MP2+

Multiple Program Process Temperature Controller
·························
Installation Guide

maxitrol

| PTS #1 | 75°F |
| PROC | 75°F |

PGM △ ▽ ENT

Selectra®
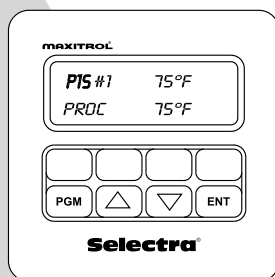
MAXITROL

⚠ WARNING

Inappropriate and/or improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

⚠ WARNING

Disconnect power before installation to prevent electrical shock or equipment damage.

FOR YOUR SAFETY
If you smell gas: 1 Open windows.
2 Do not touch electrical switches.
3 Extinguish any open flame.
4 Immediately call your gas supplier.

FOR YOUR SAFETY
The use and storage of gasoline or other flammable vapors and liquids in open containers in the vicinity of this control or other appliance is hazardous.

Please read these instructions fully prior to attempting to install, operate, and/or maintain the MP2+ system. Failure to do so may result in improper operation and/or component damage.

⚠ WARNING

Installation shall conform with local codes, or in the absence of local codes, in accordance with the National Fuel Gas Code ANSI Z223.1/NFPA54 or CSA B149.1 as is applicable, and operated in accordance with the manufacturer's instructions. These instructions do not supersede OEM's installation or operating instructions. Installation, inspection, and replacement must be performed by a qualified installer or gas supplier.

This control must be electrically wired in accordance with local codes, or in the absence of local codes, with the National Electrical code, ANSI/NFPA 70 or the Canadian Electrical Code, CSA C22.1 as applicable.

General Statement

The MP2+ system is intended for multiple low temperature process applications, for example paint spray booths or other curing processes. It is ideal for multiple temperature critical and time sensitive process applications requiring temperatures from 60°F to 240°F.

Contents

Please refer to the MP2+ User's / Programming Guide for programming instructions.

NOTE:
The technical data listed in this manual does not include normal operating deviations that occur in the actual manufacturing process. The listed specifications may not meet the individual unit's actual specifications. Slight deviations in an individual unit's performance may be encountered due to possible changes in the controlled conditions in which the unit is tested and calibrated. Check ratings given in OEM instructions to assure the MP2+ is suitable for the application.

Power Requirements	Independent 24 VAC, 40 VA capacity transformer	
Ambient Temperature Limits	TDM02	Operating: -40°F(-40°C) to 158°F(70°C) Non-operating: -40°F(-40°C) to 185°F(85°C)
	AM02+ TM02	Operating, Non-operating: -40°F(-40°C) to 185°F(85°C)
Connections	AM02+ to TDM02 = Standard 6 Position 4 Conductor Telephone Cable AM02+ to TM02 = Ethernet Patch Cord	
Sensor	1,000 ohm RTD TS194Q use with mixing tube	
Valves	M411, M511, M611, MR212	

NOTE:
Please read safety warning instructions fully for Maxitrol Modulator Valves [MI2040] prior to attempting to install, operate, and/or maintain the MP2+ system.

- **AM02+** Amplifier
- **TDM02** Remote Selector Display Interface
- **TM02** Auxiliary Multifunctional Timer Control (optional)
- Standard 6 Position 4 Conductor Telephone Cable, 3 feet
- Ethernet Patch Cord, 3 feet

TDM02   Display Interface
Std. - 1/4 DIN
Panel Mounted
Cover = 4.06" W x 4.06" D
Panel Cutout = 3.53" W x 3.53" H
Depth = 1.08" D

AM02+   7.5" W x 3.38" H x 1.89" D
Mounts on supplied Snap Track

TM02   5.25" W x 3.75" H x 1.75" D
Mounts on supplied Snap Track

Other Features

(see Wiring Diagram, page 6)

Process Indication Output

The TM02 multifunctional timer control features a Process Indication Output. Processes 1 thru 8 have a dedicated pair of terminals, labeled 1 thru 8 on the TM02. An indicator (LED, relay coil, etc...) 24 VDC 2W maximum can be wired directly to the corresponding terminal block for each Process to be indicated. **Note Polarity**

Program Indication Output

Terminal #9 is used to indicate the controller is operating within a Program. The following voltage will be measured across the #9 terminals:
Note Polarity

Controller in the "READY" position	0 VDC
Controller operating in any of the 8 processes making up a Program	24 VDC 2W max

TM02
(OPTIONAL)
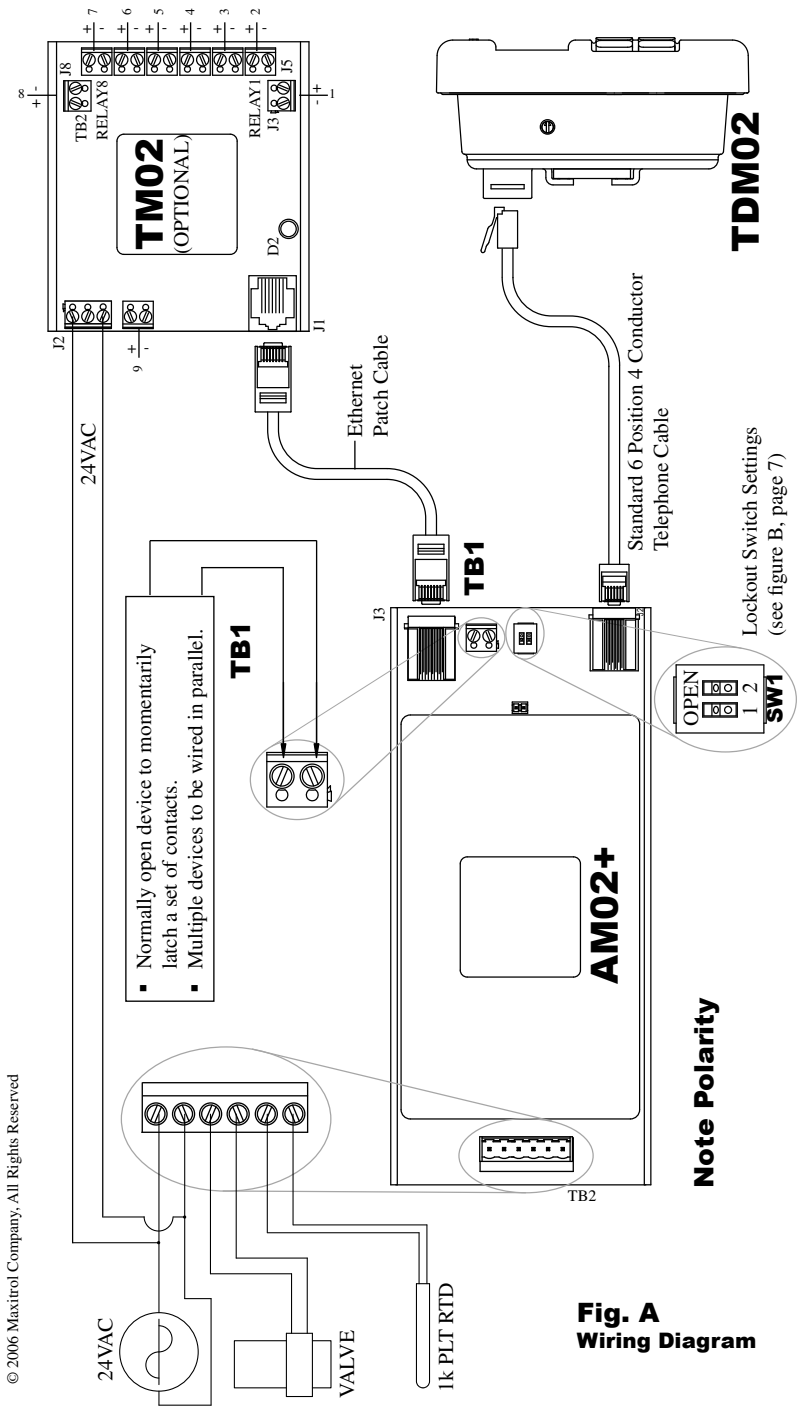
TB2 RELAY8
RELAY1 J3 J5
J8
D2
J1
J2
24VAC
Ethernet Patch Cable
TB1

- Normally open device to momentarily latch a set of contacts.
- Multiple devices to be wired in parallel.

TB1
J3

TDM02

Standard 6 Position 4 Conductor Telephone Cable

Lockout Switch Settings
(see figure B, page 7)

OPEN
1 2
SW1

AM02+

Note Polarity

TB2

24VAC
VALVE
1k PLT RTD

Fig. A
Wiring Diagram

6

Fig. B
Lockout Switch Settings, SW1

Level	SW1 Dipswitch position	Accessible Menus
0	1-closed, 2-closed	None
1	1-open, 2-closed	Process
2	1-closed, 2-open	Process and Operation
3	1-open, 2-open	Process, Operation and Diagnostic

Level 0   **Level 1**   **Level 2**   **Level 3**
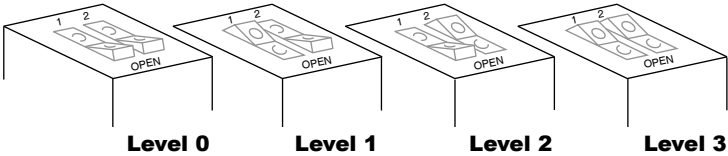
MP2+ Process Control System

Getting Started

1 Install Components. For the dimensions of components see
   Dimensions, page 5.

2 Wire the MP2+ System as shown in figure A, page 6.

3 Apply 24 VAC power to AM02+.

   ▪ MP2+ System will default to Process 1 of Program #1.

   NOTE: Any power interruption to the AM02+, will cause the MP2+ System
   to default to the Process 1 position of the program in use regardless of the
   Process position prior to the power interruption.

4 Enter into the Program Mode and program the MP2+ System as needed
   (see the MP2+ **User's / Programming Guide**).

   ▪ After programming, the MP2+ System will default to Process 1 of
     the current program.

5 Set the Programming Lockout feature to the appropriate user access
   (see figure B, page 7).

MP2+ Process Control System w/ TM02 Multifunctional Timer Control

Getting Started

1   Install Components. For the dimensions of components see **Dimensions**, page 5.

2   Wire the MP2+ System and TM02 together as shown in fig. A, page 6.

3   Apply 24 VAC power to AM02+ and TM02.

- MP2+ System will default to the "READY" program start position of Program #1.

NOTE: Any future power interruption to the AM02+, will cause the MP2+ System to default to the selected program start position of the program in use prior to the power interruption ("READY" or First Process).

4   Enter into the Program Mode and program the MP2+ System as need-ed (see the MP2+ **User's / Programming Guide**).

- After programming, the MP2+ System will default to the selected program start position "READY" or First Process of the program in use prior to programming.

    "**READY**":
    Start Process 1 of the program by pushing and releasing Button 1 or momentarily latching (make) a set of contacts wired to the TB1 terminal (i.e. typically accomplished by a momentary ON (normally open) switch).

Process
A single programmed temperature, or single programmed temperature and time.

Program
The combination or series of Processes.

"Ready"
Screen display. When selected, it appears prior to the start of a program involving timed processes. A momentary switch closure moves the controller from the "Ready" position to the First Process.

Programming Lockout Switch
When set, this feature can limit user access to programming menus (see figure B, page 7).

MP2.IG.EN.07.2006

MAXITROL