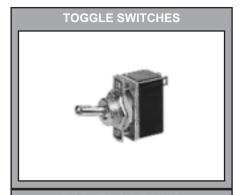
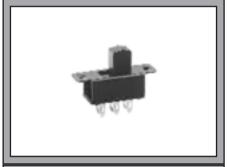
# **SWITCHES**



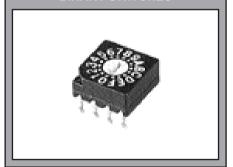
# ROCKER SWITCHES



### **SLIDE SWITCHES**



**BINARY SWITCHES** 



**KEY SWITCHES** 



**BINARY ROTARY SWITCH** 2307 DATA ENTRY KEY PAD 2307 DIL SWITCHES 2308 **EDGE SWITCH** 2309 **FOOT SWITCHES** 2305 **ILLUMINATED TOGGLE SWITCHES** 2303 **KEY SWITCH** 2307 **MAGNETS** 2310 2308-2309 MICROSWITCHES MINATURE PULL SWITCHES 2305 MINATURE PUSH SWITCHES 2304-2305 MINATURE TACTILE SWITCHES 2306 MINATURE TOGGLE SWITCHES 2302 MINATURE TOGGLE **SWITCH COVERS** 2302 OTHER USEFUL BITS 2310-2312 PCB SWITCHES 2306-2307 **REED SWITCHES** 2309 **ROCKER SWITCHES** 2303 **ROTARY SWITCHES** 2307 SLIDE SWITCHES 2304 STANDARD TOGGLE COVER 2303 STANDARD TOGGLE **SWITCHES** 2302-2303 SUB-MINATURE **TOGGLE SWITCHES** 22302 SUB-MINATURE PCB **TOGGLE SWITCHES** 2302



### SUB-MINIATURE PCB TOGGLE SWITCHES

**SUB-MINIATURE TOGGLE SWITCHES** a range of sub-miniature PCB mounting toggle switches with plain bushes, in either vertical or right angle mounting. The terminals are arranged on a 2.54mm pitch to facilitate mounting. The right angle types also incorporate 2 support pins.

Contact rating 400 mA 20 V dcContact resistance  $<20 \text{m}\Omega$  at 2-4Insulation resistance  $>1000 \text{M}\Omega$ Contact material Copper alloy of

Operating life

Operating temperature

<20mΩ at 2 - 4Vdc >1000MΩ Copper alloy, gold plate over nickel. 30,000 cycles @ full load. -30°C to +85°C

CODE	TYPE	PRICE
820-707	Sub-mini PCB Toggle SPDT - Vertical	£3.79
820-709	Sub-mini PCB Toggle DPDT - Vertical	£3.99
820-710	Sub-mini PCB Toggle SPDT - Right Angle	£4.70
820-712	Sub-mini PCB Toggle DPDT - Right Angle	£4.99

#### **SUB-MINIATURE TOGGLE SWITCHES**

**SUB-MINIATURE TOGGLE SWITCHES** a range of high quality sub-miniature toggle switches in single pole and double pole options. This range of switches is ideal for use when space is at a premium.

Contact rating Initial contact resistance Insulation resistance Contact material

3A, 125V, 1A 250V AC <20m $\Omega$  >100M $\Omega$  at 500V DC

Contact material
Body Material
Electrical life

Copper alloy with silver inlay silver plated
Flame retardant alkyd

>2x104 cycles at full load

Operating temperature -20°C to +60°C

CODE	TYPE	ACTION	PRICE
SMT010	Sub-mini Toggle SPST	On-Off	£1.75
SMT020	Sub-mini Toggle SPDT	On-On	£1.99
SMT025	Sub-mini Toggle SPDT C/Off	On-Off-On	£2.19
821-093	Sub-mini Tog SPDT Biased C/Off	.(On)-Off-(On).	£1.89
SMT030	Sub-mini Toggle DPDT	On-On	£2.49
821-095	Sub-mini Toggle DPDT C/Off	On-Off-On	£1.99
821-094	Sub-mini Tog DPDT Biased C/Off	.(On)-Off-(On).	£1.99

# **MINIATURE TOGGLE SWITCH COVERS**

**COLOURED TOGGLE LEVER COVERS** push fit covers for colour coding mini toggle switch levers. 6 colours (Switch not included).



CODE	TYPE	PRICE
MTC110	Mini Toggle Cover Black	£0.25
MTC120	Mini Toggle Cover White	£0.25
MTC130	Mini Toggle Cover Red	£0.25
MTC140	Mini Toggle Cover Blue	£0.25
MTC150	Mini Toggle Cover Green	£0.25
MTC160	Mini Toggle Cover Yellow	£0.25

### **MINIATURE TOGGLE SWITCHES**

**MINIATURE TOGGLE SWITCHES** a wide range of high quality miniature toggle switches in single pole and double pole options and with momentary biased action. **For** 

biased switching action (On) indicates momentary action.

6A, 125V, 3A 250V AC Contact rating Initial contact resistance <20mΩ Insulation resistance >100M $\Omega$  at 500V DC Contact material Copper alloy with silver inlay silver plated Body material Flame retardant alkyd Flectrical life >5x104 cycles at full load -20°C to +65°C Operating temperature CODE **TYPE PRICE** ACTION MT0040 Mini Toggle SPST......On-Off.....£1.25 MT0050 Mini Toggle SPDT......On-On....£1.30 MT0060 Mini Toggle SPDT C/Off......On-Off-On.....£1.60 MTB062 M/Toggle SPDT Biased One Side....On-Off-(On)......£2.89 MT0070 Mini Toggle DPDT......On-On....£1.70 0800TM Mini Toggle DPDT C/Off......On-Off-On.....£1.75 MTB082 M/Toggle DPDT Biased One Side....On-Off-(On).....£2.89 MTB090 Mini Toggle SPDT Biased C/Off....(On)-Off-(On)....£1.99 Mini Toggle DPDT Biased C/Off....(On)-Off-(On)....£2.99 MTB100 \*\*\*The Biased Off switches MTB090 and MTB100 are ideal

for operating solenoids including point motors etc. \*\*\*

**3 POLE AND 4 POLE MINIATURE TOGGLE SWITCHES** a range of high quality miniature toggle switches in 3 pole and 4 pole. Rated 6A @ 125Vac.

3A @ 250Vac.

 Type
 Dims (mm)

 3PDT
 13x18x11

 4PDT
 13x23x11

CODE	TYPE	ACTION	PRICE
MT0125	Mini Toggle 3PDT C/Off	On-Off-On	£3.49
MT0135	Mini Toggle 4PDT	On-On	£4.99

#### STANDARD TOGGLE SWITCHES

**STANDARD TOGGLE SWITCHES** standard size toggle switches with solder tag terminals, supplied with On/Off plate. Single pole and double pole options are available.

Rated 1.5A 250V ac. Body dimensions:single pole 25 x 14 x 14mm, double pole 28 x 18 x 14mm.

CODE	TYPE	<b>PRICE</b>
STT180	Standard Toggle SPST On-Off	£1.89
STT190	Standard Toggle DPDT On-On	£2.49

HIGH CURRENT STANDARD TOGGLE SWITCH a high quality standard toggle switch with DPDT centre off action. The switch

has screw terminals and a On/Off/On plate. Body dimensions:- 35 x 19 x 19mm. 12mm panel cutout. Rating 6A 250V ac, 10A 125V ac.



CODE	TYPE	PRICE
820-200	Standard Toggle DPDT C/Off On-Off-On	£6.49

**HIGH CURRENT STANDARD TOGGLE SWITCHES** a range of high quality high current standard toggle switches. Panel cut out 12mm. Rated at 250V AC 20A. 6.3mm

solder tag termination.

Dimensions:-

SPST - 30 x 18 x 14mm

DPDT - 30 x 21 x 20mm



PRICE
£4.19
£5.59
£6.89

**TOGGLE SWITCH COVER** a flexible cover boot for standard size toggle switches, giving protection against dirt and liquid ingress. The boot has a rubberised actuator cover with a plastic knurled skirt containing a brass nut with thread to suit standard toggle switches. Supplied complete with

mounting washer. Height above panel when mounted; approx 25mm. Skirt diameter 20mm.



CODE	TYPE	PRICE
820-500	Standard Toggle Switch Cover	£0.99

#### **ILLUMINATED TOGGLE SWITCHES**

**ILLUMINATED TOGGLE SWITCH** a SPST toggle switch where the toggle is illuminated when the switch is in the on position. The switch is rated 20A, 12Vdc. Body dimensions 24.4 x 14 x 14mm,

bush length M12 x 11mm long, panel cutout 12mm. Available in colours.



CODE	TYPE	PRICE
820-029	Illuminated Toggle Switch SPST On/Off Red	£3.19
820-030	Illuminated Toggle Switch SPST On/Off Green	£3.19
820-032	Illuminated Toggle Switch SPST On/Off Amber	£3.19
820-030	Illuminated Toggle Switch SPST On/Off Green	£3.19

**LED TIP ILLUMINATED TOGGLE SWITCH** a SPST toggle switch where the toggle tip is illuminated when the switch is in the on position. The switch is rated 20A,

24Vdc. Body dimensions 29.4 x28.6. Panel cutout 12.2mm.

Available in Red or Green.

CODE	TYPE PRICE
820-374	LED Tip Toggle Switch SPST On/Off Red£5.69
820-375	LED Tip Toggle Switch SPST On/Off Green£5.69

#### **ROCKER SWITCHES**

**SPST MINIATURE ROCKER SWITCH** a miniature single pole rocker switch with black concave rocker which has a red marking which is clearly visible when switch is in the on position. Snap fits into a 20mm panel cut-out. 4.8 x 0.8mm fast on connections

**Technical Specification** 

Contact rating

Initial contact resistance Insulation resistance Termination Operating temperature 6A 250V AC 10A 125V AC <50mΩ 100M at 500V DC 4.8 x 0.8mm fast on -20° to +65°C



CODETYPEPRICE820-931Miniature Rocker Switch SPST On-Off.....£1.99

MINIATURE ROCKER SWITCH DPST a miniature rocker switch with double pole single throw action in a compact package. The

on position is clearly marked on the rocker face. Contacts rated:-4A 250V ac, 8A 125V ac. Panel cut-out 19.2 x 13.2mm.



CODETYPEPRICE820-270Miniature Rocker Switch DPST On-Off.....£2.59

MINIATURE VISIBLE ON ROCKER SWITCH a range of single pole rocker switches with red, green or blue marking on the rocker which is clearly visible when the switch is in the 'on' position. 4.8 x 0.8mm connections. Panel cutout 19.2 x 13mm. A waterproof cover for the switch is also available see 820-939.

Technical Specification

Contact rating

Initial contact resistance Insulation resistance Termination Operating temperature 6A 250V 10A 125V <50mΩ>100M @ 500V dc  $4.8 \times 0.8$ mm fast on  $-20^{\circ}$  to  $+65^{\circ}$ C



CODE
820-933 Min Visible On Rocker Swth SPST On-Off Red....£1.79
820-935 Min Visible On Rocker Swth SPST On-Off Green.£1.79
820-937 Min Visible On Rocker Swth SPST On-Off Blue....£1.79

**WATERPROOF SWITCH COVER** a clear waterproof switch cover which fits on the visible on range of rocker switches. Cover simply

clips over the front of the switch and switch on/off status can be clearly seen through the transparent cover. **Switch not included.** 



CODE TYPE PRICE
820-939 Waterproof Switch Cover.....£0.49

MINIATURE ILLIMINATED POCKER SWITCH a miniature double

**MINIATURE ILLUMINATED ROCKER SWITCH** a miniature double pole rocker switch incorporating a neon and series resistor providing clear power on indication during 240V ac operation. Panel cut-out 19.2 x 13.2mm.

Contacts rated:-4A 250V ac. 8A 125V ac.

CODE	TYPE	PRICE
820-300	Mini Illuminated Rocker Red DPST On-Off	£3.59
820-305	Mini Illuminated Rocker Green DPST On-Off	£3.59

**STANDARD ILLUMINATED ROCKER SWITCH** quality rocker switches of modern ergonomic appearance. Matt black bezel with red rocker. Fitted with a neon and resistor giving clear 'on' indication during 240V ac operation.

Panel cut-out

SPST 30 x 10.8mm DPST 30 x 22mm. Contact rating:-10A 250V ac, 16A 125V ac.





CODE	TYPE PRICE	Ε
820-295	Illuminated STD Rocker Red SPST On-Off£3.1	9
820-280	Illuminated STD Rocker Red DPST On-Off£3.7	9

## **SLIDE SWITCHES**

**MINIATURE LOW POWER PCB SLIDE SWITCH SPDT** a miniature SPDT slide switch. For PCB mounting and suitable for many signal switching applications. Nylon 66, UL 94V-0 approved.

**Technical Specification** 

Insulation resistance:  $500m\Omega$  min. @ 500V DC

Switch function: On - Off - On Contact material: Gold plated brass



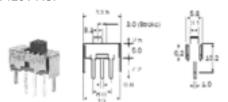
MINIATURE VERTICAL PCB SLIDE SWITCH SPDT a low-cost SPDT miniature slide switch for PCB mounting with a long lifespan. Silver plated solder terminals and a pitch of 4mm. Rating 0.5A 50V DC.



**ULTRA MINIATURE PCB SLIDE SWITCH SPDT** a miniature slide switch with SPDT contacts. The body measures just  $8.5 \times 3.5 \times 3.5$ 

CODE	TYPE	PRICE
30-0086	Ultra Miniature PCB Slide Switch SPDT	£0.79

**MINIATURE PCB SLIDE SWITCHES** Miniature SPDT PCB mounting slide switches available in vertical or right angle options. Suited to many signal switching applications both switches incorporate PCB supports to improve rigidity. Non shorting contacts rated at 0.3A 125V AC.



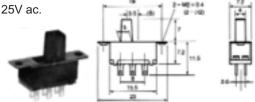
CODE	TYPE	PRICE
820-504	Miniature Vertical SPDT Slide Switch	£0.89
820-505	Miniature Right Angle SPDT Slide Switch	£0.89

MINIATURE PCB SLIDE SWITCHES SPDT a range of miniature slide switches available with different size actuators. The choice of actuator size is 2mm or 4.4mm. Rated at 0.3A 6V DC with a pitch of 2.5mm. SPDT circuit.



CODE TYPE PRICE
30-0088 Mini PCB Slide Switch SPDT 2mm Actuator......£0.79
30-0090 Mini PCB Slide Switch SPDT 4.4mm Actuator......£0.79

MINIATURE SLIDE SWITCH a miniature slide switch with solder tag connections with break before make DPDT contacts. Contacts rated 0.3A 125V ac.



CODETYPEPRICESLS400Miniature Slide Switch DPDT On-On.....£0.49

**STANDARD SLIDE SWITCHES** with solder tag connections, break before make DPDT contacts, and also with centre off. Contacts rating 0.3A 125V ac.



CODE	TYPE	PRICE
SLS410	Standard Slide Switch DPDT On-On	£0.50
SLS420	Standard Slide Switch DPDT C/Off On-Off-On	£0.69

### **MINIATURE PUSH SWITCHES**

MINIATURE PUSH TO MAKE SWITCHES miniature low cost push to make switches offered in a variety of colours. Non-locking momentary action - biased to OFF, ideal for operation of solenoids etc.

Rated 250V ac 0.5A. Panel cutout 7mm.

CODE	TYPE	<b>PRICE</b>
PTM190	Push to Make Red Off-(On)	£0.50
PTM200	Push to Make Black Off-(On)	£0.50
PTM210	Push to Make Green Off-(On)	£0.50
PTM220	Push to Make Yellow Off-(On)	£0.50
PTM230	Push to Make Blue Off-(On)	£0.50
PTM240	Push to Make White Off-(On)	£0.50

**MINIATURE PUSH TO BREAK SWITCH** a range of miniature low cost switches with opposite action to push to make action. Dims as above.

CODE	TYPE	PRICE
PTB260	Push to Break Black On-(Off)	£0.50
821-056	Push to Break Red On-(Off)	£0.50

MINIATURE MOMENTARY ACTION PUSH SWITCH low cost push to make switches come with an all-plastic body and chrome locking nut. Non-locking momentary action. Available with a red or black button for a 5.2mm (M5) diameter panel cut-out with silver plated brass terminals. Dims19(L) x 8mm diameter. UL 94V-2 approved.

Technical Specification

Voltage rating: 0.5A 125V AC
Contact resistance:  $50m\Omega$  max.
Insulation resistance: 500V DC,  $100M\Omega$  min.
Dielectric strength: 1000V AC, 1 minute
Circuit: SPST momentary push to make

Mount hole: 5.2mm Panel thickness: 4m

CODE TYPE PRICE
30-0014 Mini Momentary Push Switch Small Button Red...£1.19
30-0016 Mini Momentary Push Switch Small Button Black..£1.19

LOW PROFILE PUSH SWITCHES a range of low profile push switches with large 9mm actuator button available in momentary action push to make, push to break or changeover options. Smart chrome bezel with button. Supplied in red or black.



**Technical Specification** 

Contact rating 3A 125V AC 1.5A 250V AC 50mΩ max. Contact resistance Insulation resistance >10 x  $10^{7}\Omega$  min Body dimensions push to make 20mm x 14.0mm dia

push to break 22.3mm x 14.0mm dia 21mm x 14.0mm dia SPDT

Panel cut out 12.7mm

CODE	TYPE PRICE
820-941	L/Profile Push To Make Red Switch Off-(On)£2.79
820-943	L/Profile Push To Break Black Switch On-(Off)£2.89
820-945	L/Profile S/Pole Changeover Red Switch On-On£3.29
820-946	L/Profile S/P Changeover Black Switch On-On£3.29

SQUARE PUSH SWITCHES a range of attractive but robust large button push switches with red and black actuator buttons, available in non-locking push to make or SPST latching action. Body dims:-34 x 15 x 15mm. Panel cutout:-12mm. Contacts rated 3A 250V ac



CODE	TYPE	PRICE
PTM262	Square Push to Make Red Off-(On)	£1.60
PTM265	Square Push to Make Black Off-(On)	£1.60
SLS290	Latching Switch SP Red On/Off	£1.79
SLS300	Latching Switch SP Black On/Off	£1.79

MINIATURE LATCHING PUSH SWITCH a low-cost, panel mounting, latching 2P SPST push switches that have small buttons.

Available with red or black buttons and fits into 7mm panel cut-out, max. thickness 4mm. With silver plated brass solder terminals. Nylon frame to UL 94V-2.



**Technical Specification** 

250V AC 1.5A/125V AC 3A Rating:

Contact resistance:  $50m\Omega$  max. Insulation resistance: 100M $\Omega$  min. Dielectric strength: 1500V AC 1 minute

CODE	TYPE	PRICE
30-0018	Mini Latching Push Switch Small Button Red	£2.49
30-0020	Mini Latching Push Switch Small Button Black	£2.49

MINIATURE LATCHING PUSH SWITCH SPST a low-cost, panel mounting, latching 2P SPST push switch that has large buttons. It fits into a 7mm panel cut-out, maximum thickness 4mm, available with red or black button and it has silver plated brass solder terminals. Nylon frame to UL 94V-2.

**Technical Specification** 

250V AC 1.5A/125V AC 3A Rating Contact resistance 50m? max. Insulation resistance 100M? min. Dielectric strength 1500V AC 1 minute



CODE **PRICE** 30-0098 Mini Latching Switch Large Button SPST Red......£2.49 MINIATURE LATCHING PUSH SWITCH WITH LED a miniature low cost push to make switch with an all-plastic body and a latching action. Available with a red LED actuating button and silver plated brass terminals. Easy to install into panel and snap-fits into a 9.3mm dia. panel cut-out. Dimensions 25(L) x 11mm diameter. UL flame 94HB approved.

#### **Technical Specification**

Voltage rating: 1A 125V AC/0.5A 250V AC

Contact resistance: 50mΩ max.

Insulation resistance: 500V DC,  $100M\Omega$  min. Dielectric strenath: 1000V AC, 1 minute

SPST latching push to make (illuminated) Circuit:

Mount hole: 9.3mm Panel thickness: 0.5 to 2mm LED VF min.: 1.7V LED VF typ.: 2.0V LED VF max.: 2.6V LED IF: 20mA

CODE **TYPE PRICE** Mini Latching Push Switch Red LED SPST.....£3.09 30-0026

CIRCULAR PUSH-PULL SWITCH SPST a SPST push-pull panel mounted switch that has an LED in the knob that is lit when the switch is in the 'On' position. It is durable, does not generate heat and has stable brightness. Available with small (22mm dia.) knob

and is secured by a nut. Panel cut-out diameter 12.2mm. Contact rating 12V DC 10A. 6.3mm quick connect terminals. SCI A3-30 series.

**TYPE** 

CODE



#### **FOOT SWITCHES**

FOOT SWITCH a heavy duty foot switch with push to make momentary action. Rated at 250Vac/3A. M12 thread of 16mm length and 2 nuts. Large solder tags.

CODE **PRICE** 821-030 Heavy Duty Foot Switch Push to Make Off-(On)....£3.29

FOOT SWITCHES DPDT a rugged switch with heavy-duty actuator buttons designed for operation by foot. It is ideal for foot pedals in music applications and for use in machinery control leaving hands free. Momentary or latching models and DPDT contacts.

**Technical Specification** 

AC 125V, 6A AC 250V, 3A Rating:

Contact material: Silver Contact resistance: 50mΩ max.

DC 500V, 100M $\Omega$  min. Insulation resistance: AC 1000V for 1 minute Withstand voltage:

Operating force: 1.2±0.3kgf Travel: 2.7mm Overall dimensions: 13.4 x 12 x 37mm

Depth behind panel: 28.5mm

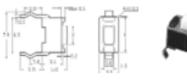
12mm dia. x 0.75mm pitch Fixing thread:

30,000 cycles Life expectancy:

CODE	TYPE	PRICE
30-0094	Foot Switch DPDT Momentary Action	£4.99
30-0096	Foot Switch DPDT Latching	£4.99

### MINIATURE TACTILE SWITCHES

MINIATURE RECTANGULAR TACTILE SWITCH a miniature rectangular tactile switch measuring only 6 x 3.5mm. The switch has a good positive action and normally open contacts and a life expectancy of at least 50,000 operations.



#### **Technical specification**

Contact rating 12V DC 50mA Travel 0.25mm Operating force  $180 \pm 30qf$ Contact resistance 100mΩ max. 50,000 cycles min

CODE	TYPE	PRICE
820-949	Miniature Rectangular Tact	le Switch£0.39

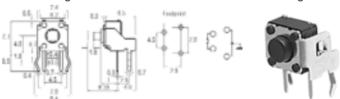
MINIATURE TACTILE SWITCHES a range of miniature 6 x 6mm PCB mounted tactile switches offering a positive switching action through a unique dome construction. Single pole normally open contacts, available with flat or projected plunger.

Contact rating	50mA 12V dc
Initial contact resistance	e <100mΩ
Insulation resistance	>100mΩ at 100V DC
Dielectric strength	250V ac for 1 minute
Travel	0.25 ± 0.1mm
Operating life	10 x 10 <sup>4</sup> minimum



CODE	TYPE	L	PRICE
820-480	Tactile Switch Flat Button	4.3mm	£0.45
820-485	Tactile Switch Projected Button	5.0mm	£0.45
820-490	Tactile Switch Projected Button	7.0mm	£0.45
820-495	Tactile Switch Projected Button	9.5mm	£0.50

RIGHT ANGLE 6 X 6MM TACTILE SWITCH right angle miniature PCB mounting tactile switches with a choice of button lengths.



## **Technical Specification**

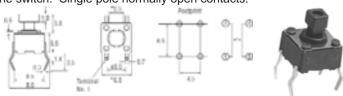
Contact rating 50mA, 12V dc Initial contact resistance <100m $\Omega$  max Operating force 100+50af Travel 0.25mm Insulation resistance 100MΩ min

Life expectancy Operating temperature range 500,000 operations(electrical) -25 to +70°C

CODE	TYPE	PRICE
820-956	Right Angle Tactile Switch 3.85mm Length	£0.50
820-958	Right Angle Tactile Switch 5.85mm Length	£0.50

# LOOK OUT FOR OUR **NEW MINI CATALOGUES**

SQUARE BUTTON 6X6MM TACTILE SWITCH a miniature PCB mounting 6x6mm tactile switch with a square button shoulder designed to accommodate actuator springs for tamper switch applications. A range of coloured buttons are also available to suit the switch. Single pole normally open contacts.



#### Technical Specification

Contact rating 50mA 12V dc Initial contact resistance <100MΩ max 100 - 50af Operating force 0.25mm Travel 500 000 cycles min Life expectancy Operating temperature range -25 to +70°C

PRICE **TYPE** CODE 820-960 Square Button 6 x 6mm Tactile Switch....£0.49

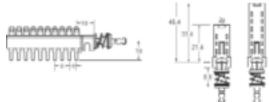
BUTTONS FOR TACTILE SWITCHES a range of either square or round buttons for use with the 6x6mm tactile switches fitted with square buttons (not suitable for round head switches). Dimensions round 4.5mm dia x 5.5mm,

square 4mm square x 5.5mm.

CODE	TYPE	PRICE
820-962	Round Button For Tactile Switch Black	£0.16
820-964	Round Button For Tactile Switch Red	£0.16
820-966	Square Button For Tactile Switch Black	£0.16
820-968	Square Button For Tactile Switch Red	£0.16

### **PCB SWITCHES**

STANDARD INTERLOCKING PCB SWITCHES a range of high quality PCB mounting switches which may be easily adjusted to momentary or latching action as required. A maximum of 10 switches may be banked together. The polycarbonate housing has PCB pins fixed on top face and solder terminals on underside.



### **Technical Specification**

Contact rating Insulation resistance Operating force

Action Electrical life Temperature range 0.5A 100VAC 0.2A 250VAC 1A 25V

 $2 \times 10^{12} \Omega$  minimum

2 pole changeover 600g + 100g 6 pole changeover 600g + 200g

break before make 1 x 10<sup>5</sup> operations -10° to +60°C

CODE	TYPE	<b>PRICE</b>
820-951	Stnd Interlock PCB Switch 2 Pole Changeover	£1.59
820-954	Stnd Interlock PCB Switch 6 Pole Changeover	£2.80

**PRODUCT CODES** IT IS VITAL TO INCLUDE THE PUNCTUATION IN THE CODE AND TO FORMAT THE CODE AS SHOWN IN THE CATALOGUE

PCB POWER SWITCH a PCB mounting double pole single throw mains power push switch. Supplied with a mounting bracket with 2 x M3 tapped screw holes on 20mm centres. Suitable knob listed below. Approvals, UL, CSA, BSI, VDE, MEMKO, DEMKO and EI.



Contact rating Actuator pressure Actuator travel Electrical life

5A 250V ac (8A surge) 450qf 4mm >10 x 10<sup>4</sup> operations minimum

Operating temperature

-20°C to +70°C

CODE	TYPE	PRICE
820-600	PCB Power Switch DPST	£3.99
820-605	Knob for PCB Power Switch	£0.50

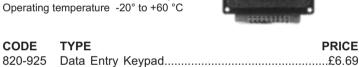
### **DATA ENTRY KEY PAD**

**DATA ENTRY KEYPAD** A low profile 3 x 4 keypad of compact size suitable for use on hand held and other small equipment. A single rectangular cut is required to fit the keypad through the front panel and four mounting holes are required for the retention of the keypad. The conductive rubber contacts require a low operating force, but have a positive action to give the operator feedback. Connections are terminated to solder pads on the PCB at the lower edge of the switch.

Supplied in matrixed format.

chnical specifications

20mA, 24V DC max. Contact rating Contact bounce Less than 10ms Contact resistance Less than  $200\Omega$ Mechanical life >1 x 106 operations Operating temperature -20° to +60 °C



### **ROTARY SWITCHES**

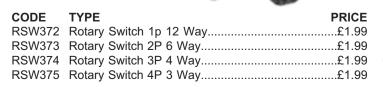
ROTARY SWITCHES a range of standard pattern skeleton type rotary switches. Make before break action. Metal shaft, shaft diameter 6mm, length 43mm.

Rating 125V ac 250mA.



ROTARY SWITCHES a range of standard pattern fully enclosed rotary switches. Make before break action. Shaft 6.35mm dia x

43mm. Rating 250V ac, 125mA.



ROTARY SWITCHES a range of standard pattern fully enclosed rotary switches. Break Before Make (BBM) action. Shaft 38mm dia x 26mm. Rating 110V ac, 35mA.

CODE	TYPE	PRICE
30-0040	Rotary Switch 1P 12 Way BBM	£2.89
30-0042	Rotary Switch 2P 6 Way BBM	£2.89
30-0044	Rotary Switch 3P 4 Way BBM	£2.89

PCB MOUNTING ROTARY SWITCHES a range of quality rotary switches in glass filled nylon. Make before break contact. Positive index feel is obtained by employing a dual spring plunger mechanism. Adjustable stop facility.

**Technical Specification** 

Contact rating 150mA 250V AC Initial contact resistance 20mO max Contact material Silver plated brass 15 x 10<sup>3</sup> full rotation cycles Electrical life Temperature range -20° to +65°C

CODE	TYPE	PRICE
820-970	PCB Mounting Rotary Switch 1 Pole 12 Way	£2.29
820-972	PCB Mounting Rotary Switch 2 Pole 6 Way	£2.29
820-974	PCB Mounting Rotary Switch 3 Pole 4 Way	£2.29
820-976	PCB Mounting Rotary Switch 4 Pole 3 Way	£2.29

# **BINARY ROTARY SWITCH**

BINARY CODED ROTARY SWITCH a miniature PCB mounting binary coded rotary switch with gold plated contacts. Available in horizontal mounting with either 16 position hexadecimal (0-9, A-F) or 10 position decimal outputs. Both types have a recessed arrow position indicator which can be operated by a screwdriver.

#### **Technical Specification**

Dimensions: 10 x 10 x 4.7mm Pitch: 2.54mm

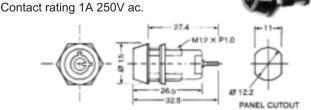
Contacts: 100mA 5V DC (resistive) Contact resistance: Less than  $100 \text{m}\Omega$ Operating life: 10,000 min. Temperature range: -25°C to +70°C

CODE 30-0082 Binary Rotary Switch Decimal.....£4.99

### **KEY SWITCH**

MINIATURE KEY SWITCH single pole make/break key operated switch. The round profile key may be removed in either the 'On' or 'Off' position. The switch body is brass and has a chrome plated bezel. The switch is available as

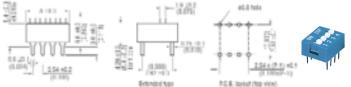
commonkey types. Supplied with 2 keys.



CODE	TYPE	PRICE
KSW295	Mini Key Switch SPST Common K	ey£6.49

### **DIL SWITCHES**

**DIL SWITCHES** a range of dual in line laterally operated switches designed to be end stacked with gold plated SPST contacts housed in blue moulded bodies, flame retardant to UL94V-0 with sealed bases to prevent flux contamination. On/off status is clearly defined on the switch. Ideally suited for multiple programming functions ie computers, communications equipment, remote control etc.



#### **Technical Specification**

Contact rating switching non switching

Contact resistance

Operating force Capacitance Mechanical life Contact material

Operating temperature range

25mA 24V dc 100mA 50V dc 50mO initial

100mΩ (after life test)

800a max

5pF max between contacts

>2000 operations

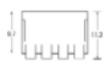
phosphor bronze with gold plating 5

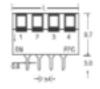
micron over nickel

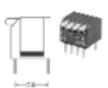
-25° to 70°C

CODE	TYPE	PRICE
820-978	DIL Switch 2 Way 4 Pin	£1.49
820-980	DIL Switch 3 Way 6 Pin	£1.55
820-982	DIL Switch 4 Way 8 Pin	£1.49
820-984	DIL Switch 5 Way 10 Pin	£1.49
820-986	DIL Switch 6 Way 12 Pin	£1.85
820-990	DIL Switch 8 Way 16 Pin	£1.85
820-992	DIL Switch 9 Way 18 Pin	£1.59
820-994	DIL Switch 10 Way 20 Pin	£2.15
820-996	DIL Switch 12 Way 24 Pin	£2.39

PIANO KEY DIL SWITCHES A range of dual in line piano key switches with gold plated SPST contacts housed in blue moulded bodies, flame retardant to UL94V-0, with sealed bases to prevent flux contamination. On/off status is clearly defined on the switch (actuator down = On). Ideally suited to multiple programming functions ie computer, communications equipment, remote control, security etc.







#### **Technical Specification**

Contact rating switching

non switching

Contact resistance

Operating force

Life expectancy Contact material 100mA 50V DC 50mΩ initial 100mΩ (after life test) 800g max

>3000 operations per pole phosphor bronze with gold plating 5

-25° to +70°C

micron over nickel

25mA 24V DC

Operating temperature

CODE	TYPE	PRICE
820-138	Piano Key DIL Switch 2 Way 4 Pin L 6.5	£1.45
820-139	Piano Key DIL Switch 3 Way 6 Pin L 9.2	£1.55
820-998	Piano Key DIL Switch 4 Way 8 Pin L 11.7	£1.45
821-002	Piano Key DIL Switch 5 Way 12 Pin L 14.2	£1.89
	Piano Key DIL Switch 8 Way 16 Pin L 21.7	
821-146	Piano Key DIL Switch 10 Way 20 Pin L 26.7	£2.99
821-147	Piano Key DIL Switch 12 Way 24 Pin L 31.8	£2.69

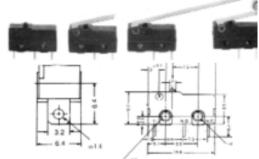
### **MICROSWITCHES**

SUB-MINIATURE MICROSWITCHES a range of new generation sub-miniature microswitches which offer a 1A 250V ac switching ability in a miniature package. 2 types available, single pole changeover contacts. Miniature solder terminals.

Contact material Silver alloy Contact rating 2A 30V dc, 1A 250V ac Mechanical life >30x10<sup>4</sup> Electrical life >30x10<sup>4</sup> Button Lever 80g Operating force 150g Release force min. 5g 20g Pretravel max 0.5mm Overtravel min. 0.25mm 0.55mm Movement diff, max 0.12mm 0.5mm Actuator length 13mm

CODE	TYPE			PRICE
820-450	Sub-Miniature	Microswitch	Button	£2.09
820-460	Sub-Miniature	Microswitch	Lever	£1.78

MINIATURE MICROSWITCHES a range of V4 miniature single pole changeover microswitches, incorporating a long life stainless steel spring system and precious metal contacts. Rated 5A 250V

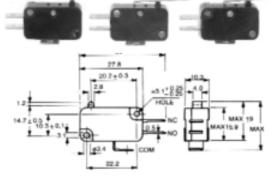


	force	(max)	(min)	differential	length
Button	90g	0.6mm	0.5mm	0.1mm	-
Lever	42g	0.6mm	1.0mm	0.6mm	14.5mm
L/Lever	25g	4.7mm	1.0mm	1.8mm	43.0mm
Roller	42g	2.6mm	1.0mm	0.6mm	14.5mm
ODE 1	TYPE				PR

Operating Pre-travel Overtravel Movement Actuator

CODE	TYPE	PRICE
820-470	Mini Microswitch Button	£1.50
821-480	Mini Microswitch Lever	£1.79
821-490	Mini Microswitch Long Lever	£1.99
821-500	Mini Microswitch Roller Lever	£2.39

STANDARD MICROSWITCHES of high quality V3 standard size SPDT microswitches, offering a switching capacity of 10A 250V ac. Connections may be made by either a 1/4" connector or soldering.



CODE	TYPE	Operating Force	PRICE
SMSB06	Standard Microswitch Butto	n285g	£2.39
820-703	Std Microswitch Long Level	r150g	£3.29
820-703	Std Microswitch Simulated I	Roller150g	£2.89
820-045	Standard Microswitch Rolle	r140g	£3.19

V3 PADDLE LEVER MICROSWITCH A high quality V3 size microswitch rated at 3A 250V AC. The switch incorporates a wide and long paddle lever which is ideal for quick alignment in security

and safety applications. Ideally suited for use as a tamper switch in alarm panels and bell boxes. Silver plated contacts. Camden CMNS 2830D.



Technical specification

Rating 3A 250V AC Dielectric strength 1000V AC

Mechanical life 500,000 operations min

Lever dimensions 9 x 62mm

Terminals Solder/Faston 6.35W x 10L x 0.8mm

CODE	TYPE	PRICE
820-326	Paddle Lever Microswitch	£2.49

### **EDGE SWITCH**

MINIATURE EDGE SWITCH a high quality matt black snap together push button operated edge switches with white engraved legends. With gold plated make-before-break contacts and two

push switches for count up or count down functions. Switches and end cheeks clip together to clip-fit into panels from 0.8 to 3.2mm in thickness.



**Technical Specification** 

Contact rating: 0.1A 50V AC/28V DC Switching current: 0.1A maximum 1A maximum

Materials - housing: Thermoplastic/polyacetal UL 94HB

contacts: hard gold flash over nickel plated phosphor bronze

Contact resistance: <200mΩ maximum

Mechanical life: >2 x 105 ops Operating temperature:  $-20^{\circ}$ C to +65°C

CODE	TYPE PRICE	
30-0056	Miniature BCD Edge Switch	£6.99
30-0058	Miniature BCD Edge Switch Cheeks	£1.79

#### **REED SWITCHES**

**ENCAPSULATED REED SWITCHES** a range of low cost reed switches which have been encapsulated in compact ABS housings enabling easy PCB mounting. With Rhodium contacts for low con-

tact resistance and fully sealed to give maximum mechanical protection and minimise the ingress of dust and moisture, ideal for harsh environments.



### **Technical Specification**

Order code	27-0072	27-0074	27-0076	27-0080
Type	Normally open	Normally open	Normally open	Changeover
Switching voltage (max.)	24V AC	140V AC	150V AC	100V AC
Switching current (max.)	0.1A	0.5A	0.5A	0.5A
Switching capacity (max.)	1VA	10VA	10VA	5VA
Contact resistance (max.)	200mΩ	120mΩ	150mΩ	150mΩ
Pitch (mm)	12	22	20	20
Dimensions (L x W x H) (mm)	15 x 3 2 x 3 2	25 x 3 7 x 3 7	23 x 4 2 x 4 2	25 x 3 7 x 3 7

CODE	TYPE	PRICE
27-0072	Encasulated Reed Switch PPS24	£3.79
27-0074	Encasulated Reed Switch PPSRI-03A	£2.79
27-0076	PCB Reed Switch N/O	£2.29
27-0080	PCB Reed Switch C/O	£4.69

# LOOK OUT FOR OUR NEW MINI CATALOGUES

**REED SWITCH** a low cost dry reed switch with rhodium plated contacts for long life. When a magnet or electromagnet is brought near the reed, magnetism is induced which causes the switch to close. When the operating magnet is removed, the springiness of the reed breaks the contact. Contact rating 0.5A ac or dc, switching voltage 200V dc or 125V c max. Glass length 27mm x 3.5mm.

CODE	TYPF	PRICE
	Reed Switch 10 Pack	
	Reed Switch Operating Magnets 10 Pack	

DRY CONTACT RHODIUM REED SWITCHES these low-cost, long-life glass sealed reed switches feature rhodium contacts. They have been designed to cover a wide range of demanding applications including: liquid level sensors, security systems, reed relays, proximity sensors, counting devices etc. Tested to one billion operations.

#### **Technical Specification**

•	27-0050	27-0052	27-0054
Length:	20.3mm	14.2mm	12.7mm
Contact:	NO	NO	NO
Contact rating:	10VA	10VA	10VA
Switching current:	1A	1A	0.5A
Carry current:	1.5A	1.5A	1A
DC switching voltage:	100V	100V	100V
AC switching voltage:	150V rms	125V rms	100V rms
Breakdown voltage:	250V DC	250V DC	200V DC
Contact resistance:	100m $Ω$	100m $Ω$	150m $Ω$

CODE	TYPE	PRICE
27-0050	Dry Contact Reed Switch Standard	£1.99
27-0052	Dry Contact Reed Switch Miniature	£1.59
27-0054	Dry Contact Reed Switch Sub-Miniature	£1.49

**REED SWITCHES** a range of dry reed switches with rhodium plated contacts for long life. When a magnet or electromagnet is brought near the reed, magnetism is induced which causes the switch to close. When the operating magnet is removed, the springiness of the reed reverses the action. 8 types are available for a wide range of applications. Sold individually.

Case					,
code	Α	В	С	D	
1	36	10	2.0	0.4	
1A	46	15	2.54	0.6	111
2	55	14	2.3	0.5	///
3	52	14	2.6	0.5	
4	55	14	2.2	0.35	
6	55	18.5	2.6	0.7	
8	79	52	5.4	2.5	

**A** = Overall length, **B** = Glass length **C** = Diameter. **D** = Lead diameter

			Contact	Switching	Switchin	g Pull in	
			Rating	Current	Voltage	range	
Type		Case	VA Max	A Max	AC max	(AT)	Code
Micro	SPST	1	1.0	0.1	24	10-30	820-800
Sub	SPST	2	10.0	0.5	100	15-35	820-805
Sub	<b>SPDT</b>	3	3.0	0.2	30	15-30	820-810
Mini	SPST	1A	10.0	0.5	140	14-23	820-820
Mini	SPST	6	40.0	2.0	440	14-23	820-825
Comp	SPST	8	120.0	3.0	1500	75-95	820-835
		<b></b>					

CODE	TYPE	PRICE
820-800	Micro Reed Switch SPST	£2.09
820-805	Sub-miniature Reed Switch SPST	£1.49
820-810	Sub-miniature Reed Switch SPDT	£4.99
820-820	Miniature Reed Switch SPST	£1.69
820-825	Miniature Reed Switch SPST	£2.59
820-835	Compact Reed Switch SPST	£5.49

# **MAGNETS**

**MAGNETS** a range of disc magnets manufactured from Neodymium iron Boron which is up to 5 times more powerful than Alnico. All magnets are nickel plated to reduce the onset of corrosion when used under normal circumstances. Ideally suited to proximity switch triggering or biasing where space is at a premium.





#### **Technical Specification**

	Distance at which				
	magnets mea	asure			
	1000 gauss	Dims	Surface flux (gauss)		
M1219-1	4.1mm	3 x 1mm	1500		
M1219-2	2.2mm	3 x 2mm	2500		
M1219-3	1.8mm	4 x 3mm	3200		
M1219-4	1.2mm	6 x 2mm	2500		
M1219-5	0.6mm	10 x 5mm	3500		
M1219-6	3.0mm	6 x 5mm	3500		
M1219-8	3.0mm	6 x 4mm	3900		
M1219-10	3.0mm	22 x 2mm	800		
Operating temperature	120°C m	ax.			

NB M1219-4 has north seeking identified with a dimple.

CODE	TYPE	PRICE
820-507	Magnet 3 x 1mm M1219-1	£1.69
820-509	Magnet 3 x 2mm M1219-2	£1.59
820-510	Magnet 4 x 3mm M1219-3	£2.65
820-512	Magnet 6 x 2mm M1219-4	£1.79
820-514	Magnet 10 x 5mm M1219-5	£3.69
27-0102	Magnet 6 x 5mm M1219-6	£2.29
27-0104	Magnet 6 x 4mm M1219-8	£2.39
27-0106	Magnet 22 x 2mm M1219-10	£3.09

**MINIATURE OPERATING MAGNET** a hermetically sealed proximity switch housed in a round profile polystyrene case.



CODE	TYPE	PRICE
27-0090	Operating Magnet	£3.39

**MINIATURE MAGNETS** a range of select miniature magnets suitable for use with above reed switches. Supplied individually.

Length Width Depth

820-850 12.7 x 3.2 x 1.6mm

	19.0 x 3.2 x 3.2mm 28.0 x 4.8 x 4.8mm	
	25.4 x 6.4 x 6.4mm	
CODE	TYPE	PRICE
	Miniature Magnet 12.7 x 3.2 x 1.6mm	
820-855	Miniature Magnet 19.0 x 3.2 x 3.2mm	£1.69
820-860	Miniature Magnet 28.0 x 4.8 x 4.8mm	£2.59
820-865	Miniature Magnet 25.4 x 6.4 x 6.4mm	

PRODUCT CODES
IT IS VITAL TO INCLUDE
THE PUNCTUATION IN THE CODE
AND TO FORMAT THE CODE
AS SHOWN IN THE CATALOGUE

POST FREE MAIL ORDER MINIMUM ORDER VALUE £10.00

#### **OTHER USEFUL BITS**

#### **TERMINAL BLOCKS**

**TERMINAL BLOCKS** 12 way flexible terminal block strips that are easily cut into shorter lengths. 3 and 5A.



CODE	TYPE	PRICE
TB0010	Terminal Block 3A	£0.50
560-111	Terminal Block 3A Pack of 10	£4.50
TB0020	Terminal Block 5A	£0.90
560-112	Terminal Block 5A Pack of 10	£7.99

**PLUG-IN TERMINAL BLOCKS** a range of pluggable industrial quality terminal strips moulded in self extinguishing polypropylene. They are supplied as 12 way blocks which may be cut down to size. The wires are connected by a screw fixing. Supplied as a pair of male and female strips. The blocks are robust and ideal for joining wires that require to be moved frequently. Available with 3 connector pitches 8mm rated at 6A, 10mm and 12mm pitches are both rated at 10A.

CODE	TYPE	PRICE
560-843	Plug-in Terminal Block M/F - 6A/8mm Pitch	£5.99
TB0025	Plug-in Terminal Block M/F - 10A/10mm Pitch	£7.99
560-498	Plug-in Terminal Block M/F - 16A/12mm Pitch	£11.99

### **D PLUGS & SOCKETS**

**'D' CONNECTORS** standard D series connectors in 9 to 37 way with solder bucket terminals, which may be in-line or panel mounted. Covers listed below. Rating (each pin) 5A.

CODE	TYPE	PRICE
CON380	9 Way D Plug	£0.50
CON390	9 Way D Socket	£0.50
CON400	15 Way D Plug	£0.75
CON410	15 Way D Socket	£0.75
CON420	25 Way D Plug	£0.85
CON430	25 Way D Socket	£0.85
CON440	37 Way D Plug	£1.50
CON450	37 Way D Socket	£1.50

### **D TYPE COVERS**

**D' CONNECTOR COVERS** two part 'D' connector covers moulded in ABS, supplied complete with cable clamp and short jack screws. Top cable entry type. (Fits both male or female D connectors).



CODE	TYPE	PRICE
CON480	9 Way D Cover	£0.50
CON490	15 Way D Cover	£0.79
CON500	25 Way D Cover	£0.89
CON510	37 Way D Cover	£1.29

Code