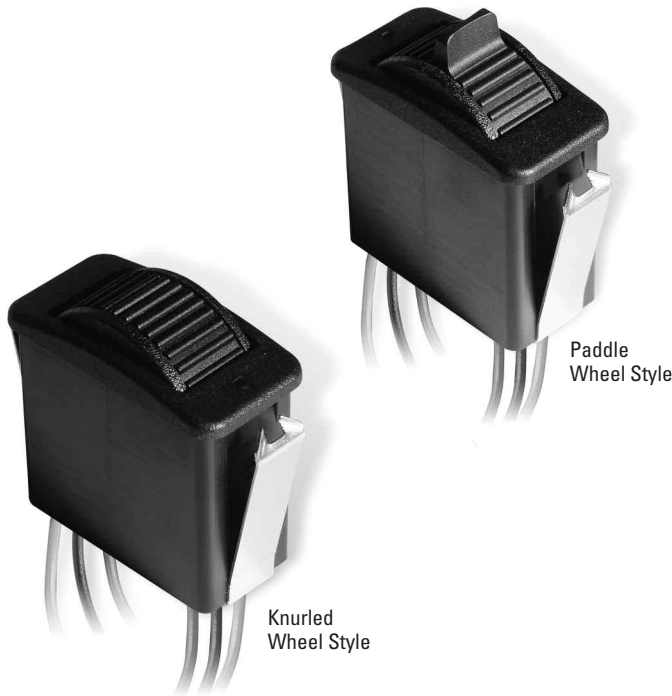


PROPORTIONAL OUTPUT THUMBWHEEL

HTW
HALL EFFECT
THUMBWHEEL

3 MILLION CYCLE ROTATIONAL LIFE



The HTW Hall Effect Proportional Output Thumbwheel is a self-centering, single axis thumbwheel with an actuator that provides linear change in voltage output in either direction from the center. Available with eight output options, including increasing and decreasing voltage output from the center position to the full travel position and single or dual (redundant) outputs. The HTW snaps into a 1.47" x 0.710" panel opening with rocker switch style mounting. A durable switch providing 3 million cycle rotational life, sealed to IP68S and excellent EMI immunity per MIL-STD-46 ID/SAE J1113-22, and will withstand RFI of 100V/M 14Hz to 1GHz.

Features:

- Eight output options
- Self-centering single axis actuator
- Snaps into 1.47" x 0.710" panel opening
- Rocker switch style mounting
- 3 million cycle rotational life
- Electronics sealed to IP68S
- Excellent EMI/RFI immunity
- Detent options available
- RoHS & WEEE compliant

Standard Characteristics/Ratings:

MECHANICAL:

Mechanical Life: 3,000,000 full forward to full back

Mechanical Detent Cycle Life Per Detent: 100,000 (detent @ +/- 21°, full travel is +/- 30° max)

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 <i>(see graph for output values)</i>	VDC @ 5V Vcc	-0.15	N/A	+0.15
Output Voltage Tolerance at Center <i>(for detent version A only)</i>	VDC @ 5V Vcc	-0.25	N/A	+0.25
Output Voltage Tolerance Full Travel <i>(see graph for output values)</i>	VDC @ 5V Vcc	-0.25	N/A	+0.25
Supply Current Per Sensor	mA	N/A	N/A	10

Reverse Voltage Protection: -5VDC max

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

3 MILLION CYCLE ROTATIONAL LIFE

HTW PART NUMBER CODE

HTW	-	X	X	X	X	X	X	X	X
Travel	Output 1	Output 2	Operating Force	Button Style	Termination	Bezel Color	Button Color	Detent (if required)	
1. +/- 40° 2. +/- 30°	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	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	1. 0.5 lb.	1. Knurled Wheel 2. Paddle Wheel	A. 18 AWG Wires 18" Long, Stripped and Pinned Ends B. 0.025" S.Q. Pins	1. Red 2. Black 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White	1. Red 2. Black 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White	A. Spring return center +/- 21°. 12 oz detent at end of travel, both directions*	

* Only available with Travel option 2.

PADDLE WHEEL BUTTON STYLE

OUTPUT 1

V_{CC} (+) (RED)
+100pf
OUTPUT 1 (O) (YELLOW)
+100pf
GND (-) (BLACK)

OUTPUT 2

V_{CC} (+) (VIOLET)
+100pf
OUTPUT 2 (O) (BLUE)
+100pf
GND (-) (GREEN)

OUTPUT 2 IS NOT PRESENT IN ALL CONFIGURATIONS

MOUNTING:

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

RECOMMENDED PANEL OPENING: 0.710 X 1.072 OPTIMUM (0.710/0.720 - 1.460/1.480)

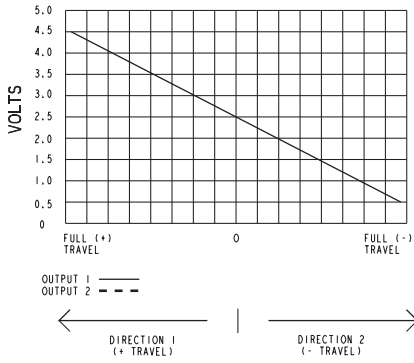
NOT ALL WIRES ARE PRESENT IN ALL OUTPUT CONFIGURATIONS

PINNED TERMINATION
NOT ALL PINS ARE PRESENT IN ALL OUTPUT CONFIGURATIONS

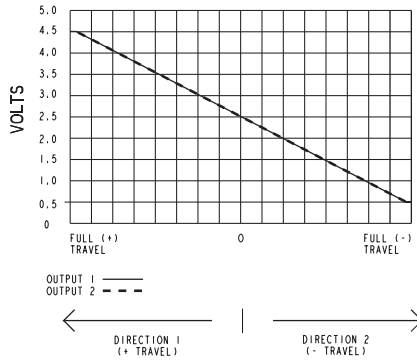
PROPORTIONAL OUTPUT THUMBWHEEL

3 MILLION CYCLE ROTATIONAL LIFE

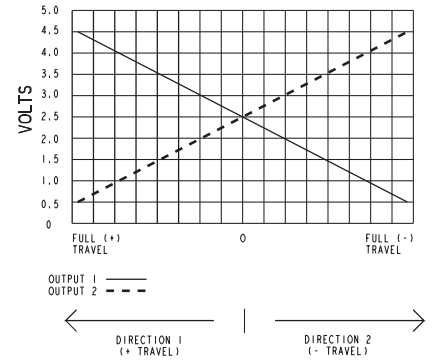
OPTION A



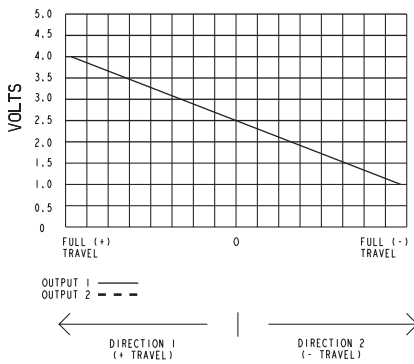
OPTION B



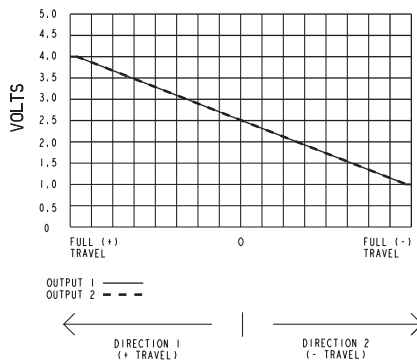
OPTION C



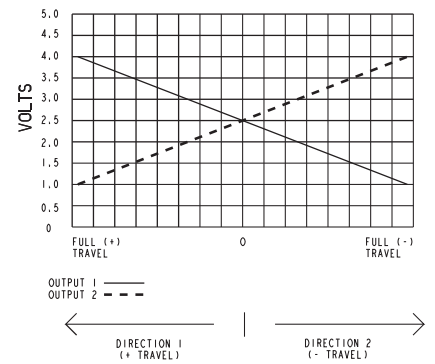
OPTION D



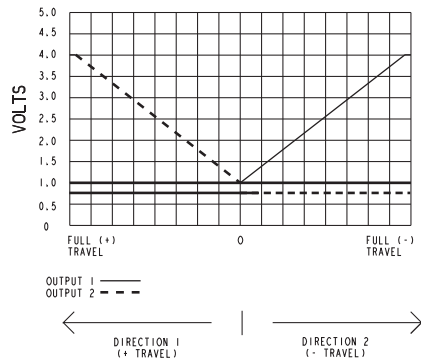
OPTION E



OPTION F



OPTION G



OPTION H

