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
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.
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*
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.

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

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBMS-10</td>
<td>240VAC/110VAC</td>
<td>240VAC/110VAC</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>TBMS-10-DC</td>
<td>24VDC</td>
<td>24VDC</td>
</tr>
</tbody>
</table>