

# DYNALCO®

3211 Fruitland Ave  
Los Angeles, CA 90058

## SW-50 SPEED SWITCH

### Installation and Calibration Manual



### Rev. R3

P/N: 145F-12043

PCO – 00010383

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## **IMPORTANT - PLEASE READ BEFORE PROCEEDING!**

The Dynalco SW-50 speed switches are designed for reliable and rugged operation. These products have been designed and tested to meet the demands required in many industrial locations. Performance of this product is directly related to the quality of the installation and knowledge of the user in operating and maintaining the instrument. To ensure continued operation to the design specifications, personnel should read this manual thoroughly before proceeding with installation, operation and maintenance of this instrument. If this product is used in a manner not specified by Dynalco, the protection provided by it may be impaired.

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## **WARNING**

- Failure to follow proper instructions may cause any one of the following situations to occur: Loss of life; personal injury; property damage; damage to this instrument; and warranty invalidation.
- For clarification of instructions in this manual or assistance with your application, contact Dynalco as below:  
Tech Support: [Technical-dynalco-support@barksdale.com](mailto:Technical-dynalco-support@barksdale.com) or 1-866-227-8528  
Customer Care: [Sales-Dynalco@barksdale.com](mailto:Sales-Dynalco@barksdale.com) or 1-800-835-1060

Or by mail:

Barksdale Inc.

Barksdale® and Dynalco® Products

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- Follow all warnings, cautions, and instructions marked on and supplied with the product.
- Use only qualified personnel to install, operate, program and maintain the product.
- Educate your personnel in the proper installation, operation, and maintenance of the product.
- Install equipment as specified in the installation section of this manual. Follow appropriate local and national codes. Only connect the product to power sources and end devices specified in this manual.
- Any repair is only to be performed by Dynalco using factory documented components. Tampering or unauthorized substitution of parts and procedures can affect the performance and cause unsafe operation of your process.
- All equipment doors must be closed and protective covers must be in place unless qualified personnel are performing maintenance.

**Installation:**

Mount the SW-50 to a secure bracket off the engine. If on-engine mounting is necessary, shock mounts are recommended. Wire according to connection diagram on reverse. Shielded cable is recommended. Shield should be brought to ground directly. The SW-50 will work with most magnetic pickups provided the signal amplitude is greater than 50 mVrms and less than 70 Vrms. Mount pickup according to manufacturer's instructions.

**Calibration:**

Determine the setpoint frequencies from an RPM value using the following formula:

$$\text{Frequency} = \frac{\text{RPM} \times \text{No. of Teeth (Holes)}}{60}$$

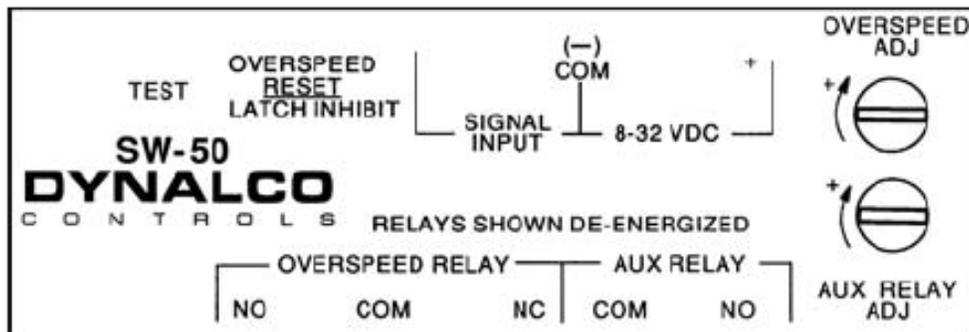
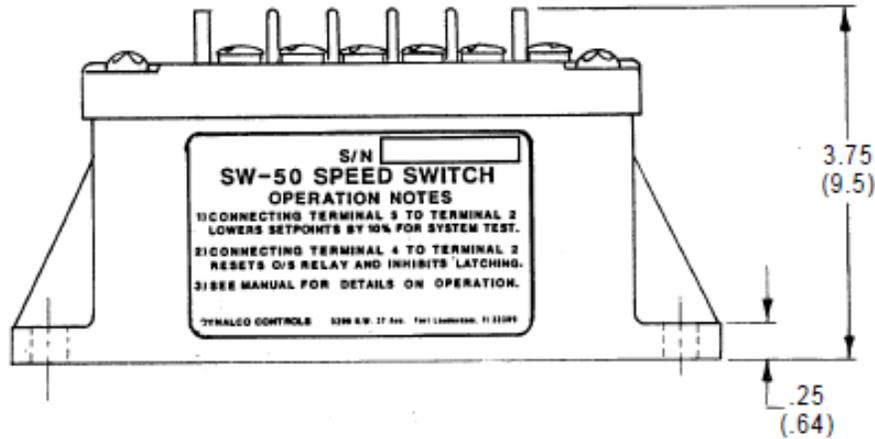
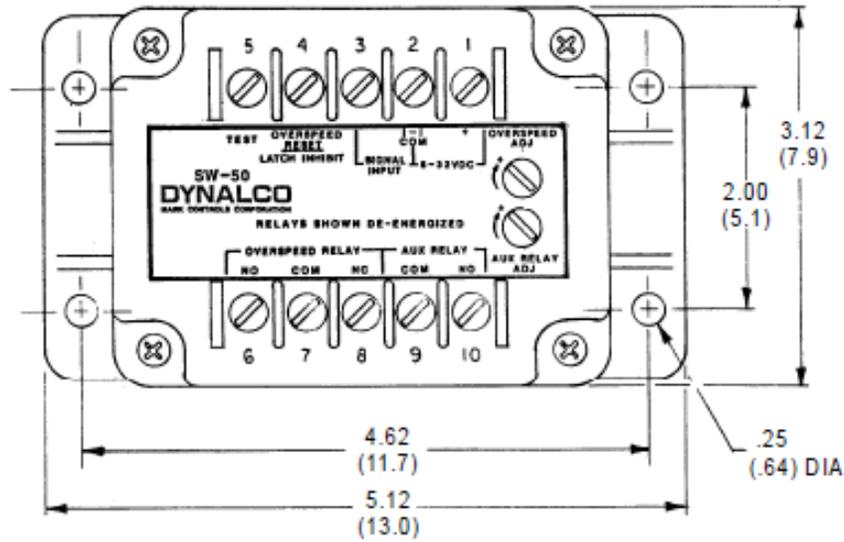
**Verify current calibration:**

- Connect a signal generator — such as the Dynalco F-16 — to the SW-50 magnetic pickup input (signal input).
- Set the signal generator to a low frequency. Slowly increase the frequency. Using an ohmmeter across each relay contact, in turn, determine the frequency at which the relays change state. (Note: overspeed relay will latch if terminal 4 is not grounded.)

**Change the setpoints:**

- Remove the screws in the access holes for the relay adjustment trim pots.
- Set the signal generator to the frequency at which the relay should change state.
- Using a small, flat screwdriver, adjust the trim pot for the appropriate relay until the relay changes state.
- Decrease the frequency, and then slowly increase it to verify that the relay trips at the appropriate point.

# SW-50 CONNECTION DRAWING



Dimensions in Inches  
(Centimeters)