

## MODEL 25

# True RMS 3-Phase Monitor



- User selectable relay operation options
- Low or High Trip with independent delays or disabled
- User programmable
- Can be restored to factory settings or calibrated in the field using a True RMS Voltmeter
- Model 25SG has silver with gold flash contacts for low current.

### DESCRIPTION

**Model 25 True RMS 3-Phase Monitor** has a display that shows the voltage with an accuracy of +/- 0.5%. The display is updated every second and re-initialized every 30 seconds.

This unit has a user selectable relay option for High-Low or DPDT. It can also be user-selected to energize on fault or de-energize on fault. The user can select automatic or manual restart on the Model 25. The SG version of the Model 25 has silver with gold flash contacts for low current applications.

**Model 25 True RMS 3-Phase Monitor** can be either calibrated using a True RMS Voltmeter or can be restored to factory defaults in the field.

### UL SPECIFICATIONS\*

| Model         | 25 and 25SG                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------|
| <b>Input</b>  |                                                                                                     |
| Voltage (VAC) | 80-550 Volts                                                                                        |
| Amps          | 1mA                                                                                                 |
| Frequency     | 50/60Hz (400Hz optional with jumper)                                                                |
| DC Power      | 24 Volts, 2 watts                                                                                   |
| <b>Output</b> | 240V AC, 10A, Resistive<br>120V AC, 4A, General Use<br>240V AC, 2A, General Use<br>C300, Pilot Duty |



### OTHER SPECIFICATIONS

| Model               | 25 and 25SG                                                             |
|---------------------|-------------------------------------------------------------------------|
| Start-up Delay      | 5 secs. Min. or Automatic reset delay setting (to allow for solid lock) |
| Repeat Accuracy     | ± 0.5 % (fixed conditions)                                              |
| Reset Type          | Manual or Automatic                                                     |
| Expected Relay Life | Mech: 10 million operations<br>Elec: 100,000 min. at rated load         |
| Operating Temp      | -20°F to +130°F                                                         |
| Humidity Tolerance  | 0-97% w/o condensation                                                  |
| Enclosure Material  | Lexan 920<br>Polycarbonate<br>UL 94 V-0 1.5 mm<br>UL E45329             |
| Mounting            | DIN Rail 35mm                                                           |
| Weight              | 8.5 oz.                                                                 |

\* R/C or Listed (Type 1 or Type 2) UL 1449 overvoltage control devices with a Voltage Protection Rating of 6KV max.

\* For use in a Pollution Degree 2 Environment.

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# MODEL 25

# True RMS 3-Phase Monitor

READ ALL INSTRUCTIONS BEFORE INSTALLING, OPERATING OR SERVICING THIS DEVICE.  
KEEP THIS DATA SHEET FOR FUTURE REFERENCE.

## GENERAL SAFETY

POTENTIALLY HAZARDOUS VOLTAGES ARE PRESENT AT THE TERMINALS OF THE MODEL 25.  
ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING.  
THIS DEVICE SHOULD BE INSTALLED AND SERVICED BY QUALIFIED PERSONNEL.

## Installation Instructions

### INSTALLATION AND SETUP

#### Controls:

Rotary encoder with switch. Pressing the encoder switch will display the set points. Pressing the encoder switch for more than 5 seconds will enter the setup mode. Pressing switch displays the next menu item. Holding down the switch during setup mode will sequence through menus with 1 second intervals. Rotating the knob clockwise increases the value and counter-clockwise will decrease value.

For non-value options, rotating the knob either way will change the options on the display.

#### Setup Options:

(Press encoder for at least 5 seconds to enter setup)

**High Voltage:** (Factory—Enabled, Set point = 550V, Delay = 5S)

#### Enable/Disable:

(\*If disabled set point and delay are skipped)

#### Set Point Range:

Low setpoint + 1% to 550V in 0.5V steps

#### High Trip Delay:

0 to 20.0 seconds in 0.1Sec steps

**Low Voltage:** (Factory—Enabled, Set point = 80V, Delay = 5S)

#### Enable/Disable:

(\*If disabled set point and delay are skipped)

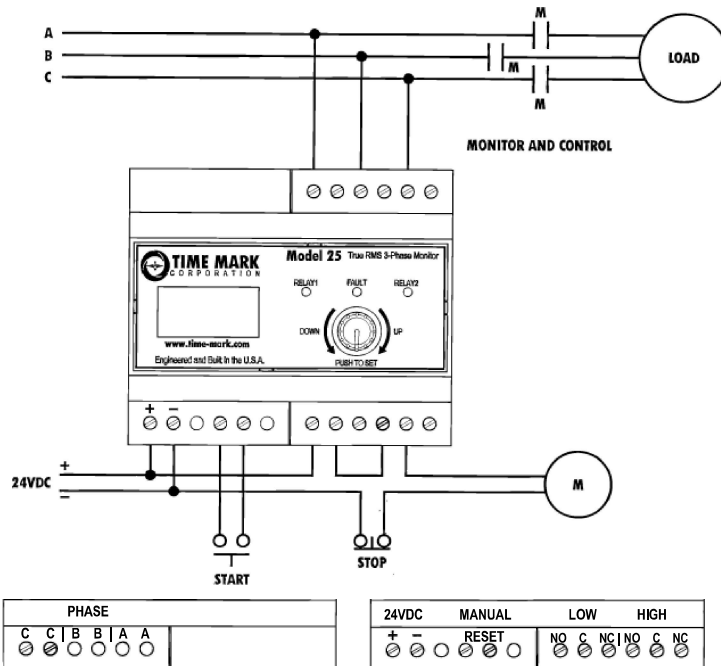
#### Set Point Range:

80 to High Setpoint -1% in 0.5V steps

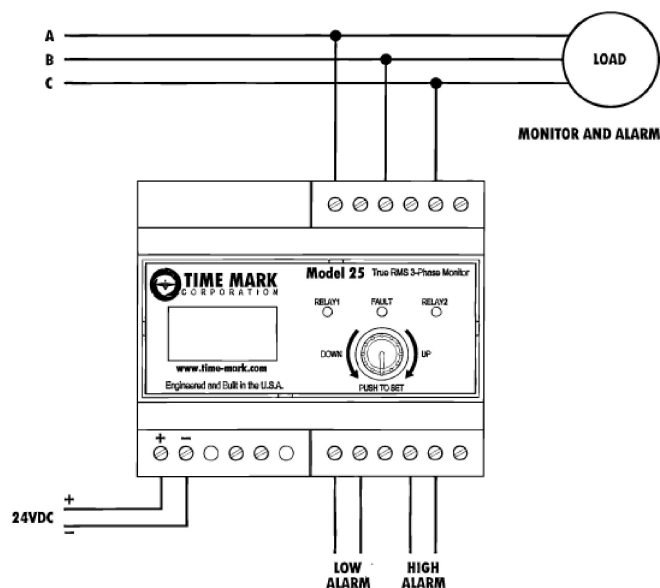
#### Low Trip Delay:

0 to 20.0 seconds in 0.1Sec steps

### TYPICAL APPLICATION—MONITOR AND CONTROL



### TYPICAL APPLICATION—MONITOR AND ALARMS



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## **Installation Instructions**

### **INSTALLATION AND SETUP (Continued)**

#### **Relay Operation: (Factory = HI-LO)**

Voltage High/Low Option:  
Separate High/Low Relays  
DPDT

Other faults DPDT

#### **Relay Operation on Fault: (Factory - De-energize on fault)**

De-energize on fault  
Energize on fault  
Hysteresis set  
Unbalance set  
Phase Loss set  
Reverse Phase set

#### **Restart: (Factory - Automatic)**

Automatic or Manual (in Manual rotating the knob or closing an external switch will reset the unit)

#### **Automatic Restart Delay Range: (Factory - 5S)**

0 to 300.0 Seconds in 0.1 Second steps

#### **Exit from Setup Options:**

Repeat Setup:  
Press encoder to begin setup from beginning.  
(High Enable)

Exit & No Save:  
Press encoder to exit setup. Any changes have been discarded.

Exit & Save:  
Press encoder to exit setup and save changes.  
Unit will begin using new settings.

#### **Start Up Delay:**

5 Seconds Minimum or Automatic Restart Delay setting (to allow for solid lock).

### **OPTIONAL 400HZ FREQUENCY SETUP**

To change the Model 25 from the factory default 50/60Hz frequency to 400Hz, simply remove the blank cover plate (without holes) and move the jumper from 50/60Hz to 400Hz. Replace the cover plate when completed.

### **UNIT FIELD RESTORE SETTINGS AND RECALIBRATION**

- 1) From a powered down condition, apply the 3-Phase voltage first.
- 2) Press and hold the Encoder switch while applying the DC power to the unit. As soon as the splash screen appears, release the button. After the splash screen ends, the display will show "No Rest Fac". Rotate encoder to change option to "Yes" to restore factory settings. Press the Encoder switch.
- 3) The display will show the phase A-B voltage. Place a meter between phases A and B. Rotate encoder to change the reading on the display to be what is on the meter. When readings match (+/-0.5V), press the Encoder switch.
- 4) The display will show the phase B-C voltage. Place a meter between phases B and C. Rotate encoder to change the reading on the display to be what is on the meter. When readings match (+/-0.5V), press the Encoder switch.
- 5) The display will show the phase C-A voltage. Place a meter between phases C and A. Rotate encoder to change the reading on the display to be what is on the meter. When readings match (+/-0.5V), press the Encoder switch.
- 6) The unit will return to normal operation.

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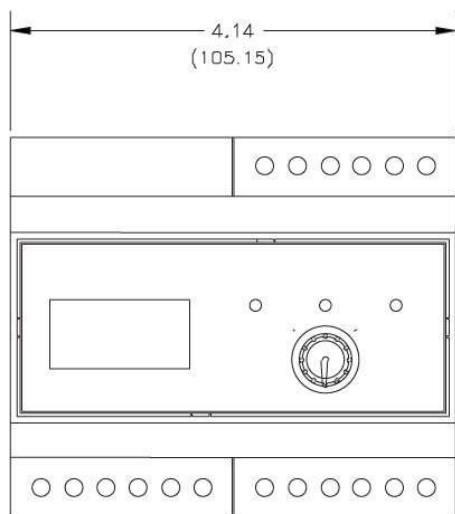
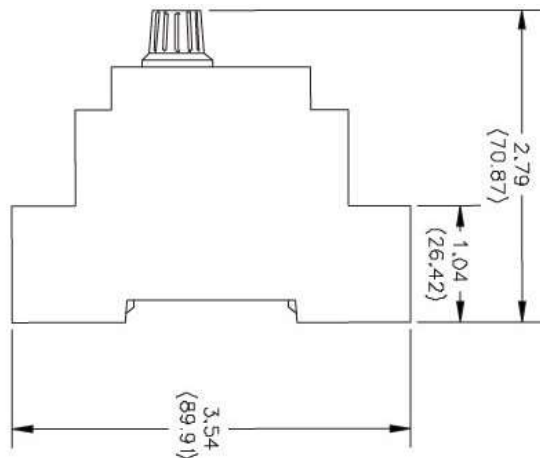
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## Installation Instructions

### DIMENSIONS



### WARRANTY

This product is warranted to be free from defects in materials and workmanship, and is covered by our exclusive **5-year Unconditional Warranty**. Should this device fail to operate for any reason, we will repair it for five years from the date of manufacture. For complete warranty details, see the *Terms and Conditions of Sales* page in the front section of the Time Mark catalog or contact Time Mark at 1-800-862-2875.

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