1000 HE series

Switch joysticks for harsh environments



Building upon the proven success of their low cost switch joysticks, Apem has extended their 1000 Series range to include a selection of bush mounting joysticks that are specifically designed for use in harsher environments such as vehicle lifting platforms and materials handling devices. The 1000 HE range extension utilises V4 switches, which may be specified with a 6A or 10A operation and also offers options for sealed switches and gold contacts. The 1000 HE products are supplied as standard with two sealing boots, one internal to the joystick mechanism and one external to the panel, which delivers a more reliable seal over the service life of the product.





KEY FEATURES

- ❑ **Double seal**
- ❑ **Single or double pole**
- ❑ **Gold contacts**
- ❑ **Oil / acid / alkali resistant boot**
- ❑ **22mm diameter bush mounting**
- ❑ **V4 switches**
- ❑ **Two handle options**
- ❑ **Outer hex nut for wrench tightening**



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OPTION SELECTION

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SWITCHES

1	6A - V4
3	10A - V4
4	Right Angle V4
5	5A/250V AC - V4 Faston Style
7	10A/250V AC - V4 IP67

POLES

1	Single Pole
2	Double Pole

HANDLE

BE	Round
BH	Toggle

MODIFIER

135	+ Limiter Fitted
136	- Limiter Fitted
520	+ & - Limiter supplied

SPECIFICATIONS

MECHANICAL

Mechanical Life	–	1 Million Operations
Lever Travel	–	24° (12° from center)
Lever Material	–	Stainless Steel
Mass/weight	–	70g
Body Material	–	Mineral Filled Nylon-6
Handle Material	–	Aluminium / Phenolic
Boot Material	–	Kumho / Neoprene
Mounting - Bush	–	Single Point 22mm Diameter

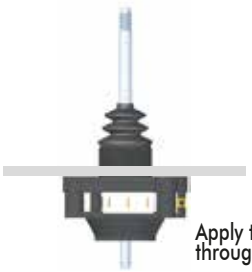
ELECTRICAL

Number of Switches	–	2, 4, or 8
Nominal Current	–	6A, 10A
Maximum Voltage	–	250V AC
Contacts #1 6A - V4	–	Gold
Contacts #3 10A - V4	–	Silver
Contacts #4 Right Angle	–	Silver
Contacts #5 Faston Style - V4	–	Silver
Contacts #7	–	Silver
Switch Contacts	–	Changeover
Contact Life	–	Load Dependent

ENVIRONMENTAL

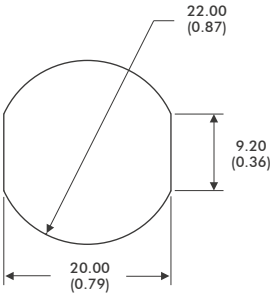
Temperature Range	–	-20°C to 50°C[3]
Above Panel Seal (IP)	–	To IP67

PANEL CUT-OUT



Apply the assembled base through the mounting cut out

NOTE:
The joystick is mounted from beneath the panel.



NOTES

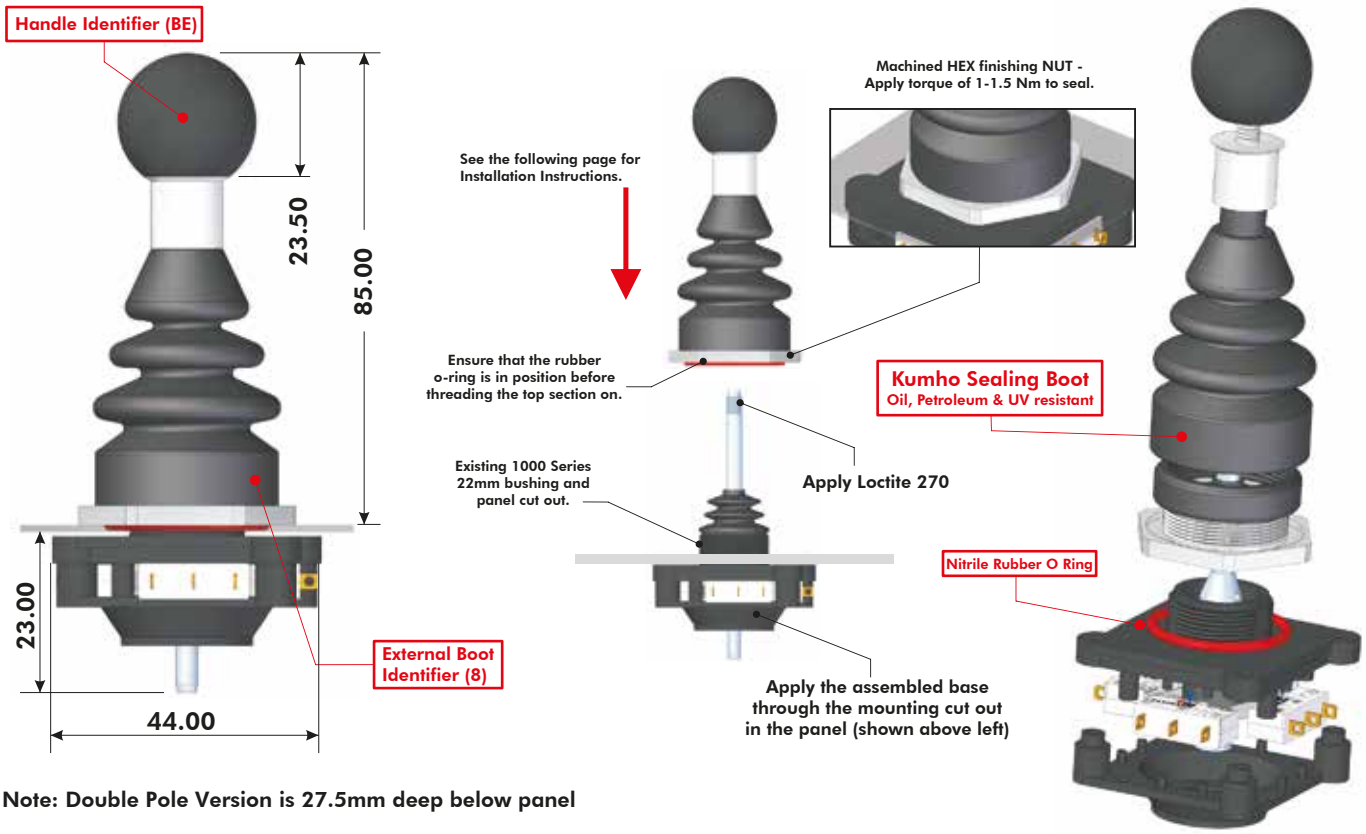
- All values are nominal
- Exact specifications may be subject to configuration. Contact Technical Support for the performance of your specific configuration.
3. Temperature specification may be subject to the chosen switch option. Please refer to factory.

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

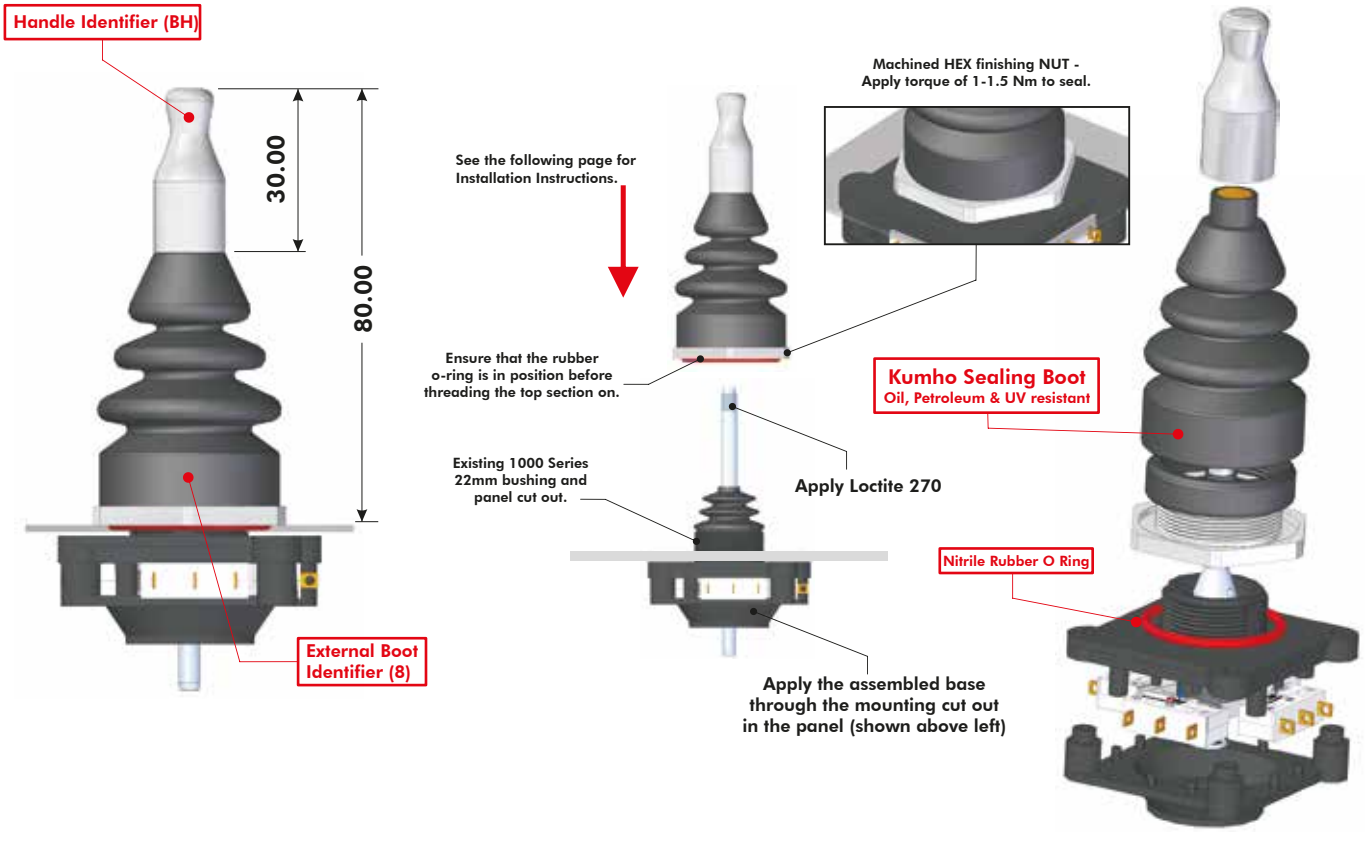
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DIMENSIONAL DRAWINGS



Note: Double Pole Version is 27.5mm deep below panel



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CONFIGURATION OPTIONS

SWITCHES

Five switch options are specified as standard. All are configured with change-over contacts, allowing the user flexibility of connection.

Option 1 - V4 - 6A/240V AC should be specified where the joystick will be switching smaller current levels. These switches are supplied with gold flash terminals to ensure reliable switching at very low current levels.
Option 3 - V4 - 10A/240V AC should be specified where the joystick may be switching up to 10A.
Option 4 - V4 - 5A/250V AC with right angle terminals, should be specified for PCB mounting or simpler termination.
Option 5 - V4 - 5A/250V AC with 2.8mm Faston style terminals.
Option 7 - V4 - 10A/250V AC sealed to IP67

Life and reliability of the switches is heavily determined by the type of application and parameters such as load. Contact the factory for further advice about the expected switch performance under differing loads or DC supplies.

MECHANICAL OPERATION

All 1000 HE Series are sprung to centre and are supplied with an open square gate. As a standard option the 1000 HE Series may be factory fitted with either a single axis (-), cross (+) or diagonal (X) metal limiter.
All joysticks are supplied as standard without a cable harness, allowing the user flexibility of connection.
Alternatively the joystick may be factory configured with cable harness, upon customer request.

DOUBLE POLE OPERATION

The construction of the joystick is designed so that both switches nominally trigger simultaneously. Such simultaneous triggering is subject to a +/-2 degree tolerance (between switches) owing to the mechanical tolerances and hysterisis of each switch.

INSTALLATION INSTRUCTIONS

From beneath the panel, pass the joystick lever through the mounting cutout, ensuring the correct orientation.
If additional security is required, apply some Loctite 270 to the thread at the end of the lever.
Ensure the rubber o-ring is in position in the groove on the underside of the hex nut at the base of the assembled top section.
While holding the lower base in position, take the assembled top section and screw it on to the lever and joystick bush, using the handle. This should be fitted finger tight until the rubber O-ring meets the panel.

Tighten the hex nut, applying a torque of 1-1.5Nm to seal and add a bond if necessary.
After installation ensure boot is not twisted.







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