



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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HR series

Proportional single axis thumb controls • non-contacting Hall effect technology • spring to center



DISTINCTIVE FEATURES

- Single or dual analog outputs
- Backlighting option
- 5 million lifecycles (without detent)
- Electronics sealed to IP68
- SIL2 capable



ENVIRONMENTAL SPECIFICATIONS

- Operating Temperature: -30 °C to +70 °C (-22 °F to +158 °F)
- Storage Temperature: -40 °C to +85 °C (-40 °F to +185 °F°)
- Electronics sealed to IP68 according IEC 60529
- EMC Immunity Level: EN61000-4-3 and ISO 11452-2 (100 V/m)
- EMC Emissions Level: EN61000-6-3: 2001
- ESD: 16KV according to EN61000-4-2
- Shock resistance : 50 g during 11 ms
- Vibration resistance : 10-500Hz - 5g according to IEC 512-4, test 6d
- Salt spray : IEC 512-6, test 11f



ELECTRICAL SPECIFICATIONS

- Supply Voltage Range: 5 VDC \pm 0.50 VDC
- Reverse Polarity Max: -10 VDC max
- Overvoltage Max: 20 V
- Consumption: 11 mA max (single output), 22 mA max (dual output)
- Return to Center Voltage Tolerance (no load): 2.5 VDC \pm 0.2 VDC
- LED supply : 6 VDC 10 mA



GENERAL SPECIFICATIONS

- APEM SAS patented design
- Operating Force: 4 N \pm 0.5N (with detent); 2 N \pm 0.5 N (without detent)
- Mechanical Angle of Movement: \pm 35° (versions S/G/L); \pm 20° (version K)
- Expected Life : 5 million lifecycles
- Mass/Weight : 11 g \pm 2 g (0.4 oz \pm 0.07 oz)

The company reserves the right to change specifications without notice.



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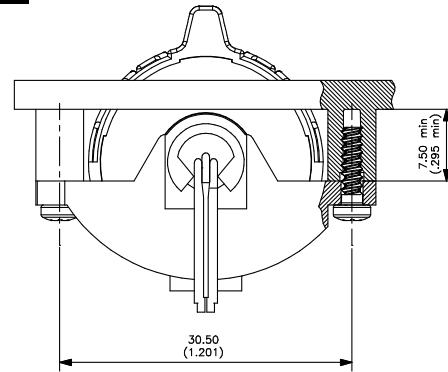


MATERIALS

- Body: Polyamide
- Wheel: Polyamide
- Electronics sealing : epoxy
- Connector : polyester (Molex 0510210700)
- Multiwire lead AWG28



MOUNTING



CONNECTIONS

SINGLE OUTPUT WITHOUT BACKLIGHTING

| PIN | FUNCTION | COLOR |
|-----|------------------------|-------|
| 1 | | |
| 2 | Power supply: +VDC 5 V | Red |
| 3 | | |
| 4 | | |
| 5 | | |
| 6 | Output | |
| 7 | Ground 0V | Black |

SINGLE OUTPUT WITH BACKLIGHTING

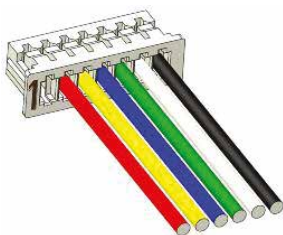
| PIN | FUNCTION | COLOR |
|-----|------------------------|--------|
| 1 | | |
| 2 | Power supply: +VDC 5 V | Red |
| 3 | LED + | Yellow |
| 4 | LED - | Blue |
| 5 | | |
| 6 | Output | White |
| 7 | Ground 0 V | Black |

DUAL OUTPUT WITHOUT BACKLIGHTING

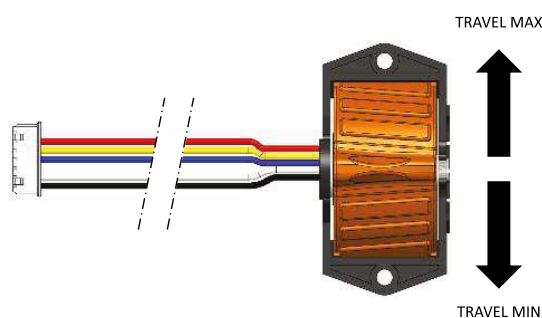
| PIN | FUNCTION | COLOR |
|-----|------------------------|-------|
| 1 | | |
| 2 | Power supply: +VDC 5 V | Red |
| 3 | | |
| 4 | | |
| 5 | Output 2 | Green |
| 6 | Output 1 | White |
| 7 | Ground 0 V | Black |

DUAL OUTPUT WITH BACKLIGHTING

| PIN | FUNCTION | COLOR |
|-----|------------------------|--------|
| 1 | | |
| 2 | Power supply: +VDC 5 V | Red |
| 3 | LED + | Yellow |
| 4 | LED - | Blue |
| 5 | Output 2 | Green |
| 6 | Output 1 | White |
| 7 | Ground 0 V | Black |



Wiring harness with multiwire leads
AWG28 - Length 140mm (5.51in)



Proportional single axis thumb controls • non-contacting Hall effect technology • spring to center



BUILD YOUR PART NUMBER



HR

SERIES

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ACTUATOR

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MOUNTING OPTIONS

- S** Wheel with 1 tab
- G** Reversed wheel with 1 tab
- K** Wheel with 2 tabs
- L** Wheel without tab

- 2** Rear



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BACKLIGHTING

- 1** Yes
- 0** No

—

WHEEL COLORS

- 1** Blue
- B** Dark blue
- 2** Black
- 3** Green
- 5** Yellow
- 7** White
- 9** Orange

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OUTPUT OPTIONS

- A** Single 0 V to 5 V
- B** Single 0.5 V to 4.5 V
- C** Dual 0 V to 5 V
- D** Dual 0.5 V to 4.5 V
- E** Inverse dual 0.5 V to 4.5 V
- F** Inverse dual 0 V to 5 V

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MECHANICAL FUNCTIONS

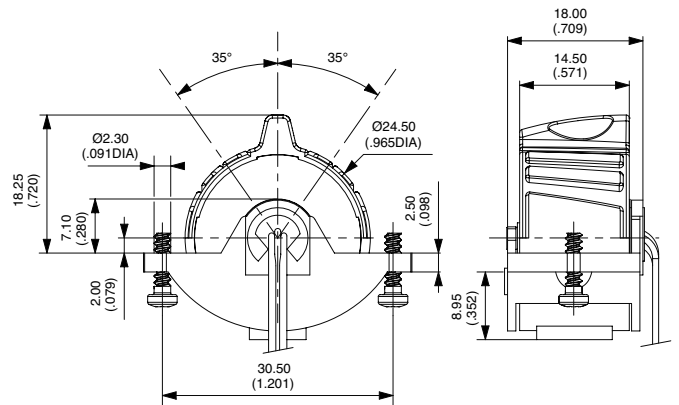
- 0** Spring to center, without center detent
- 1** Spring to center, with center detent

NOTE:
Other detent options available upon request.

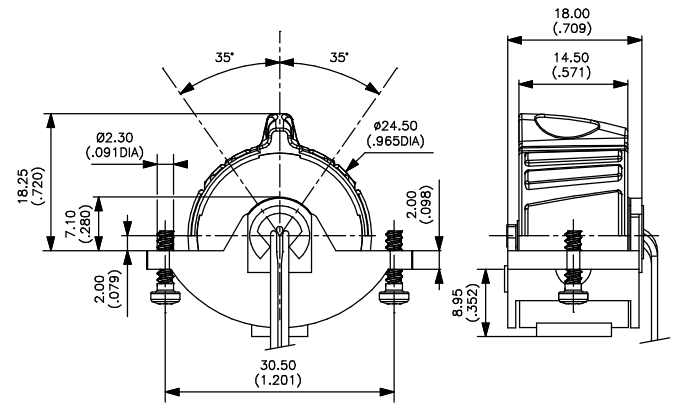
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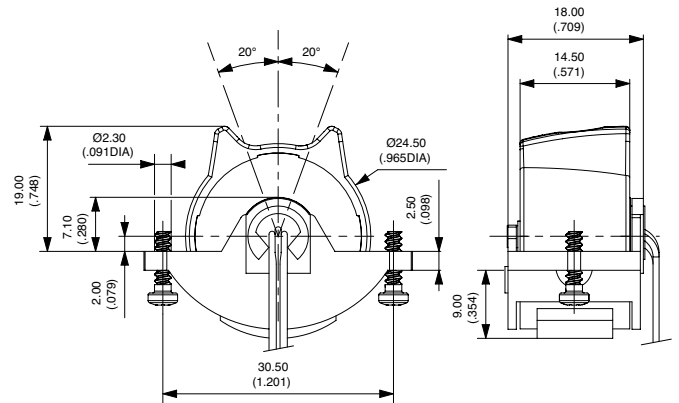
WHEEL WITH 1 TAB - OPTION S



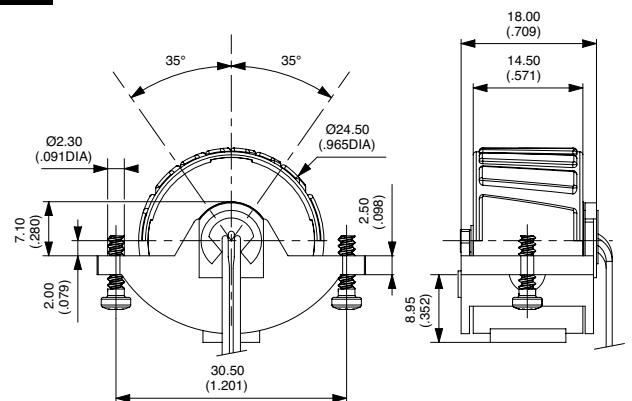
REVERSED WHEEL WITH 1 TAB - OPTION G



WHEEL WITH 2 TABS - OPTION K



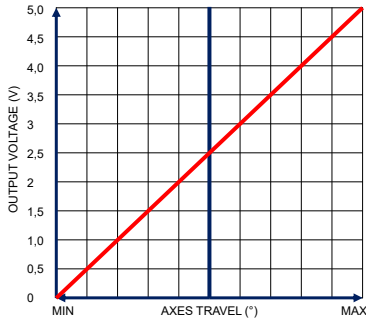
WHEEL WITHOUT TAB - OPTION L



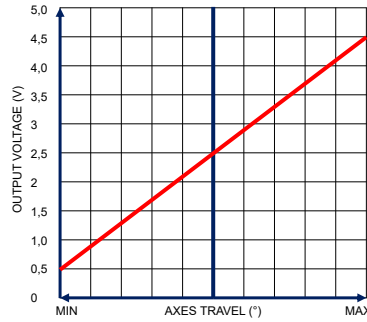
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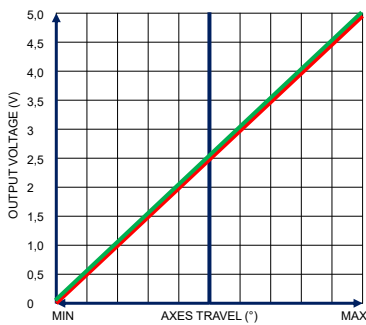
VOLTAGE OUTPUT OPTIONS



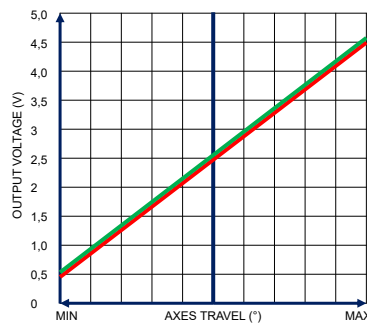
A Single 0 V to 5 V



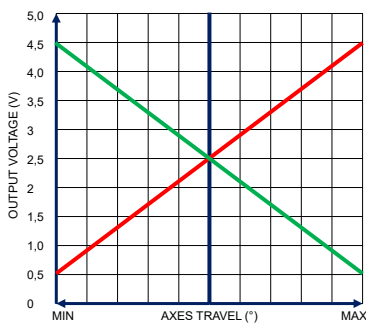
B Single 0.5 V to 4.5 V



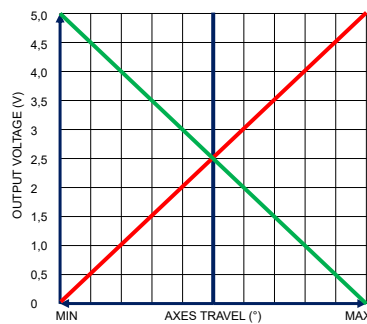
C Dual 0 V to 5 V



D Dual 0.5 V to 4.5 V



E Inverse dual 0.5 V to 4.5 V



F Inverse dual 0 V to 5 V

Note: The output voltage cannot be superior to the power supply voltage. For 0 V to 5 V versions, the power supply should not be lower than 5 V.