



PROX-MICRO Specifications	
Proximity Switch	3-Wire NPN type, 6V~30 VDC, 12 VDC power from board
Conduit Entry	Power/signal wires: 1/2" NPT PROX wire: 3/8"
Speed Range	0.1 Hz - 500 Hz (dependent upon pulses per 1 rotation)
Calibration Range	20% to 99% of calibrated running speed
Input Voltage	85 VAC - 305 VAC @ 50/60 Hz
Power Consumption	4 Watt (0.35 Amp @ 120 VAC)
Output Relay	Single Pole, Double Throw (SPDT), 5 Amp @ 250 VAC, or 30 VDC/Resistive load
Accuracy	+/- 1% of calibrated set point
Start-up Delay (SDLY)	0 to 2 minutes
Alarm Delay (ADLY)	0 to 1 minute
Status LED	Input Pulse / Alarm Indication (blink rate change)
Temperature Range	-40° to +160° F (-40° to +71° C)
Memory	Nonvolatile, 10-year retention

## OPERATING RANGE

The PROX-MICRO Alarm has an operating range of 0.1 Hz to 500 Hz from the NPN proximity switch signal.

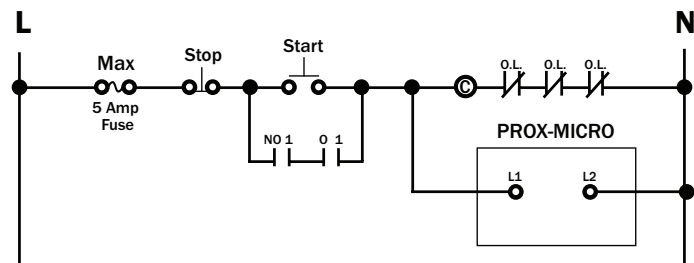
## START-UP ALARM DELAY (SDLY)

Range = 0 to 2-minutes

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 over-ride of the relay/alarm, when 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

## % FULL-SPEED SWITCHES / Range 20% - 99%:

There are two (2) switches that represent the % full-speed in which the alarm will occur. The S2 switch = 10's (tens) and the S1 switch = ones.

A setting of "90%" would therefore be equivalent to the alarm point at 90% full speed or a 10% reduction or slow-down in rotation when alarm occurs. The operating range of the switches is 20% to 99%. Any setting of 20% or below will be equivalent to 20% Full-Speed, which is an 80% reduction in rotation when alarm occurs.

Switches must be set prior to calibration.

**Calibration Procedure**

**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 to indicate calibration was accepted. Sensor requires 3 consistent pulses to accept rotation speed as a valid calibration value. Release the push-button when **STATUS LED** stops blinking and remains **ON**.

The Calibration process is complete.

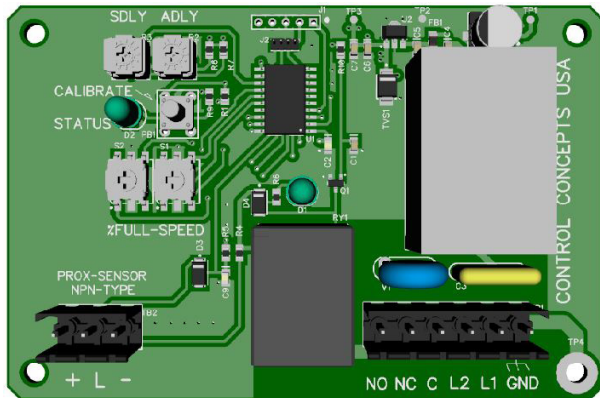
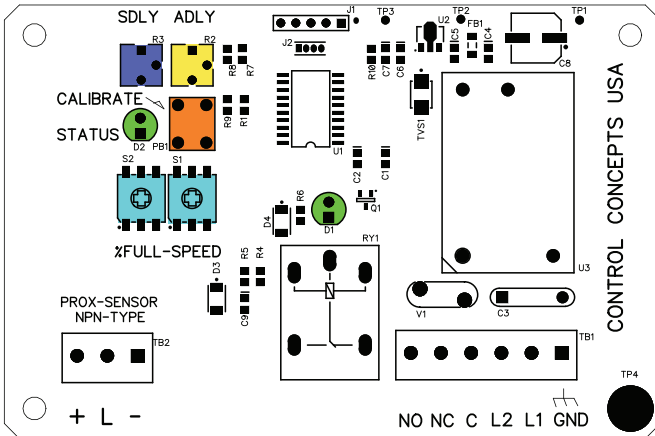
System will alarm (relay will change state) and **STATUS LED** will blink at a fast-rate when rotational speed falls below the **% FULL-SPEED/Calibrated** setting.

**NOTE:** *The number of pulses at the proximity switch per 1 revolution must be within the 0.1 Hz – 500 Hz operating range. One single pulse per one revolution would allow calibration as low as 6 RPM (1 pulse every 10-seconds). Therefore, 1 RPM calibration will require a minimum of 6 pulses per one revolution. 60 pulses per 1 revolution will allow a calibration as slow as 0.1 RPM, which is 1 pulse every 10 seconds.*

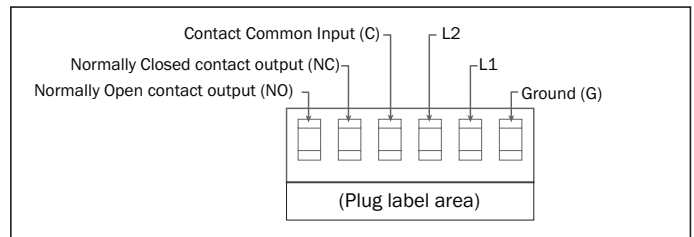
*One pulse per revolution will allow calibration as high as 30,000 RPM (500 pulses per revolution for 1-minute).*

**STATUS LED:**

The **STATUS LED** will slowly blink (about 1 per second) as pulses occur at the proximity sensor. If pulses stop, the **STATUS LED** will change to a fast blink, typically followed by an alarm condition (after **ADLY** timer expires).



3D representation of board



PROX-MICRO Plug Wiring