

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.

TW						
SERIES						
	Model	Output Options	Actuator Color	Spring Tension		Termination
0	With Tab	1 0V to 5V 2 0.5V to 4.5V 3 1V to 4V 4 0V to 5V - Sensor 1 5 0V to 5V - Sensor 2 6 0.5V to 4.5V - Sensor 1 7 0.5V to 4.5V - Sensor 2 8 1V to 4V - Sensor 1 9 1V to 4V - Sensor 2	BLK Black RED Red BLU Blue GRY Gray	1 Standard		1 2.54mm (.100") Pitch Male Header 2 22AWG 41cm PTFE 3 28AWG 41cm PTFE 4 2.54mm (.100") Pitch Male Header with Mating Harness 25cm
1	Without Tab	0V to 5V - Sensor 1 0V to 5V - Sensor 2 0.5V to 4.5V - Sensor 1 0.5V to 4.5V - Sensor 2 1V to 4V - Sensor 1 1V to 4V - Sensor 2 5V to 0V - Sensor 1 5V to 0V - Sensor 2 4.5V to 0.5V - Sensor 1 4.5V to 0.5V - Sensor 2 4V to 1V - Sensor 1 4V to 1V - Sensor 2				

NOTES:



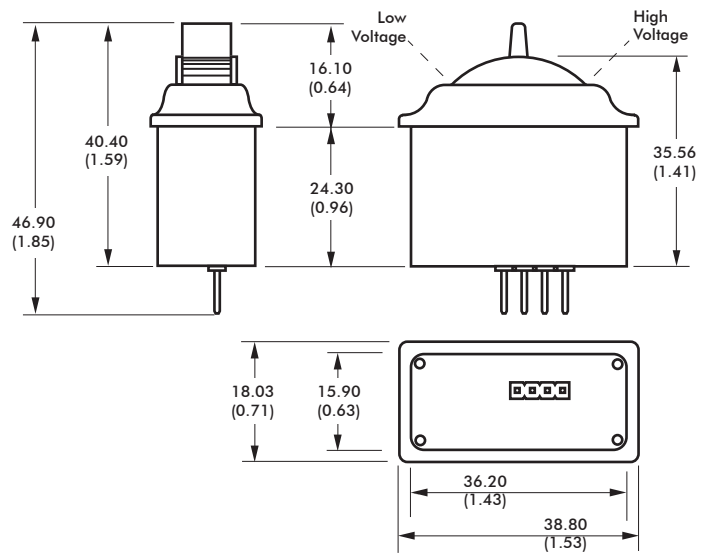
Mounting accessories: steel spring retainer, insertion tool, and sealing gasket.

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

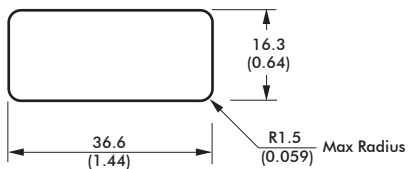
TW series

Hall effect thumbwheels

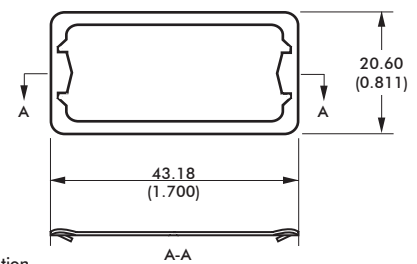
Overview



MOUNTING OPTIONS



STEEL SPRING RETAINER*



* - used for installation

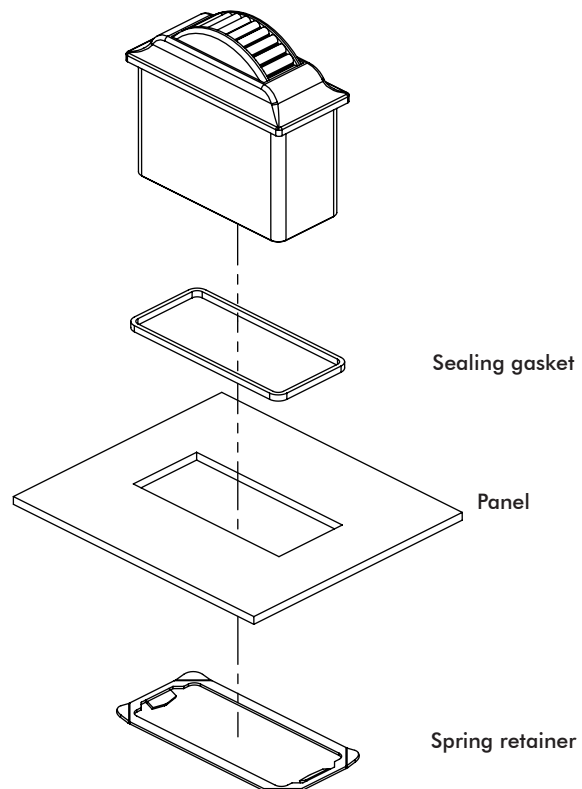
NOTE:

1. Dimensions are in mm/(inch).

EXAMPLE APPLICATION



INSTALLATION



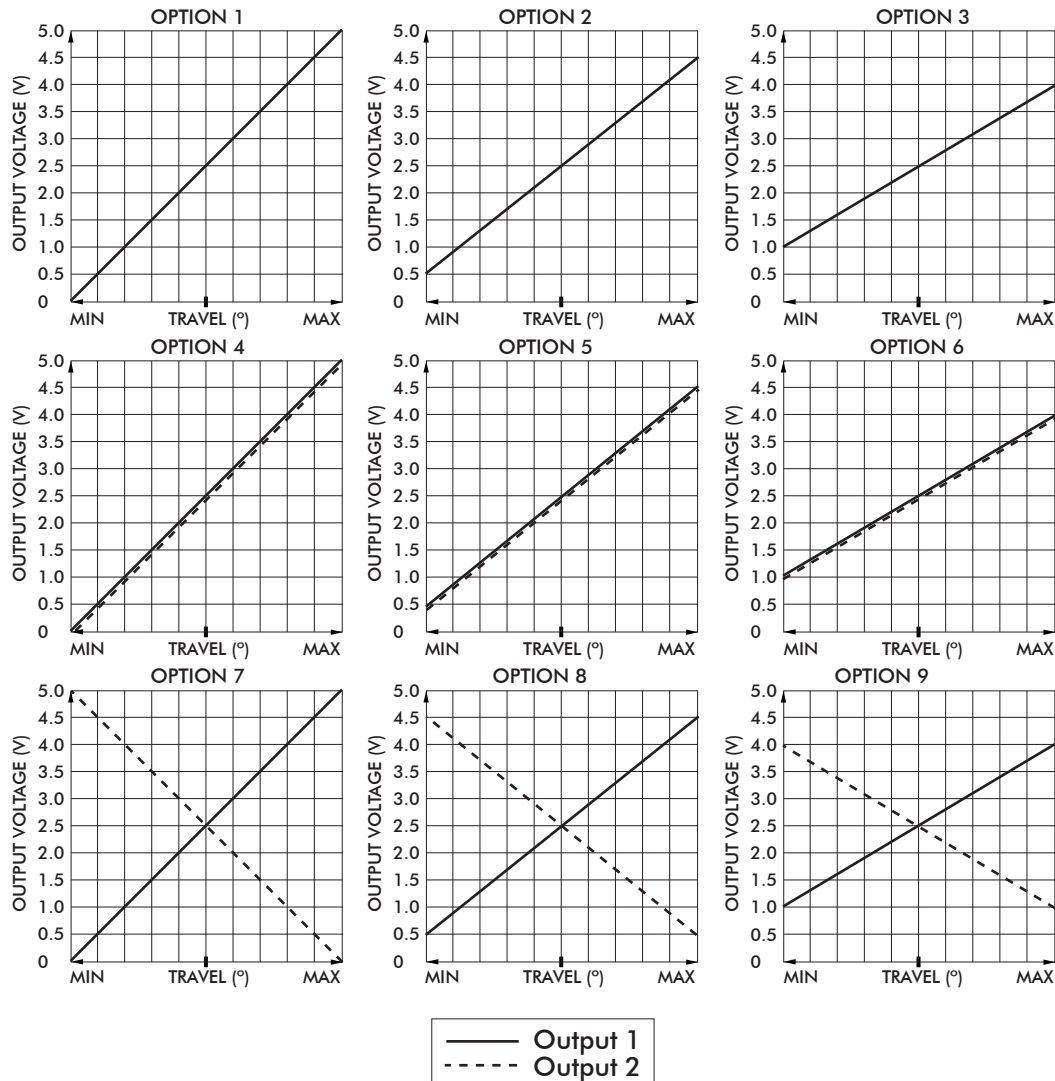
Note: The company reserves the right to change specifications without notice.

TW series

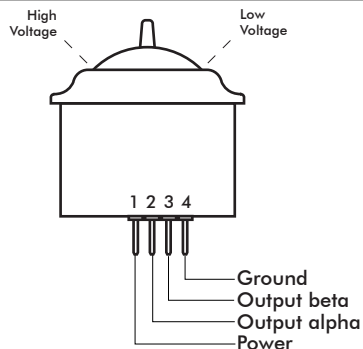
Hall effect thumbwheels

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

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

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Apem:](#)

[TW02RED12](#)