

NV series

Compact 5-way navigation thumb controls •
switching technology



DISTINCTIVE FEATURES

Tactile feedback in all directions & optional pushbutton
Compact and low profile behind panel
Shock, vibration & salt spray resistant
1 million lifecycles
Sealed to IP69K



ENVIRONMENTAL SPECIFICATIONS

- Front Panel Sealing : IP69K according to DIN 40050-9, IP67 according to IEC 60529
- Shock Resistance per IEC 60068-2-27 : 3 sinusoidal impulse 300m/s² 18ms on 3 axis
- Vibrations (random, 3 axis) per IEC 60068-2-64 : 10-350Hz
- Vibrations (sinus) per IEC 60068-2-6 : 10-200Hz / 20m/s² ; dwell period 30 minutes
- Salt Spray : 96 h per IEC 60068-2-11/KA
- Damp Heat per IEC 68-2-78 : 40 °C (104 °F) 93% HR - 10 days
- Cold and Dry Heat, Temperature Shock per IEC 68-2-14/Na : -40°C to +85°C (-40 °F to +185 °F)- 10 cycles
- Operating Temperature: -40 °C to +65 °C (-40 °F to +149 °F)



ELECTRICAL SPECIFICATIONS

- Electrical Function : 4 or 5 momentary NO
- Max. Current/Voltage Rating with Resistive Load : 50 mA 12 VDC
- Electrical Life at Full Load :
1,000,000 cycles per direction
1,000,000 cycles for validation
- Output :
MOLEX 6 pin connector (Ref: 53398-0671)
Mating connector Molex 51021-0600

The company reserves the right to change specifications without notice.



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MECHANICAL SPECIFICATIONS

- Expected Life : 1 million cycles per direction
- Angular Travel : 12°
- Pushbutton Travel : 1.5 mm
- Operating force : (customizable on request)
Direction : 4 N ±1 N
Validation : 11 N ±2 N
- Panel Thickness : 1 to 10 mm (.0039 in to .39 in)
- Torque : 2 Nm min. applied to nut
- Mechanical Strength : The switch can withstand a force of 100 N applied in any directions
- Mass/Weight : 17.5 g ±2 g (0.6 oz ±0.07 oz)



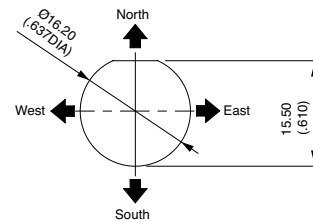
MATERIALS

- Sealing Gasket : Elastomeric
- Case : Brass, black chrome plated
- Actuator : ABS
- Lever : Steel
- Nut : Brass, black chrome plated
- Output wires (flying lead terminals) : AWG24, section 0.23 mm², UL 1213 (military grade)

APEM products may be recycled at end-of-life for the re-claiming of valuable metal components.

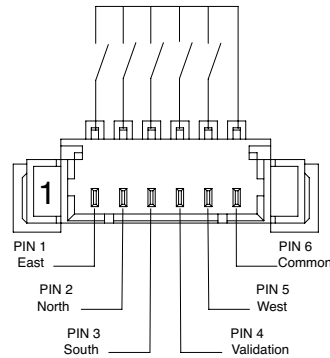


PANEL CUT-OUT



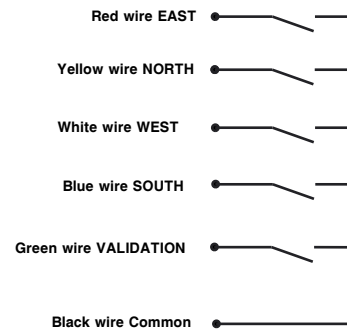
CONNECTIONS

CONNECTOR OUTPUT - REAR VIEW



PIN 4 for validation version only

FLYING LEADS OUTPUT



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4 DIRECTIONS



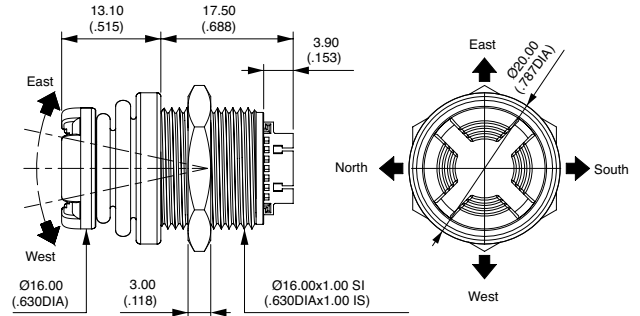
Connector output

NVH•D1C0

Flying lead output

NVH•D1F0

FOR DIRECTION AVAILABLE



4 DIRECTIONS + PUSHBUTTON



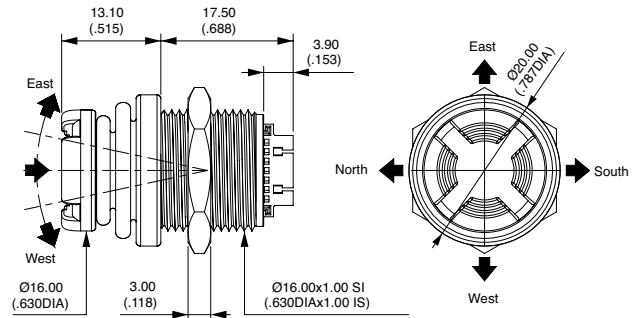
Connector output

NVH•D1C1

Flying lead output

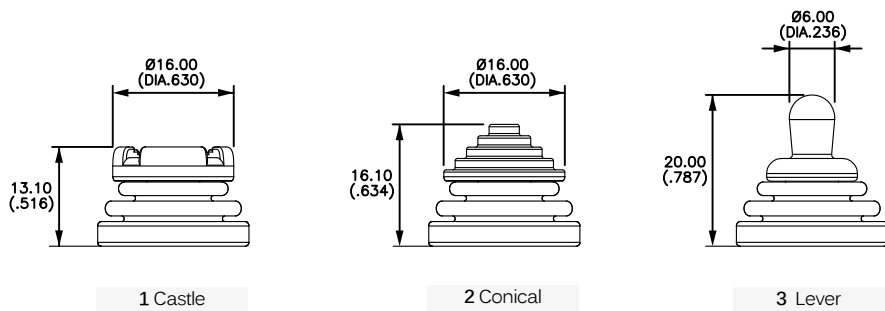
NVH•D1F1

FOR DIRECTION AVAILABLE



ACTUATOR STYLE

In the above part numbers, replace • with one the following codes.



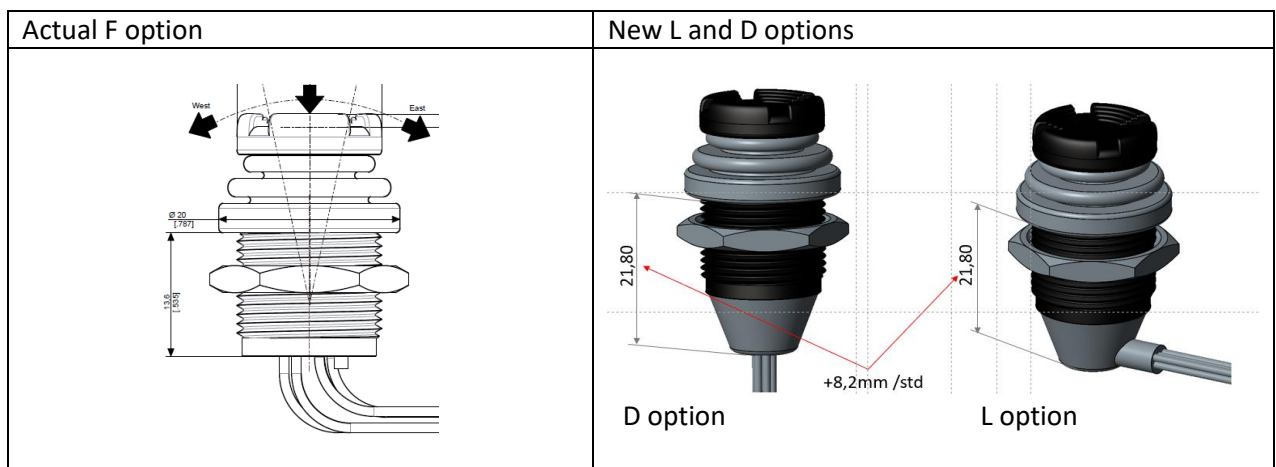
PRODUCT CHANGE NOTIFICATION – NV series wire output evolution

APEM informs you that the F option for NV series is superseded by L and D wire output options. These new options are overmoulded where the F option was epoxy protected.

We will also change the wire type and default length, from 500mm long UL1213 to 600mm long EETFE or EFEP

The wire gauge will remain AWG24

The L and D options offer a IPx5, IPx7 rear panel sealing level.



The catalog pages will be updated in the coming weeks to reflect those changes.

There will be no price change, L and D wire option will carry the same adder as the actual F option.

We will EOL (end of life) the following part numbers with the F option

NVH1D1F1CP2S

NVH1D1F1CP9S

NVH3D1F0CP2S

NVH2D1F0CP2S

NVH1D1F0CP2S

NVH2D1F1VP2S

NVH1D1F1HP2S

NVH1D1F1CP4S

NVH2D1F1CP2S

NVH1D1F0CP2SX1390

Planning:

We will accept orders with F option until end of September 2024

Production of F option will stop after end of December 2024

New L and D option can be ordered from now on.

Christophe Moreau – Product Manager