GAS CONTROLLER SERIES

The M-Controller2 is a versatile multi-channel controller and alarm unit designed for interfacing with up to **32 digital and 8 analog transmitter/sensors**. It analyzes and displays gas detector signals for toxic and combustible gases.

Key features include:

- **RS-485 communication** for cost-effective installation.
- **Configurable range and alarm setpoints** via software or front keypad.
- **Three standard onboard relays** and up to 12 remote relay panels.
- **Audible alarm** with three buzzer settings.
- **24 VDC transistor outputs** for horn and strobe.
- **Optional 8-channel analog outputs** for BAS or VFDs.
- **USB port** for configuration with M-View software.
- **Additional RS-485 ports** for Modbus RTU or BACnet/IP communication.
- **Two programmable switch inputs** for triggering various outputs.
- **4 x 20 character back-lit display** with adjustable scroll rate.
- Available in **Nema 4X enclosure**

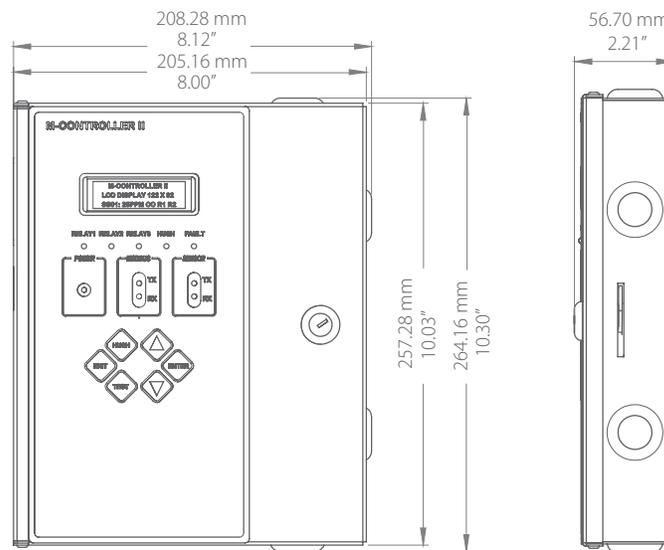This controller is ideal for comprehensive gas detection and alarm management.

SPECIFICATIONS

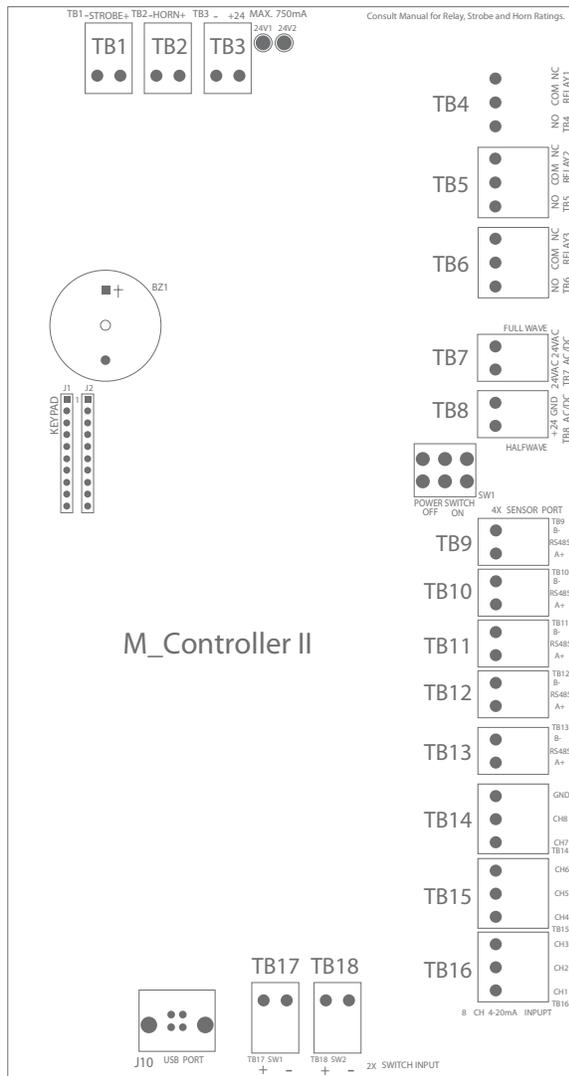|	
POWER SUPPLY	24Vac or 24Vdc (±4V)
FUSE	1 Amp, 2 x 750mA polyswitch
CABLE SPECIFICATION	Power - Twisted shielded pair Communication (RS-485) Belden 9841 or equivalent twisted shielded pair, 120 ohm
POWER SUPPLY OUTPUT	24V supplied externally through controller
INPUT TYPES	4 parallel RS-485 digital ports for up to 32 transmitter/sensors, and up 99 Relays 8 Analog 4-20mA inputs from any transmitter/sensors. 2 channel switch inputs or binary inputs (BI-1 and BI-2)
OUTPUT TYPES	RS-485 port, default setting is for Modbus protocol Responds as a Modbus Slave using RTU protocol. M-Controller2 supplies read status information only Connect to BACnet/IP module BAC-BOX The BACnet must be enabled in the BACnet menu Optional 8 Analog 4-20mA signals scalable
RELAYS	3 SPDT rated 5 Amps resistive 3.7 Amps inductive at 240VAC/30VDC Optional 96 DPDT 5 Amps relays 8 per card
DISPLAY	2 x 16 back-lit LCD displaying transmitter address, gas type, concentration and alarm status
DISPLAY SCROLL RATE	Adjustable 1 - 9 seconds
PANEL CONTROL	6 tactile and audible Keypad
PANEL INDICATOR	10 Status LEDs Power Status RS-485 port TX/RX Status for Sensor Network RS-485 port TX/RX Status for Modbus LED1-LED5: RELAY1, RELAY2, RELAY3, HUSH, FAULT
BUZZER	90 DB at 30 cm, 2700 Hz Buzzer 1: Continuous Buzzer 2: Double tap intermittent Buzzer 3: Intermittent 50% Duty Cycle
HORN AND STROBE	Two relay dry contact
DATABUS COMMUNICATION	Modbus RTU and BACnet Optional

SPECIFICATIONS

TEMPERATURE SPECIFICATION	Storage: 0°C to 20°C (32°F to 68°F) Operating: -20°C to 50°C (-4°F to 122°F)
HUMIDITY SPECIFICATION	Continuous 5 to 95% RH, non-condensing Intermittent 0 to 95% RH, non-condensing
ENCLOSURE	NEMA 1 Type General Purpose
ENCLOSURE MATERIAL	Steel, epoxy painted black
DIMENSIONS	203 x 254 x 51 mm (8" x 10" x 2")
APPROVALS	Standard UL2017

Ensure a complete understanding of all applicable Federal, State, Provincial and Local Health and Safety laws and regulations before using these products.

DIMENSIONS

ACCESSORIES

M-ANNUNCIATOR	M-Annunciator Series Annunciator Panel for M-Controller-II
M-RELAY-5A-2000000-G	M-Relay for M-Controller-II Series Relay Module w/ 2 SPDT Relays
M-RELAY-5A-4000000-G	M-Relay for M-Controller-II Series Relay Module w/ 4 SPDT Relays
M-RELAY-5A-6000000-G	M-Relay for M-Controller-II Series Relay Module w/ 6 SPDT Relays
M-RELAY-5A-8000000-G	M-Relay for M-Controller-II Series Relay Module w/ 8 SPDT Relays
BAC-BOX-0	BAC-BOX BACnet Output Module for Q-Controller, Q4C-II & M-Controller-II
QRP-II	QRP-II Series Remote Display Panel w/ 4 SPDT Relays for M-Controller-II
Q-SWITCH-A-G	Q-Switch Series Remote Switch for Q-Controller & M-Controller-II
R-SWITCH-A-G	R-Switch Series Remote Switch for M-Controller-II & Q4C-II
M-SWITCH-A-G	M-Switch Series Remote Switch for M-Controller-II & Q4C-II
RDF52-A	Remote Display Panel w/ Red Yellow Green LED Stack & 4 SPDT Relays for M-Controller-II
M-STROBE-R	Strobe-Red
M-STROBE-A	Strobe-Amber
M-STROBE-C	Strobe-Clear
M-STROBE-B	Strobe-Blue
6500-0024	120-24Vac Transformer 250VA 1Ph Enclosed

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PS-Q5XXX-01   08/25

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WIRING INFORMATION

TERMINAL		FUNCTION
TB4 TB5 TB6	NC: Normally Close COM: Common NO: Normally Open	3x Relays Output
TB7	24VAC 24VDC	Power IN Full Wave
TB8	24VDC GND	Power IN Half Wave
SW1	On OFF	Power Switch
TB9 TB10 TB11 TB12	A+ B-	4 x RS-485 Ports for Remote Devices
TB13	A+ B-	1x RS-485 for BACnet/IP Module
TB14 TB15 TB16	GND Ground AI-CH8 AI-CH7 AI-CH6 AI-CH5 AI-CH3 AI-CH2 AI-CH1	8x Channels Analog Input 4-20mA
TB17 TB18	SW1 SW2	2 x Switch Input
J10	USB	USB Port
TB3	24VDC OUT	Power OUT
TB2		Horn
TB1		Strobe
BZ1		Buzzer

ORDERING

PART NUMBER
M-CONTROLLER2-A00-G

ACCESSORIES	DESCRIPTION	PART NUMBERS
Nema 4X Enclosure	Unit cover rated Nema4X	84330-621-000
AO Board	Analog Output electronic card 8 channels	843300-611-000

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