

Custom products



Section J

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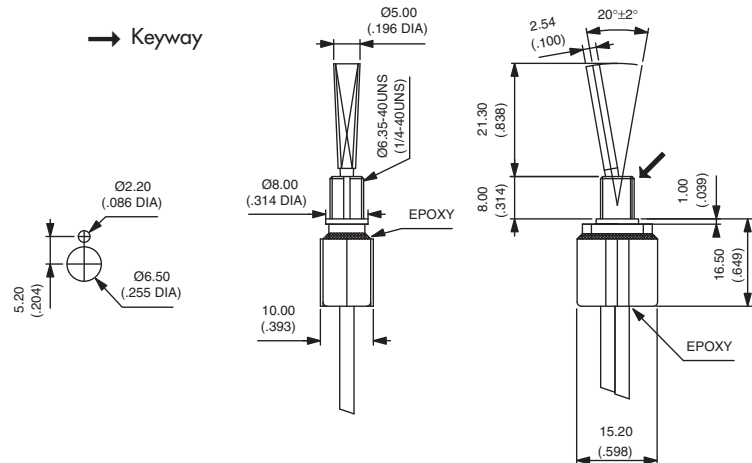
The SWITCHES shown below are examples of catalog products adapted to meet a specific need. They illustrate APEM's capability to develop custom products. They are available for sale and can be purchased under the model number indicated in bold characters.

5000 series class II

- Double insulation
- Wire lead terminals to customer's specifications
- Flatted lever of 21,3 mm (.838) outside bushing



5636A-8 X1231



IR with translucent backlighted bezel

New!

This model is intended to offer better illumination. It allows the user to see the status of the switch even if not in front of the device and the illumination remains visible when the finger is on the plunger. This option is available on nearly all IR models. On request.



Fully sealed module including 2 pushbuttons

New!

This module consists of a specific plate and 2 standard IP pushbuttons. Front panel sealing is enhanced with the use of U5125 sealing boots. Rear panel sealing is also reinforced with additional resin. This solution is ideal for outdoor applications where sand, dust, rain or condensation may occur. On request.



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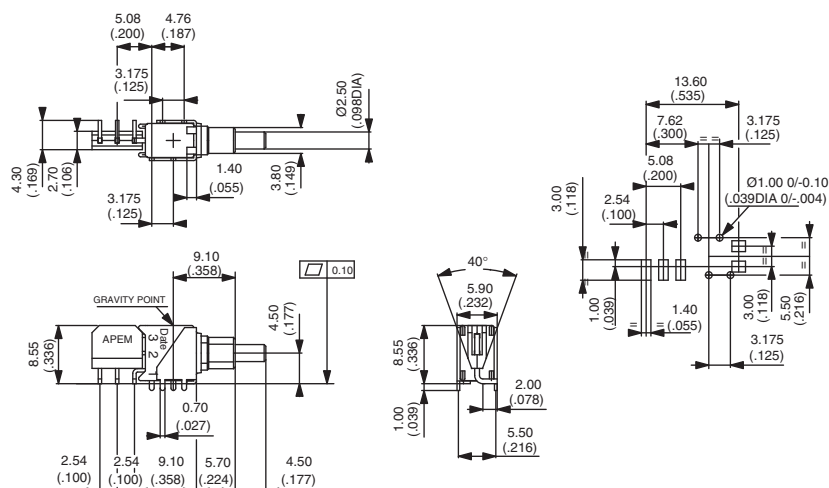
The PUSHBUTTON SWITCHES shown below are examples of catalog products adapted to meet a specific need. They illustrate APEM's capability to develop custom products. They are available for sale and can be purchased under the model number indicated in bold characters.

Vertical right angle SMT TP series

- Excellent stability and mechanical strength
- Saves space on the printed circuit board
- Supplied in tape and reel packaging for pick and place equipment
- Also available for TL series toggle switches



TP32VS83585

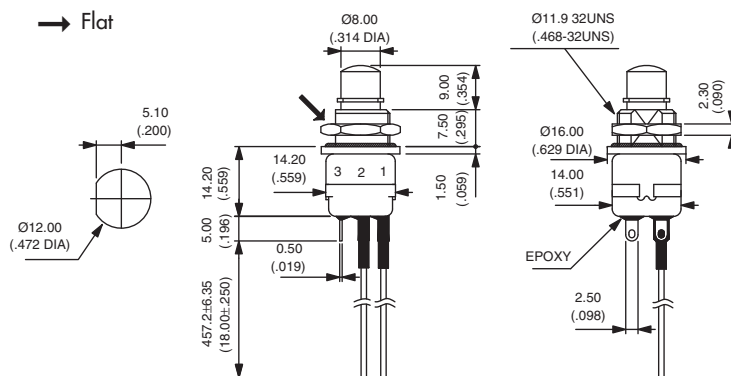


13000 series with mechanical stop and stranded wire leads

- External mechanical stop designed to protect contact mechanism against excessive force
- Stranded wire leads to customer specifications : AWG24, MIL approved
- Terminals/wires protected by heatshrink sleeves
- Matt black finish



13445CDG-29 X1204



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Limit switch

A limit switch is an electro-mechanical device consisting of an actuator mechanically linked to a set of contacts. When an object comes into contact with the actuator, the device operates the contacts to make or break an electrical connection.

This custom switch has been developed to detect the extreme position of a clutch pedal, to operate the electrical clutch in a very harsh environment.

- Stainless steel actuator
- Sealing : rear IP67, front IP40
- Operating temperature : -30°C to + 65°C
- Electrical life : 1.000.000 cycles
- Silver contacts
- Current/voltage rating : 2A 12VDC



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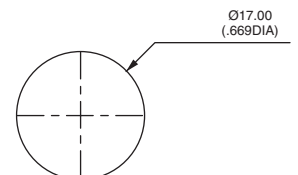
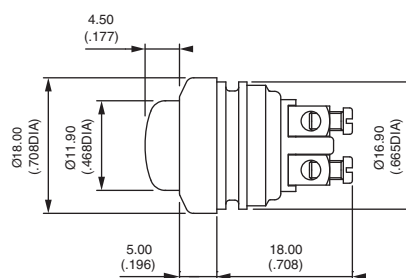
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AV pushbutton with very long life expectancy

- Highly reliable contact mechanism - Silver contacts
- Electrical life : 5 million cycles at 250mA 24VDC
- Mechanical life : 10 million cycles
- No sealing



AV1630A9X2346



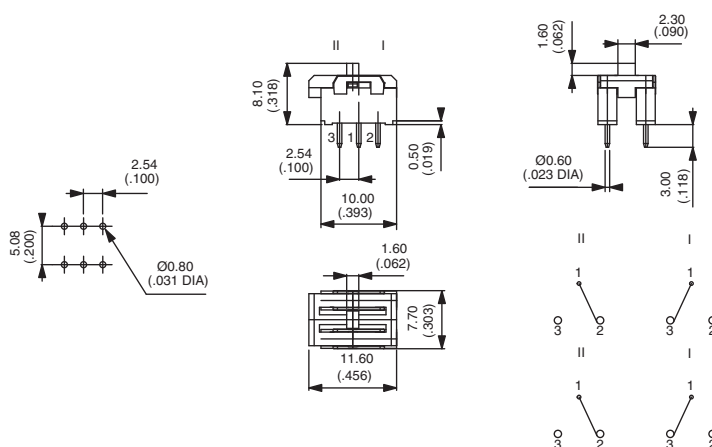
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Double pole NK series

- Two switches with a common actuator
- Terminal spacing : 5,08 mm (.200)
- Travel : 1,60 mm (.062)



NK246 X1211

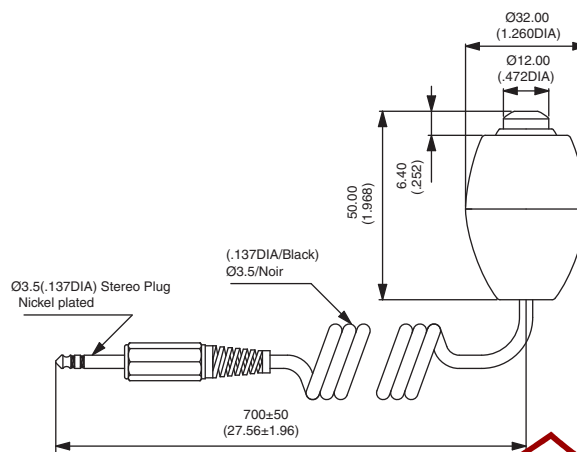


Pendant switch

- Remote hand-held pushbutton
- Sealed to IP67
- Coiled cord with a 3,5 mm jack plug, cord length up to 4 meters
- Applications : nurse call, push-to-talk...



ISR3SAD200107



The custom switches shown below have been entirely developed to APEM's customers' specifications. They are the exclusive propriety of the customer who has supported the tooling costs. They illustrate APEM's capability to find solutions to the most specific switch requirements.

Rocker detect switch



This rocker is used as a detect switch to stop a motor. It has been engineered to fit a tight space specified by the customer. The actuator shape has been specially designed for detection of the extreme positions of the linear motor in which the switch is mounted.

"One key - one function" switch



This custom switch includes 3 keys designed to control a window blind motor.

The two side keys are available in momentary or maintained functions or a combination momentary/maintained configuration.

This product was developed to meet NF-EN6066-1, a requirement of the application.

"Reed" rocker switch



This rocker switch features :

- Very long electrical life : > 2.000.000 cycles
- 2 electrical functions (3 maintained or momentary positions)
- Mounting from rear of panel
- Stranded wire lead terminals

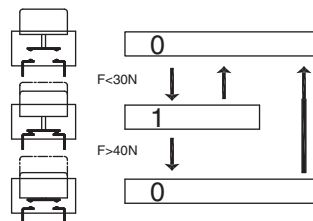


Safety enabling switch



- Three position switch for safety "dead man" application, complying with IEC 60947-5-8.
- Redundant contacts with "emergency stops".
- Patent pending

0 = open contact
1 = closed contact

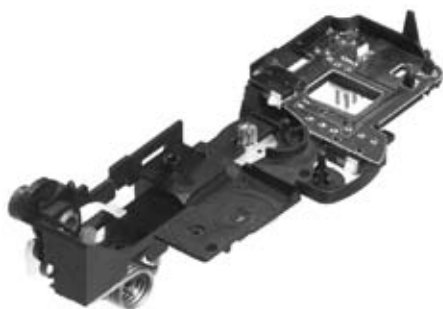


APEM's experienced switch design team, advanced development tools and vertical integration enable the company to develop products beyond conventional switches. The highest level of integration is achieved with modules combining several technologies to offer added value and reduced cost.

- The integration of the different functions begins at the design stage and results in higher product reliability, improved performance, reduced weight and easier assembly.
- This approach reduces costs and development time for the equipment manufacturer.
- Each module is an innovative solution and therefore requires specific tooling for injection, stamping, testing and assembly.
- Tooling costs are amortized on large production runs.

The example below is an integrated module for an automotive application.

Door latch module



• Customer problem

Several components (PC boards, connectors, switches, connector pins for motors, motors), thus several suppliers and assembly stages. Lack of reliability due to the numerous electrical connections.

• APEM solution

A single integrated module, 100 % tested, ready for mounting.

