

ACCESSORIES — JOYCE GEARED POTENTIOMETERS

Joyce geared potentiometers are ideal for applications where precise position must be known. Using a 10-turn potentiometer, a signal is provided as either a change in resistance or current (when supplied with a 4-20ma instrument transformer) which is proportional to the actual position of the screw. This signal is commonly used for applications where PLCs or computers control jacks.

Geared potentiometers are available on worm gear design jacks of 2-150 ton capacity.

Geared potentiometers include a slip clutch to prevent damage due to over-rotation but should always be inspected during installation to ensure that a full range of motion is available throughout the jack travel.

As an additional option, geared potentiometers are available with upper and lower mechanical limit switches. These switches are common SPDT cam operated switches and can be used for end of travel limits or set points.

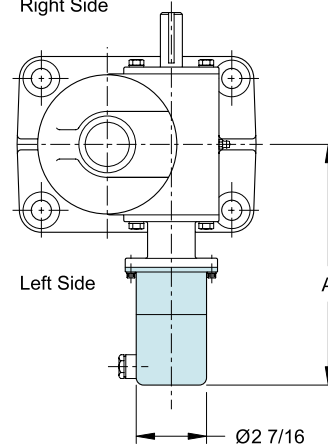
The standard operating voltage is less than or equal to 48V. An operating voltage greater than 48V is available upon request.

Dimension

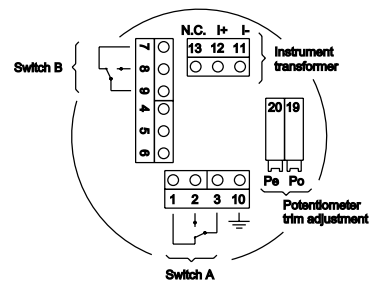
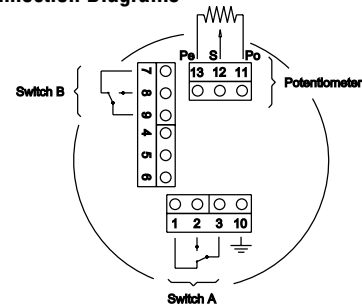
Jack Capacity	A
2 Ton	7 5/8
3 Ton	8 3/4
5 Ton	8 3/4
10 Ton	9 3/4
15 Ton	9 3/4
20 Ton	10 1/8
25 Ton	10 3/4
30 Ton	10 3/4
35 Ton	10 3/4
50 Ton	12 3/4
75 Ton	14
100 Ton	14
150 Ton	14



Right Side



Geared Potentiometer Connection Diagrams



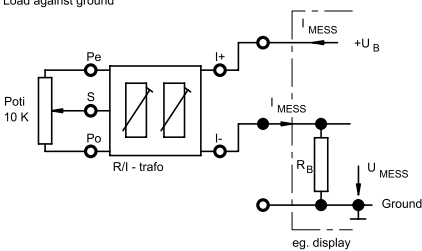
Geared Potentiometer Electrical Characteristics	
Resistance	10 kΩ
Resistance Tolerance	±10%
Linearity Tolerance	±0.25%
Load Capacity	2W at 70°C
Standard Residual End Point Resistance	Greater of 0.2% or 1Ω
Operating Temperature	-55°C to 125°C
Expected Service Life	2x10 ⁶ Revolutions

Geared potentiometers with instrument transformers provide a 4-20ma signal (**increasing as the screw extends**) and are ideal when an accurate, stable signal is required or the cable length is long. The instrument transformer operates with the following characteristics:

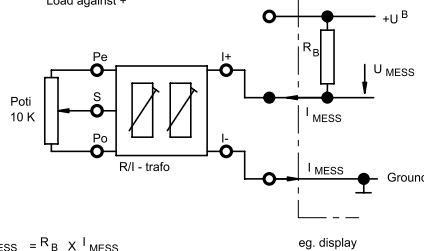
Supply Voltage (+U _B)	15-28 VDC
Max Load Impedance (R _B)	<500 Ω
Output Current (I _{MESS})	4-20 mA
Operating Temperature	0-50°C

Instrument Transformer: Connection Examples

Load against ground



Load against +



$$U_{MESS} = R_B \times I_{MESS}$$

For complete ordering information see pages 164 & 165