

RotoGuard® IV Specifications



Housing	Polyester Coated Aluminum Casting
Input Shaft Speed	1-400 RPM
Input Voltage	85 - 305 VAC at 50/60 Hz
Calibration Range	20% to 99% of running speed
Output Relay	DPDT (Double Pole, Double Throw) 5 Amp @ 250 VAC or 30 VDC / Resistive Load
Temperature	-40°F to 160°F (-40°C to 71°C)
Power Consumption	4 Watt (0.035 Amp @ 120 VAC)
Shaft Dimensions	5/8" dia. with flat suitable for flexible K-coupling
Conduit	3/4" NPT opening
NEMA Rating	NEMA 4/5 Weatherproof and dust tight or NEMA 7/9 Explosion Proof available with specific models.
Note: Input shaft speed must not exceed 100 RPM on NEMA 7/9 Explosion-Proof models	
Accuracy	+/- 1% of calibrated set point
Startup Delay (SDLY)	0 to 2 Minutes
Alarm Delay (ADLY)	0 to 1 Minute

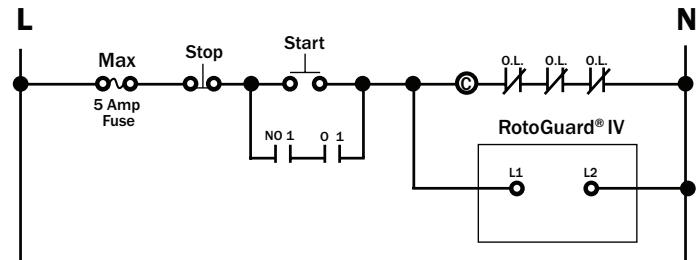
START-UP ALARM DELAY (SDLY)

The **START-UP DELAY (SDLY)** trimmer can be rotated clockwise to delay the Relay / Alarm response at power-up, to allow ample time for the monitored shaft to reach normal operating speed. This allows calibration to take place during a temporary override of the relay/alarm, when the relay is wired as part of the shut-down system.

SDLY has a delay range up to 2 minutes when rotated fully clockwise. Each indicator mark represents approximately 15 seconds.

NOTE: This delay only occurs at power-up.

Example of wiring for Startup Alarm Delay



ALARM DELAY (ADLY)

The **ALARM DELAY (ADLY)** trimmer is a 0 to 1 minute adjustable delay that can be used to delay the relay from switching into an alarm condition. This is a feature that can be used to ignore random temporary lapse in rotation speeds that are typical, but can otherwise cause a nuisance alarm during normal operation. Delay will occur prior to the relay activating an alarm.

Each indicator mark represents ~5 seconds.

Calibration instructions on next page

PRE-CALIBRATION CHECK:

Calibration is performed with the shaft rotation process running at normal speed. If relay contacts are connected as a shut-off, lock-out or stop switch during alarm conditions, it may impede the initial calibration process by shutting the system down, stopping rotation before calibration is completed.

Options:

- A – Disconnect the relay contacts from the operating system. Perform the **CALIBRATION PROCEDURE**. Reconnect relay contacts.
- B – Increase the value of **START-UP ALARM DELAY (SDLY)** to allow the necessary time for the system to attain running speed, and perform the **CALIBRATION PROCEDURE**. Calibration can be performed during the **SDLY** routine following the **CALIBRATION PROCEDURE**. **SDLY** is only functional during the power-up process. **SDLY** will only repeat when power is turned off and re-applied.

CALIBRATION (*underspeed alarm notification*)

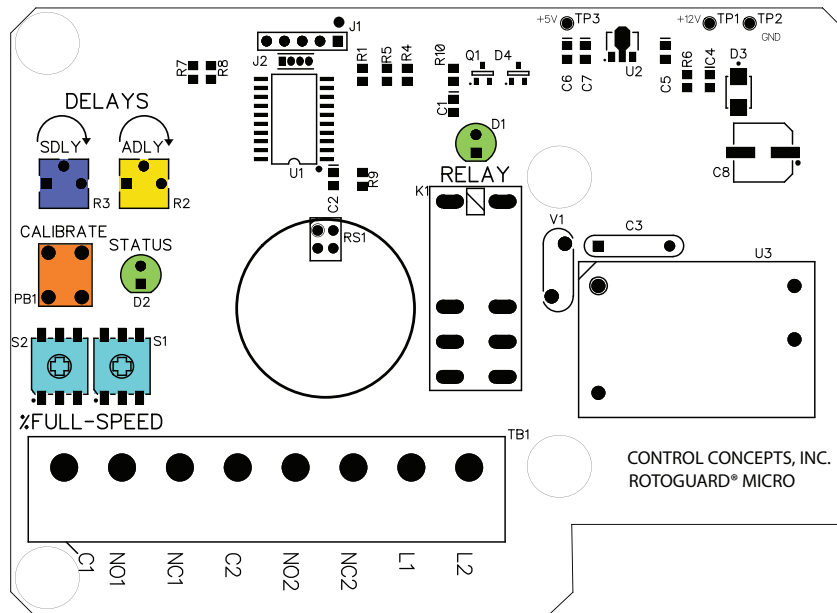
The **CALIBRATION PROCEDURE** can be performed anytime power is applied to the device, and the shaft is rotating, regardless of the alarm status of the relay.

Press & hold the **CALIBRATION** push-button. The **STATUS LED** will blink 4 times, and then remain **ON**. Release the push-button when **STATUS LED** stops blinking and remains ON.

The Calibration process is complete.

System will alarm (relay will change state) and **STATUS LED** will blink at a fast-rate when rotational speed falls below the % FULL-SPEED / Calibrated setting.

NOTE: Avoid exposing the opto-wheel sensor to direct sunlight or other intense lighting during calibration or operation, because signal interference can occur. Shading the area from intense light until the cover is replaced will alleviate any issues.



Wiring – Relay Output

*Note: Use copper conductors only with 60/75 °C (140/167 °F) insulation rating.
Torque power connections to 7 lb-in.*

