M‑CONTROLLER

Multi-Channel Digital-Analog Controller

The M-Controller is a multi-channel controller and alarm unit. It utilizes both digital and analog communications to interface with a maximum of 32 remote digital transmitter/sensors, and 8 analog transmitter/sensors.   Range and alarm setpoints are set either through the front keypad or through software that is downloaded to the controller from a PC or laptop computer. Common relay configurations include voting, averaging, delay on actuation and deactuation, normally/not-normally energized and latching. An additional feature includes 24 VDC transistor outputs for a horn and strobe. A RS-422 responds as a RTU Slave using MODBUS protocol which allows the controller to provide read status information only. The RS-232 interface uses a RJ-11 telephone jack. This is primarily used for uploading and downloading a large configuration database. Also available is an analog output card that includes eight 4-20 mA analog outputs. Each analog output can be defined in complex fashions allowing the averaging of several input signals and the assignment of different values to both the 4 and 20 mA outputs. The M-Controller automatically linearizes the values between these two points.

GAS

SPECIFICATIONS

Input Power	24V +/- 4V AC or DC
Fuse	2A
Enclosure	NEMA 1 Type General Purpose
Enclosure Material	Steel, epoxy painted black
Temperature	Industrial -20° to 50° C (-4° to 122° F)
Humidity	Continuous 15 to 90% RH, non-condensing Intermittent 0 to 99% RH, non-condensing
Input Types	4 parallel RS-485 digital ports for up to 32 QEL transmitter/sensors, 99 Relays, 8 analog 4-20 mA inputs from any transmitter/sensors. RS232 programming port using RJ-11 connector
Output Ports	RS-422 to host computer/PLC using Modbus Plus RS-232 programming port using RJ-11 connector optional 8 analog 4-20 mA signals scalable
LED Status Lights	5 Red, Relay 1, Relay 2, Relay 3, Hush, Fault
Recommended Cable	Power: Twisted shielded pair Communication (RS-485) Belden 9841 or equivalent twisted shielded pair, 120 ohm
Panel Controls	4 x 4 tactile and audible keypad
Audio Indicator	90 db at 30 cm, 2700 Hz, Buzzer 1: Continuous Buzzer 2: Double-tap Intermittent, Buzzer 3: Intermittent 50% Duty Cycle
Relay Outputs	3 DPDT rated 5A resistive 3.7A inductive at 240 VAC/30 VDC, Optional 96 DPDT 5A relays 8 per card
Relay Assignment	Independent, individually set to one or all transmitter/sensors. Fail common to all transmitter inputs
Time Delays	Individually set, make, break, average, and voting, 0 to 60 minutes
LCD Digital Display	Two line 16 character back-lit LCD displaying transmitter address, gas type, concentration and alarm status
Display Scroll Rate	Adjustable 1-9 seconds
Power Supply Output	24V supplied externally through controller
System Test	Through front keypad
Product Dimensions	(H) 10.00" (W) 8.00" (D) 2.00"

ORDERING

Please select a one Card (A). Choose an Optional Accessory (1) if desired. **NOTE:** Additional relays are only available with M-RELAY-5X and they will be listed separately on packing slip and invoice.

(A) Card

○ **----** (No Card)   ○ **T** (Analog Card (8 Channels))

(1) Optional Accessories

○ **M-RELAY-5X-2** (2 Relays)   ○ **M-RELAY-5X-6** (6 Relays)
○ **M-RELAY-5X-4** (4 Relays)   ○ **M-RELAY-5X-8** (8 Relays)

BUILD PART NUMBER

After completing (A) & (B) from the above table, fill in the Part Number Table below. The "Sensor Series" is a factory default. An example part number is offered.

M-CONTROLLERX ‒

SENSOR SERIES	(A)

EXAMPLE: M-CONTROLLERX - T

(1)

EXAMPLE: M-RELAY-5X-6