700 Series Linear Position Sensor

BEI Sensors

High Pressure, Wide Temperature Range

The 700 Series Linear Position Sensors are designed to operate reliably in extreme environments such as “down hole” oil well applications at temperatures between -40° and +300°C and pressures of up to 28,000 psi. Containing a conductive plastic resistive element, the 700 Series has a longer operating life and resolution than traditional wire-wound units. Offered in miniature diameters for space-saving advantages, the 700 Series is also designed to meet a wide variety of interface and mounting requirements making it ideal for applications requiring accurate performance in high temperature and high pressure environments with limited space

Electrical Specifications

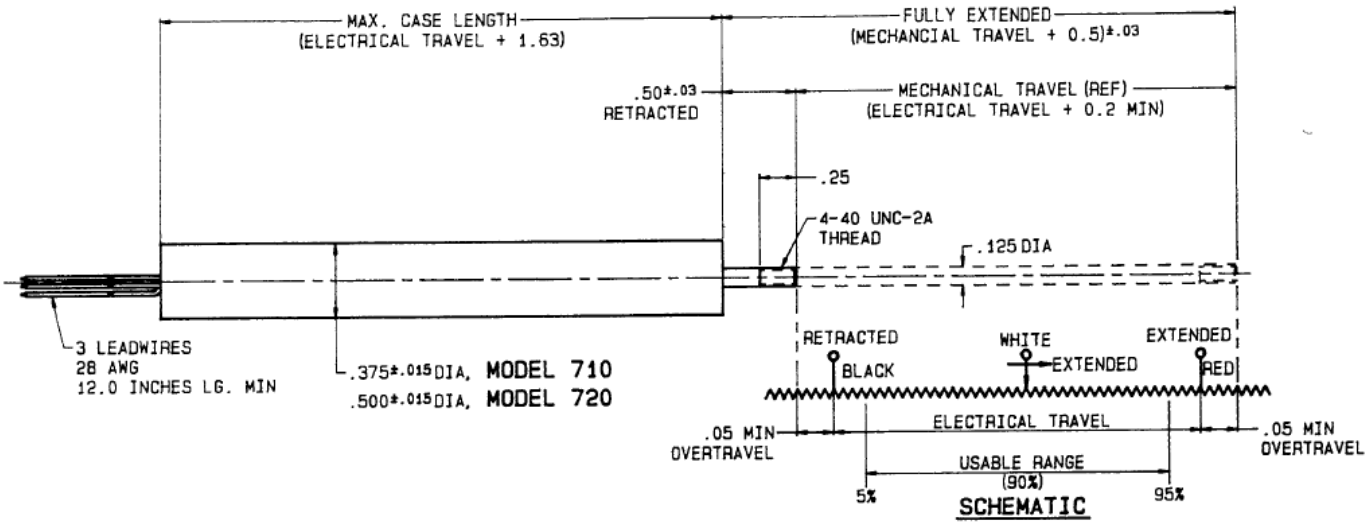
Electrical Travel: 1 in. min to 6 in. max
Total Resistance, STD range: 2K to 10K per inch
EXTD range: 1K to 20K per inch
Resistance Tolerance: ±25%
Accuracy over useable range:
(Ind. Lin. See Note 2) STD: ± 0.020 inch
BEST: ± 0.005 inch

Power Rating @ 175°C: 0.25 Watt per inch
Derated to 0.10 Watts @ 250°C
Output smoothness: 0.1%
Insulation resistance @250 VDC: 1000 Megohms
Dielectric strength: 250 VRMS
Temperature Range: -40° to +300°C

Mechanical Specifications

Mechanical Travel: Elect travel + 0.2 in. min
Actuation Force: 2 oz. max
Repeatability: within 0.001 inch
Life: 5 x 10^5 cycles

Dimensions



Notes

1. Dimensions are in inches. Tolerance: ±.010
2. Consult factory for clarification of independent linearity vs. absolute accuracy.
3. Most specifications may be altered to meet specific requirements.

Special Feature Examples:

- Vent holes for immersion in fluids.
- Mounting: Threaded bushing front/rear.
- Leads: Jacketed/Shielded cable.
- Shaft End Options: (Figure 1)

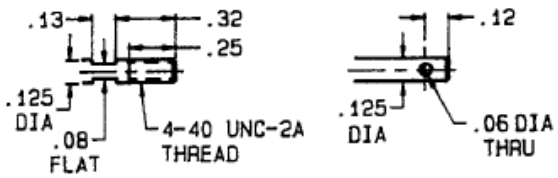


Figure 1