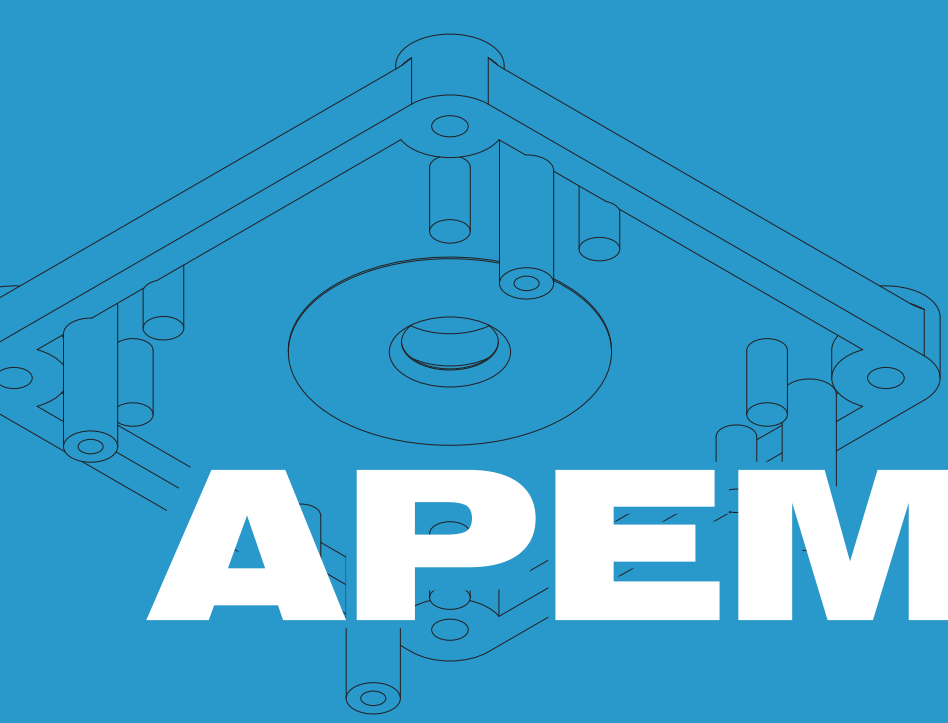
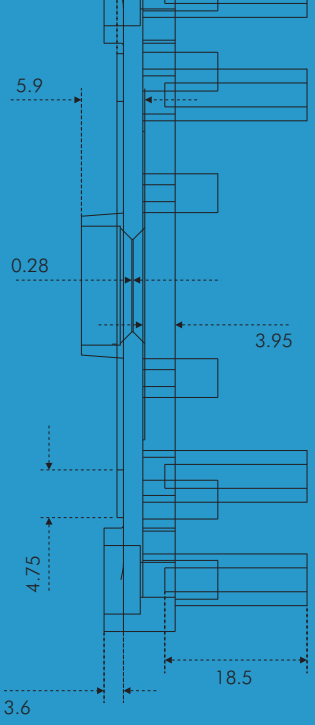




APEM

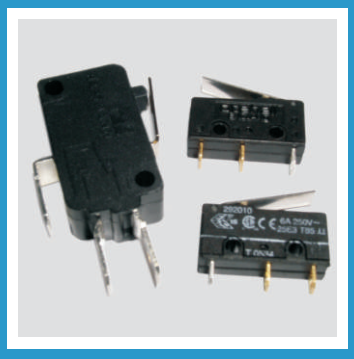
1000 SERIES - MICROSWITCH JOYSTICKS

COMPACT SIZE ROBUST CONSTRUCTION SINGLE OR DUAL AXIS

VERSATILE SINGLE OR DUAL POLE ALTERNATIVE KNOB SELECTION

IP65 ABOVE PANEL BUSH OR SCREW MOUNT V4 SWITCHES

V3 SWITCHES CROSS OR DIAGONAL OPERATION LOW PROFILE



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1000 SERIES - MICROSWITCH JOYSTICKS

PRODUCT DESCRIPTION

GENERAL DESCRIPTION

The 1000 Series is a versatile range of low cost switch joysticks and is ideal for light to medium duty environments where proportional control is not a necessity. Configurable with either single or double pole switching, the 1000 Series can also be specified as screw or bush mounted.

The joystick construction is determined by the switches employed. There are two possible construction options, based on the use of either V3 or V4 switches. V4 switches may be specified with 6A or 10A operation, yielding a smaller joystick than the construction employed for V3 switches which yields up to 16A operation.

SWITCHES

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

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.
V4 - 10A/240V AC should be specified where the joystick will be switching larger current levels.
V3 - 16A/240V AC should be specified where the joystick will be switching even greater current levels.

Note: The construction of the joystick employing V3 switches is not available with as many configuration options.

Life and reliability of the switches is heavily determined by the type of application and parameters such as load. The Apem sales team will be happy to provide further advice about the expected switch performance under differing loads or DC supplies.

MECHANICAL OPERATION

All 1000 Series are supplied with an open square gate. As a standard option the joystick may be supplied with an additional limiter set, that allows the customer to retro-fit limiters to reduce the travel to single axis(-), cross (+) or diagonal (X) operation. Joysticks are supplied as standard without a cable harness, allowing the user flexibility of connection. Alternatively the joystick may be factory configured with fitted limiters or cable harnesses, upon customer request.

SEALING

Two gaiter options are offered as standard to provide an IP65 above-panel seal. When specifying a bush mount joystick please select gaiter option 5. Alternatively gaiter option 1 should be selected for 4 point screw mount joysticks. As standard, an adhesive P.V.C sealing gasket is supplied with all bush mount joysticks, to ensure a good seal between the joystick body and the panel.

DUAL POLE OPERATION

The construction of the joystick is designed such that both switches nominally trigger simultaneously. Such simultaneous triggering is subject to a +/-3 degree tolerance (between switches) owing to the mechanical tolerances and hysterisis of each switch.

MOUNTING

The 1000 Series is available in two mounting options, four point screw mount or bush mount. The V4 screw mount option is supplied with M2.5 x 20mm screws, whereas the larger construction of V3 screw mount joystick is supplied with M2.5 x 25mm screws. All screws supplied are slotted, pan head machine screws.

LEVERS

Lever option 5 provides for a low profile above the panel (41mm), this option is very popular for those applications requiring a compact, stubby design. Lever option 1 is an additional 5mm taller. Lever option 6 should be specified for a push button handle, and lever option 7 is designed for V4 di-pole, or V3 constructions.

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

1000 SERIES - MICROSWITCH JOYSTICKS

PRODUCT CONFIGURATION

STANDARD OPTIONS

The 1000 Series is available with a range of standard options. To specify your joystick, simply choose one option from each column. An example is shown below.

1	D	1	5	F	1	5	00
SERIES	MOUNTING	POLES	LEVER	HANDLE	LIMITER SET	GAITER	MODIFIER
6A - V4* (1)	22mm Bush* (D)	Single Pole (1)	Long* (1)	Round (C)	Not Supplied (0)	Screw Mount (1)	None (00)
16A - V3 (2)	4 Point Screw (V)	Di-pole* (2)	Standard V4* (5)	Cylindrical (D)	Standard (1)	Bush Mount* (5)	+ Limiter Fitted (34)
10A - V4* (3)			For Push Button V4* (6)	Conical (F)			Slot Limiter Fitted (39)
			For Di-pole V4/V3 (7)	Tall Conical (H)			
				Push Button* (M)			

* Denotes unavailable with V3 construction.

EXAMPLE CONFIGURATIONS

TECHNICAL SPECIFICATION

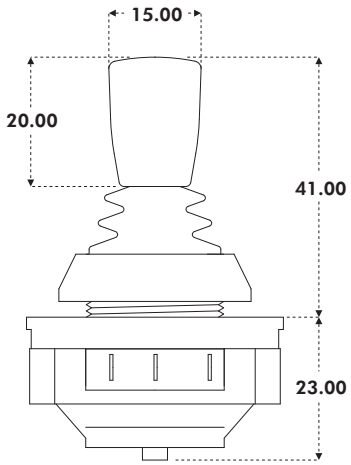
All parameters and dimensions shown maybe subject to specification, please refer to Apem for details.

Mechanical Life	: >5 Million Operations	Lever Travel	: +/-12 Degrees from Centre
Lever Material	: Stainless Steel	Body Material	: Mineral Filled Nylon-6
Handle Material	: Nylon or Aluminium	Gaiter Material	: Neoprene
Mounting - Screw	: 4 x M2.5 Stainless (Slotted)	Mounting - Bush	: Single Point 22mm Diameter
No. of Switches	: 2, 4, or 8	Nominal Current	: 6A, 10A or 16A
Maximum Voltage	: 250V AC	Contacts 6A - V4	: Gold
Contacts 10A - V4	: Silver	Contacts 16A - V3	: Silver
Switch Contacts	: Changeover	Termination	: Solder (V4) - Faston (V3)
Contact Life	: Load Dependent	Temperature Range	: -20C to+50C
Weight	: 40 grams	Above Panel Seal	: IP65

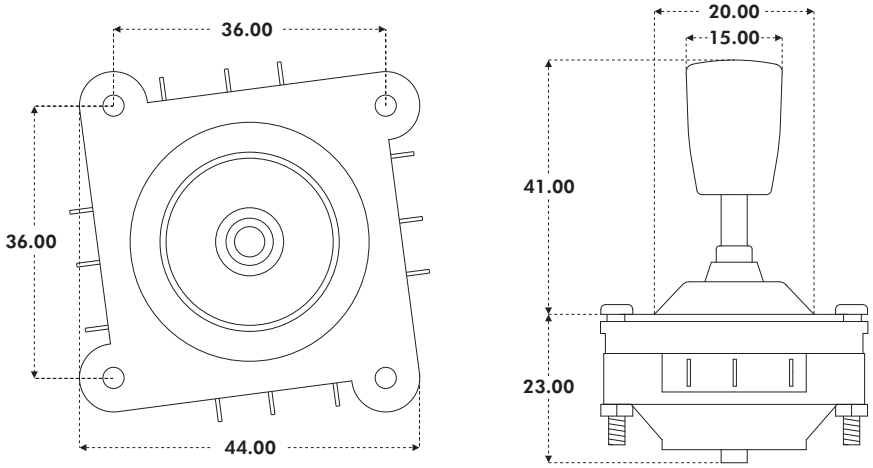
1000 SERIES - MICROSWITCH JOYSTICKS

USEFUL DIMENSIONS

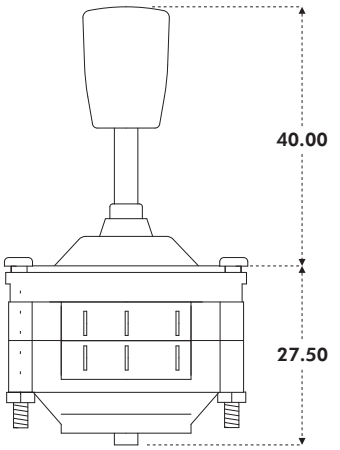
V4 BUSH MOUNT



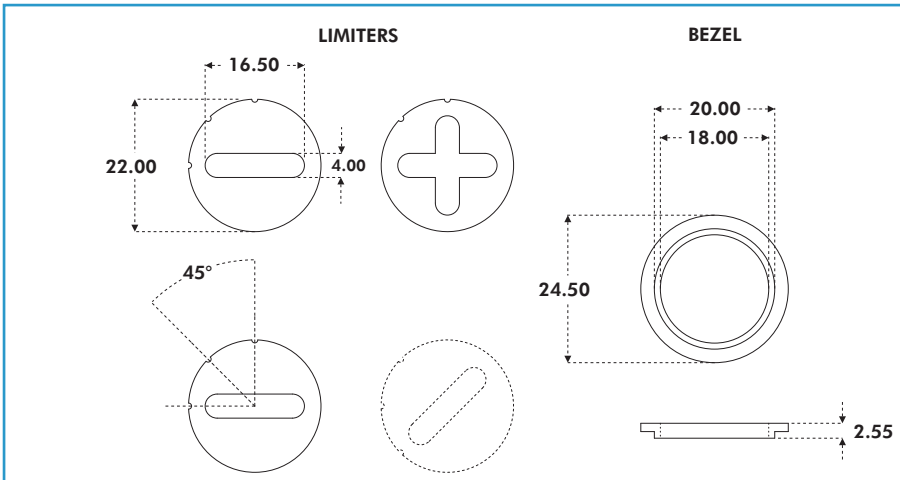
V4 SCREW MOUNT



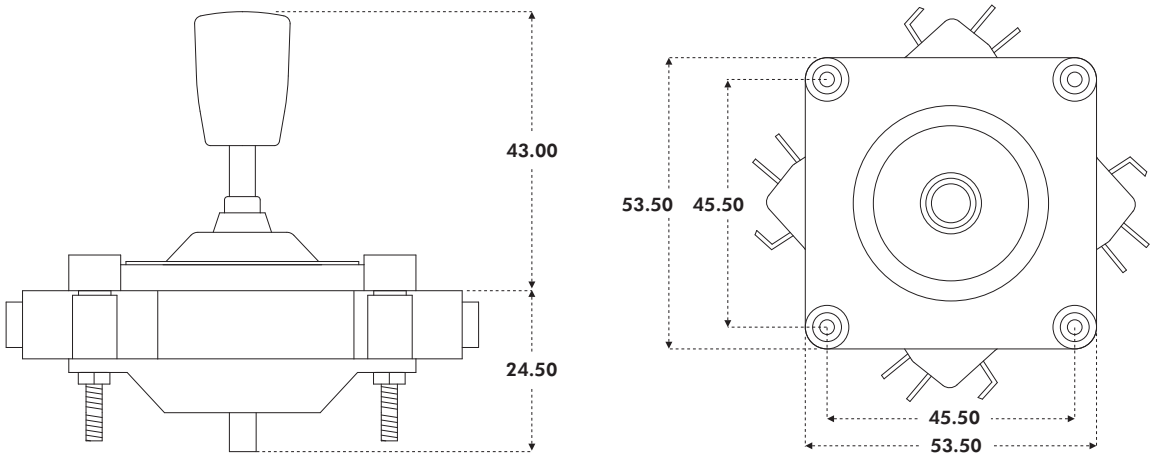
V4 DI-POLE



LIMITERS AND BEZEL SET



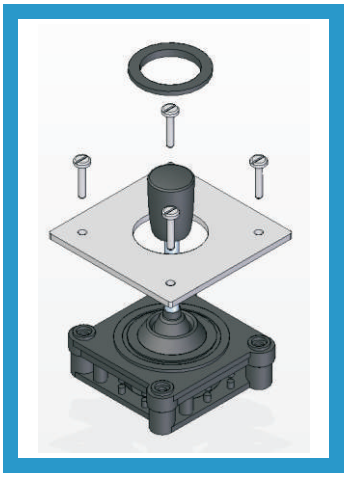
V3 SCREW MOUNT



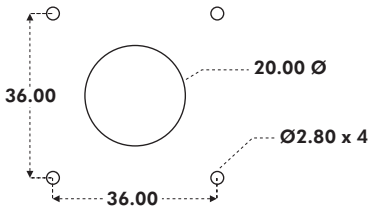
1000 SERIES - MICROSWITCH JOYSTICKS

USEFUL DIMENSIONS

V4 SCREW MOUNT - PANEL CUT-OUT & MOUNTING INSTALLATION

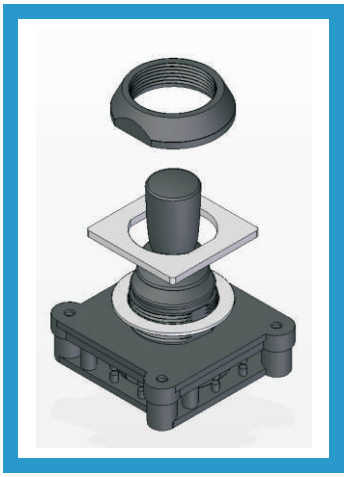


MOUNTING CUT-OUT

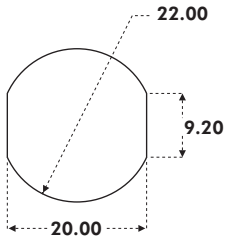


The joystick is mounted from beneath the panel using the 4 x M2.5 machine screws, supplied with the joystick.
Supplied as standard with the joystick is a round bezel which may be fitted (according to customer preference) to finish the front face of the panel. Fitting the bezel is optional, and is not necessary if the panel cut-out finishes the panel.

V4 BUSH MOUNT - PANEL CUT-OUT & MOUNTING INSTALLATION

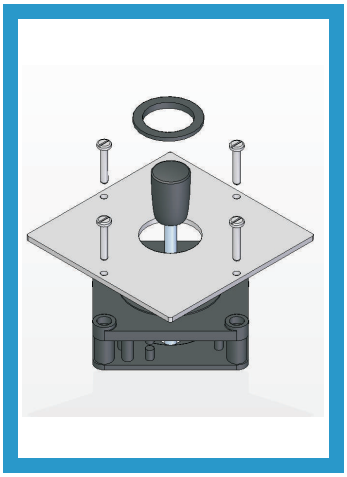


MOUNTING CUT-OUT

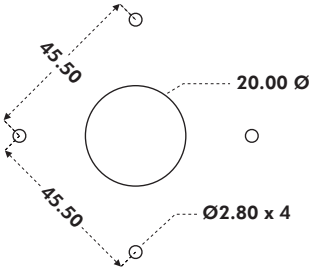


The joystick is mounted from beneath the panel. Supplied as standard with all bush mount joysticks is an adhesive P.V.C. sealing gasket. This should be fitted between the joystick and the panel, in applications where a good seal is needed.

V3 SCREW MOUNT - PANEL CUT-OUT & MOUNTING INSTALLATION



MOUNTING CUT-OUT



The joystick is mounted from beneath the panel using the 4 x M2.5 machine screws, supplied with the joystick. Supplied as standard with the joystick is a round bezel which may be fitted (according to customer preference) to finish the front face of the panel. Fitting the bezel is optional, and is not necessary if the panel cut-out finishes the panel.