

SLIM Tach RL67



- Unique mechanical design for Reliance RPM™ motors
- Rugged, zero-speed, magnetoresistive sensing technology is unaffected by grease, salt water, dust, and other common contaminants

APPLICATION/INDUSTRY

The SLIM Tach® RL67 heavy duty encoder is a breakthrough innovation in feedback technology. Incorporating dual mounting features, the RL67 was designed especially for Reliance Electric, Inc. RPM® AC or DC motors.

DESCRIPTION

The hard anodized aluminum alloy frame provides strength, ruggedness, and corrosion resistance. The hardened encapsulated electronics offer outstanding reliability under heavy machine vibration and accidental impacts. The electronics range from +5 to +15 volts DC and include the latest in short circuit proof design on all output pins. High power, complementary, line driver outputs assure clean, crisp signals over long cable lengths. These outputs are compatible with most drives or other input devices. The advanced magnetoresistive sensing technology operates with an unparalleled immunity to grease, oil, salt water, dirt, fibers, and other contaminants. This eliminates the need to seal the encoder.

The compact RL67 adds only 1.5" to the motor length. Designed to maximize the ease of field installation, the RL67 retrofits onto older existing motors as well as new motors. In some cases, it may be necessary to change the accessory stub shaft in the motor. This stub shaft is also available from us.

The RL67 will mount directly in the 6.75" machined accessory recess of the 4.5" accessory flange found on the motor. This unique modular design mounts quickly and easily with no adapter plates, bearings, or flexible couplings. Installation can be completed in minutes, without gap adjustments or special tools. The encoder can be removed then reinstalled just as easily.

FEATURES AND BENEFITS

- Modular, bearingless, low profile "pancake" design adds only 1.5" to motor length
- 5-15 VDC operation with bi-directional quadrature and signals, with high power differential line driver outputs
- 64, 128, 256, 512, 1024 & 2048 pulses per revolution (PPR) with optional Index pulse
- Up to 120°C operational temperature

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS

Code: Incremental
 Pulses per Revolution: 64-2048
 Phasing Sense: A leads B for Counter-Clockwise rotation (CCW) viewing encoder-mounted end
 Quadrature Phasing: 90° ± 22°
 Symmetry: 180° ± 54°
 Index: 270° gated to falling B edge

ELECTRICAL

Input Voltage Requirement: 5-15 or 5-26 Volts DC
 Current Requirement:
 With Electrical Option L or H: 45 mA typical per sensor module plus line driver load
 With Electrical Option V or 5: 65 mA typical per sensor module plus line driver load
 Output Signals:
 With Elec Option L or H: 5-15 V Line Driver, 150mA
 With Elec Option V: 5-26 V Line Driver, 100mA
 With Elec Option 5: 5V Line Driver, 150mA
 Frequency Response: 0 - 120kHz Data & Index
 Electrical Immunity: 2kV ESD, Reverse Polarity, Short Circuit
 Connector: 10 pin industrial duty latching, sealed NEMA 4 & 12, IP65

MECHANICAL

Max. Shaft Speed: 5,000 RPM
 Mounting Configuration: 4.5" diameter, 56 C motor face or accessory flange to meet NEMA MG1-4 standards or mounts directly in the 6.75" machined accessory recess of the 4.5" accessory flange found on Reliance RPM™ motors
 Housing Material: Cast Aluminum
 Acceleration Rate: 12,000 rpm/sec max
 Shaft Length Required: 2.5" min
 Allowable Shaft End-Play: ± 0.045"
 Allowable Shaft Runout: 0.003" TIR

ENVIRONMENTAL

Operating Temperature Range:
 Standard: -40°C to +90°C
 Extended: -40°C to +120°C
 Storage Temperature Range: -40°C to +120°C
 Humidity: to 98% RH (non-condensing)
 Shock (Sensor Module): 1 meter drop test, 30 G's Min
 Vibration: 18 G's @ 5-2000 Hz spectrum

ELECTRICAL CONNECTIONS

Signal	Connector Pin	Pigtail Cable	MS 3102E18-IT#
Common	1	Black	F
B	2	Green	B
A	3	Blue	A
Z *	4	Violet	C
No Connection	5	—	E
Vcc (+ VDC)	6	Red	D
B	7	Yellow	I
A	8	Gray	H
Z *	9	Orange	J
Shield	10	Braid	G

* Index (Z) optional. See Ordering Information

