



MR- 55, 55X, 88, 88R, 160, 632

Micro Regulators

I/NET[®] Seven

The Micro Regulator (MR) family of distributed intelligent controllers function within the I/NET[®] Seven integrated network system, providing an extremely flexible array of user programmable control functions within an economical price and point range. The MR family uses the Micro Control Interface (MCI) or 7798 I/SITE to connect to the I/NET LAN and communicate with I/NET workstations and other controllers. This product group includes multiple models of controllers including general purpose and application specific models. Each controller model is aimed at a specific application environment although they can migrate to other applications. All MR's support an Intelligent Thermostat (I/STAT) or a maintenance thermostat (M/STAT).



MRs provide stand-alone Direct Digital Control (DDC) of a collection of several input and output points. Both discrete and pulse-width-modulation (PWM) control is supported by the MRs.

Installation guide for Micro Regulators: TCON126

Installation guide for MR55, 55X and I/STAT: TCON130

TECHNICAL DATA

Communication Ports:

Sub-LAN port

- Baud Rate 9,600
- Protocol Proprietary
- Transport RS 485 multi-drop asynchronous, polling (open or closed loop)
- Connector 2-part screw terminal

Network Wiring Requirements:

- Length 5,000 feet per segment
- Extended Length 25,000 feet with repeaters
- Connector 2-part screw terminal
- Cable Type Belden 9184 or equivalent twisted pair shielded
- Cable Size <22AWG
- Impedance 85 to 150 Ohm
- Capacitance >30pF/ft between conductors and >55pF/ft conductor to shield

Hardware Details:

- Processor Zilog Z8
- EPROM 32KB
- Static RAM 236B
- Non-volatile Memory 1024Bytes
- Clock/Calendar Seconds, minutes, hours

Physical Details:

- PCB Dimensions 4.0" W ´ 7.0" L x 1.5" H (10.16 ´ 17.78 cm)
- Metal Baseplate 5.5" W ´ 8.5" L x 1.5" H (13.97 ´ 21.59 cm)
- Plastic Baseplate 4.3" W x 8" L x 3.5" H
- Weight 3lbs

- Operating 32°F to 122°F Temperature
- Operating Humidity 10-90% RH, Non-condensing
- Power 10VA Requirements

Universal Input Details:

- MR88, 88R, 160, and 632 Inputs
- Standard Quantity MR88 – 7 MR88R – 7 MR160 – 15 MR632 - 5
- Connector 2-part screw terminal
- Range 0–5 V selectable to 2–4 V 0–10 V selectable to 4–8 V 0–20 mA selectable to 8–16 mA 10K ohm NTC thermistor (Dale 1M1002-C3)
- Accuracy 1% 0-5V2% 0-10V and 0-20mA
- Resolution 8 Bit, dual range (1%)
- Filtering Median value filter and 50/60 Hz notch filter
- Calibration Factory-set in NOVRAM, field adjustable, 8 individual pairs
- MR55
- Standard Quantity 4
- Connector 2-part screw terminal
- Range 1.5 to 4 V 10K ohm NTC thermistor (Dale 1M1002-C3)
- Accuracy 2%
- Resolution4%

TECHNICAL DATA

Filtering Median value filter and
50/60 Hz notch filter
Calibration Factory-set in NOVRAM,
field adjustable, 8 individual
pairs

Digital Inputs

Contact Excitation 5v @ 5ma
Input Duration 1 second minimum

Pulsed Inputs

Pulse input rate 9 Hz
Input duration055 msec min

I/STAT Port Details:

Space Sensor input ... Supports I/STAT or 10K ohm
NTC thermistor
(Dale 1M1002-C3)

Accuracy 1° F
Resolution25° F

Digital Output Details:

MR88, 88R, 55 and 632
Standard Quantity MR88 – 8 (voltage sourcing
TRIAC)
MR88R – 8 (relay outputs)
MR632 – 3 (voltage sourcing
TRIAC)
MR55 – 5 (voltage sourcing
TRIAC)

Connector 2-part screw terminal

Relay Outputs

Style Form C SPDT
Rating5 Amp resistive at 24Vac/dc
Modes Latched, pulse width
modulation

Voltage Sourcing Triac

Style Low voltage Triac
Rating 24 VAC @ 0.5 A each
(2 A maximum)

Modes Latched, pulse width
modulation

Analog Output Details Available on MR 632 only:

General

Standard Quantity 2
Connector 2-part screw terminal

Outputs

Voltage Range 0 – 10Vdc
Current Range 10 mA
Accuracy 1% typical, 3% min
Resolution 8 Bit
Modes Analog and Latched

Velocity Sensor Details Available on MR55X only:

Range 0" to 1.3" water column
Resolution005" water column
Adjustments Factory-set calibration
coefficients

Connections Dual barbed fittings for 1/8"
ID tubing

LED Details:

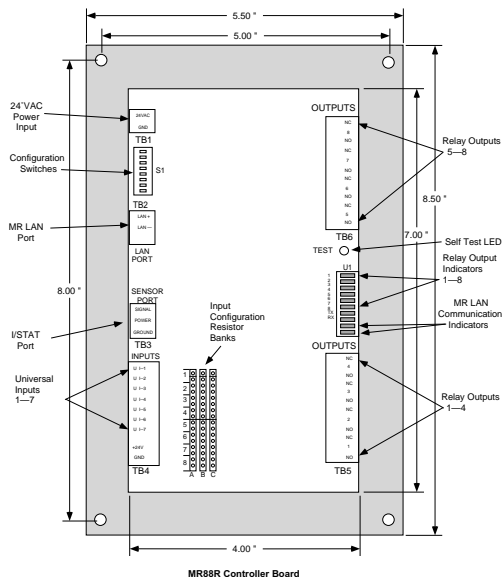
Sub-LAN TX Transmit data
Sub-LAN RX Receive data
Test Mode Self test indications during
power up
Each Output On/Off ... Indicates the state of the
outputs

Listings:

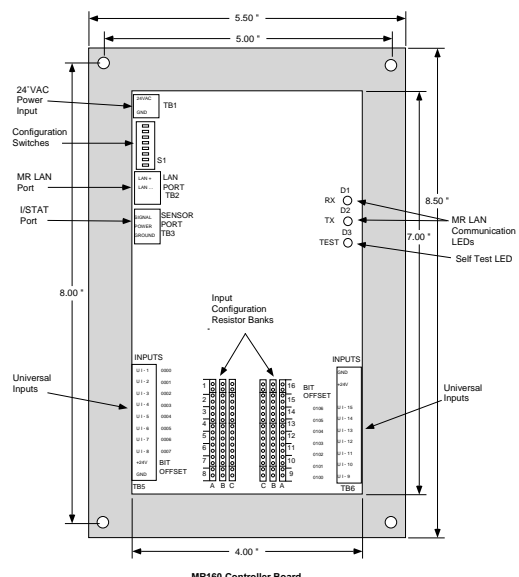
UL916 Energy management
equipment
UL864 UUKL Smoke control and
smoke management

CE Marking Available

EN61000-4-2 Electro static discharge
EN61000-4-3 Radiated RF
EN61000-4-4 EFT
EN61000-4-5 Surge tested
EN61000-4-6 Conducted RF
EN61000-4-8 Magnetic field
EN61000-4-11 Power quality



MR88R Controller Board

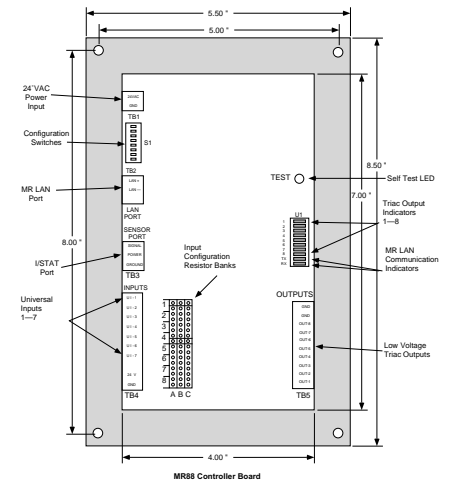
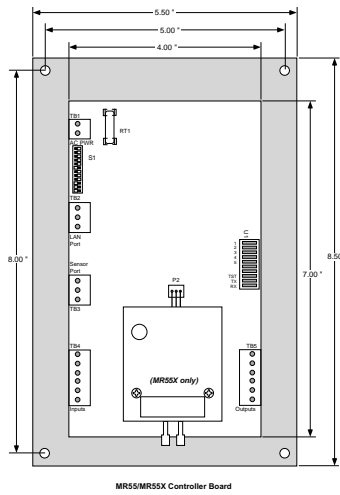
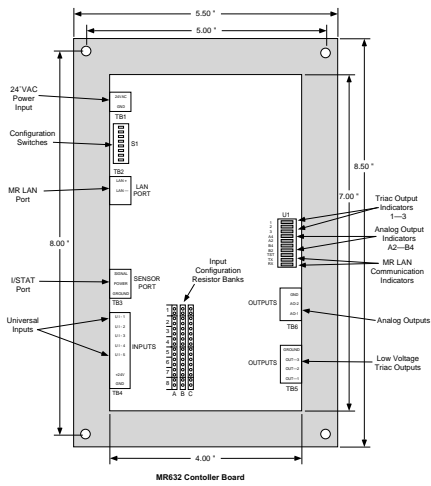


MR160 Controller Board

PART NUMBERS

			UI	AI I/STAT	DI	AO	DO FORMC	DO TRIAC
BASE	MR 88 MR88-C MR88-U8	MicroRegulator 8 input 8 output (triac)	7	1	—	—	—	8
	MR 88R MR 88R-C MR 88R-U8	MicroRegulator 8 input 8 output (relay)	—	—	—	—	8	—
	MR160 MR160-C MR160-U8	MicroRegulator 16 input	15	1	—	—	—	—
	MR632 MR632-C MR632-U8	MicroRegulator 6 input, 3 triac out, 2 analog out	5	1	—	2	—	3
	MR 55 MR 55-C MR 55-U8	MicroRegulator 5 input, 5 output	4	1	—	—	—	5
	MR 55X MR 55X-C MR 55X-U8	MicroRegulator 5 input, 5 output velocity sensor	4	1	—	—	—	5

Part numbers ending in -C are Ce Marked.
Part numbers ending in -U8 are UL864 UUKL Listed.



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