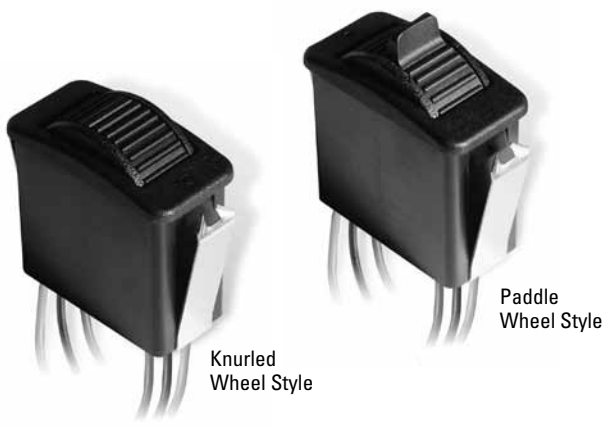
PROPORTIONAL OUTPUT THUMBWHEEL

FRICTION HOLD ACTUATION STYLE THUMBWHEEL



The HTWF Friction Hold Thumbwheel offers a maintained position, single axis thumbwheel actuator that provides a linear change in voltage output in either direction from center. Options include increasing or decreasing voltage output from the center position to the full travel position, and single or dual (redundant) outputs per axis. The HTWF Thumbwheel has a rocker style snap-in mounting feature to accommodate a 1.47" x 0.710" panel opening. The HTWF provides 250,000 cycle life, full forward/full backward, is sealed to IP68S and offers excellent EMI/RFI immunity and a flow through design. Ideal for heavy equipment, industrial machines or remote control applications.

Features:

- **250,000 cycle life, full forward/full backward with center detent**
- **Maintained control positioning, no return to center**
- **Hall Effect contactless sensing technology**
- **Number of output options**
- **Choice of bezel & button colors**
- **Snaps into 1.47" x 0.710" panel opening**
- **Electronics sealed to IP68S**
- **Excellent EMI/RFI immunity**
- **RoHS & WEEE Compliant**

Standard Characteristics/Ratings:

MECHANICAL:

Mechanical Life:	250,000 full forward to full back with center detent
Initial Operating Force at Top of Roller:	2 oz min to 6 oz max @ 25°C
Max Allowable Radial Load:	30.0 lbs.
Drop:	3 feet max to concrete

ELECTRICAL RATINGS: Rated at Vcc = 5V @ 25°C Load = 1mA (4–7KΩ)

Electrical	Units	Min	Typ	Max
Supply Voltage	VDC	4.5	5	5.5
Output Voltage Tolerance at Center *(see graph for output values)*	VDC @ 5V Vcc	-0.15	N/A	+0.15
Output Voltage Tolerance Full Travel *(see graph for output values)*	VDC @ 5V Vcc	-0.25	N/A	+0.25
Supply Current Per Sensor	mA	N/A	N/A	10

ELECTRONICS:

Seal Integrity:	Electronics IP68S

ENVIRONMENTAL:

Operating Temp Range:	-40°C to +85°C
Humidity:	96% RH, 70°C, 96 hours
Vibration:	Per MIL-810F minimum integrity
Sand/Dust:	Per SAE J1455
EMI:	Withstand per MIL-STD-461D/SAE J1113-22
RFI:	Withstand 100V/M 14Hz to 1GHz

MATERIALS:

Button:	Thermoplastic
Bezel:	Thermoplastic
Snap Arms:	Stainless steel
Mounting Hardware:	None provided

HTWF PART NUMBER CODE

HTWF – X X X X X X X X

Travel
1. +/- 30°

Output 1
A. 2.5 +/- 2.0VDC
B. 2.5 +/- 2.0VDC
C. 2.5 +/- 2.0VDC
D. 2.5 +/- 1.5VDC
E. 2.5 +/- 1.5VDC
F. 2.5 +/- 1.5VDC
G. 1.0 - 4.0VDC
H. 0.5 - 4.5VDC

Output 2
NONE
2.5 +/- 2.0VDC
2.5 -/+ 2.0VDC
NONE
2.5 +/- 1.5VDC
2.5 -/+ 1.5VDC
1.0 - 4.0VDC
0.5 - 4.5VDC

Operating Force
1. 4 oz

Button Style
1. Knurled Wheel
2. Paddle Wheel

Termination
A. 18 AWG Wires, 18.3" Long, Stripped Ends
B. 0.025" SQ. Pins

Bezel Color
1. Red
2. Black
3. Orange
4. Yellow
5. Green
6. Blue
7. Violet
8. Gray
9. White

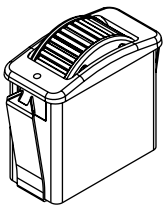
Button Color
1. Red
2. Black
3. Orange
4. Yellow
5. Green
6. Blue
7. Violet
8. Gray
9. White

Detent (if required)
A. Detent 2 oz increase out of center in both directions*

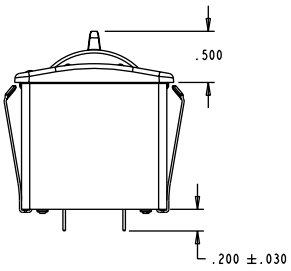
* Output options A–F do not have a tolerance on the center outputs unless a center detent is selected. Output options G and H are only available with center detent.

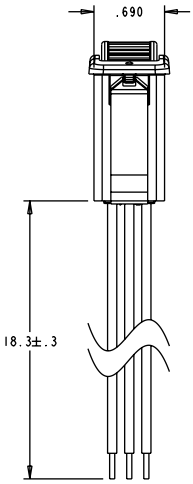
Specifications Subject To Change Without Notice

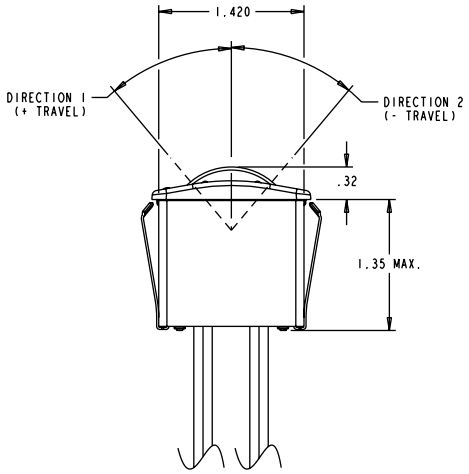
FRICTION HOLD ACTUATION STYLE THUMBWHEEL

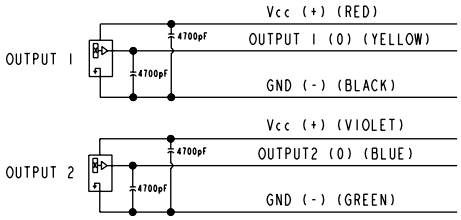


PADDLE WHEEL
BUTTON STYLE

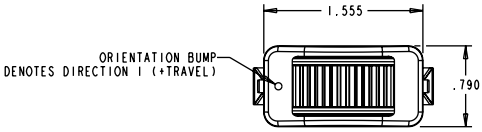


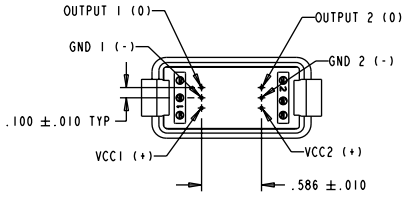






OUTPUT 2 IS NOT PRESENT IN ALL CONFIGURATIONS



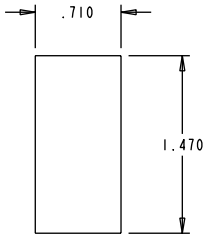


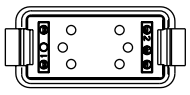
PINNED
TERMINATION
NOT ALL PINS ARE PRESENT
IN ALL OUTPUT CONFIGURATIONS

MOUNTING:

RECOMMENDED PANEL THICKNESS: 0.100 OPTIMUM THICKNESS
(0.050 MIN. - 0.120 MAX.)

RECOMMENDED PANEL OPENING: 0.710 X 1.470 OPTIMUM
(0.710/0.720 -1.460/1.480)



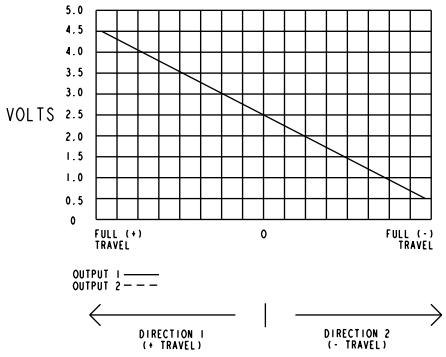


NOT ALL WIRES ARE PRESENT
IN ALL OUTPUT CONFIGURATIONS

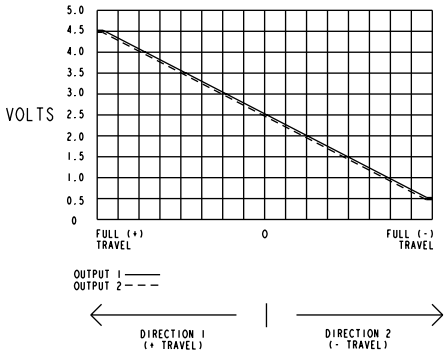
PROPORTIONAL OUTPUT THUMBWHEEL

FRICTION HOLD ACTUATION STYLE THUMBWHEEL

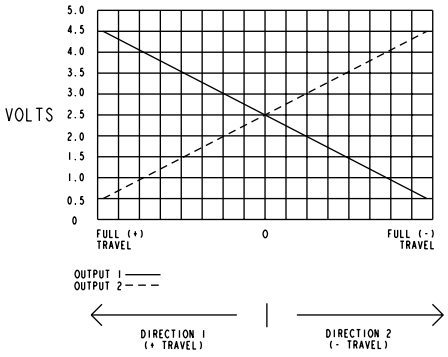
OPTION A



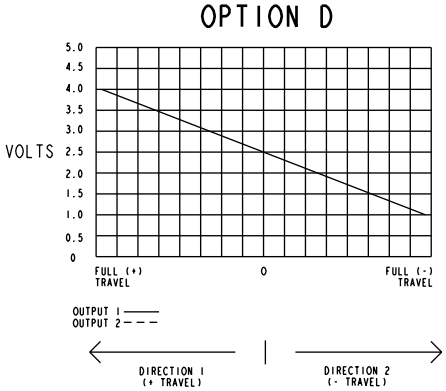
OPTION B



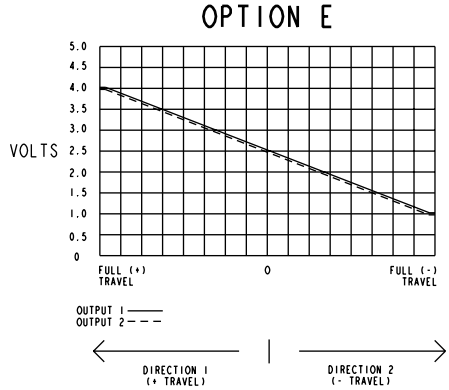
OPTION C



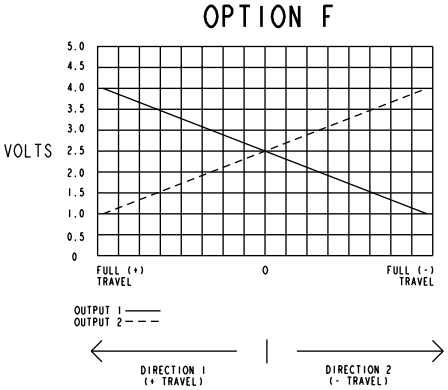
OPTION D



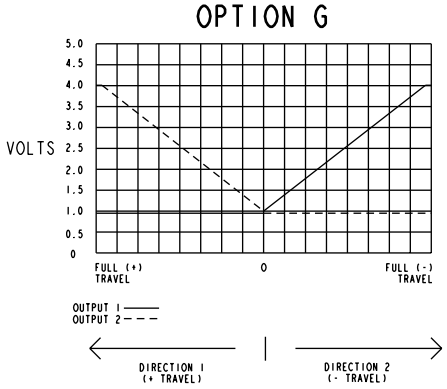
OPTION E



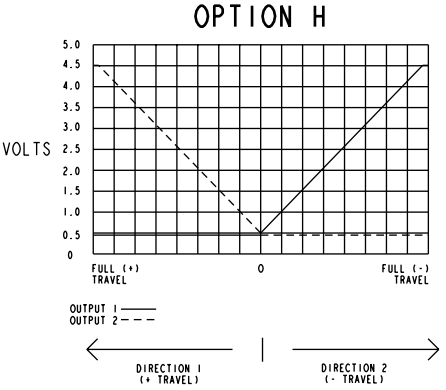
OPTION F



OPTION G



OPTION H



Specifications Subject To Change Without Notice