

# TW series

## Hall effect thumbwheels

Distinctive features and specifications



- 5 million cycles
- Hall effect technology
- Proportional control
- Self-centering single axis design
- Redundant outputs available
- Choice of wheel colors: black, red, blue, or gray

### MECHANICAL (FOR X, Y AXIS)

- Break Out Force: 0.7N (0.15lbf)
- Mechanical Angle of Movement: 80° (±40° from center)
- Expected Life: 5 million cycles
- Lever Action (Centering): Spring centering

### ENVIRONMENTAL

- Operating Temperature: -40°C to +85°C (-40°F to +185°F)
- Storage Temperature: -40°C to +85°C (-40°F to +185°F)
- Sealing: IP67\*
- EMC Immunity Level: EN61000-4-3 (extended)
- EMC Emissions Level: EN61000-6-3:2001
- ESD: EN61000-4-2 (extended)

### ELECTRICAL

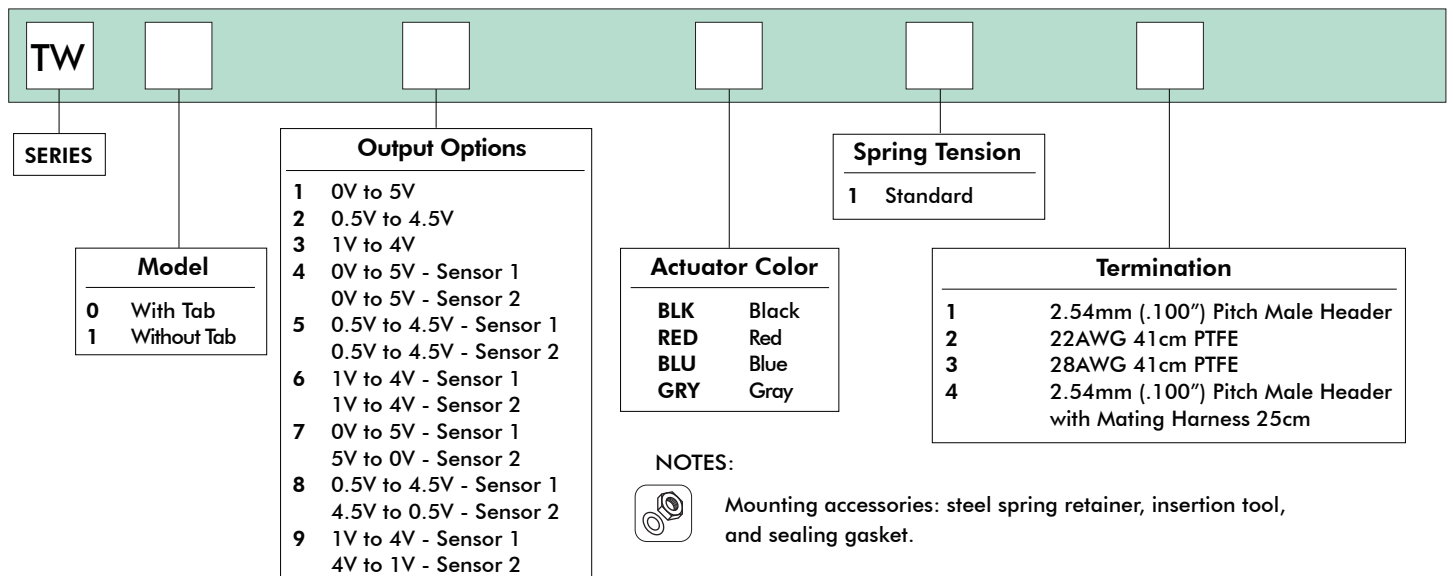
- Sensor: Hall effect
- Resolution: 1.22mV
- Supply Voltage Range: 5V ± .250V
- Reverse Polarity Max: -10V
- Overvoltage Max: 20V
- Output Impedance: 2Ω
- Return to Center Voltage (No Load): ±200mV
- Error Signal: 1.0%

#### NOTES:

\* Electronics sealed to IP67.

Exact specifications are subject to configuration.

All values are nominal.

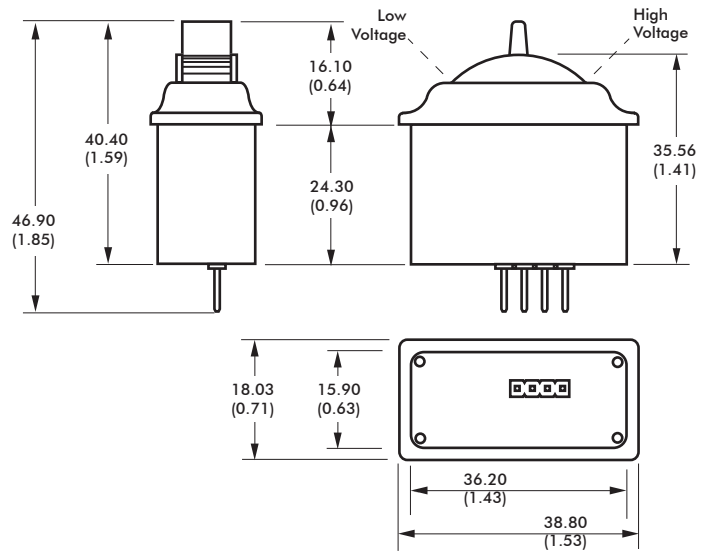


Note: The company reserves the right to change specifications without notice.

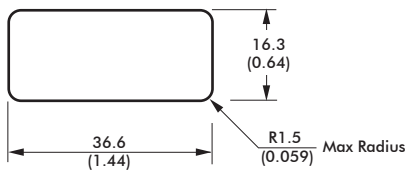
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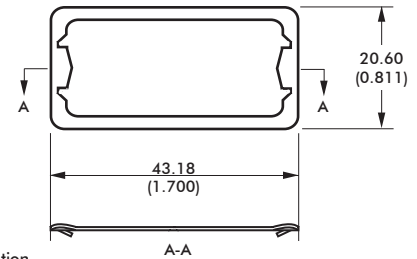
### Overview



### MOUNTING OPTIONS



### STEEL SPRING RETAINER\*



\* - used for installation

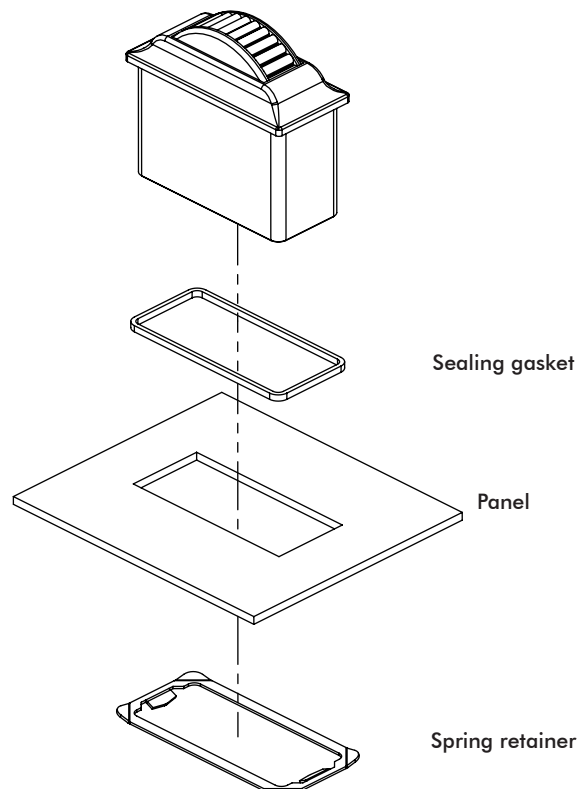
### NOTE:

1. Dimensions are in mm/(inch).

### EXAMPLE APPLICATION



### INSTALLATION



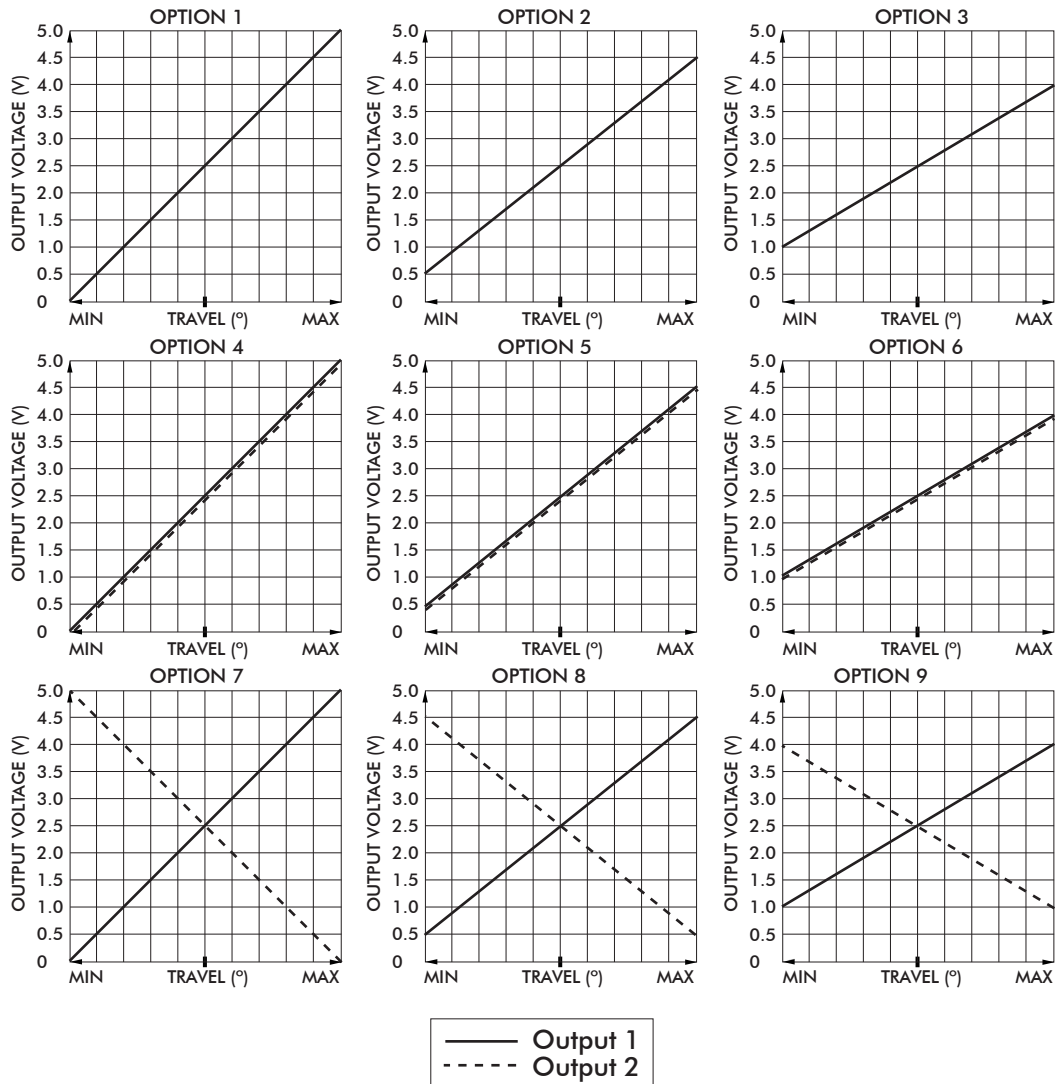
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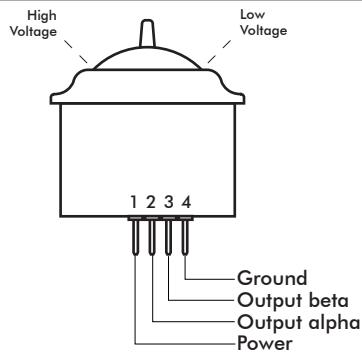
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Overview

### VOLTAGE OUTPUT OPTIONS



### CONNECTOR PINOUT



### CONNECTOR TERMINATION OPTION

The TW Series Thumbwheel may be specified with a TE Connectivity 2.54mm pitch male header. When selected from the "Option Selection" guide, both single and dual output configurations feature a four position TE 3-647166-4 connector.

### OPTIONAL MATING HARNESS

The TW Series is available with an optional mating harness. The four function harness is part number 505-498.

Wire type: 22AWG 25cm PTFE  
 Connector: Molex 0050579504

### DEFAULT WIRE COLOR CODE

COLOR	FUNCTION	AWG
RED	+5V	22
BLACK	Ground	
BLUE	Output alpha	
BLUE/WHITE	Output beta	

CIRCUIT	WIRE COLOR
PIN 1	BLACK
PIN 2	BLUE/WHITE
PIN 3	BLUE
PIN 4	RED