



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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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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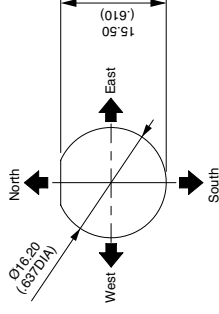


MECHANICAL SPECIFICATIONS

- 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)

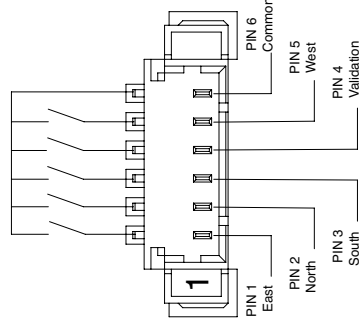


PANEL CUT-OUT



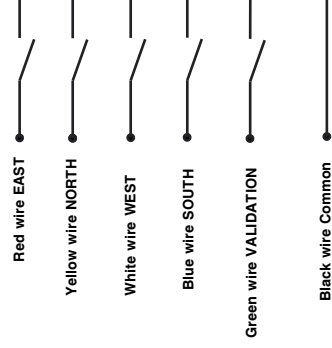
CONNECTIONS

CONNECTOR OUTPUT - REAR VIEW



PIN 4 for validation version only

FLYING LEADS OUTPUT



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.

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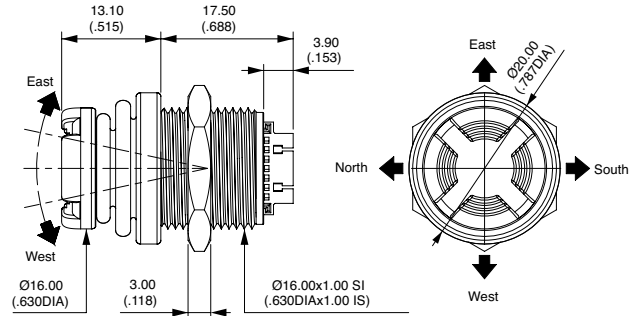
4 DIRECTIONS



Connector output
NVH•D1C0

Flying lead output
NVH•D1F0

FOR DIRECTION AVAILABLE



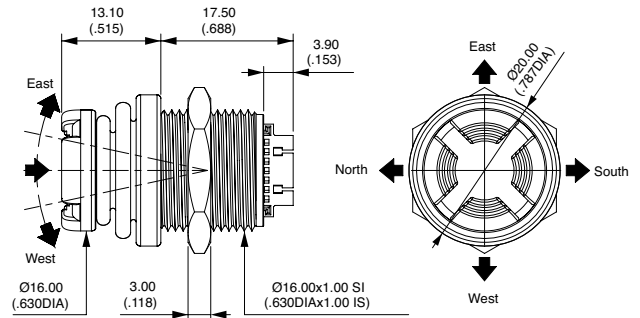
4 DIRECTIONS + PUSHBUTTON



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.

