

OPERATING GUIDE

TBMM Sequential Timing Series



Installation



Operation



Product Maintenance



Accessories and Spare Parts



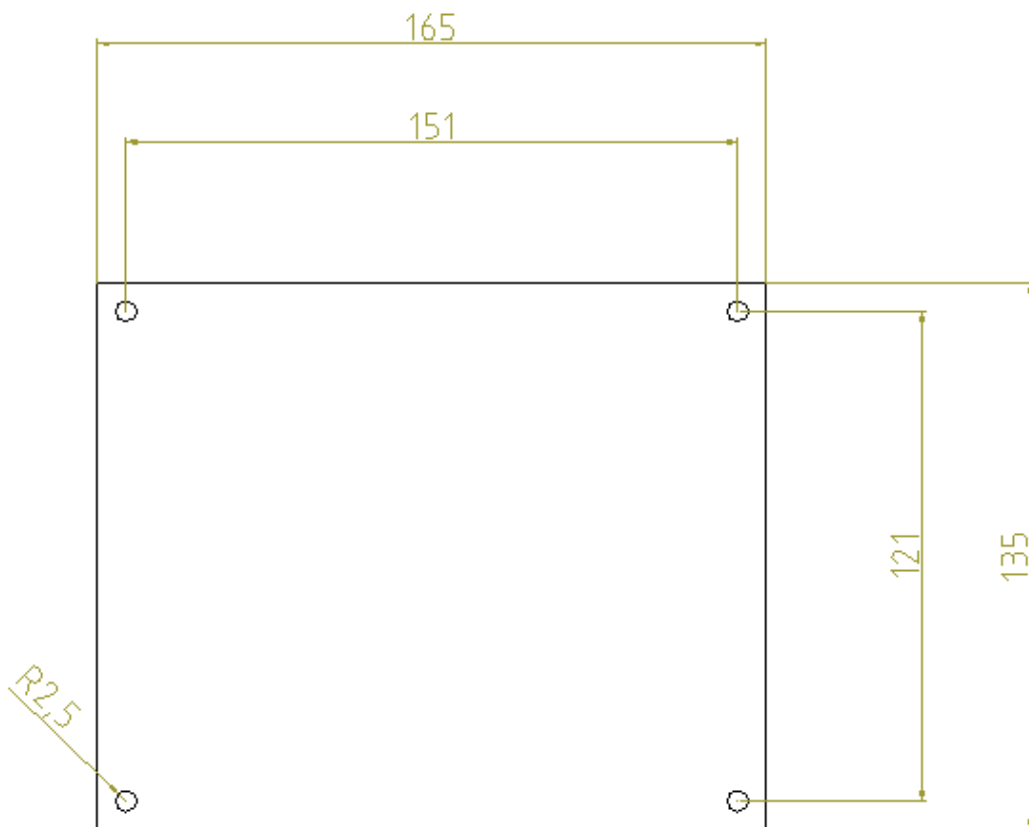
INSTALLATION

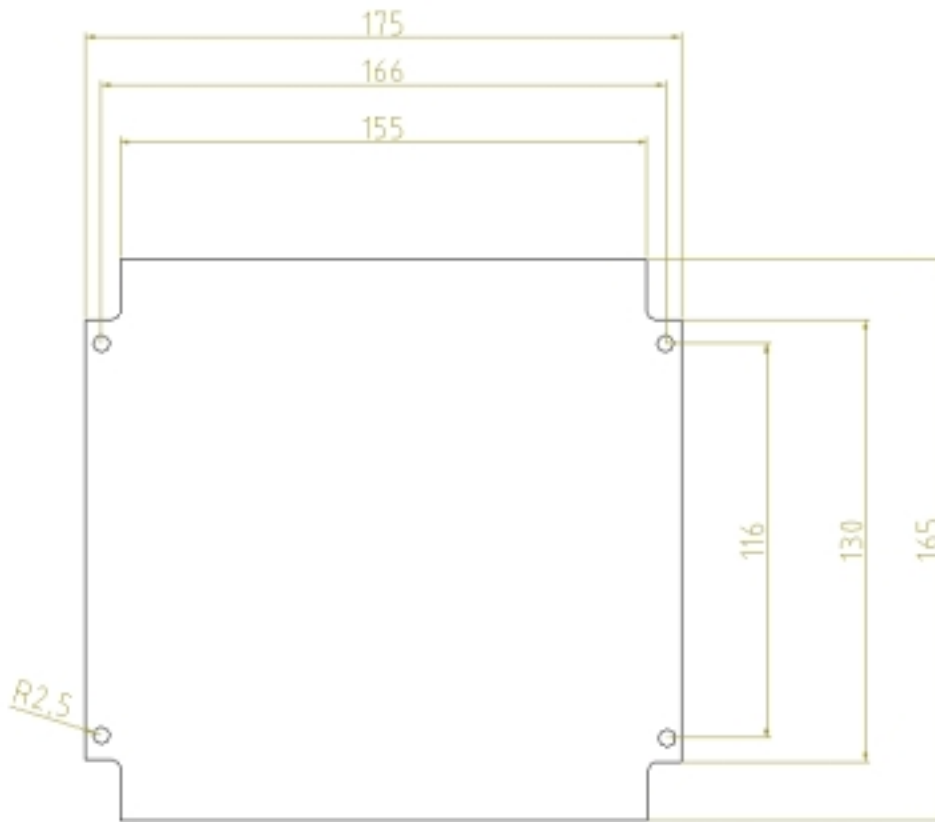
Mechanical Installation

View of mechanical fastening points of timer board

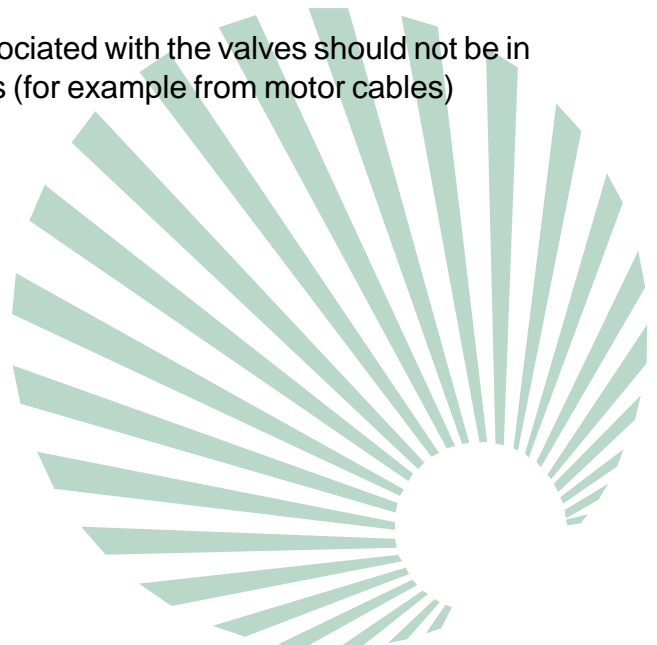
Note: Figure not drawn to scale, all dimensions are in millimeters.

TBMM-10-T



TBMM-10-DC/DC-T

- Mount in environments of -40°C to +60°C
- Do not mount directly to hot surfaces
- Do not expose directly to sunlight
- Protect from infiltrations of water and humidity
- Do not install on vibrating surfaces
- All electrical connections including the wiring associated with the valves should not be in close proximity to the wiring for other applications (for example from motor cables)
- 4 point mounting

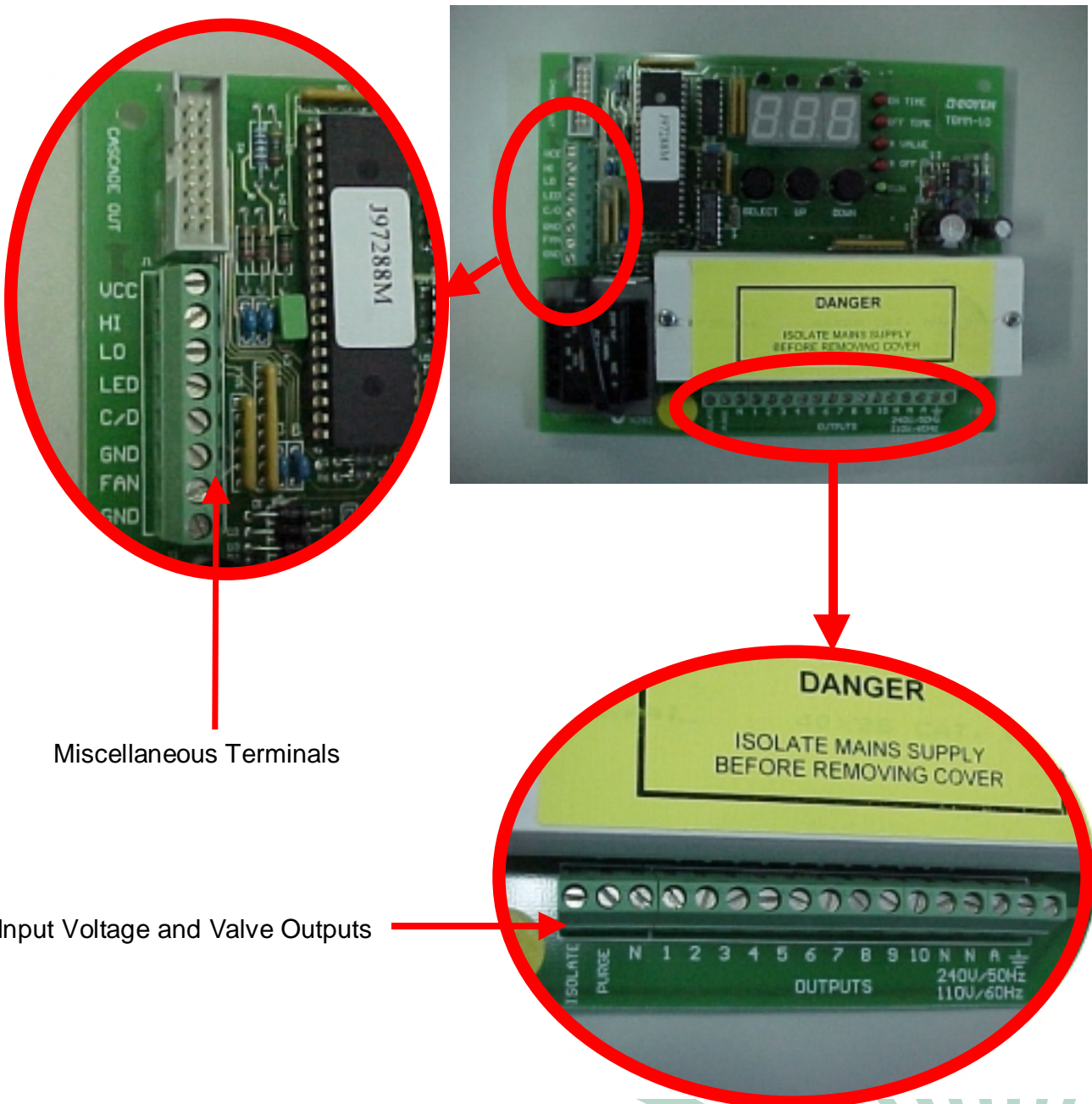


Electrical Installation

Basic Installation: TBMM-10-T

Figure 1 - Electrical Circuit Board for TBMM-10-T

Firstly the power should be isolated from the unit.



Miscellaneous Terminals

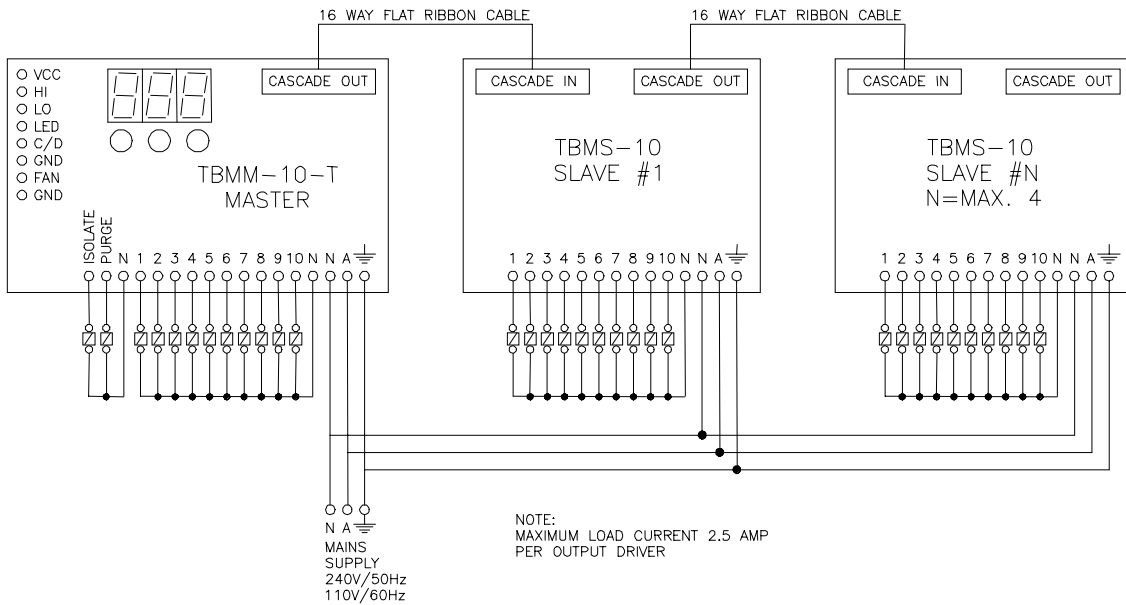
Input Voltage and Valve Outputs



Connect the input power to the unit, observing that Ground (Yellow/Green wire) is connected properly, followed by Neutral (Blue wire) and finally Live (Brown wire).

The outputs can then be connected as shown in Figure 2.

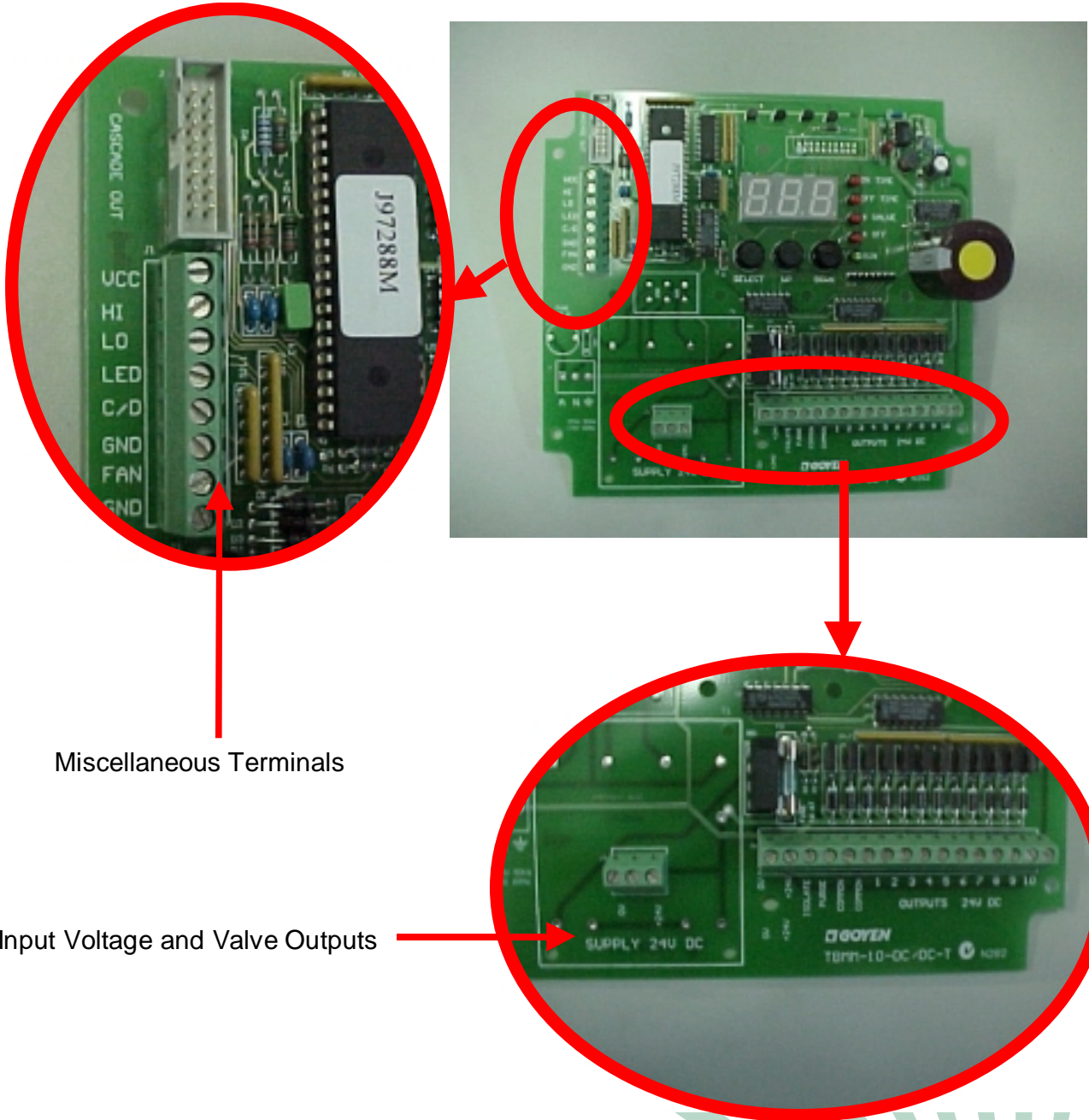
Figure 2 - Output Connections of Timer Board



Basic Installation: TBMM-10-DC/DC-T

Firstly the power should be isolated from the unit.

Figure 3 - Electrical Circuit Board for TBMM-10-DC/DC-T



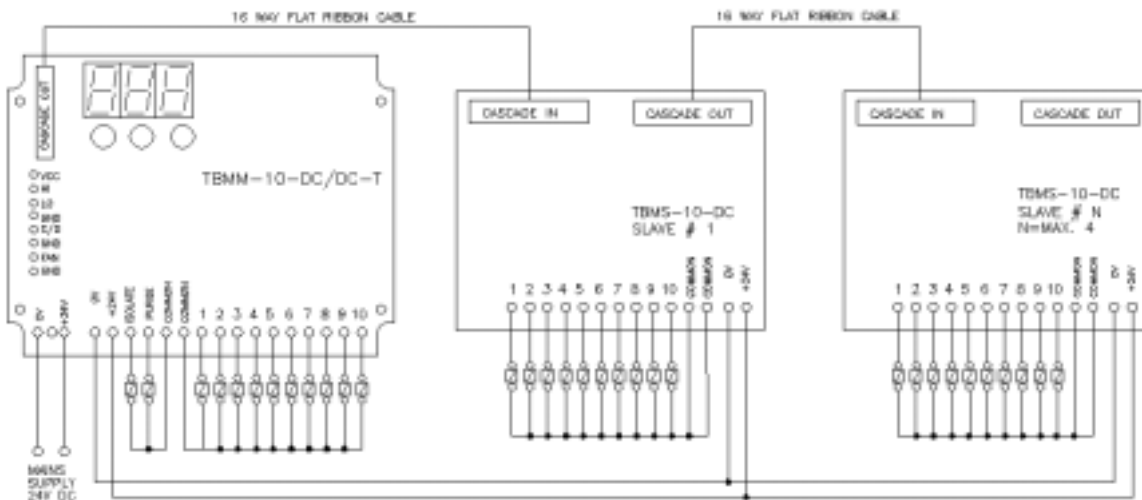
Miscellaneous Terminals

Input Voltage and Valve Outputs



The outputs can then be connected as shown in Figure 4.

Figure 4 - Output Connections of Timer Board



Connect the input power to the unit.



Basic Installation: TBMM-10-DC-T

Firstly the power should be isolated from the unit.

Figure 5 - Electrical Circuit Board for TBMM-10-DC-T

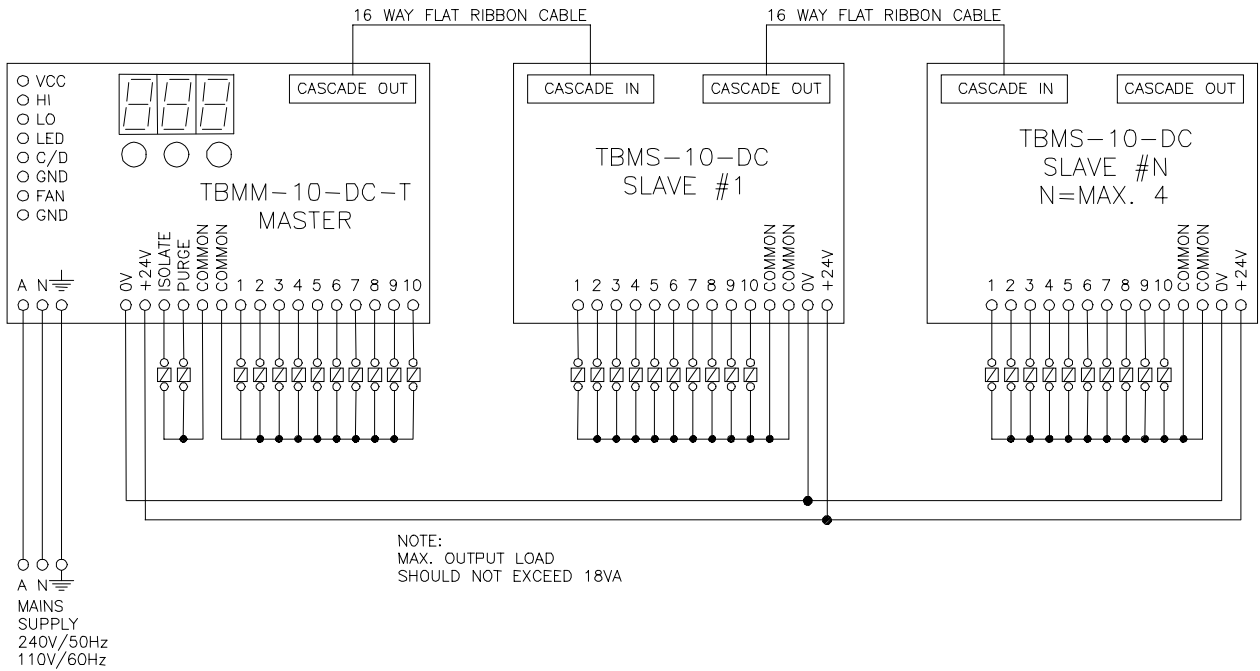


Miscellaneous Terminals

Input Voltage and Valve Outputs

The outputs can then be connected as shown in Figure 6.

Figure 6 - Output Connections of Timer Board

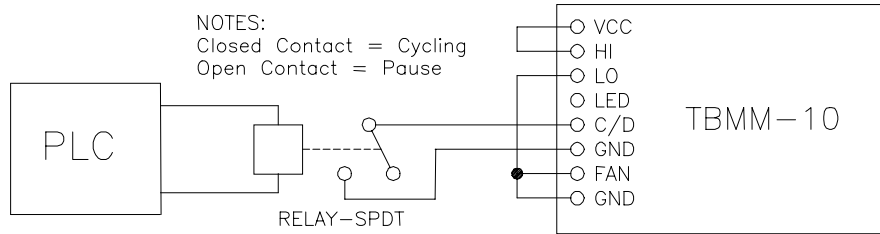


Connect the input power to the unit.



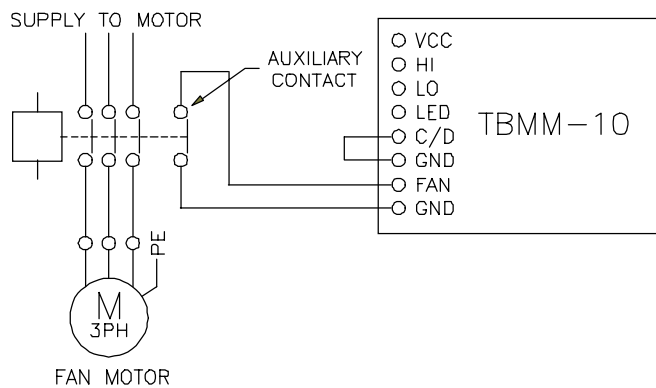
Figure 7 shows how to wire the TBMM series of timer boards with a PLC for demand cleaning.

Figure 7 - Demand Cleaning With a PLC



The auto blow down operation of the TBMM series of boards is wired as shown in Figure 8.

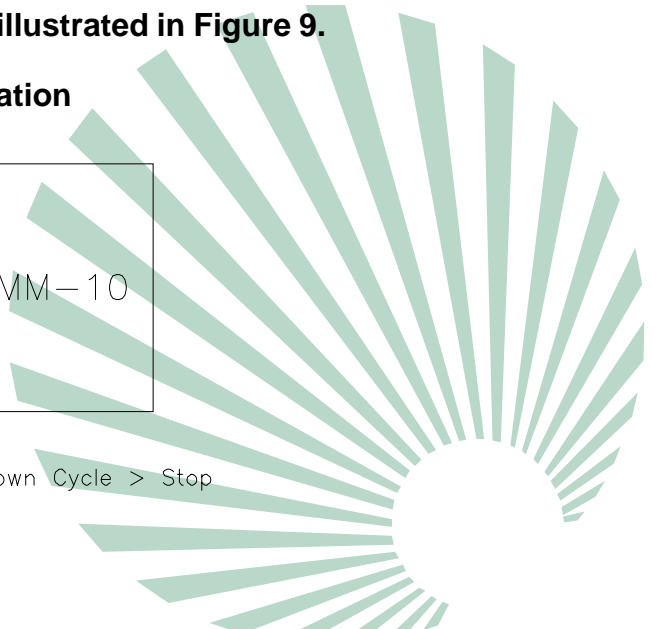
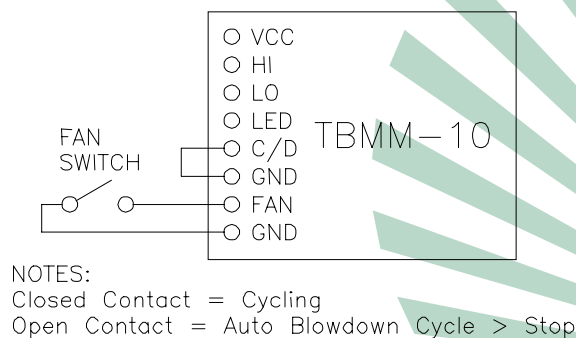
Figure 8 - Fan Motor Contactor for Auto Blow Down Cycle



Note: The TBMM-10 starts cycling when the fan contact is closed. Opening this contact starts the auto blow down cycle. Connection of pressure gauge or Demand/Continuous switch is optional.

Connecting the TBMM board to a Fan Switch is illustrated in Figure 9.

Figure 9 - Fan Switch for Auto Blow Down Operation



OPERATION

Electrical Pulse times

Electrical On Time:	35 - 350ms
Electrical Off Time:	5 - 180ms
Number of Valves:	1 - 50 (max) in single valve increments
Number of Blowdown Cycles:	0 - 25

User Operation

The LED panel has a maximum of 3 characters that indicate the values of the 5 programmable quantities indicated by the 5 LED's.

LED	Quantity	Description
1	On Time	Electrical On Time of the solenoid
2	Off Time	Electrical Off Time of the solenoid
3	Number of Valves	Master A (1 - 10) Slave B (1-10) Slave C (1-10) Slave D (1-10) Slave E (1-10)
4	Number of Blowdown Cycles	The number of cycles that are required to operate once the fan has been switched off.

Start-up Procedure

Enter Security code:

<UP>
<DOWN>
<DOWN>
<UP>

Then press <SELECT>



Fault Finding & Diagnostics

1. Timer fails to power up

- Check Mains Input wiring
- Check all other wiring connections
- Check fuses on both Master and Slave boards

2. Coils fail to fire

- Check coils wiring
- Check input connections for C/D and FAN
- Ensure Master is in RUN mode

3. Slave card fails to operate

- Check interfacing between Master and Slave
- Check fuse on Slave board



ACCESSORIES AND SPARE PARTS

Slave Boards

For use with TBMM-10-T Master

TBMS-10 Input 240VAC/110VAC

 Output 240VAC/110VAC

For use with TBMM-10-DC and TBMM-10-DC/DC Master

TBMS-10-DC Input 24VDC

 Output 24VDC

