INSTALLATION, OPERATION & MAINTENANCE MANUAL

EDI MODEL
E20MH1

MIKROPUL MODEL
134641, 13102120, 86MH

DESCRIPTION
20-POSITION TIMER
WITH LED NUMERIC DISPLAY

ELECTRONIC DESIGNS INC.
1683 Rock Hill Highway
Lancaster, SC 29720
Phone: 704-545-1439 • Fax: 704-285-0488
Website: www.edi-usa.com
E-mail: info@edi-usa.com

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E20MH1

GENERAL DESCRIPTION:

Electronic Designs Incorporated's (EDI) E20MH1 solid state timers are capable of switching twenty (20) independent outputs. Each of the outputs has a switching capacity of 1 Amp at 110 VAC. By relocating the program wire from Position #20 (on the Timer) to the number of positions desired, the timer will pulse only from Position #1 through the programmed number. The LED display indicates the next output to fire.

The E10MH1 is equipped with dual functions, allowing the customer a choice of operating modes. The timer can operate in response to a 4-20 ma signal from the Differential Pressure Transmitter or it can operate as a Hold-Off timer with the off-time set on the timer. Additionally it can operate in Continuous Cycle Mode. We recommend use of the EDI Differential Pressure Transmitter in conjunction with this timer for optimum operation.

SUMMARY OF OPERATING MODES:

1. 4-20 ma Cycle Mode

The input is a 4-20 ma linear signal, corresponding to a differential pressure of 0-10 inches of water. The timer will continuously monitor the 4-20 ma input signal and automatically adjust the OFF time for the output pulse. In this mode, the OFF-ADJ potentiometer is inactive and does not control the duration of OFF time between each output firing. (Switch SW1 must be set in the OFF position ↓)

During operation, as the differential pressure starts to rise, the timer will decrease the OFF time in response. If the differential pressure should rise greater than the set point level, the timer will pulse at the fastest OFF time rate of 3 seconds. As the differential pressure decreases to and below the set point, the OFF time will proportionally increase to a level which will maintain the desired set point differential pressure.

2. Hold-OFF Mode

In the Hold-OFF mode, the OFF time is preset by means of the OFF-ADJ potentiometer on the timer (Time Duration is set by operator). This provides a fixed OFF time. The input signal to the timer is 110VAC, which is applied to the Hold-OFF circuit of the timer. When 110VAC is applied to these terminals, the output pulse becomes inactive until the 110VAC is removed. The timer resumes it's cycle on the next output to be fired. (SW1 must be in the ON position ↑)

This input enables the timer to start and stop the pulse cycle via auxiliary switch, such as a Differential Pressure Transmitter, Computer Contacts or Pressure Switch.

3. Continuous Cycle Mode

Lastly, the timer can function as a continuous cycle timer, with no Hold-Off signal applied. This is achieved by placing SWITCH SW1 in the ON position ↑.

FEATURES:

- 110 VAC 50/60 Hz, One phase
- One amp maximum capacity per output
- One amp fuse protection
- All solid state industrial quality construction
- Illuminated Digital indication of next output to fire, and indicates timer operation.
- Adjustable ON time 50 - 150 ms
- Proportional OFF time, minimum of 3 sec.
- Settable OFF time: 3-120 sec. If in Hold Off Mode.
- Differential set point, adjustable 2 to 6 in. H_2O
- UL Recognized to US and Canadian Standards under File E 60685

MOUNTING AND GENERAL WIRING:

1. Each timer is to be mounted in a dust tight and water tight NEMA rated enclosure.

2. It is recommended that conduit openings/holes be placed in the bottom of the enclosure to prevent condensate or moisture from entering enclosure.

3. Mount the timer enclosure in a vibration-free area. (Use isolators to mount timer to sub plate.)

4. Run supply wiring to the timer, 110Vac, 1 Phase, 50/60 Hz from the line circuit protector.

5. Run wiring from the timer to the pilot valve box.

6. SWITCH (SW1) position must be placed per mode of operation desired.

ELECTRICAL WIRING FOR TIMER USED IN 4-20 ma MODE:

1. Connect 110VAC supply to NEUTRAL HI (TB 3).

2. Connect TRANSMITTER'S 4-20 ma Transducer output to TIMER 4-20 ma input terminal block. Connect Plus to Plus (+) and Minus to Minus (-). (TB 1)

3. Connect one side of each valve to the COMMON TERMINAL (TB3).

4. Connect the other side of each solenoid valve to the SWITCHED OUTPUTS (TERMINAL 1 through 20), sequentially (TB2).

5. SWITCH (SW1) OFF position ↓ for this mode of operation. This will disengage the OFF ADJ potentiometer control, timer will respond automatically to the 4-20 ma signal.

6. Adjust the "inches H_2O" Potentiometer to the desired set point.

ELECTRICAL WIRING FOR TIMER USED IN HOLD-OFF MODE:

1. Connect 110VAC supply to NEUTRAL and HI (TB3)

2. Connect external 110VAC Hold-Off Signal to the Timer Hold-Off Terminal (TB 3).

3. Connect one side of each valve to the COMMON (TB3).

4. Connect the other side of each solenoid valve to the SWITCHED OUTPUTS (TERMINAL 1 through 20), sequentially (TB2).

5. SWITCH (SW1) ON position ↑ for this mode of operation. This will engage the OFF ADJ potentiometer control, OFF ADJ is now operator settable.

FOR USE AS CONTINUOUS CYCLE TIMER:

1. Connect 110VAC supply to NEUTRAL and HI (TB3).

2. Connect one side of each valve to the COMMON TERMINAL (TB3).

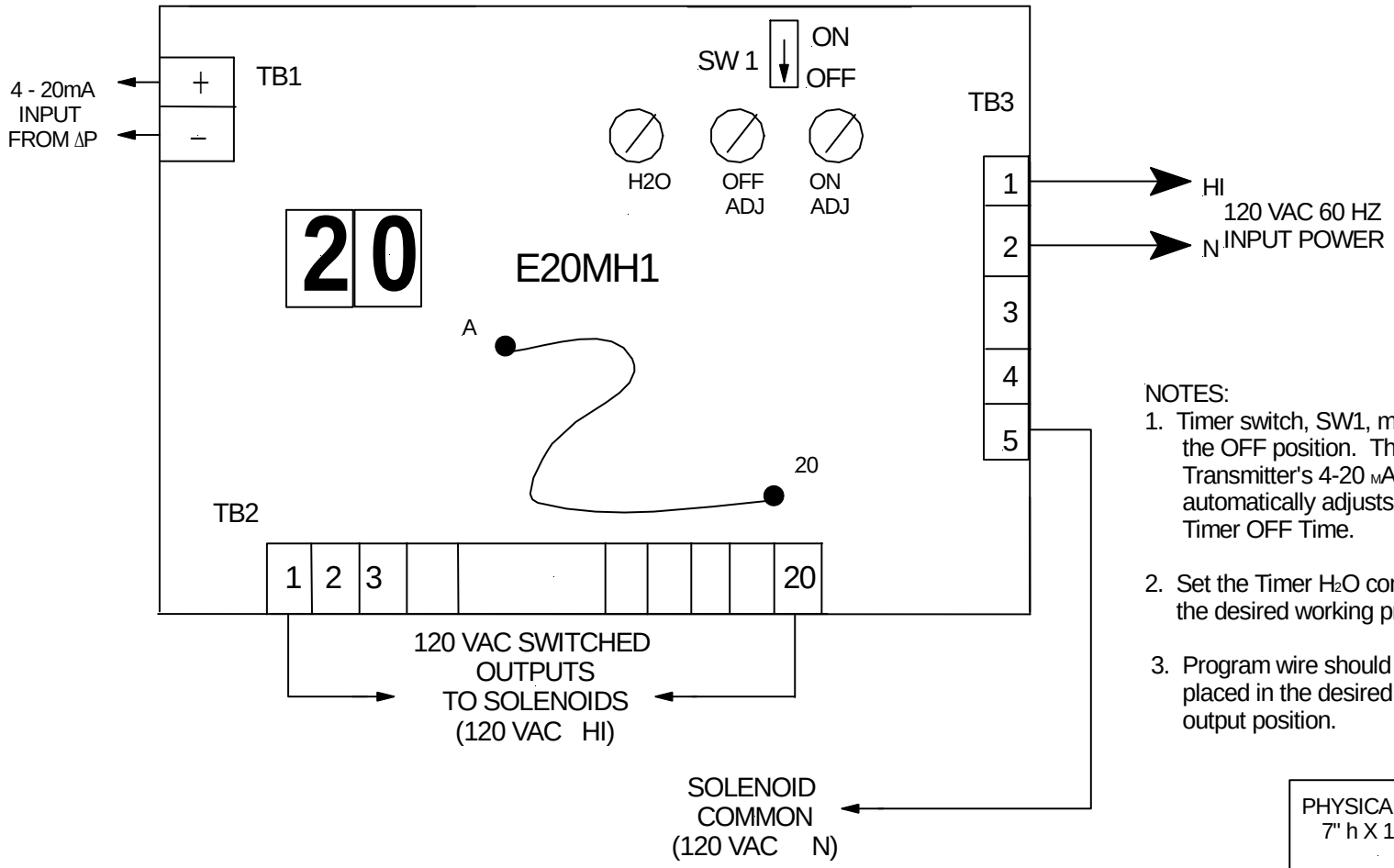
3. Connect the other side of each solenoid valve to the SWITCHED OUTPUTS (TERMINAL 1 through 20), sequentially.

4. SWITCH (SW1) ON position ↑ for this mode of operation. This will engage the OFF ADJ potentiometer control, OFF ADJ is now operator settable. Timer will cycle continuously.

WARRANTY & REPAIR:

All EDI products come with a one year warranty against parts and/or manufacturing defects. Please see our terms & conditions or contact us for additional details.

On all products that are over a year old, EDI offers a full test and repair facility at our Lancaster, SC facility. Once we receive a board, it will be logged in, tested, evaluated and then the customer will be advised of the cost to repair or replace. Please contact EDI for additional details on our repair services.



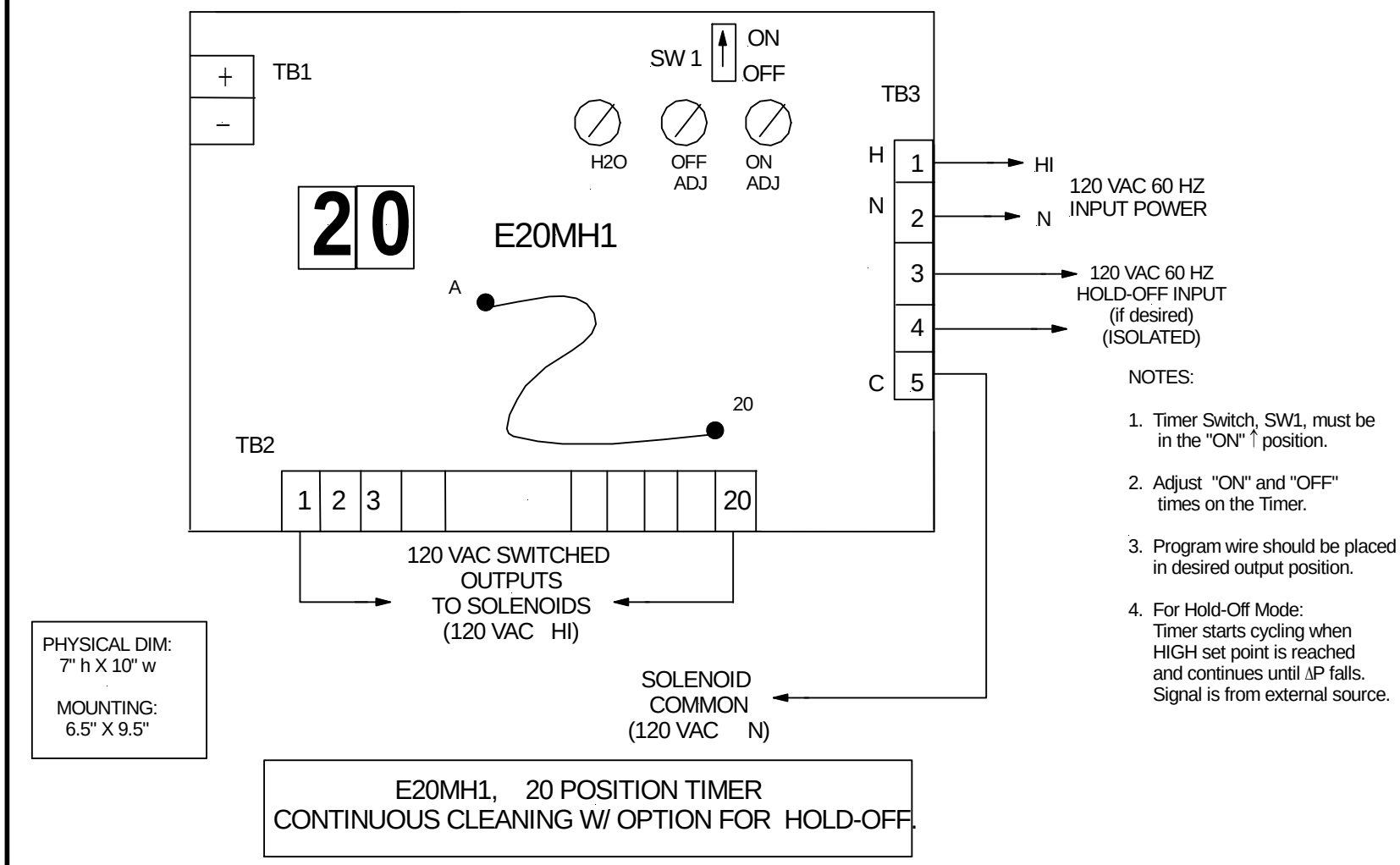
NOTES:

1. Timer switch, SW1, must be in the OFF position. The DP Transmitter's 4-20 mA signal automatically adjusts the Timer OFF Time.
2. Set the Timer H_2O control to the desired working pressure.
3. Program wire should be placed in the desired output position.

PHYSICAL DIM:
7" h X 10" w

MOUNTING:
6.5" X 9.5"

E20MH1, 20 POSITION TIMER 4 - 20 mA MODE



NOTES:

1. Timer Switch, SW1, must be in the "ON" ↑ position.
2. Adjust "ON" and "OFF" times on the Timer.
3. Program wire should be placed in desired output position.
4. For Hold-Off Mode: Timer starts cycling when HIGH set point is reached and continues until ΔP falls. Signal is from external source.

PHYSICAL DIM:
7" h X 10" w

MOUNTING:
6.5" X 9.5"

E20MH1, 20 POSITION TIMER
CONTINUOUS CLEANING W/ OPTION FOR HOLD-OFF.