

# 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:** 30lbs.

**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	5.0	5.5
Output Voltage Tolerance at Center (see graph for output values)	VDC @ 5V Vcc	-0.15	N/A	+0.15
Output Voltage Tolerance at Center (for detent version A only)	VDC @ 5V Vcc	-0.25	N/A	+0.25
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	10.0

**Reverse Voltage Protection:** -5V 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

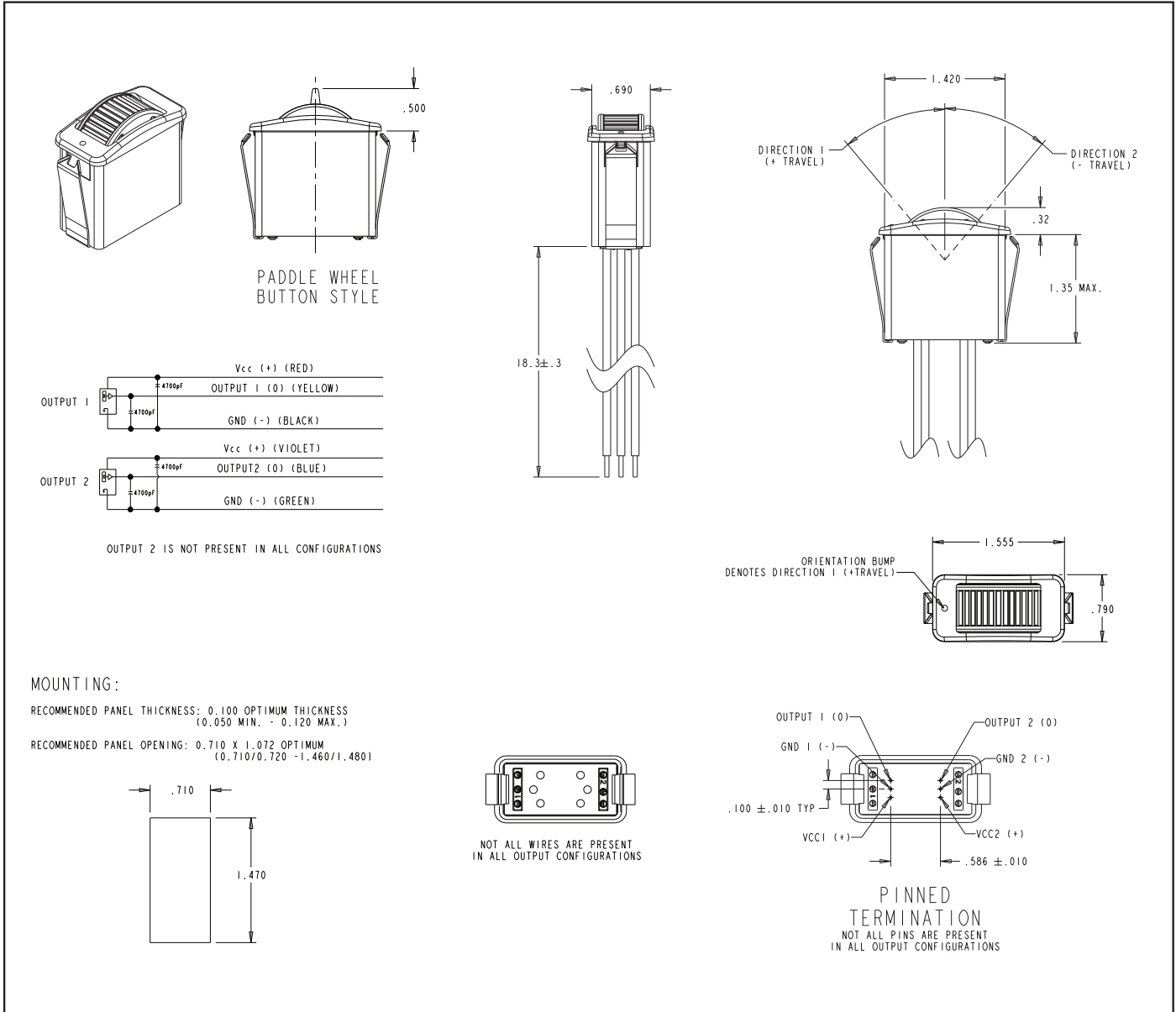
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## HTW PART NUMBER CODE

HTW	-	X	X	X	X	X	X	X	X
<b>Travel</b>		<b>Output 1</b>	<b>Output 2</b>	<b>Operating Force</b>	<b>Button Style</b>	<b>Termination</b>	<b>Bezel Color</b>	<b>Button Color</b>	<b>Detent (if required)</b>
1. +/- 40°		A. 2.5 +/- 2.0VDC	NONE	1. 0.5lbs.	1. Knurled Wheel	A. 18 AWG Wires 18" Long, Stripped and Tinned Ends	1. Red	1. Red	A. Spring return center +/- 21° 12oz. detent at end of travel, both directions*
2. +/- 30°		B. 2.5 +/- 2.0VDC	2.5 +/- 2.0VDC		2. Paddle Wheel	B. 0.025" SQ. Pins	2. Black	2. Black	
		C. 2.5 +/- 2.0VDC	2.5 +/- 2.0VDC				3. Orange	3. Orange	
		D. 2.5 +/- 1.5VDC	NONE				4. Yellow	4. Yellow	
		E. 2.5 +/- 1.5VDC	2.5 +/- 1.5VDC				5. Green	5. Green	
		F. 2.5 +/- 1.5VDC	2.5 +/- 1.5VDC				6. Blue	6. Blue	
		G. 1.0 - 4.0VDC	1.0 - 4.0VDC				7. Violet	7. Violet	
		H. 0.5 - 4.5VDC	0.5 - 4.5VDC				8. Gray	8. Gray	
							9. White	9. White	

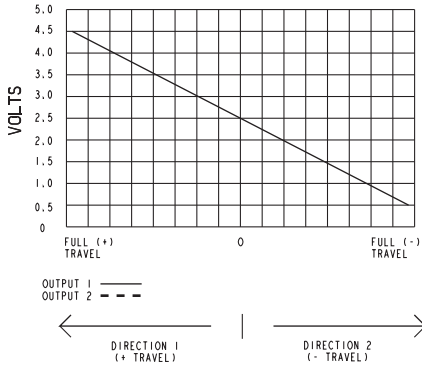
\* Only available with travel option 2.



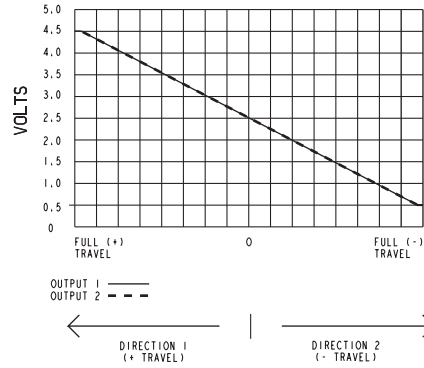
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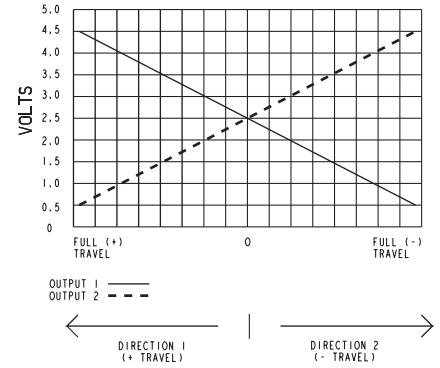
**OPTION A**



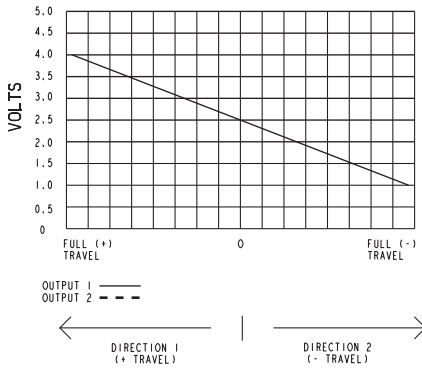
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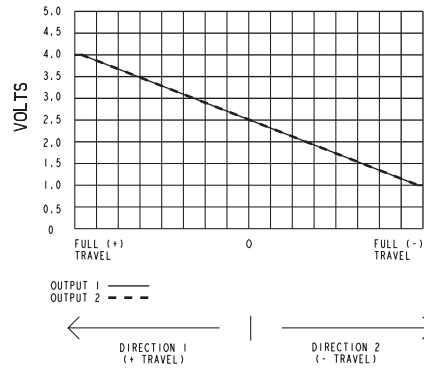
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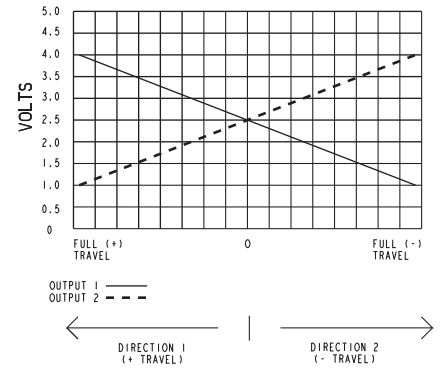
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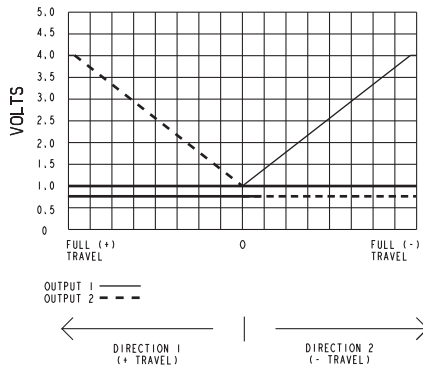
**OPTION E**



**OPTION F**



**OPTION G**



**OPTION H**

