ELECTRICAL SPECIFICATIONS:

POTENTIOMETER RESISTANCE VALUES:	1000 ohms with suffix AAA = 102
5000 ohms with suffix AAA = 502	10,000 ohms with suffix AAA = 103
POTENTIOMETER RESISTANCE TOLERANCE:	Plus or minus 10%, maximum.
POTENTIOMETER RESISTANCE LINEARITY:	The resistance change will be linear within 1%.
POTENTIOMETER RESOLUTION:	Essentially infinite.
POTENTIOMETER ELECTRICAL ROTATION:	340 degrees, plus or minus 5 degrees.
POTENTIOMETER WORKING VOLTAGE:	300 volts dc, maximum across terminals 1 and 3.
POTENTIOMETER RATED LOAD:	1 watt, maximum at 70 degrees 70. Derate linearity to 125 degrees C.

MECHANICAL SPECIFICATIONS:

STANDARD SINGLE REDUCTION GEAR RATIOS:	.2500 to 1 with suffix BBB = 004
*0.3333 to 1 with suffix BBB = 007	.5000 to 1 with suffix BBB = 009
*0.6667 to 1 with suffix BBB = 010	1.0000 to 1 with suffix BBB = 014
1.5000 to 1 with suffix BBB = 018	2.0000 to 1 with suffix BBB = 019
3.0000 to 1 with suffix BBB = 021	4.0000 to 1 with suffix BBB = 024
* equals rounded ratio	5.0000 to 1 with suffix BBB = 025

STANDARD DOUBLE REDUCTION GEAR RATIOS:	0.0625 to 1 with suffix BBB = 085
*0.0833 to 1 with suffix BBB = 088	*0.1111 to 1 with suffix BBB = 169
0.1250 to 1 with suffix BBB = 090	*0.1428 to 1 with suffix BBB = 170
*0.1667 to 1 with suffix BBB = 171	6.0000 to 1 with suffix BBB = 507
7.0000 to 1 with suffix BBB = 534	7.5000 to 1 with suffix BBB = 484
8.0000 to 1 with suffix BBB = 510	9.0000 to 1 with suffix BBB = 561
10.0000 to 1 with suffix BBB = 511	12.0000 to 1 with suffix BBB = 564
15.0000 to 1 with suffix BBB = 565	20.0000 to 1 with suffix BBB = 646
* equals rounded ratio	25.0000 to 1 with suffix BBB = 673

Important: The gear reduction ratios shown above define the number of turns required at the input drive shaft to produce one complete mechanical rotation of the potentiometer. ***Full electrical travel of the potentiometer will typically be obtained with .94 times the ratio between the input drive shaft and the potentiometer.***

INPUT DRIVE SHAFT LOAD RATING:	Axial load equals 100 lbs, maximum. Radial load equals 80 lbs. Maximum when applied .75 inches from the enclosure surface.
INPUT DRIVE SHAFT ROTATION:	Continuous and bidirectional (reversible).
SHAFT BEARING TYPE:	ABEC class 1 or ABEC class 5, double sealed, precision ball bearings, lubricated with grease per MIL-G-23827, standard. Low torque models use single sealed ball bearings lubricated with light machine oil per MIL-L-6085A.
INPUT DRIVE AND IDLER SHAFT MATERIAL:	Stainless steel, type 303.
INTERNAL GEAR MATERIAL:	Aluminum, type 2024-T4 (anodized) and/or stainless steel, type 303 (clear passivate), AGMA class 10 or 12, standard.

GENERAL DESCRIPTION:

This series of enclosed, gear driven potentiometer assemblies are general purpose devices that are designed to be connected to the user's equipment and provide position feedback or command signals to the process control system. They are suitable for dancer position indication, thread tapping head depth control or any other application that requires position information from a rotating drive shaft.

These heavy duty units are intended for industrial use. They feature a steel enclosure, including a gasketed cover and a stainless steel drive shaft. The unit is protected from dust, dirt, water and oil. It will meet NEMA type 12 and 13 specifications when properly installed. The potentiometer does not contain any internal end of travel stops, accordingly it can not be damaged due to overtravel of the input shaft.

All of the internal spur gears are metal and are mounted on stainless steel shafts supported by large, double sealed, prelubricated ball bearings. The potentiometer is isolated from the input drive shaft by a least one reduction stage and incorporates a linear, conductive plastic element that is designed to provide an operational life that will exceed 10 million full rotational cycles at rated load.

Over 700 single and double reduction gear ratios ranging from .0204 : 1 to 49 : 1 are available. The large number of gear ratios allows the potentiometer to provide full travel and maximum resolution on just about any application. Available options include zero backlash gearing, low torque input, stainless steel or aluminum enclosure, drive shaft modifications and integral electronics. All user connections are made to a screw type terminal block inside the enclosure.

PART NUMBERING SYSTEM:

Option identifier suffix groups

Model series identifier

C2699-AAA-BBB-CDD-EF

PART NUMBER SUFFIX GROUP EXPLANATION	
SUFFIX	**DESCRIPTION**
AAA	Potentiometer value
BBB	Internal gear ratio
C	Internal gear type and reduction stages
DD	Drive shaft diameter and configuration
E	Mounting style
F	Factory installed option identifier

Parts shipped from the factory will have the correct alphanumeric option identifier in place of the suffix letters indicated in the table above.

ORDERING INFORMATION:

Refer to the C2699 model series selection sheet for a complete listing of the currently available models.

DATA SHEET FOR DATATRAN C2699 HEAVY DUTY GEARED POTENTIOMETER

(FOOT MOUNT)

FOR TECHNICAL ASSISTANCE CONTACT
CONIC SYSTEMS, INC.
11 REBEL LANE, PORT JERVIS, NY 12771
TEL: (845) 856-4313 FAX (845) 858-2824
www.conicsystems.com

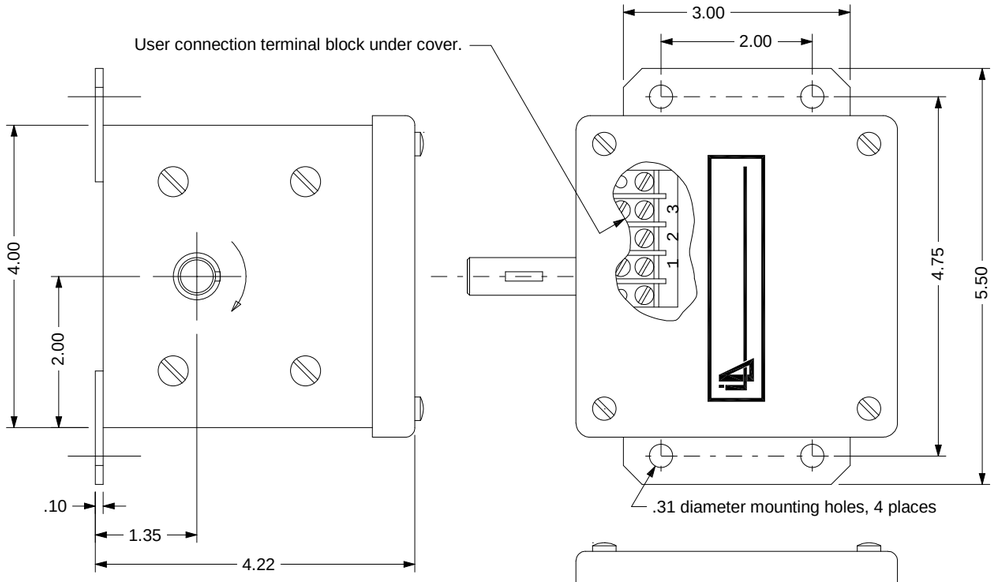
MECHANICAL SPECIFICATIONS, CON'T:

POTENTIOMETER LIFE EXPECTANCY:	Greater than 10 million complete potentiometer shaft rotations, at rated electrical load. Dithering applications typically exceed 20 million cycles.

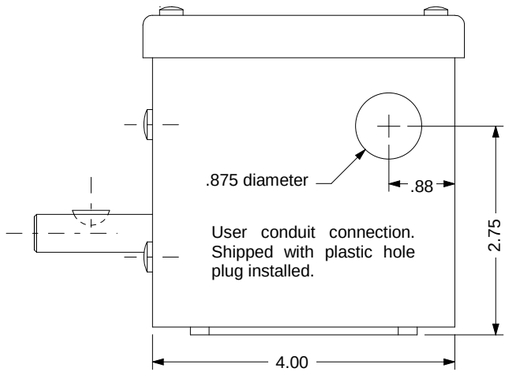
ENCLOSURE CONSTRUCTION:	Steel, 16 ga., with ANSI 61 gray polyester powder coating over phosphated surfaces. NEMA type 12 and 13. Internal gear housing is type 2024 or 6061 aluminum.

OPERATING TEMPERATURE RANGE:	-65 degrees C to + 125 degrees C.

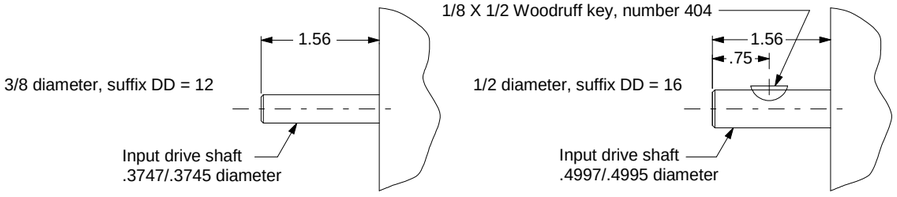
OUTLINE DIMENSIONS:



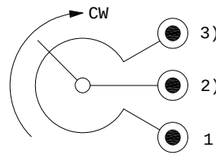
Clockwise rotation (as shown by the arrow) will cause the resistance between terminal numbers 1 and 2 to increase.



STANDARD INPUT DRIVE SHAFT DIMENSIONS



FUNCTIONAL DIAGRAM AND EXTERNAL CONNECTIONS:



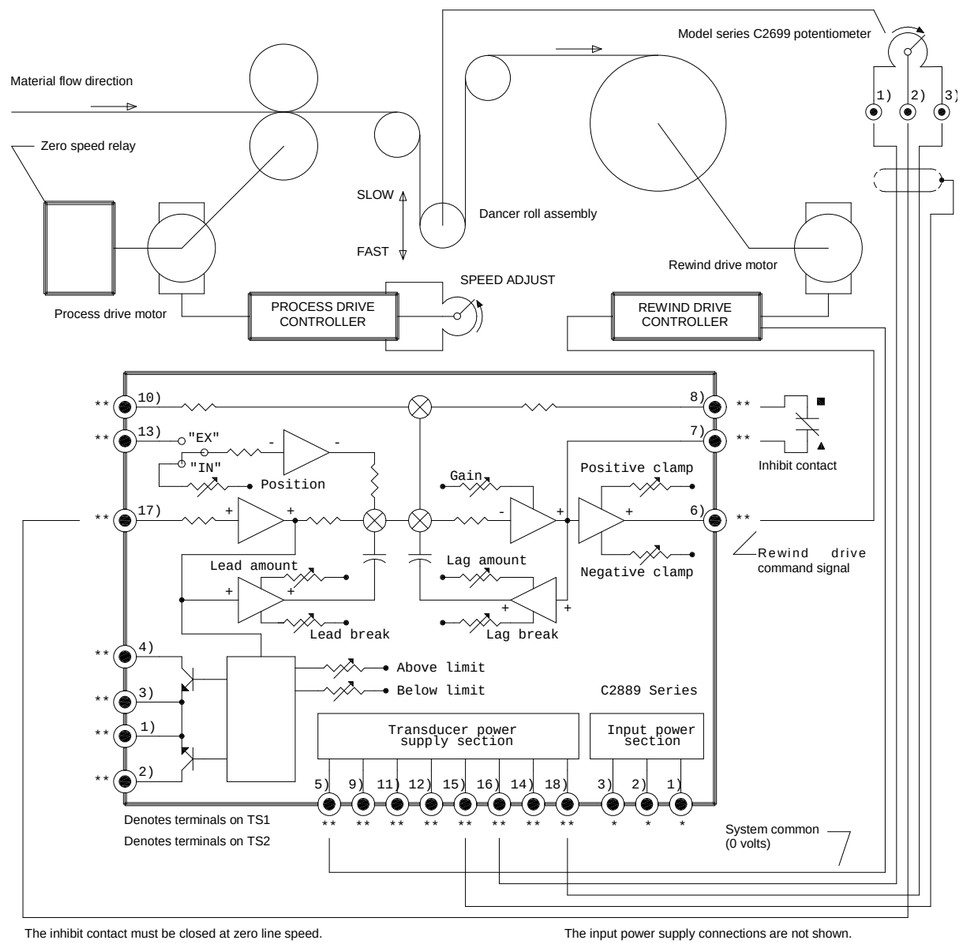
The numbers shown on the figure to the left correspond to the external connection terminal block markings.

The arrow marked "CW" denotes the potentiometer wiper movement as the input drive shaft is rotated in the clockwise direction.

APPLICATION EXAMPLES:

Center bar driven rewind stand with model series C2699 Geared Potentiometer and model series C2889 Dancer Roll Position Regulator used to maintain the desired web tension.

CAUTION: This example is for concept only. It is not complete. Some of the components and wiring required for a working application are not shown.



The inhibit contact must be closed at zero line speed.

The start and stop circuit connections are not shown.

The input power supply connections are not shown.