

# Slip Ring & Encoder Assembly

## Model SR\_M/E60

- 0, 4, 6, 8, or 10 circuit slip ring
- 60 pulse encoder
- Slip ring brush lifter
- Sealed against dust
- Color coded terminals
- Lightweight and compact
- Instrumentation quality rings and brushes
- Weatherproof units available



## Description

The Michigan Scientific *SR\_M/E60 Slip Ring and Encoder Assembly* is used for applications requiring both a slip ring and an encoder. It is designed to mount on the end of a rotating shaft and make electrical connections to strain gauges, thermocouples, or other rotating sensors, while simultaneously providing pulses to measure rotational speed. The slip ring brushes and rings are made of precious metals which minimizes resistance variation and enables the assemblies to be used for low level instrumentation signals.

The *SR\_M/E60* accepts up to ten circuit connections and incorporates a pulse encoder that enables rotational speed to be measured. The encoder generates a 60 pulse per revolution (PPR) square wave signal with a range of 0 to 6000 rotations per minute (RPM). Since the pulses per second are equivalent to RPM, rotor speed can be recorded directly from a frequency display without scale conversion. Analog output signals for rotational speed can be obtained by using the *SR\_M/E60* with Michigan Scientific's frequency to voltage encoder electronics. This model is also designed with a convenient, manually operated, brush lifter to extend the life of the slip ring assembly. When it is not necessary to make electrical connection through the slip ring, the brushes can be lifted off the rings. The slip ring will continue to rotate, however, the brushes will not be in contact with the rings and wear will therefore be reduced.

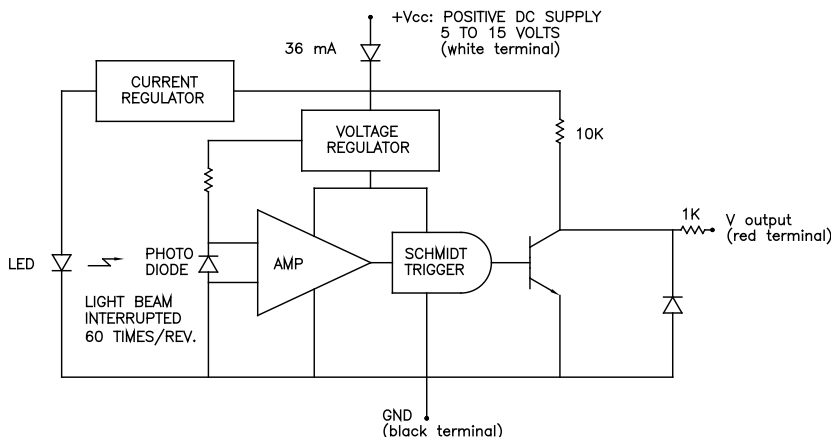
Connections to the slip ring rotor are made through color coded solder terminals located on both the slip ring rotor and slip ring stator. Permanently lubricated bearings eliminate the need for routine cleaning and maintenance.

## Specifications

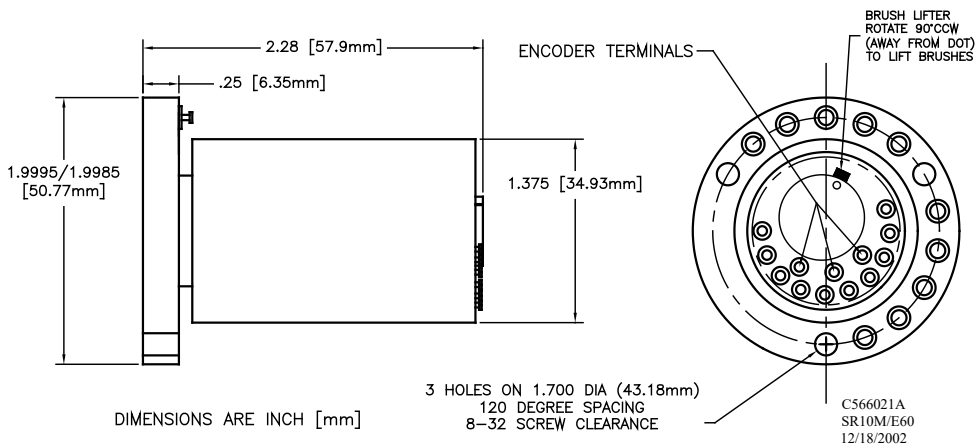
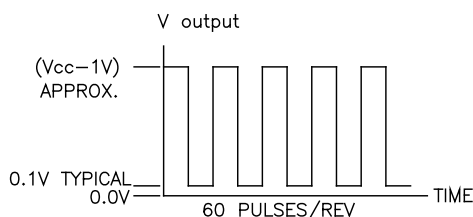
Circuits	0, 4, 6, 8, or 10
Current Capacity	500 mA
Temperature Range*	-40°F to 212°F (-40°C to 100°C)
RPM Rating	6000
Maximum Peak Noise**	0.1Ω
Weight	7.5 oz. (213 g)
* Varies with encoder excitation voltage. (see back)	
*For operation below 0°F, specify low temperature lubricant."	
** Resistance variation across slip ring contact	

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## Model SR\_M/E60 Configuration



Vcc	MAXIMUM OPERATING TEMPERATURES
5V	-40°C TO +100°C (212°F)
10V	-40°C TO +80°C (176°F)
15V	-40°C TO +70°C (158°F)
20V	MAX. ALLOWABLE Vcc
	+100°C ABSOLUTE MAX. STORAGE TEMP.



## Mounting

The *SR\_M/E60* can easily be mounted to the end of a shaft. Refer to the literature on *SR Series Slip Ring Assemblies* for a detailed drawing and description of the mounting procedure. Contact Michigan Scientific for applications where the slip ring assembly is subjected to extreme vibration.

## Ordering Options

Weatherproof units and accessories are available for applications operating in harsh environmental conditions. For information regarding slip ring accessories, refer to Tech Note 107 section of the catalog.