

SPECIFICATIONS – Size75 hallpot® potentiometer/angle sensors

Made by -----

Elweco, Inc.

DESCRIPTION:

hallpot® potentiometers enables linear measurement of angular rotation of its shaft. Output signals are linear over an angular range of 0 to 60 degrees.

Unregulated power supply voltage is acceptable in most versions with stable calibrated output signals that are not affected by power supply variations. The –G5 versions have signals that are linearly proportional to the power supply voltage.

The NON-CONTACTING HALL EFFECT is used to generate the signals such that there is no wear in the sensor. Ball bearings are used on the rotor for long life. Anodized journal bearings are used for lower cost applications.



APPLICATIONS

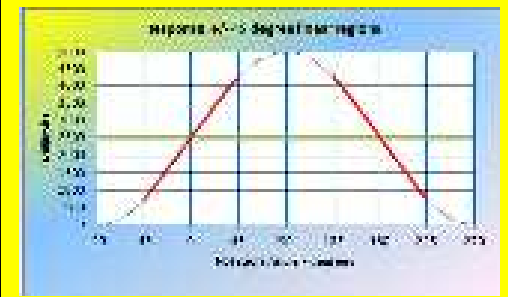
Hallpot® potentiometers will accurately control the position of mechanical components over moderate angular excursions. Typical applications may be:

- Dancer Arm position
- Hydrofoil position
- Airfoil position
- Throttle and steering position
- Robot arm position
- Ball bearing versions can measure RPM.

Shown here are the two linear regions,

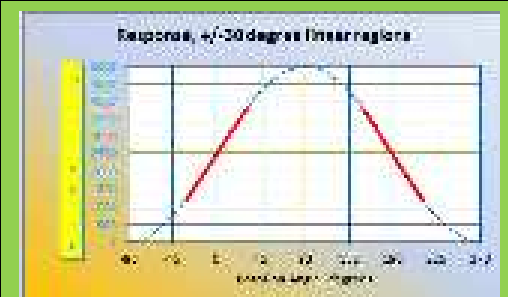
Positive slope is +/-30 degrees around 0 degree rotation position and negative slope is +/-30 degrees around 180 rotation position.

Linearity is within about one percent over the entire range.



A greater range of +/- 45 degrees is shown here. Positive slope is +/- 45 degrees around the 0 degree position and negative slope is +/-45 degrees around the 180 degree rotation position.

Linearity is within about two percent over the entire range.



SPECIFICATIONS

75TJ-G5-() & 75SB-GG-() --- +4.5 to +5.5 V at 9 ma.
75SB-G5-() & 75SB-G5-()

75TJ-GL-() & 75SB-GG-() -- +7.0 to +16.0 V at 9 ma.
75TJ-GL-() & 75SB-GG-()

75SB-GH-() & 75SB-G5-() -- +12.0 to + 35 V at 9 ma.
75SB-GH-() & 75SB-G5-()

-() indicates specifications requested by the user.

ENVIRONMENT:

Temperature ---- -20 to +85 Deg C
Relative Humidity ----- 0 to +95 %

CONTACT

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www.hallpot.com

This page contains information to help mounting and connecting the Size75 hallpot® Angle Sensors.

- 1 --- Power supply and signal connections.
- 2 --- Internal electronics and explanation of signal outputs
- 3 --- Mechanical configurations --- made to fit.

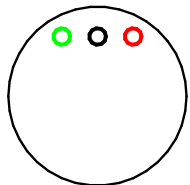
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Dimensions are shown in the following drawings to enable designing into your system'

POWER SUPPLY and signal CONNECTIONS

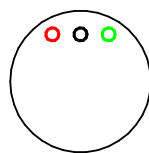
It is important that the power supply be connected properly or damage to the device can result.

RED -- + 5.0 Volts
BLACK -- COMMON
GREEN -- SIGNAL

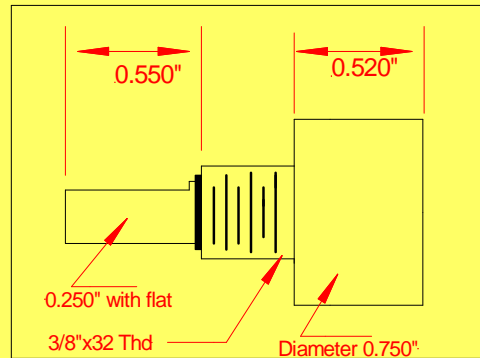


5.00 Volt tracking models

RED -- GH -- +12 to +35 Volts
and --GL -- +7 to + 16 Volts
BLACK -- COMMON
GREEN -- SIGNAL



High voltage models
with internal regulation



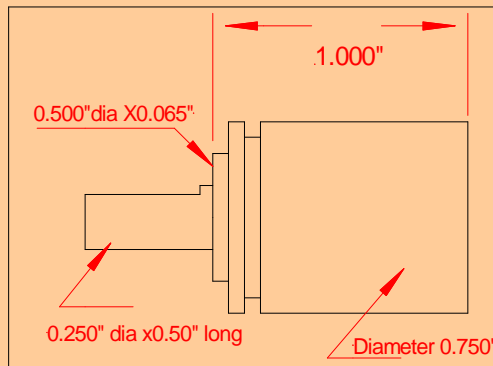
Model 75TJ - All Versions

INTERNAL Electronics and explanation of signal outputs

5.0 Volt tracking models accept power supply voltages from +4.5 to +5.5 Volts. Signal amplitude is linearly proportional to the voltage.

Signal range -vs- input angle are specified by the user. A commonly used range is +/- 5000 mv for +/- 30 degrees of rotation.

() = (customer specifications) for this parameter.



Model 75SB - All Versions

Mechanical configuration ----- made to fit

Standard common dimensions and shape are used for mounting so that no special hardware is needed to fit these devices into most systems, either new systems or existing designs. These consist of common servo-mounting with two common sizes and one device with a threaded journal to fit where ordinary potentiometers normally fit.

Ball bearings are used in the servo-mounting designs and anodized journal bearings are used in the threaded designs.

COMMENTS

These hallpot® angle sensors are very rugged and withstand severe shock and vibration. They continue to produce proper signals in conditions of severe shock.

Special versions permit direct immersion in hot pressurized crude oil or directly into seawater without additional protection. Consult Elweco, Inc for information of special designs.