Sub-assembly). Canadian Standards Association (CSA) Complies with FCC Class "A" requirements.

POINT CAPACITY: Maximum of 32 Loop, AO, and Mode Control points; 64 total points (maximum of 16 AOs).

ANALOG INPUTS: 8 universal inputs individually configurable for any of the following: 1000 Ohm Platinum Temperature Sensor: -40 to $+240^{\circ}\text{F}$ @ 0.1°F resolution (-40 to 115°C @ 0.06°C resolution), 1000 Ohm Balco Temperature Sensor: -28.6 to $+240^{\circ}\text{F}$ @ 0.1°F resolution (-33.6 to $+115^{\circ}\text{C}$ @ 0.06°C resolution), 0-11Vdc: 0.005 volt resolution, 4-20 mA: 0.01 mA resolution, externally powered.

ANALOG INPUT ACCURACY: $\pm 1\%$ of full scale.

INTELLIGENT SENSOR & INTELLIGENT ALARM MODULE

The ENV-MPC interfaces with the IS series Intelligent Sensor and the ENV-IAM Intelligent Alarm Module. These products do not require use of any of the 8 universal inputs provided by the controller. For additional information, refer to the ENV-IS and ENV-IAM data sheets.

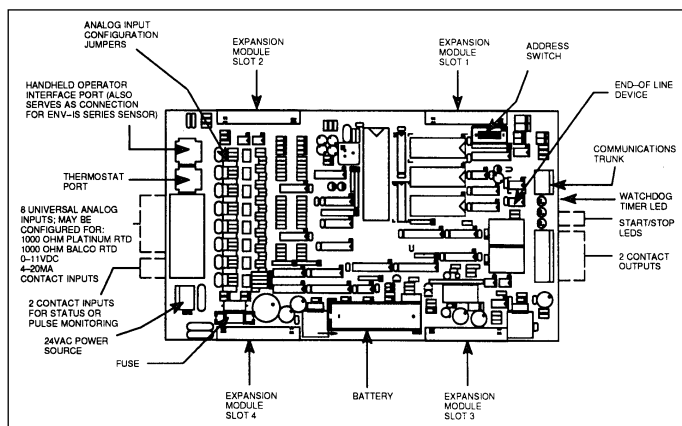
ALARM INHIBITING: User-programmable; S/S points up to 255 seconds following start command; analog input and loop points up to 127 minutes with alarm delay capability.

CONTACT OUTPUTS: 2 SPDT, 0.5amp @ 240Vac,



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SPECIFICATIONS (Cont.)

1.0 amp @ 120Vac, 3 amps @ 24Vac or Vdc

CONTACT INPUTS: 2 for status or pulse monitoring of dry contacts. Maximum pulse rate is 5 Hz @ 40-60% duty cycle.

USER-DEFINED PROGRAMMING: 100 lines of UDP code available. 10 UDPs max.

COMMUNICATIONS: Two-wire, RS-485 data trunk.

TRUNK WIRE: Under 1000' - Belden #9501
Up to 4000' - Alpha #9823C
Plenum & riser under 1000' - Belden #89503
Plenum & riser up to 4000' - Belden #89182

TREND: All points, 72 readings for each point - Programmable time - default 1 hour. Trend MAX, MIN, AVG, or VALUE.

SCHEDULES: Assignable to any schedulable point. 2 schedules, 10 days, 6 events/day, primary or backup mode.

OPERATING ENVIRONMENT: 32 to 122F (0 to 50C), 5-85% RH (non-condensing).

BATTERY BACKUP: 72-hr. rechargeable battery provided for historical data and clock backup.

POWER REQUIREMENTS: Controller only: 24V, 50/60 Hz; 33VA Separate transformer required for each controller, not to be used for loads.

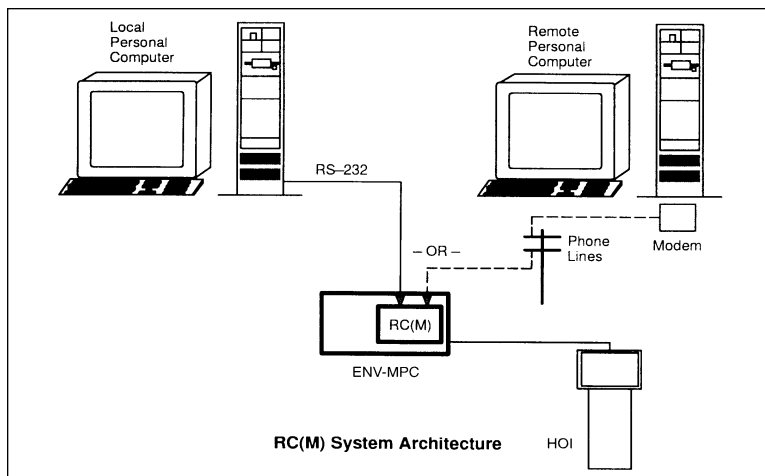
WEIGHT: Net 2 lbs. Shipping weight: 2 lbs., 14 oz. Point scheduling allows schedules in the RC(M) to control points in the ENV-MPC controller. Temporary schedule overrides are provided to allow for the selected overriding of user-specified events.

Each scheduled event can be commanded to perform another task (both time and action can be overridden). Sixty-four entries are available; each entry can override two events. This function is programmable up to a year in advance.

ELECTRICAL DEMAND LIMITING (EDL). EDL is provided for up to 32 loads and three demand periods, with either a fixed or sliding-window type demand metering. Loads can be programmed to be shed (turned off) by the RC(M) as necessary. This works in conjunction with automatic setpoint adjustments by EDL in order to save energy whenever the total load is projected to exceed the demand limit set by the local utility.

FLEXIBLE POINT TRENDING CAPABILITIES. In addition to the 72 data cells for every point in the controller being collected by the ENV-MPC, the RC(M) provides two independent trend timers and 32 trend points. Each timer can be programmed for different time intervals and the trend points can be assigned to either of the two timers. Up to 1500 trend data cells are shared between the two trend timers.

DOWNLOADABLE FIRMWARE. Firmware can be downloaded remotely from the PC directly to the RC(M) by what is called "Flash memory". RC(M) functions including energy management and alarm annunciation are contained in the Flash memory. Whenever changes or enhancements are made to the firmware, you can now easily make changes to the RC(M) by upgrading it locally or remotely.



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