



# 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:

$85^\circ \pm 2^\circ$  (See Fig. 1)

#### Total Resistance:

5,000 ohms  $\pm 20\%$

#### Linearity:

Std  $\pm 2.0\%$  over active electrical rotation (See Fig. 1)

Spec.  $\pm 0.5\%$  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):

$120^\circ$  (Except  $130^\circ$  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:

$-40^\circ\text{C}$  to  $+135^\circ\text{C}$

#### Humidity:

95% @  $38^\circ\text{C}$

#### Vibration:

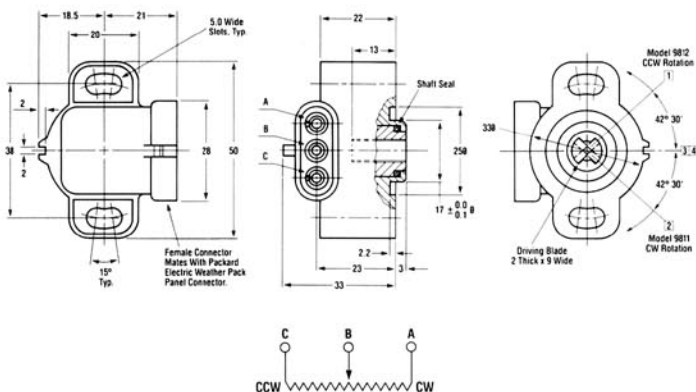
15 G's, 50 to 1,000 Hz.

2 Hrs. each plane

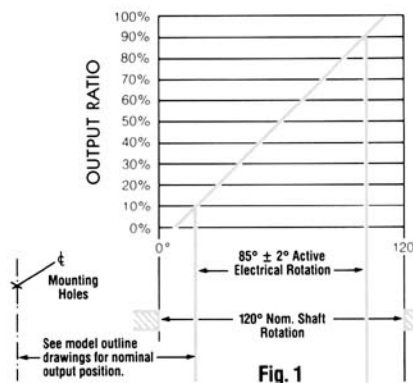
#### Shock:

50 G's

9811 (CW)  
9812 (CCW)



MODELS 9811-9814  
90° CONNECTOR STYLE



#### SPRING RETURN ORIENTATION:

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

Spring returns slider to clockwise end on CCW sensors.

#### 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

#### 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.