

# MODEL 160B MODEL 160BR Voltage Sensor

- Detects Over or Under Voltage
- Din Rail or Surface Mounting
- Optional 5-minute Time Delay

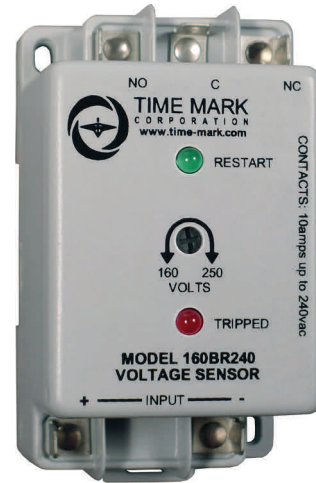
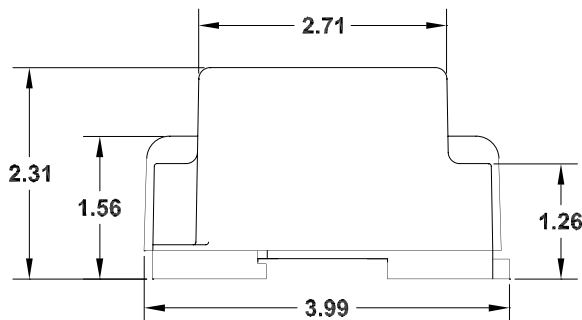
## DESCRIPTION

The Model 160B(R) Voltage Sensor is a single set-point voltage sensor. Input voltages above the setpoint cause the output contacts to energize. Input voltages below the setpoint cause the output contacts to de-energize. The dead band between pull-in and drop-out is less than 2%.

Wiring connections are made to 1/4" quick connect terminals. Standard versions have a 2 second restart delay. The 'R' versions of the Model 160B have a fixed 5 minute short cycle delay. The Model 160B has a screwdriver adjustable setpoint range of approximately 35% of the maximum voltage.

The Model 160B is not frequency sensitive and may be used in systems from 50 to 400Hz.

## DIMENSIONS



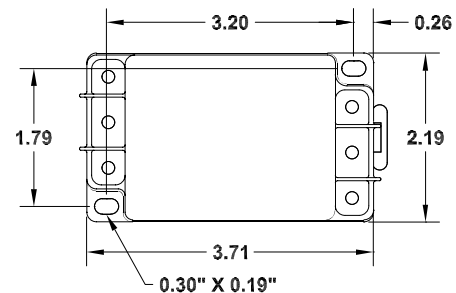
## SPECIFICATIONS

MODEL	160B120	160B240	160B480
Nominal AC Voltage	120VAC	208/240VAC	480VAC
AC Adjustment Range	80-130V	160-250V	380-480V
Frequency	50 - 400Hz		
Short Cycle Delay	Short cycle restart delay - 2 seconds "R" versions - 5 minutes		
Set-point Stability	± 1%		
Dead Band	± 2%		
Trip Delay	0.5 seconds - fixed		
Contact Rating	SPDT 10A at 240VAC resistive		
Expected Relay Life	Mech: 10 million operations Elec: 100,000 operations at rated load		
Termination Method	1/4" quick connect terminals		
Operating Temperature	- 20° to +131° F		
Transient Protection	2500V for 10ms		
Burden	5mA maximum		
Enclosure Material	ABS plastic		
Mounting	DIN Rail or Surface Mount		
Weight	4 oz.		

## ORDERING INFORMATION

MODEL	RESTART DELAY	VOLTAGE
160B	R	120VAC
		240VAC
		480VAC

Example: 160B - R - 240 orders a 240VAC sensor w/ optional 5 min delay.  
Remove the "R" for the standard 2 second delay



Telephone: Main (918) 438-1220  
Sales (800) 862-2875  
Fax: (918) 437-7584

E-mail: sales@time-mark.com  
Internet: http://www.time-mark.com



11440 East Pine Street  
Tulsa, Oklahoma 74116

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# MODEL 160B (R) Voltage Sensor

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 160B.  
ALL ELECTRICAL POWER SHOULD BE REMOVED WHEN CONNECTING OR DISCONNECTING WIRING.  
THIS DEVICE SHOULD BE INSTALLED AND SERVICED BY QUALIFIED PERSONNEL.

## Installation Instructions

### INSTALLATION

The Model 160B can be mounted on a standard DIN Rail or surface-mounted as required.

Attach 1/4" terminal lugs to the input voltage wires, and connect to the terminals marked INPUT (refer to the Typical Application diagram).

Apply power. The internal relay contacts transfer when the input power is above the adjustable trip point.

For under voltage sensing, connect the load control circuit to the terminal marked C and NO.

For over voltage sensing, connect the load control circuit to the terminals marked C and NC.

### ADJUSTMENT

**Note:** While adjusting the Model 160B you may wish to jumper the control circuit contact to prevent the unit from tripping the load off and on.

**For under voltage sensing:** Rotate the adjustment clockwise until the failure indicator light just illuminates and the contacts transfer. Slowly rotate the adjustment control in a counter-clockwise direction until the failure indicator goes out and the relay energizes. Any voltage below this point will trip the relay off and illuminate the failure indicator.

**For over voltage sensing:** Slowly rotate the adjustment clockwise until the failure indicator just illuminates and the relay de-energizes. Any voltage above this level will cause the relay to energize and the failure indicator light to go out.

Should nuisance tripping occur after either of the above settings, turn the adjustment slightly farther as necessary.

### TROUBLESHOOTING

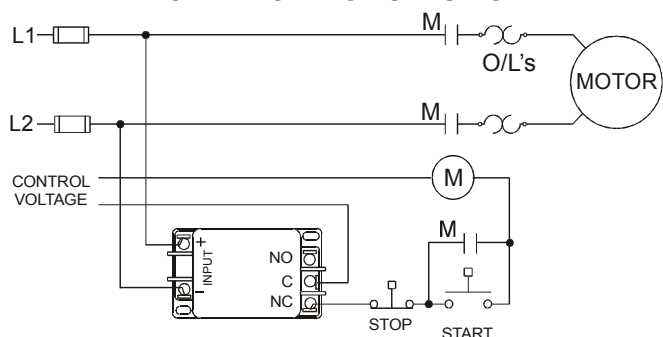
Should the Model 160B(R) Voltage Sensor fail to operate, check all connections. Verify that the proper source voltage is present, and check all fuses. Should problems persist, contact the factory for assistance.

### WARRANTY

This product is warranted to be free from defects in materials and workmanship for one year. Should this device fail to operate, we will repair it for one year 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.

### TYPICAL APPLICATION

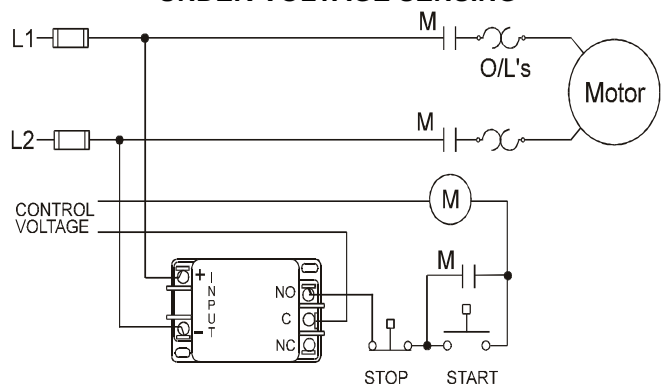
#### OVER-VOLTAGE SENSING



Shows No Power Applied

### TYPICAL APPLICATION

#### UNDER-VOLTAGE SENSING



Shows No Power Applied

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