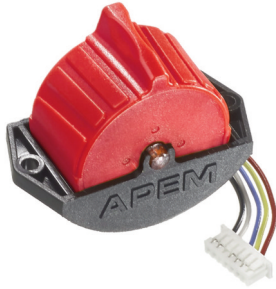


**NEW!**

# HR series

## Proportional output thumbwheels - friction hold

*Distinctive features and specifications*



- Friction hold - 2 versions:  
11 detents along the travel or 1 detent at center
- Sealed to IP68
- Backlighting option
- EMI/RFI shielding
- Patented solution

### ENVIRONMENTAL SPECIFICATIONS

- Electronics sealed to IP68 according to IEC 60529
- Shock resistance : 50 g during 11ms (version with 11 detents)
- Salt spray : IEC 512-6, test 11f
- Operating temperature : -30°C to +70°C
- Storage temperature : -40°C to +85°C
- EMI/RFI shielding : IEC 61000-4-3 and ISO 11452-2 (100V/m)
- ESD discharges : 16KV according to EN 61000-4-2

### GENERAL SPECIFICATIONS

- APEM SAS patented design
- Mechanical operating angle :  
+/- 35°
- Detent operating force :  
1,75N ± 0,5 (version w. 11 detents)  
2,5N ± 0,5 (version with 1 detent)
- Mechanical life : 100.000 cycles

### ELECTRICAL SPECIFICATIONS

- Hall effect sensor
- Supply voltage : 5VDC +/- 0,5V
- Reverse polarity : -10V max.
- Overvoltage : +20V max.
- Center voltage (no load) : 2,5V +/- 0,2V
- Consumption : 11mA max. (single output)  
22mA max. (dual output)
- LED supply : 6VDC 10mA

### MATERIALS

- Wheel : polyamide with colouring
- Support : polyamide, black
- Electronics sealing : epoxy
- Connector : polyester (Molex 0510210700)
- Multiwire lead AWG28

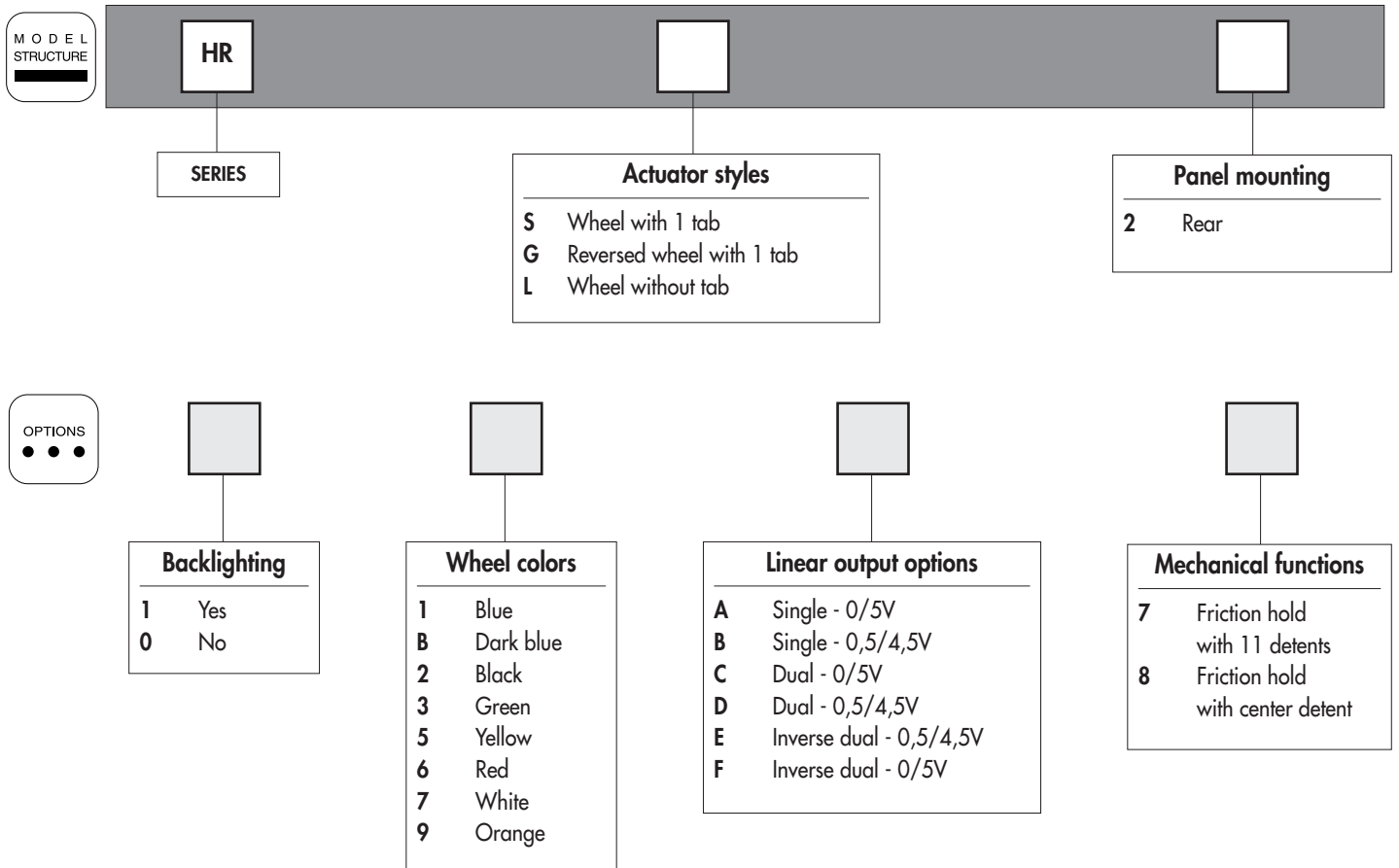
**Tolerance** : The general tolerance for dimensions in this brochure is  $\pm 0,3$  (.012).  
The company reserves the right to change specifications without notice.

# HR series

**NEW!**

## Proportional output thumbwheels - friction hold

### Overview



#### ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketed numbers.



**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.



**Mounting accessories** : standard hardware supplied : 2 self-tapping screws DELTA PT® 22x08 for plastic.



**Packaging unit** : 20 pieces

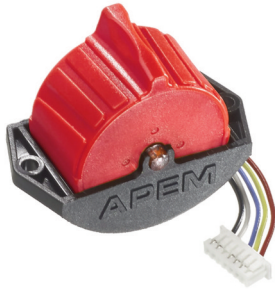
**NEW!**

# HR series

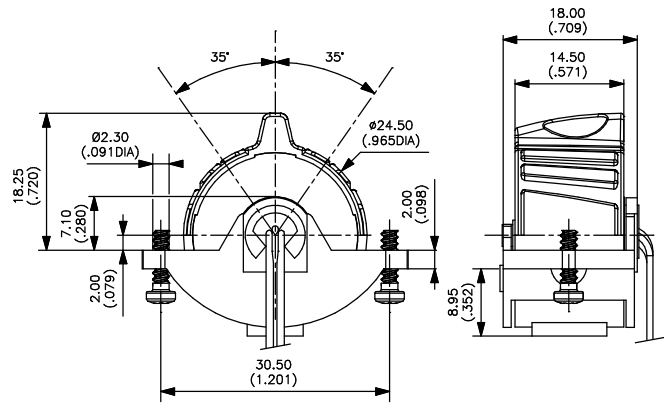
Proportional output thumbwheels - friction hold

*Actuator styles*

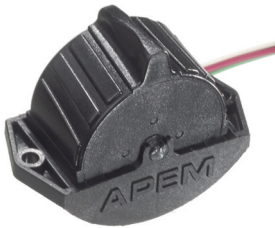
## Wheel with 1 tab - version S



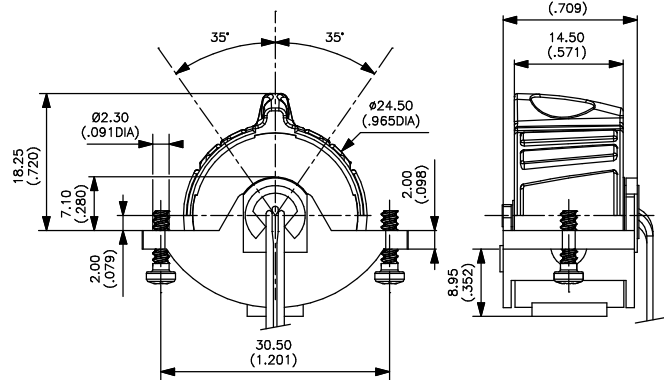
HRS2



## Reversed wheel with 1 tab - version G



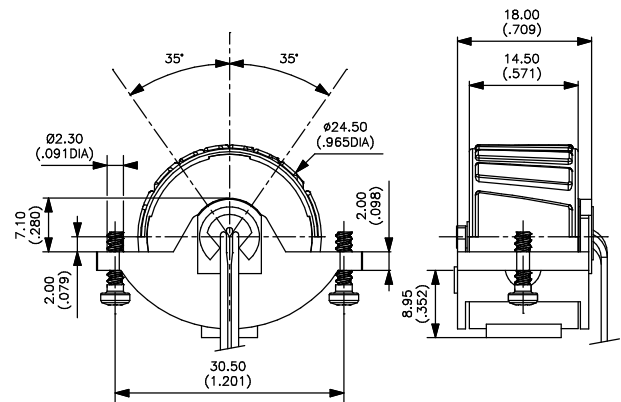
HRG2



## Wheel without tab - version L



HRL2



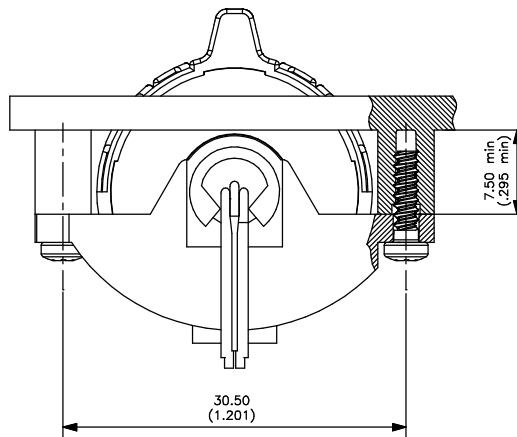
# HR series

**NEW!**

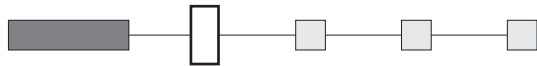
Proportional output thumbwheels - friction hold

*Options*

## EXAMPLE OF MOUNTING



## BACKLIGHTING



- 1 Yes
- 0 No

## WHEEL COLORS



- 1 : Blue - B : Dark blue - 2 : Black - 3 : Green - 4 : Grey - 5 : Yellow - 6 : Red - 7 : White - 9 : Orange

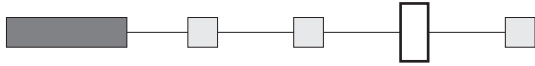
**NEW!**

# HR series

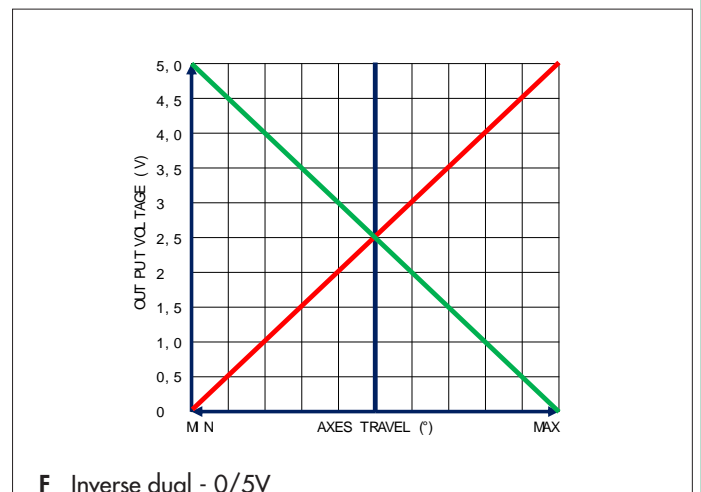
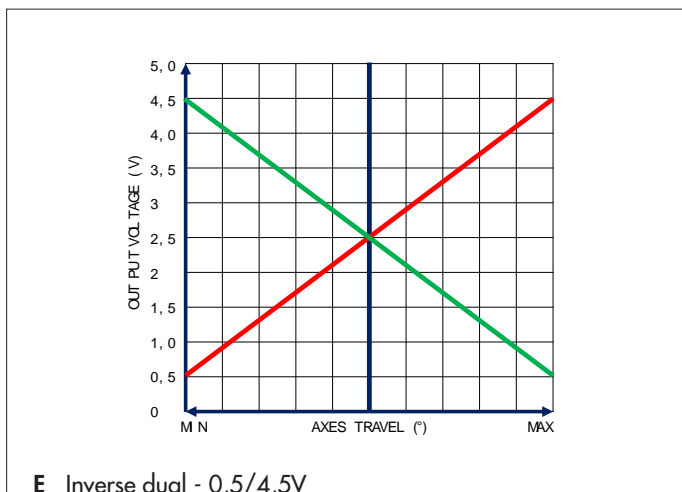
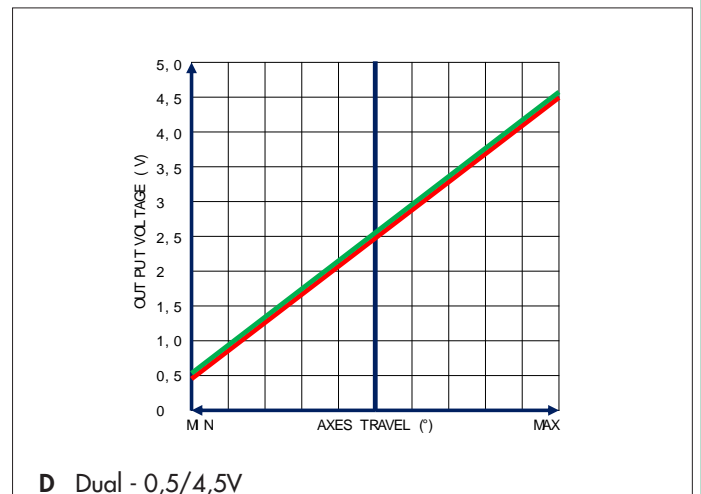
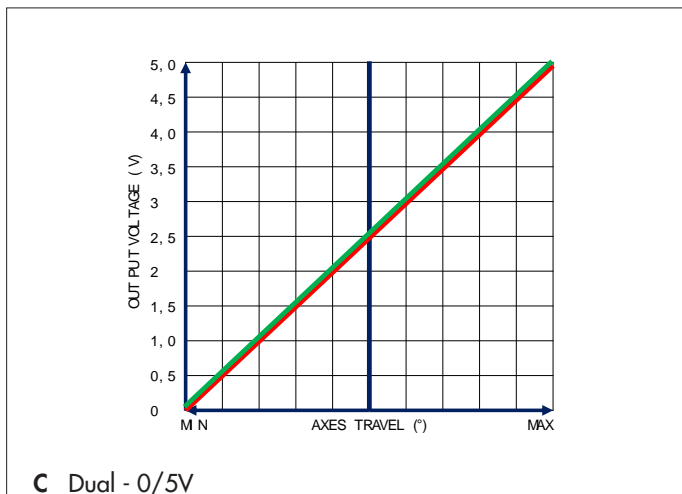
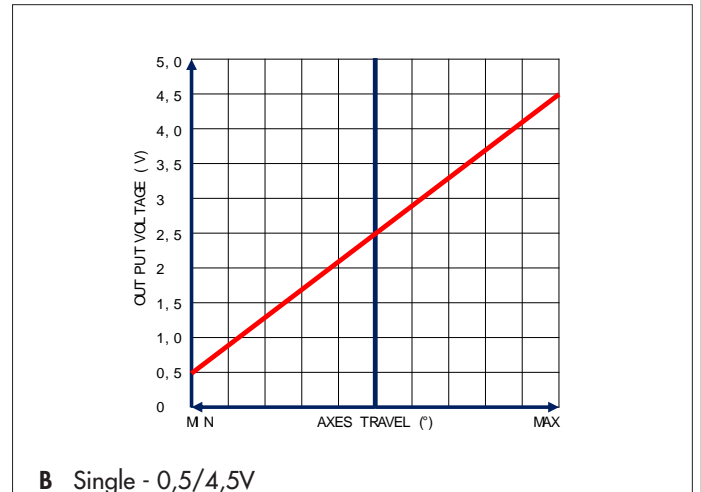
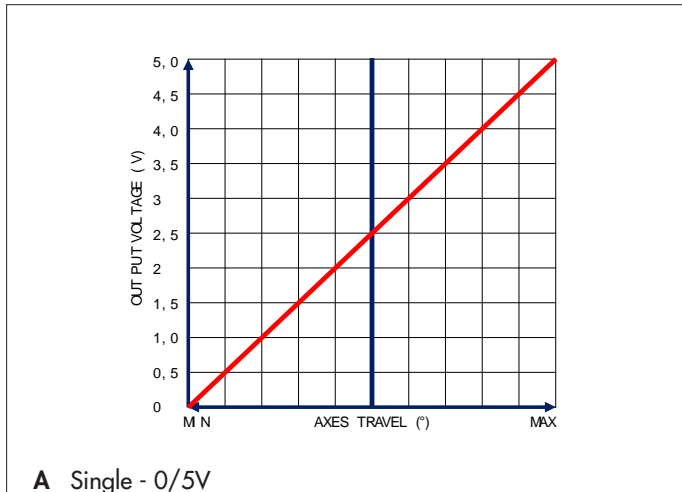
Proportional output thumbwheels - friction hold

*Options*

## LINEAR OUTPUT OPTIONS



— output 1  
— output 2



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

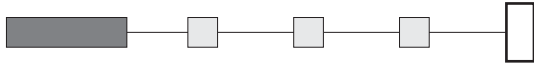
# HR series

**NEW!**

## Proportional output thumbwheels - friction hold

*Options - Connections*

### MECHANICAL FUNCTIONS



- 7 Friction hold with 11 detents along the travel
- 8 Friction hold with center detent

### CONNECTIONS

#### Single output without backlighting

| Pin | Function              | Color |
|-----|-----------------------|-------|
| 1   |                       |       |
| 2   | Power supply: +VDC 5V | Red   |
| 3   |                       |       |
| 4   |                       |       |
| 5   |                       |       |
| 6   | Output                |       |
| 7   | Ground 0V             | Black |

#### Single output with backlighting

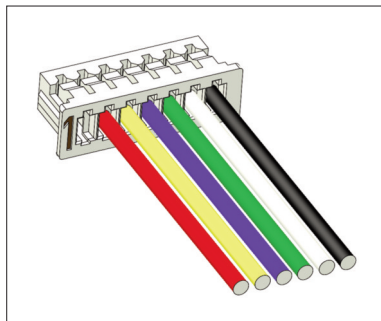
| Pin | Function              | Color |       |        |
|-----|-----------------------|-------|-------|--------|
| 1   |                       |       |       |        |
| 2   | Power supply: +VDC 5V | Red   |       |        |
| 3   |                       |       | LED + | Yellow |
| 4   |        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

#### Dual output without backlighting

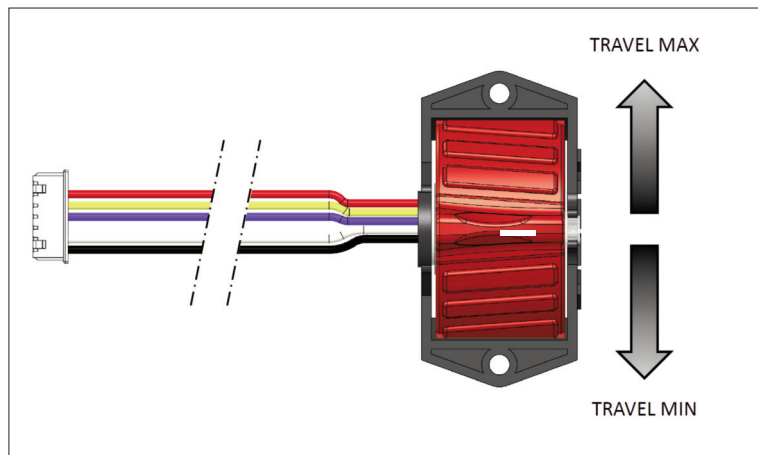
| Pin | Function              | Color |
|-----|-----------------------|-------|
| 1   |                       |       |
| 2   | Power supply: +VDC 5V | Red   |
| 3   |                       |       |
| 4   |                       |       |
| 5   | Output 2              | Green |
| 6   | Output 1              | White |
| 7   | Ground 0V             | Black |

#### Dual output with backlighting

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



Wiring harness with multiwire lead AWG28. Length 140 mm



HRFRICITION1512-A