



# THROTTLE POSITION AND INDUSTRIAL CONTROL SENSOR MODULES

## 9800 SERIES THROTTLE POSITION/ AND INDUSTRIAL CONTROL SENSOR MODULES

The Duncan 9800 Series Sensor is designed for rugged, continuous under hood environments. Features include high temperature, stable materials; insert molded integral connector/body design to eliminate weak/stress points or leaks during engine wash-down or water exposure.

To meet a variety of mounting area needs and interconnection requirements, fourteen standard models are available. For engineering assistance or special configurations of the 9800 Series to meet specific applications, contact a Duncan representative or the factory.

### ELECTRICAL SPECIFICATIONS

Active Electrical Rotation:

85° ± 2° (See Fig. 1)

Total Resistance:

5,000 ohms ± 20%

Linearity:

Std ± 2.0% over active electrical rotation (See Fig. 1)

Spec. ± 0.5% over active electrical rotation (See Fig. 1)

Power Rating At 70°C:

0.15 Watts

Shaft Rotation Direction:

CW Models: female—9801, 9805, 9811  
male—9803, 9807, 9813  
leadwire—9831

CCW Models: female—9802, 9806, 9812  
male—9804, 9808, 9814  
leadwire—9832

### MECHANICAL SPECIFICATIONS

Mechanical Rotation (Nominal):

120° (Except 130° for 9831, 9832)

Mechanical Life:

1,000,000 full cycles,  
5,000,000 dither cycles

Stop Strength:

0.68 Nm max.

Torque:

0.11 Nm max.

Mounting Torque:

1.35 Nm max.

### ENVIRONMENTAL SPECIFICATIONS

Temperature Limits:

-40°C to +135°C

Humidity:

95% @ 38°C

Vibration:

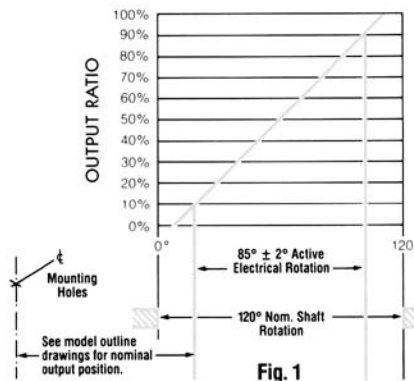
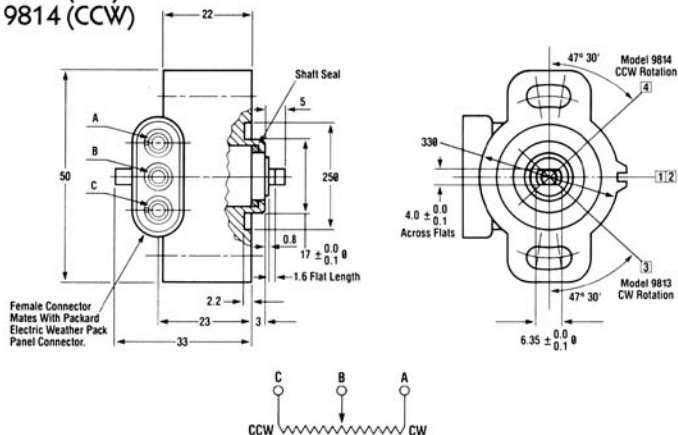
15 G's, 50 to 1,000 Hz.

2 Hrs. each plane

Shock:

50 G's

9813 (CW)  
9814 (CCW)



### SPRING RETURN ORIENTATION:

Spring returns slider to counter-clockwise end on CW sensors.

Spring returns slider to clockwise end on CCW sensors.

Fig. 1

### MATING CONNECTOR/INTERFACE INFORMATION:

Sensor Female Connector Mates With Packard Electric Weather Pack Connector

- Three-way Tower with Seal (1 required) P/N 12015793
- Male Pin (3 required) P/N 12033674 (for 18 AWG wire)
- Wire Cable Seal (3 required) P/N 12015284

Note: Custom Drive-Arm/Actuator Configurations Available

Most specifications may be altered to meet specific requirements

MODELS 9811-9814  
90° CONNECTOR STYLE



### Notes:

- 1 Nominal Midpoint of Mechanical Rotation for CCW Rotation.
- 2 Nominal Midpoint of Mechanical Rotation for CW Rotation.
- 3 Nominal 10% Output Position for CCW Rotation.
- 4 Nominal 10% Output Position for CW Rotation.
- 5 Both Driving Blades and Shaft are Shown in Midpoint Position.
- 6 All Dimensions and Values Shown in Metric.