

OPTIONS GEARED POTENTIOMETERS

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

Geared potentiometers are available on wormgear design jacks of 2-ton to 150-ton capacity. They 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 are common SPDT cam operated switches used for end of travel limits or set points. The standard operating voltage is less than or equal to 48 V (an operating voltage of greater than 48 V is available upon request).

Ordering information is found within specific product sections.

Order Codes		Rating
POTA	0-10 V	IP65
POTB	4-20mA	IP65
POTC	0-10 V with 2 limit switches	IP52*
POTD	4-20mA with 2 limit switches	IP52*

* IP65 available as an option

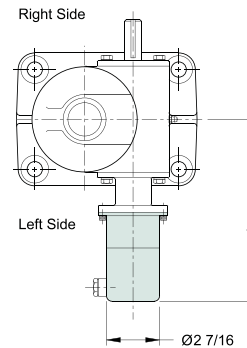
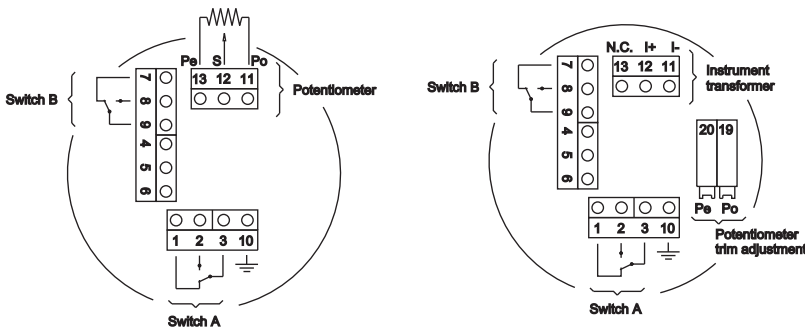
Geared Potentiometer Electrical Characteristics	
Resistance	10 kΩ
Resistance Tolerance	+/- 5 %
Linearity Tolerance	+/- 0.25%
Load Capacity	2 W at 70°C
Standard Residual End Point Resistance	Greater of 0.2% or 1Ω
Operating Temperature	-20°C to 80°C
Expected Service Life (shaft rev)	2 x 10 ⁶
Housing	Aluminum

Instrument Transformer Characteristics POTB and POTD	
Supply Voltage (+U _B)	24 VDC +/- 20%
Max. Load Impedance (R _B)	<500 Ω
Output Current (I _{MESS})	4-20 mA 24 V DC ±20 %, with load ≤ 500
Operating Temperature	-20°C to 80°C

4-20mA signal increases as screw extends

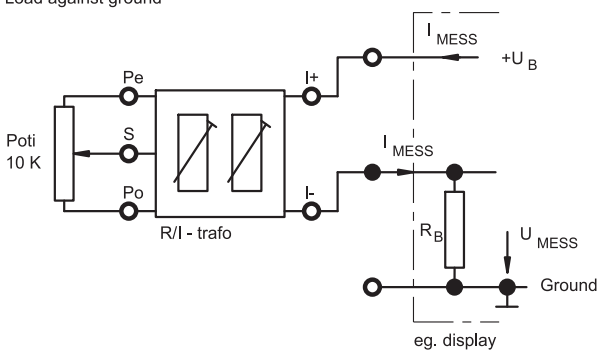
Jack Capacity	POTA and POTB "A"	POTC and POTD "A"
2 Ton	6 3/8	8 1/4
2.5 Ton	6 1/4	8
3 Ton	6 1/4	8
5 Ton	7	8 7/8
10 Ton	7 7/8	9 7/8
15 Ton	7 7/8	9 7/8
20 Ton	8 1/4	10 1/4
25 Ton	9	10 7/8
30 Ton	9	10 7/8
35 Ton	9	10 7/8
50 Ton	10 7/8	12 3/4
75 Ton	12 1/4	14 1/8
100 Ton	12 1/4	14 1/8
150 Ton	12 1/4	14 1/8

Geared Potentiometer: Connection Diagrams



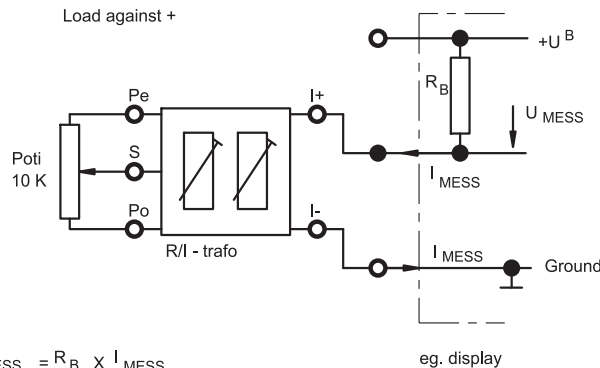
Instrument Transformer: Connection Examples

Load against ground



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

Load against +



Note: Drawings are artist's conception — not for certification; dimensions are subject to change without notice.