

PUSH BUTTON SWITCHES(Momentary)



Series - 27

DESCRIPTION

Integral Series 27 Push Button Switches is a unique design wherein the operative portion is separate from the Switch Element. The Basic Switch Series 49 is used as SWITCH ELEMENT.

The all metal Push Button is built for rugged operation in Machine tools and can be offered with Plunger of standard colours like White, Red, Yellow, Green, etc.,

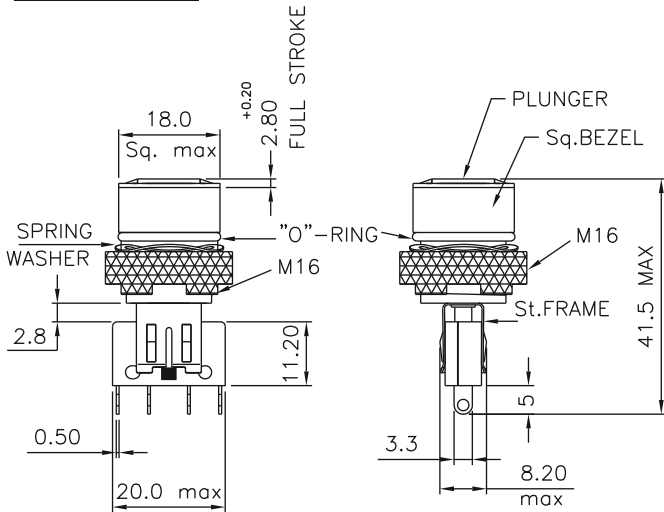
The Push Button can be fixed on the panel (dia 16 hole) and the Switch Element is 'clicked' on to the same behind the Panel, this offers the advantage of replacing only the Switch Element at the customer end in the field, thereby saving cost.

The Switching Element is Integral Series 49 Micro Reset Switch which is a snap acting momentary switch suitable for low level and power level switching. High switching reliability is built into the design of the switch. By using a double make double-break design, the current rating is increased and the switch can also be used for DC switching. Low contact resistance and protection against surge currents, due to INDUCTIVE and CAPACITANCE loading, is ensured by the design.

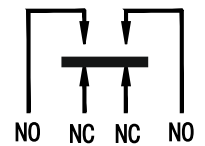
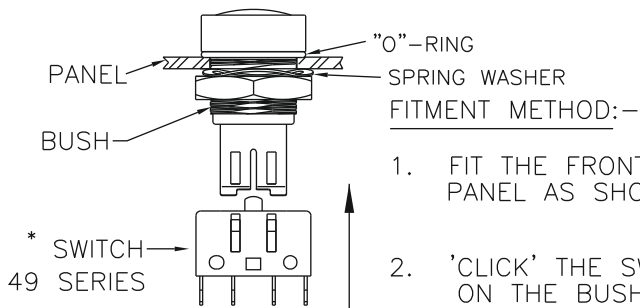
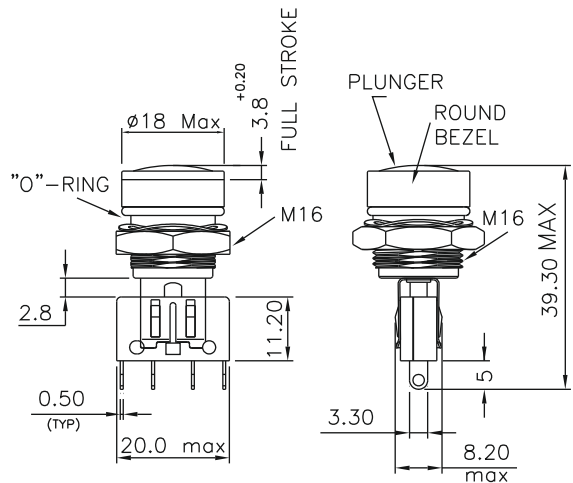


DIMENSIONAL DETAILS

SQUARE TYPE



ROUND TYPE



SCHMATIC

★ For Switch Selection & Bracket Selection Ref. Back Sheet

ALL DIMENSIONS IN mm

ELECTRICAL SPECIFICATIONS

CONTACT CONFIGURATION:	(Double throw two circuit)
CONTACT RATING	: With 200±50gms operating force 5 Amps (Resistive load) at 28 V DC / 230 V AC
CONTACT RESISTANCE	: 100 milli ohms initial
ELECTRICAL LIFE	: 20,000 operations at rated load. With lower contact-loads life will be correspondingly higher
MECHANICAL LIFE	: 100,000 operations
INSULATION RESISTANCE	: 100 Megohms min.
DIELECTRIC STRENGTH	: 1000 V RMS
PRETRAVEL	: 1.27 mm (max)
OVERTRAVEL	: 0.25 mm (min)

MATERIALS & FINISHES

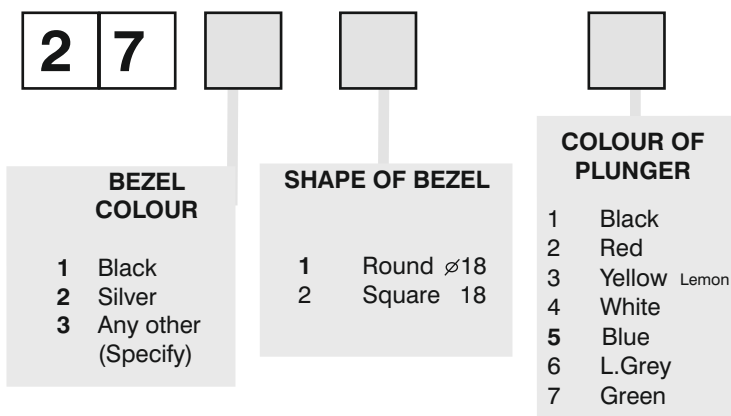
BODY & COVER	: Glass filled PBT (UL approved)
PLUNGER	: Acetal
BEZEL & PLUNGER	: Aluminium/ABS moulded
NUT	: G/F 30% Nylon
FRAME	: Stainless Steel
TERMINALS	: Brass, Silver plated
Contact	: Refer Contact Selection.

NOTE : Standard/Low level combination could be used in low level or power circuits. However if low level rating is exceeded, gold plating is likely to be removed from contact interface and the switch is no longer recommended for low level currents.

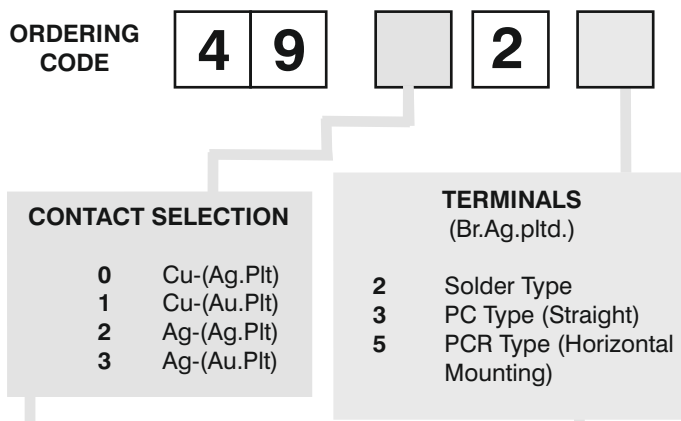
ORDERING INFORMATION

The switch can be ordered as given below

BRACKET SELECTION



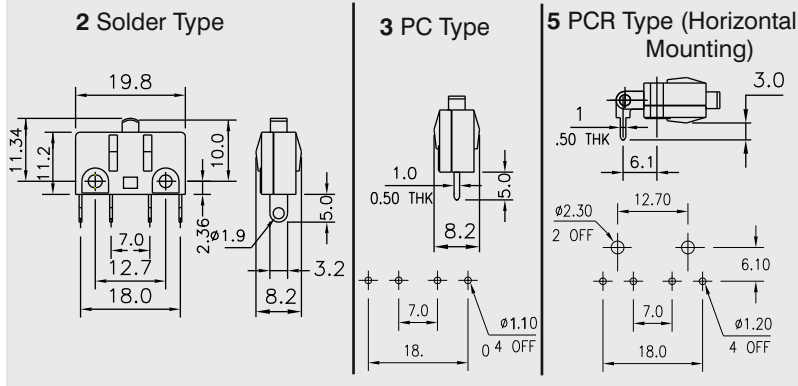
SWITCH SELECTION



CONTACT SELECTION

Order Code	
0	STANDARD CONTACTS : 1.5A @ 230 VAC Resistive Load Copper alloy with Silver Plating
1	LOW LEVEL CONTACTS : 0.4 VA maximum at (DRY CIRCUITS) 20 volts AC or DC maximum CONTACTS : Copper alloy with gold plating over nickel barrier
2	HIGH POWER CONTACTS : 5A @ 230 V AC and 28 V DC resistive load CONTACTS : Coin silver
3	HIGH POWER/LOW LEVEL COMBINATION CONTACTS : Coin silver with gold plating over nickel barrier

TERMINALS DETAILS



INTEGRAL SYSTEMS AND COMPONENTS PRIVATE LIMITED

D-388/1, 1st Block, 1st Stage, Peenya Industrial Estate, Bangalore - 560 058, India

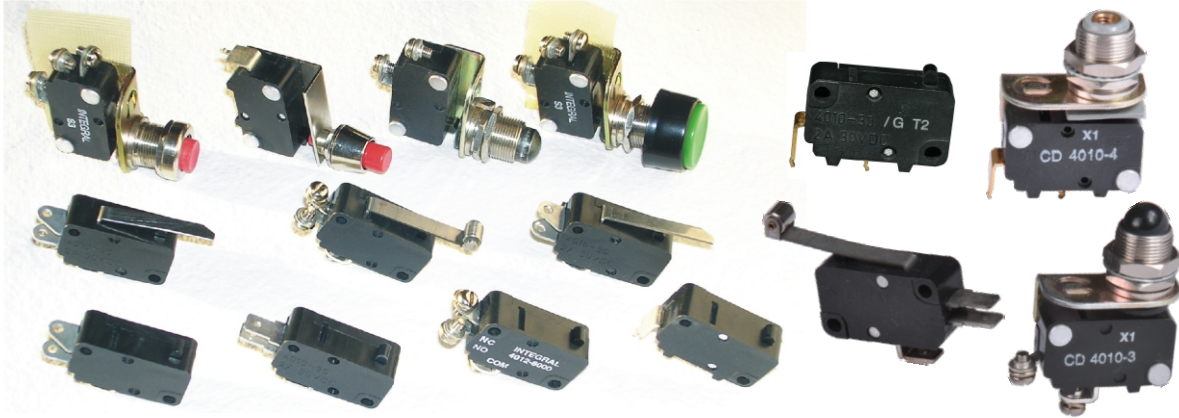
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Series - 40

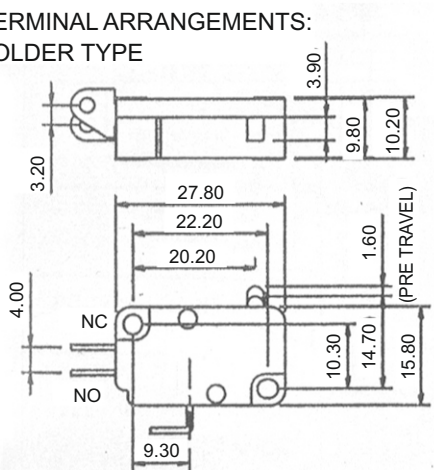
DESCRIPTION

Integral Series 40 Micro Switch is a heavy duty switch with an extra long life spring mechanism. (Has successfully been tested up to 14 million cycles) High reliability is designed into the switch which can be used in a wide variety of application such as Industrial Equipments, Business Machines, Home Appliances etc.

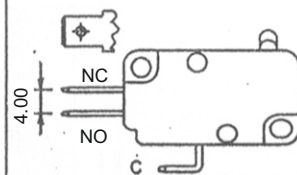


DIMENSIONAL DETAILS

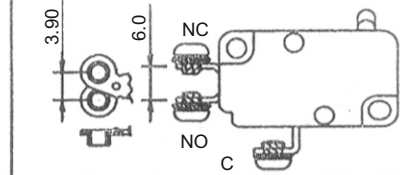
TERMINAL ARRANGEMENTS:
SOLDER TYPE



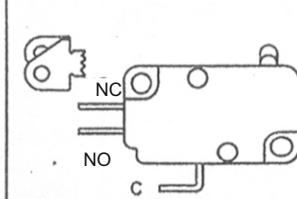
QUICK CONTACT



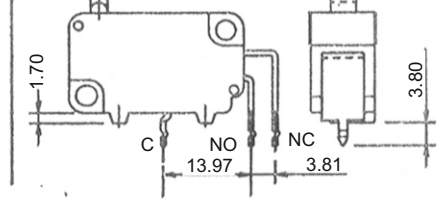
M3 SCREW TYPE



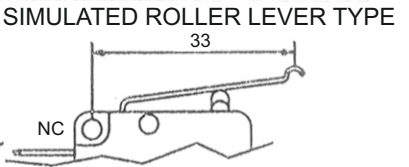
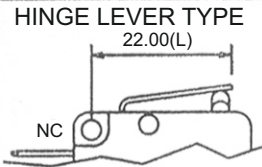
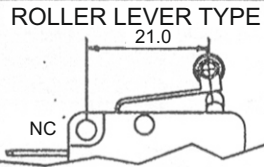
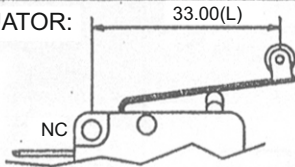
SOLDER TYPE



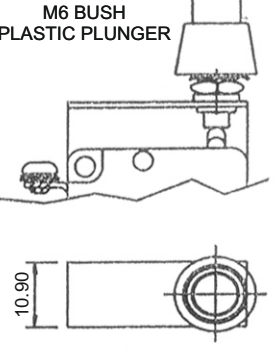
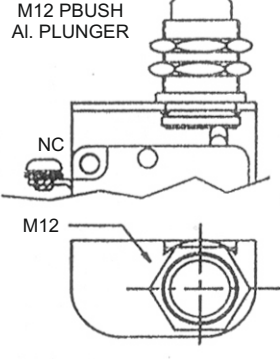
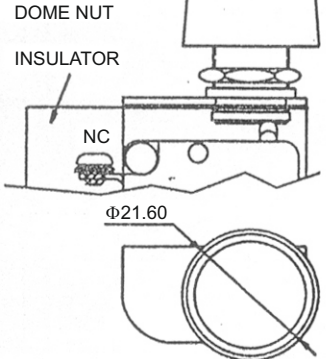
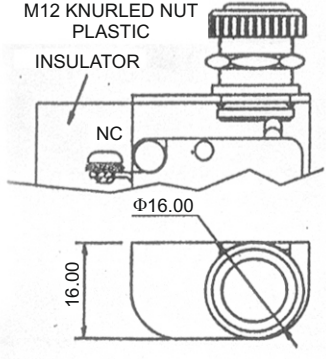
PC TYPE



ACTUATOR:



MOUNTING:



All Dimensions in mm.

SPECIFICATIONS

CONTACT RATING :

	OPERATING FORCE AT PIN PLUNGER	RATING (Resistive Load)
Silver Alloy	300 gmf	5A 250VAC, 0.5A 125VDC
Gold Plated Low Level	200 gmf	24VDC 1mA

If not specified, Standard Operating Force will be 300 gmf.

CONTACT RESISTANCE : < 50 mΩ Initial
 INSULATION RESISTANCE : >100 MΩ (at 500 VDC)
 DIELECTRIC STRENGTH : > 1000 VAC (1 min)
 OPERATING TEMP : -25°C to +80°C

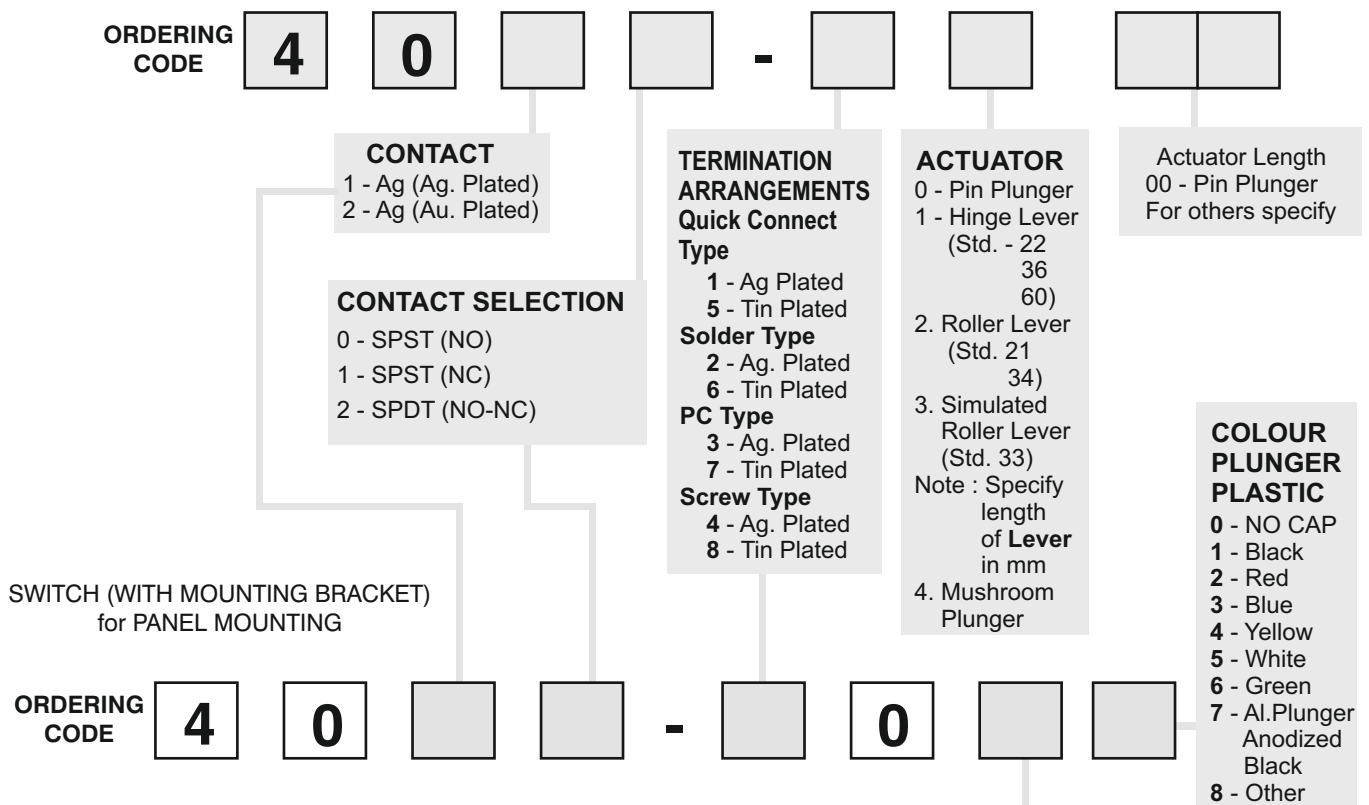
HOW TO ORDER:

- For standard switches by describing as given below
- For Special switches please consult factory with Samples/Drawings

MATERIALS & FINISHES

BODY & COVER : PBT 30GF (UL APPROVED)
 PLUNGER : Acetal / PA
 CONTACTS : Silver Alloy
 TERMINALS : Brass (Silver or Tin plated)
 ROCKER : Brass Silver plated
 SPRING : Beryllium Copper
 (If not specified, the COMMON Terminal will be Silver Plated and the NO & NC Terminals will be Tin Plated)

SWITCH (WITHOUT MOUNTING BRACKET)

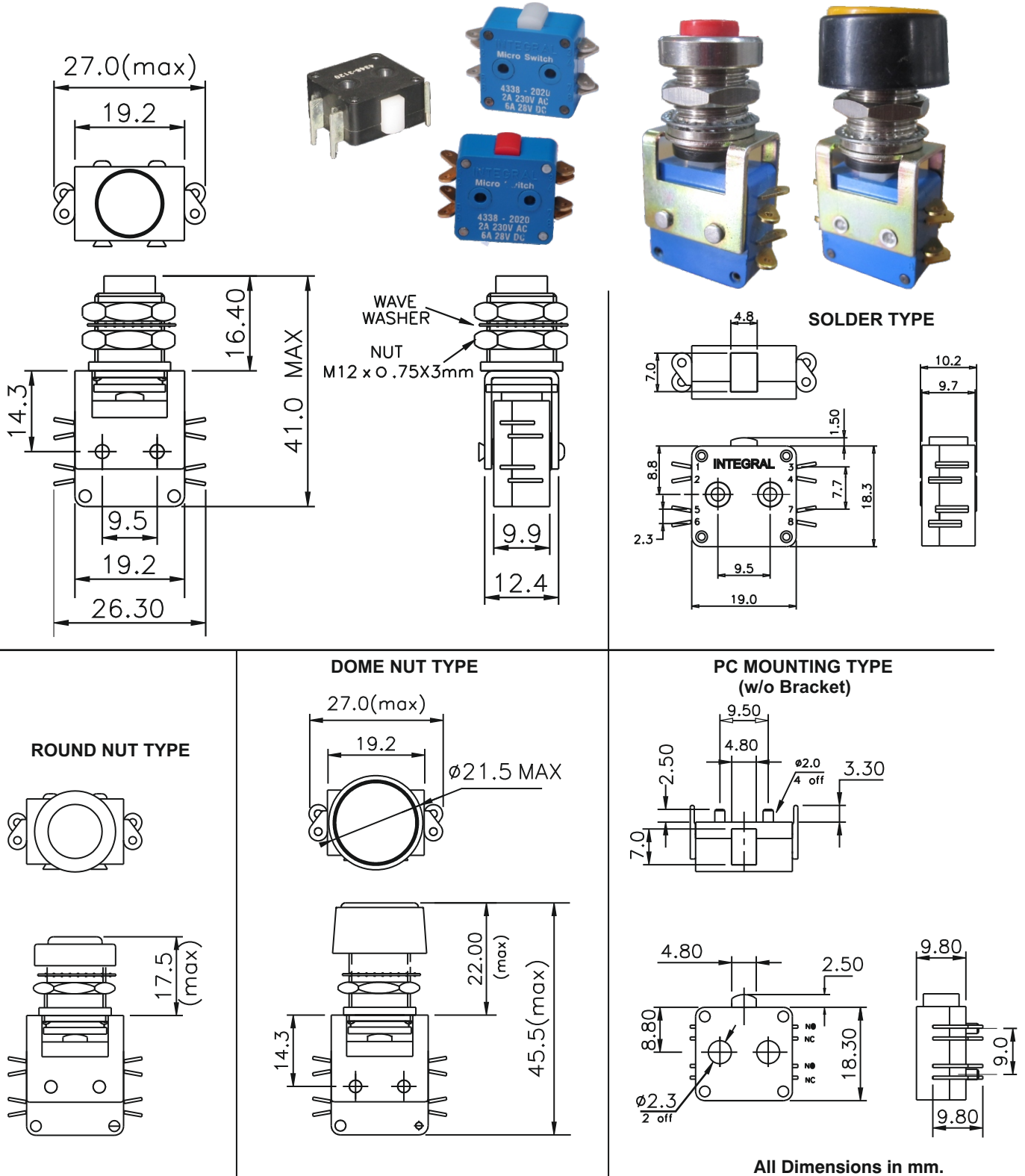


MOUNTING

- | | | |
|----------------------------------|--|------------------------------------|
| 0 - W/O Bracket | 3 - Same as 2 with Dome Nut | 6 - Same as 2 with Metal Dome Nut |
| 1 - With Bracket M12 x 0.75 bush | 4 - Same as 1 with Plastic Dome Nut | 7 - Same as 5 with Metal Round Nut |
| 2 - With Bracket M6 x 0.75 bush | 5 - Same as 1 with Plastic Knurled Nut | |

Series - 43

Integral Micro Push Button Switch are build with high reliable Micro Switches with Snap Action momentary with butterfly Mechanism, A pari of Double Make Double Break. Switching function helps the switch to use in higher current rating & D.C application in small volume. The switches can be used in Inductive, capacitance loading and against surge current since it is protected by its design. Housing and accessories are made with fine quality of engg. Plastics for their ultimate end use.



ELECTRICAL SPECIFICATIONS

CONTACT CONFIGURATION : (Double throw two circuit)
 CONTACT RATING : 6 Amps (Resistive load)
 at 28 V DC, 2A @ 230 VAC
 CONTACT RESISTANCE : < 20 milli ohms max Initial
 INSULATION RESISTANCE @ 500V DC : < 20 Megohms min.
 VOLTAGE PROOF (DIELECTRIC STRENGTH) : 1000 AC to 1 minute
 OPERATING TEMPERATURE : - 30° C to +85° C
 ELECTRICAL & MECHANICAL LIFE : 50,000 Cycles
 PRETRAVEL : ± 0.30
 : 1.4 mm
 OVERTRAVEL : ± 0.20
 : 0.60 mm
 OPERATING FORCE : ± 0.50
 : 350 gms
 REALING FORCE : ± 0.50
 : 125 gms

MATERIALS & FINISHES

BODY & COVER : Diallyl phthalate (DAP)/PBT
 PLUNGER : Acetal
 ACTUATOR : Brass, Silver plated
 CONTACTS : Coin Silver, Gold plated
 TERMINALS : Brass, Silver plated
 Coin Silver, Gold plated
 SPRINGS : Spring steel, Natural

ORDERING INFORMATION

The switch can be ordered as given below

NOTE : Standard/Low level combination could be used in low level or power circuits. However if low level rating is exceeded, gold plating is likely to be removed and the switch is no longer recommended for low level currents.

CONTACT SELECTION

Order Code

- 0 STANDARD** : 2A @ 230 VAC Resistive Load
Copper alloy with Silver plating
- 1 HIGH POWER** : 6A @ 230 V AC and 28 V DC resistive load
CONTACTS : Coin silver
- 2 LOW LEVEL** : 0.4 VA maximum at
CONTACTS : Copper alloy with gold plating over nickel barrier
- 3 HIGH POWER/LOW LEVEL COMBINATION**
CONTACTS : Coin silver with gold plating over nickel barrier

TERMINALS

- 2 - Solder Type
- 3 - PC Type

Color of Plunger

- 0 - No Plunger
- 1 - Black
- 2 - Red
- 3 - Blue
- 4 - Yellow
- 5 - White
- 6 - Green
- 7 - Al. Plunger Anosided Black (Only M12 Bushes)
- 8 - Others

BODY

- 1 - DAP Blue
- 2 - PBT Black

MOUNTING

(Metal Bush Std.)

- 0 - W/O Bracket
- 1 - With Metal Bracket M6x0.75 Hex Nut
- 2 - Same as 1 with Metal Dome Nut
- 3 - With Metal Bracket M12x0.75 Hex Nut
- 4 - Same as 3 with Plastic Dome Nut
- 5 - Same as 3 with Metal Round Nut
- 6 - With Metal Bracket M12x1.0 Hex Nut
- 7 - Same as 6 with Plastic Dome Nut
- 8 - Same as 6 with Metal Round Nut

CONTACT SELECTION

- 0 Cu-(Ag.Pl't)
- 1 Ag-(Ag.Pl't)
- 2 Cu-(Au.Pl't)
- 3 Ag-(Au.Pl't)

CONTACT

- 4 - 1 NO 1NC (Single Switch)
- 8 - 2 NO 2NC (Double Switch)

ORDERING CODE



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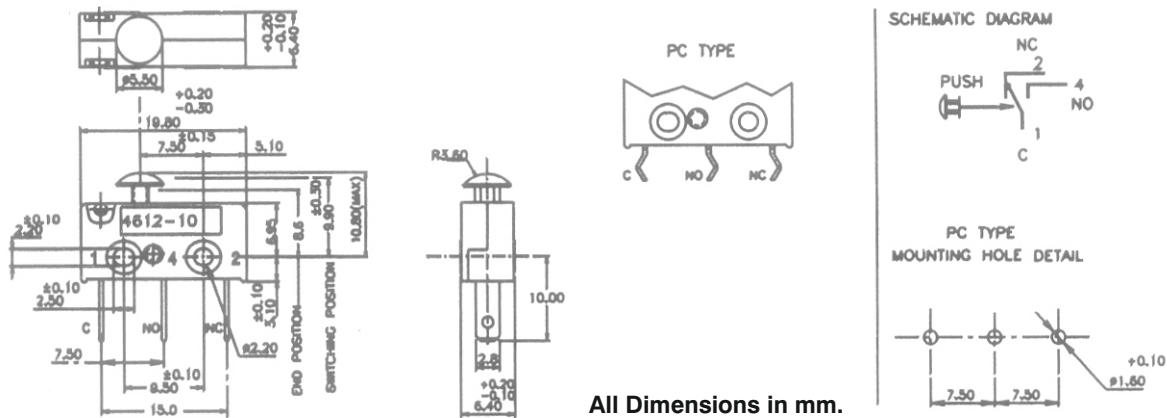
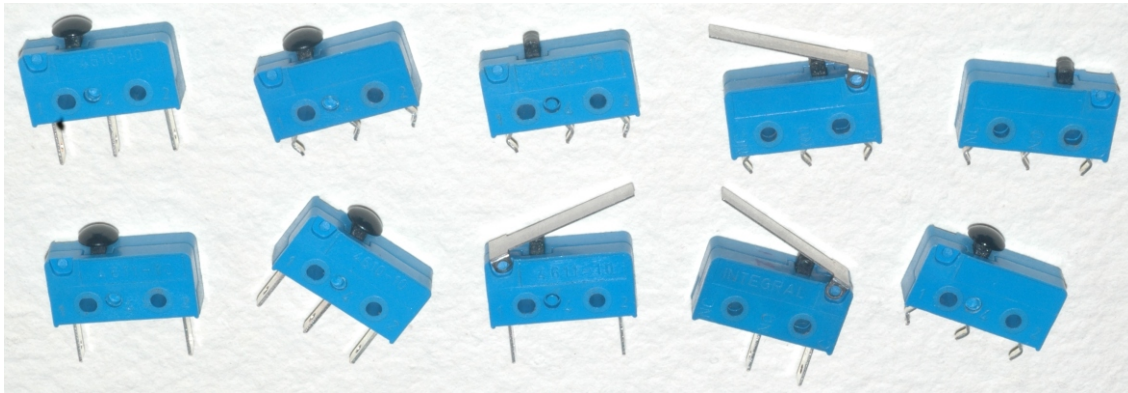
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Series - 46

DESCRIPTION

Integral Series 46 Micro Switches are characterized by their high functional reliability and switching accuracy.



All Dimensions in mm.

SPECIFICATIONS

- CONTACT RATING : 5A @ 250 V AC
(Operating force of 150 ± 30 gms)
- CONTACT RESISTANCE : <50 m ohms initial
- LIFE (ELECTRICAL) : 50,000 Cycles @ Rated Load
- LIFE (MECHANICAL) : 1,000,000 Cycles
- INSULATION RESISTANCE : > 100 M ohms @ 500 V DC
- DIELECTRIC STRENGTH : 1000V AC (1 min.)

MATERIALS & FINISHES

- BODY : PBT GF(30) UL94V0
- PLUNGER : Nylon 6.6 (Black Std.)
- CONTACTS : Silver Alloy
- TERMINALS : Brass, Silver / Tin Plated
- SPRING : Stainless Steel

ORDERING INFORMATION:

Given below are the variations possible and corresponding Ordering Code

ORDERING CODE	4	6					0	0
	CONTACT SELECTION		FUNCTION		TERMINATION		ACTUATOR	
	Order Code 1 - Ag-Alloy 2 - Ag-Au Plated		Order Code 0 - 1 NO 1 - 1 NC 2 - 1 NO / 1 NC		Order Code 1- Plug in type 2 - Solder type 3 - PC type		Order Code 0 - Mushroom plunger 1 - Pin plunger 2 - Hinge Lever - 20.50 mm 3 - Roller Lever - 17.40 mm 4 - Simulated Roller Lever	

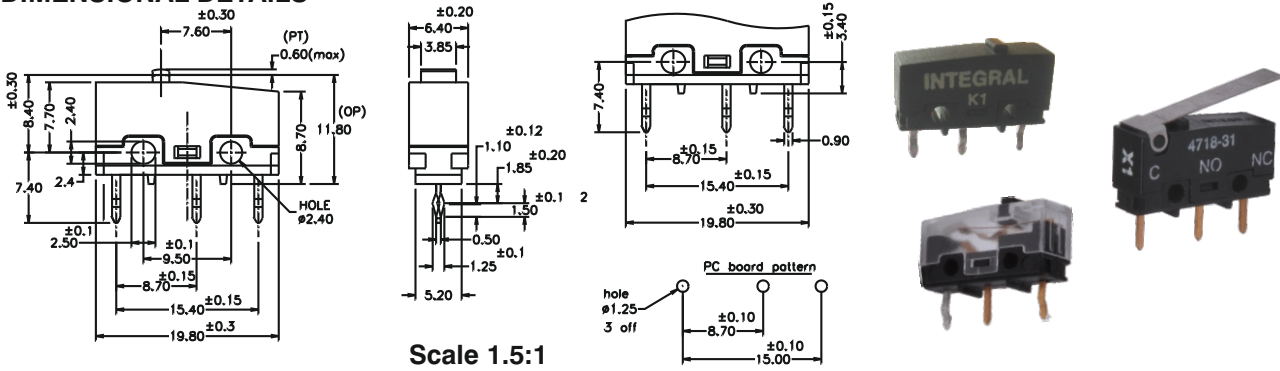
10/2011 ISSUE 03, DCR 1182

Series 47

DESCRIPTION

Integral Series 47 Micro Switch is a snap acting single pole change over switch actuated by plunger. It is a sensitive type switch intended for use in AC and DC applications, suitable for industrial and Commercial Equipment, Communication Equipment, Vending Machines, Security Systems, Data Systems, Medical Equipment, Cassette Recorders, VCR's etc. The switch is ideal due to its small size, lowg operating force and high reliability.

DIMENSIONAL DETAILS



Scale 1.5:1

SPECIFICATIONS

- CONTACT CONFIGURATION : Single pole change over (Snap acting type)
- CONTACT RATING : with 80 ± 20 gms, Operating force, 2 Amps (Resistive Load) at 250 V AC
- CONTACT RESISTANCE : initial 50 milli ohms maximum
- ELECTRICAL LIFE : 500,000 at 20 CPM at 28V 10 mA
- INSULATION RESISTANCE : Mimimum 100Meg ohms at 500 V DC
- DIELECTRIC STRENGTH : 1000 VRMS
- PRE TRAVEL : 0.60mm maximum
- OVER TRAVEL : 0.4 mm maximum

MATERIALS & FINISHES

- BODY & COVER : 30% Glass filled PBT UL 94 V.O
- PLUNGER : Nylon 6/6 (Block)
- CONTACT PINS : See below under contact selection
- TERMINALS : Copper Alloy Silver plated
- CONTACT BRIDGE : Beryllium Copper

CONTACT SELECTION ORDER CODE

- 0** Contacts & all Terminals: Copper alloy silver plated
Rating : 0.1 Amps at 250 V AC (Resistive)
- 1** Contacts : Coin Silver
Terminals : Copper alloy silver plated
Rating : 2 Amps at 250 V AC (Resistive) or 28 VDC
- 2** Contact & Terminals : Copper alloy Gold Plated
Rating : 0.4 VA max @ 20 V AC or DC (Resistive)
- 3** Contacts : Coin silver with Gold plate over Nickel
Terminals : Copper alloy with Gold plate over Nickel plate
Rating : 0.4 VA max at 20 V AC or DC max (Resistive) or 2 Amps at 250 V AC or 28 V DC.

TERMINATION

- Order Code**
- 2** - Solder Type
 - 3** - PC Straight (Self Standing)

ACTUATOR *

- 0** - Pin Plunger (std)
- 1** - Short hinge lever - 20.0
- 2** - Long hinge Lever - 24.3
- 3** - Roller lever - 17.40
- 4** - Simulated lever

ORDERING CODE



* : Note: Levers as per customer requirements.

All Dimensions in mm.

ELECTRICAL SPECIFICATIONS

- CONTACT CONFIGURATION: (Double throw two circuit)
- CONTACT RATING : With 200±50gms operating force 5 Amps (Resistive load) at 28 V DC / 230 V AC
- CONTACT RESISTANCE : 100 milli ohms max initial
- ELECTRICAL : 20,000 operations at rated load. With lower contact-loads life will be correspondingly higher
- MECHANICAL LIFE : 100,000 operations
- INSULATION RESISTANCE : 100 Megohms min.
- DIELECTRIC STRENGTH : 1000 V RMS
- PRETRAVEL : 1.27 mm (max)
- OVERTRAVEL : 0.25 mm (min)

MATERIALS & FINISHES

- BODY : Glass filled PBT (UL approved)
- PLUNGER : Acetal

NOTE : Standard/Low level combination could be used in low level or power circuits. However if low level rating is exceeded, gold plating is likely to be removed and the switch is no longer recommended for low level currents.

ORDERING INFORMATION
The switch can be ordered as given below

CONTACT SELECTION

Order Code

- 0 STANDARD** : 1.5A @ 230 VAC Resistive Load
- 1 LOW LEVEL (DRY CIRCUITS)** : 0.4 VA maximum at 20 volts AC or DC maximum
CONTACTS : Copper alloy with gold plating over nickel barrier
- 2 HIGH POWER** : 5A @ 230 V AC and 28 V DC resistive load
CONTACTS : Coin silver
- 3 HIGH POWER/LOW LEVEL COMBINATION**
CONTACTS : Coin silver with gold plating over nickel barrier

TERMINALS
(Br.Ag.pltd.)

- 2** Solder Type
- 3** PC Type (Straight)
- 5** PCR Type (Horizontal Mounting)

CAP COLOUR

- 0** No Cap
- 1** Red
- 2** Black
- 3** Grey
- 4** Green
- 5** Blue
- 6** Yellow
- 7** White

ACTUATOR

- 3** Plunger
- 4** Lever
- 5** Lever with Roller

CONTACT SELECTION

- 0** Cu-(Ag.Plt)
- 1** Cu-(Au.Plt)
- 2** Ag-(Ag.Plt)
- 3** Ag-(Au.Plt)

MOUNTING
(Br.Ag.pltd.)

- 1** W/O mounting bracket
- 2** With mounting bracket M6 X 0.75 bush and an additional plunger
- 3** Same as 2 with Dome nut
- 4** Same as 3 with Red Plunger
- 5** Side Plate with Lever (without bush)
- 6** Same as 2 with Red plunger

ORDERING CODE



10/2011 ISSUE 03, DCR 1182



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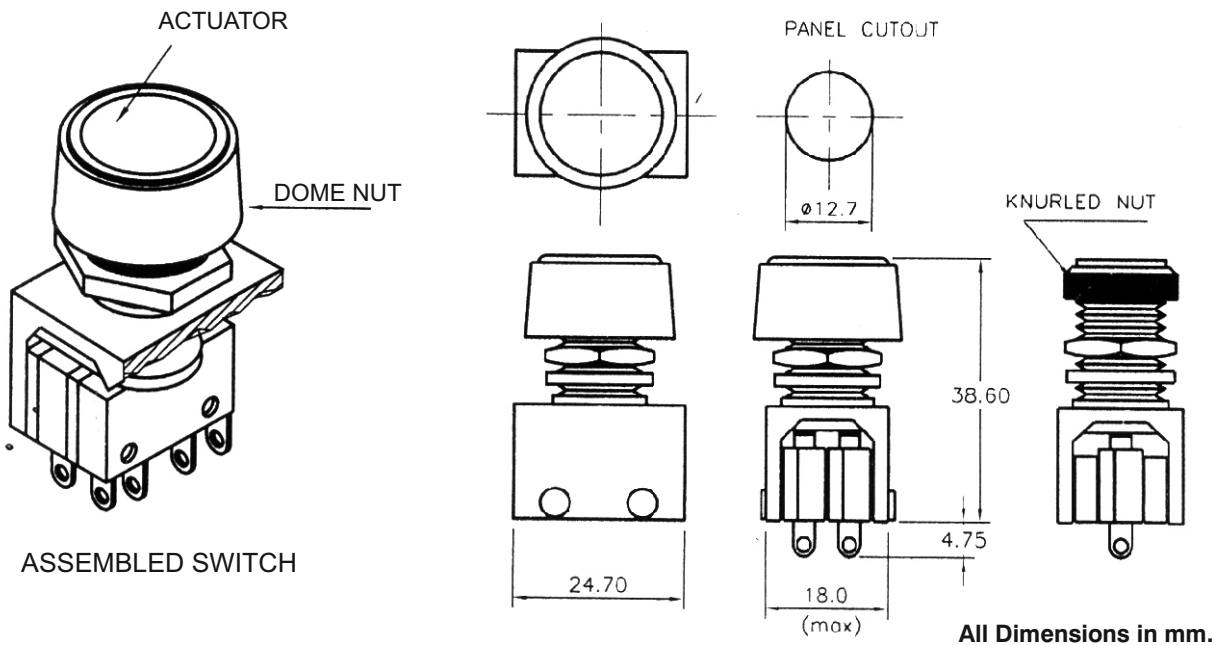
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Series - 48

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All Dimensions in mm.

DOME NUT TYPE SWITCH		KNURLED NUT TYPE SWITCH	
* SINGLE SWITCH	DOUBLE SWITCH	SINGLE SWITCH	DOUBLE SWITCH
Cu-Ag.plt. 4802-271* Ag-Ag.plt. 4822-271*	Cu-Ag.plt. 4804-271* Ag-Ag.plt. 4824-271*	Cu-Ag.plt. 4802-272* Ag-Ag.plt. 4822-272*	Cu-Ag.plt. 4804-272* Ag-Ag.plt. 4824-272*

ELECTRICAL SPECIFICATIONS

- CONTACT CONFIGURATION: (Double throw two circuit)
- CONTACT RATING : With 200±50gms operating force 5 Amps (Resistive load) at 28 V DC / 230 V AC
- CONTACT RESISTANCE : 100 milli ohms max Initial
- ELECTRICAL : 20,000 operations at rated load. With lower contact-loads life will be correspondingly higher
- MECHANICAL LIFE : 100,000 operations
- INSULATION RESISTANCE : 100 Megohms min.
- DIELECTRIC STRENGTH : 1000 V RMS
- PRETRAVEL : 1.27 mm (max)
- OVERTRAVEL : 0.25 mm (min)

MATERIALS & FINISHES

- BODY : Glass filled PBT (UL approved)
- PLUNGER : Acetal

NOTE : Standard/Low level combination could be used in low level or power circuits. However if low level rating is exceeded, gold plating is likely to be removed and the switch is no longer recommended for low level currents.

ORDERING INFORMATION

The switch can be ordered as given below

CONTACT SELECTION

Order Code

- 0 STANDARD** : 1.5A @ 230 VAC Resistive Load
- 1 LOW LEVEL** : 0.4 VA maximum at (DRY CIRCUITS) 20 volts AC or DC maximum
CONTACTS : Copper alloy with gold plating over nickel barrier
- 2 HIGH POWER** : 5A @ 230 V AC and 28 V DC resistive load
CONTACTS : Coin silver
- 3 HIGH POWER/LOW LEVEL COMBINATION**
CONTACTS : Coin silver with gold plating over nickel barrier

TERMINALS

2 - Solder Type

MOUNTING

- (Plastic Black Colour Std.)
- 1 - With DomeNut
 - 2 - With Knurled Nut
 - 3 - Metal Bracket (M12 Round Nut)
 - 4 - Same as 1 with Metal Finish
 - 5 - With Red Colour Knurled Nut
 - 6 - Same as 1 with metal base back nut
 - 7 - same as 2 with metal base back nut

Color of Plunger

- 1 - Red
- 2 - Black
- 3 - Green
- 4 - Yellow

CONTACT SELECTION

- 0 Cu-(Ag.Pl't)
- 1 Cu-(Au.Pl't)
- 2 Ag-(Ag.Pl't)
- 3 Ag-(Au.Pl't)

TERMINALS

- 2 - 1 NO 1NC (Single Switch)
- 4 - 2 NO 2NC (Double Switch)

ORDERING CODE



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TINY PUSH BUTTON SWITCHES



Series 50 (1 Pole - Momentary)

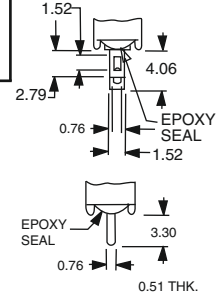
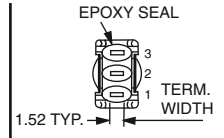
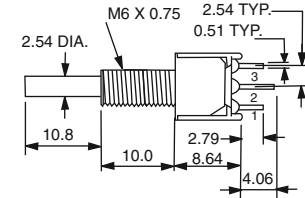
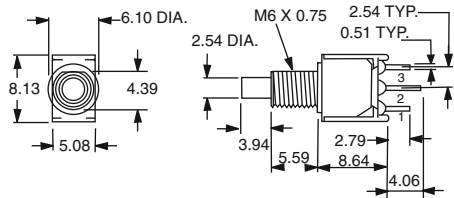
DESCRIPTION

Integral Tiny Push Switches embody all the design features of our highly popular miniature Toggle Switches such as epoxy sealing of terminals, silver inlay contacts for higher current operation, gold plated contacts for low-level circuit operation, various type of switching function, etc., P.C. versions with mounting on 0.1" (2.54mm) centres with very small volume and height, save space in PCB. This data sheet offers the normally used types of the switch. Many other variations can be offered on specific enquiry.

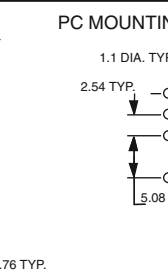
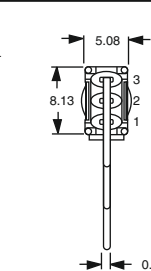
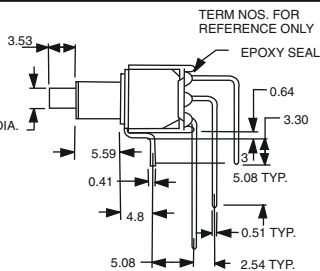
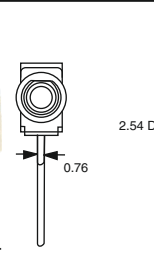
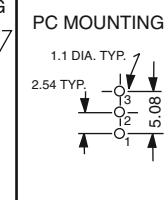
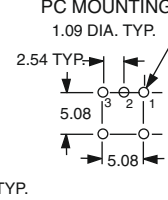
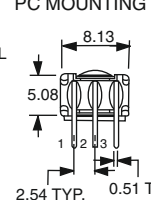
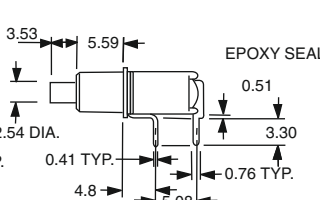
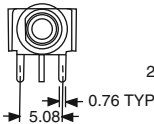
SPDT SOLDER



	SWITCHING FUNC.	
	POS 1	POS 2
See below	ON	MOM.
CONNECTED TERMINALS	2 - 1	2 - 3
SCHEMATIC	2 (COMM)	
	NC 1	3 NO
MOM. - MOMENTARY POSITION		



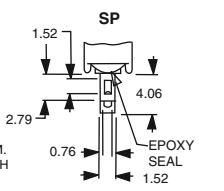
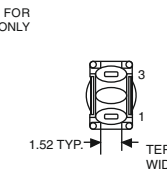
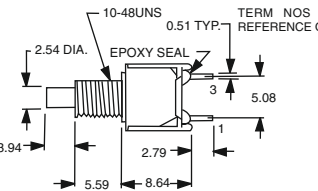
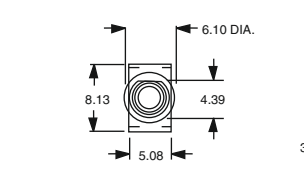
SPDT PC MOUNTABLE



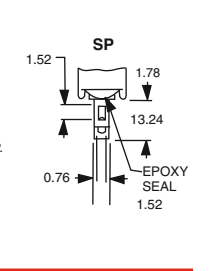
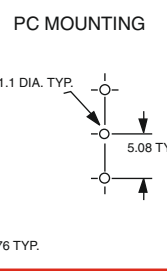
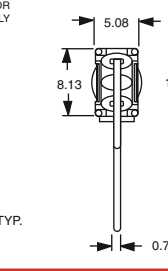
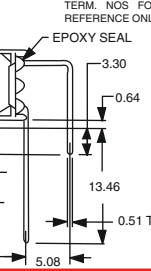
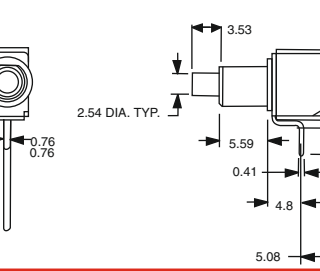
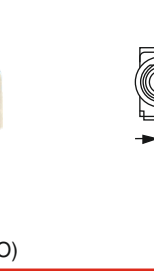
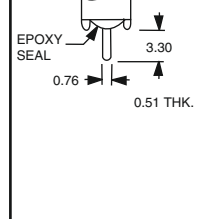
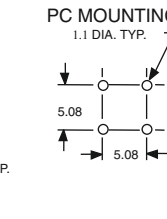
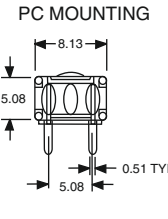
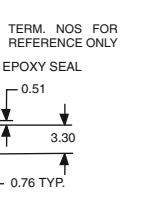
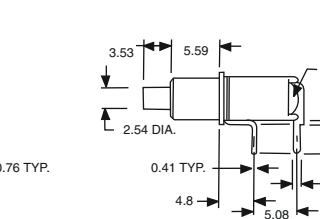
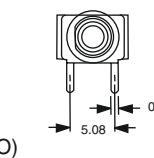
SPST SOLDER



	SWITCHING FUNC.	
	POS 1	POS 2
SPST	OFF	MOM.
See below		
CONNECTED TERMINALS		1 - 3
SCHEMATIC	2 (COMM)	
	3 NO	
MOM. - MOMENTARY POSITION		



SPST PC MOUNTABLE



All Dimensions in mm.

SPECIFICATIONS

CONTACT RATING : See below under CONTACT SELECTION
 ELECTRICAL LIFE : 30,000 make-and-break cycles at full load
 CONTACT RESISTANCE : Below 20 milliohms initial @ 2-6 V DC.
 100 mA for both silver and gold plated contacts.
 INSULATION RESISTANCE : 1000 Megohms (min)
 DIELECTRIC STRENGTH : 1000 V RMS min. @ sea level.
 OPERATING TEMP. : -30° C to 85° C.

MATERIALS & FINISHES

BODY : Diallyl Phthalate (GF)
 PLUNGER : Nylon / PBT
 HOUSING : Stainless Steel
 BUSHING : Brass Nickel plated
 HARDWARE : Brass Nickel plated
 SWITCH SUPPORT : Brass electro-tin plated
 TERMINAL SEAL : Epoxy
 CONTACTS : See below under CONTACT SELECTION

ORDERING INFORMATION : Given below are the variations possible and corresponding ordering code.

CONTACT SELECTION

Order Code	CONTACTS & ALL TERMINALS.	RATING	: Copper/Copper alloy Silver plated
0	CONTACTS & ALL TERMINALS.	RATING	: 100 mA @ 120 V AC or 28 V DC
1	END CONTACTS		: Coin silver, silver plated
	CENTRE CONTACTS & ALL TERMINALS.		: Copper alloy silver plated.
2	CONTACTS & ALL TERMINALS	RATING	: 1 Amps. @ 120 V AC or 28 V DC
3	END CONTACTS		: Copper alloy with gold plate over nickel plate.
	CENTRE CONTACTS & ALL TERMINALS.		: 0.4 VA max. @ 20 V AC or DC max.
			: Coin silver with gold plate over nickel plate.
			: Copper alloy with gold plate over nickel plate.
		RATING	: 0.4 VA max. @ 20 V AC or DC max or 1 Amps @ 120 V AC or 28 V DC.

(This contact can be used where either dry circuit or power conditions exist. However when dry circuit rating is exceeded the gold plating is removed from the contact and the switch cannot be used in dry circuits.)

TERMINATION

Order Code	2 Solder Type Contacts	
3	Straight PC Contacts	
4	Bent PC Contacts for vertical operation (PCR)	
5	Bent PC Contacts for horizontal operation (PCR)	

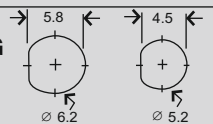
PLUNGER

- Order Code
- 70 - Black Color Plunger w/o Cap
 - 71 - Red Color Plunger w/o Cap
 - 72 - Plunger with Black Color Cap
 - 73 - Plunger with Red Color Cap
 - 74 - Plunger with Green Color Cap
 - * 77 - Black Colour Plunger (10.8 Long) with rubber boot **
 - * 78 - Black Colour Plunger (10.8 Long)
- * Refer page -D7

MOUNTING

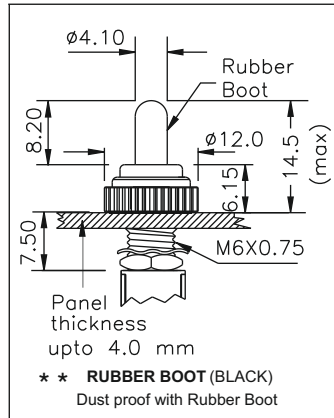
Order Code	0 Bush threaded	M5 x 0.5, 5.5 long
1	Bush threaded	M6 x 0.75, 6.1 long (without collar)
5	Bush unthreaded	∅ 5.0 x 0.5, 5.5 long
6	Panel Sealing	M6 x 0.75
7	Bush threaded	M6 x 0.75, 10.0 long (without collar)

PANEL MOUNTING HOLES



SWITCH FUNCTION

Order Code	0	SPST
	1	SPDT



ORDERING CODE



** Rubber Boot can be given only with plunger length 10.8mm long and bush length 10.0mm long



INTEGRAL SYSTEMS AND COMPONENTS PRIVATE LIMITED

D-388/1, 1st Block, 1st Stage, Peenya Industrial Estate, Bangalore - 560 058, India

Telefax: (080) 2839 1707 / 2839 1708 / 2839 1709 / 2839 1710

An ISO 9001:2008 Company **Website:** www.integralsys.in **E-mail:** inty.systems@gmail.com / sales@integralsys.in

PUSH BUTTON SWITCHES (Alternate)



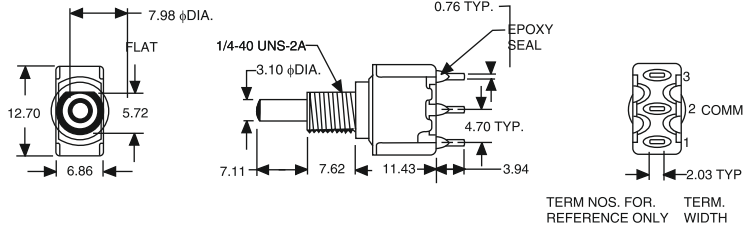
Series 60

DESCRIPTION

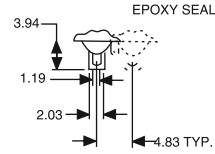
Integral Series 60 Push Button Switches are designed to incorporate all the advantages of the time tested Toggle switches. The actuation is **Push to On / Push to Off** and the cap size and colour can be selected to match the front panel requirements. The switches are also available for direct P.C.B. Mounting and provide an elegant and robust way to switch-on equipments.



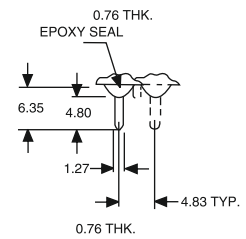
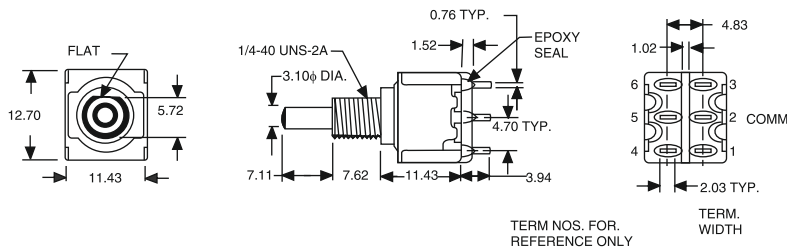
SPDT



SOLDER TYPE

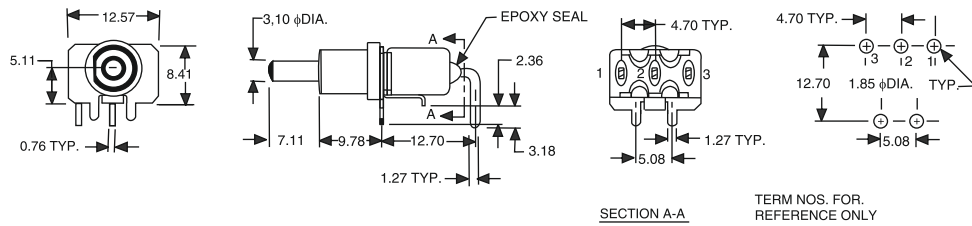


DPDT

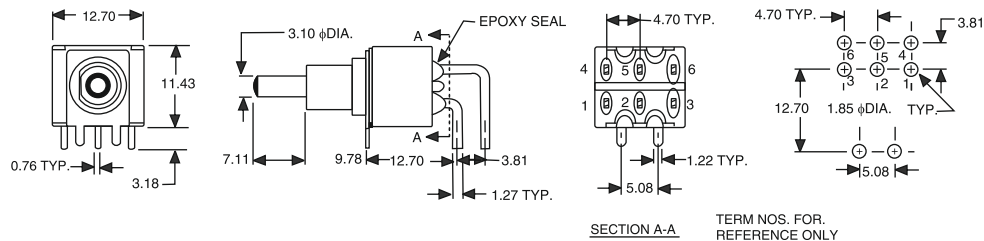


PC TYPE

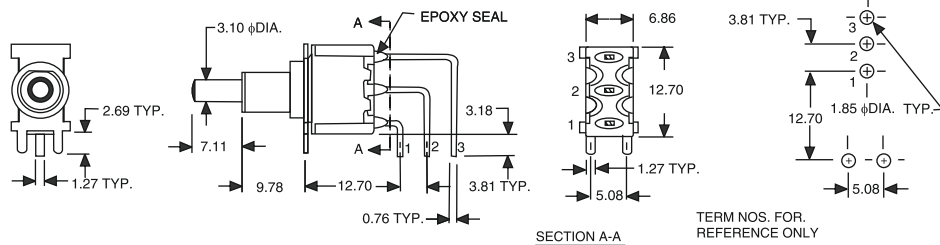
SPDT PCR



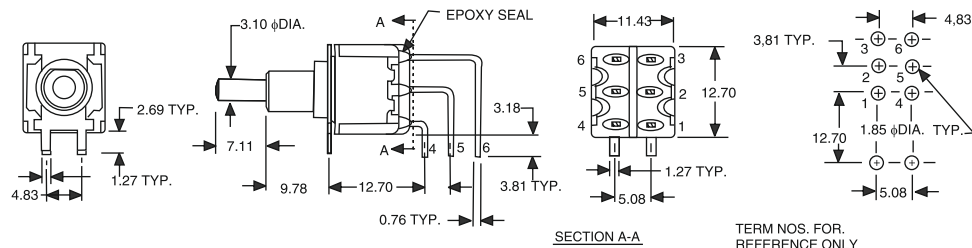
DPDT PCR



SPDT PCRV



DPDT PCRV



All Dimensions in mm.

SPECIFICATIONS

CONTACT RATING	: 3 Amp @ 250 V AC; 5A @ 28 V DC
ELECTRICAL LIFE	: 40,000 make-and-break cycles at full load on all models.
CONTACT RESISTANCE	: Below 10 milliohms initial @ 2-6 V DC, 100 mA for both silver and gold plated contacts.
INSULATION RESISTANCE	: 1000 Megaohms min @ 500 VDC
DIELECTRIC STRENGTH	: 1000 VRMS min. @ sea level.
OPERATING TEMP.	: -30° C to 85° C

MATERIALS & FINISHES

BODY	: Diallyl Phthalate (DAP)
ACTUATOR	: Glass Filled Nylon
HOUSING	: Stainless Steel
BUSHING	: Brass Nickel Plated
HARDWARE	: Brass Nickel plated
TERMINAL SEAL	: Epoxy
CONTACTS	: See below under CONTACT

ORDERING INFORMATION : Given below are the variations possible and corresponding ordering code.

CONTACT	
Order Code	
0 Contacts and all Terminals Rating	: Copper alloy Silver plated : 2 Amps. @ 250 V AC
1 End contacts Centre contacts and all Terminals Rating	: Coin Silver, Silver plated : Copper alloy Silver plated : 3 Amps. @ 250 V AC; 5A @ 28 V DC
2 Contacts and all Terminals Rating	: Copper alloy with Gold plate over Nickel plate : 0.4 VA max. @ 20V AC or DC max.
3 End contacts Centre contacts and all Terminals Rating	: Coin Silver with Gold plate over Nickel plate : Copper alloy with Gold plate over Nickel plate : 0.4 VA max. @ 20V AC or DC max. or 3 Amps @ 250 V AC; 5A @ 28 V DC

(This contact can be used where either dry circuit or power conditions exist. However when dry circuit rating is exceeded the gold plating is removed from the contact and the switch cannot be used in dry circuits.)

SWITCH CONNECTION		
	Pos. 1	Pos. 2
	ON	ON
CONNECTED TERMINALS		
1 POLE	2 - 3	2 - 1
2 POLE	2 - 3 5 - 6	2 - 1 5 - 4

CAP COLOUR	
Order Code	
1	Red
2	Black

TERMINATION	
Order Code	
2	Solder Type
3	PC Type
4	PCR Type
5	PCR Type

CAP	
Order Code	
0	No Cap
1	Ø 9.50 x 6.35
2	Ø 7.85 x 6.35
3	Ø 5.00 x 3.95
4	Same as 2 with dome nut

POLE SELECTION	One	Two
Order Code	1	2

MOUNTING	
Order Code	
1	M6 x 0.75 Threaded
2	Ø 6 unthreaded

ORDERING CODE **6** **1**

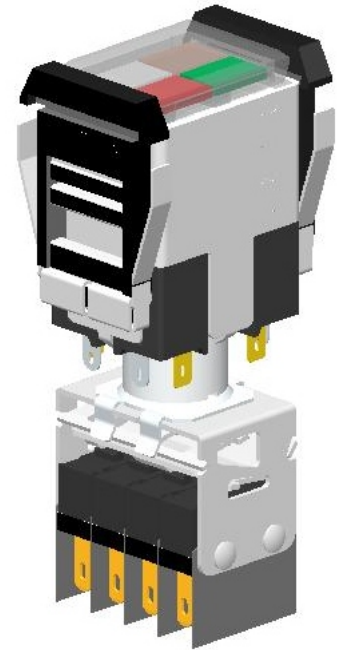
PUSH BUTTON (ILLUMINATED)



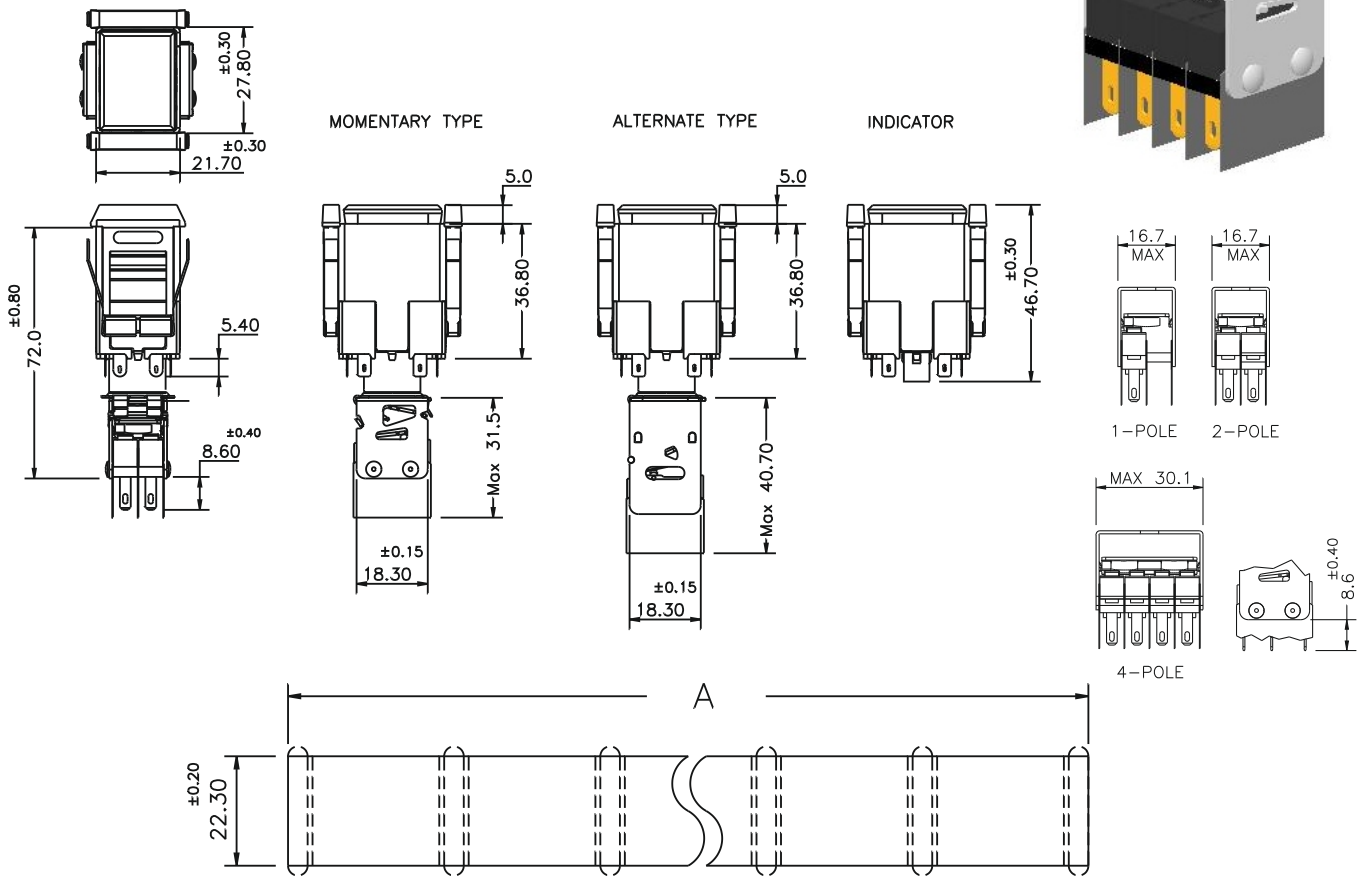
Series 64

DESCRIPTION

Integral Series 64 Illuminated Push Button Switches are of modular construction giving a freedom to the customer to build his own switch given all the sub-assemblies. A robust construction using stainless steel sheets, the switch is built to take rough usage over a long period of time. The design enables the user to change the multi-chip LED's from the front of the panel without removing the switch from the panel. Consisting of the Push Button, Body and the Switch modules the switch assembly lends itself to a large number of combinations.



DIMENSIONAL DETAILS :



Panel thickness 1.6 to 7.90 mm.

Short barrier

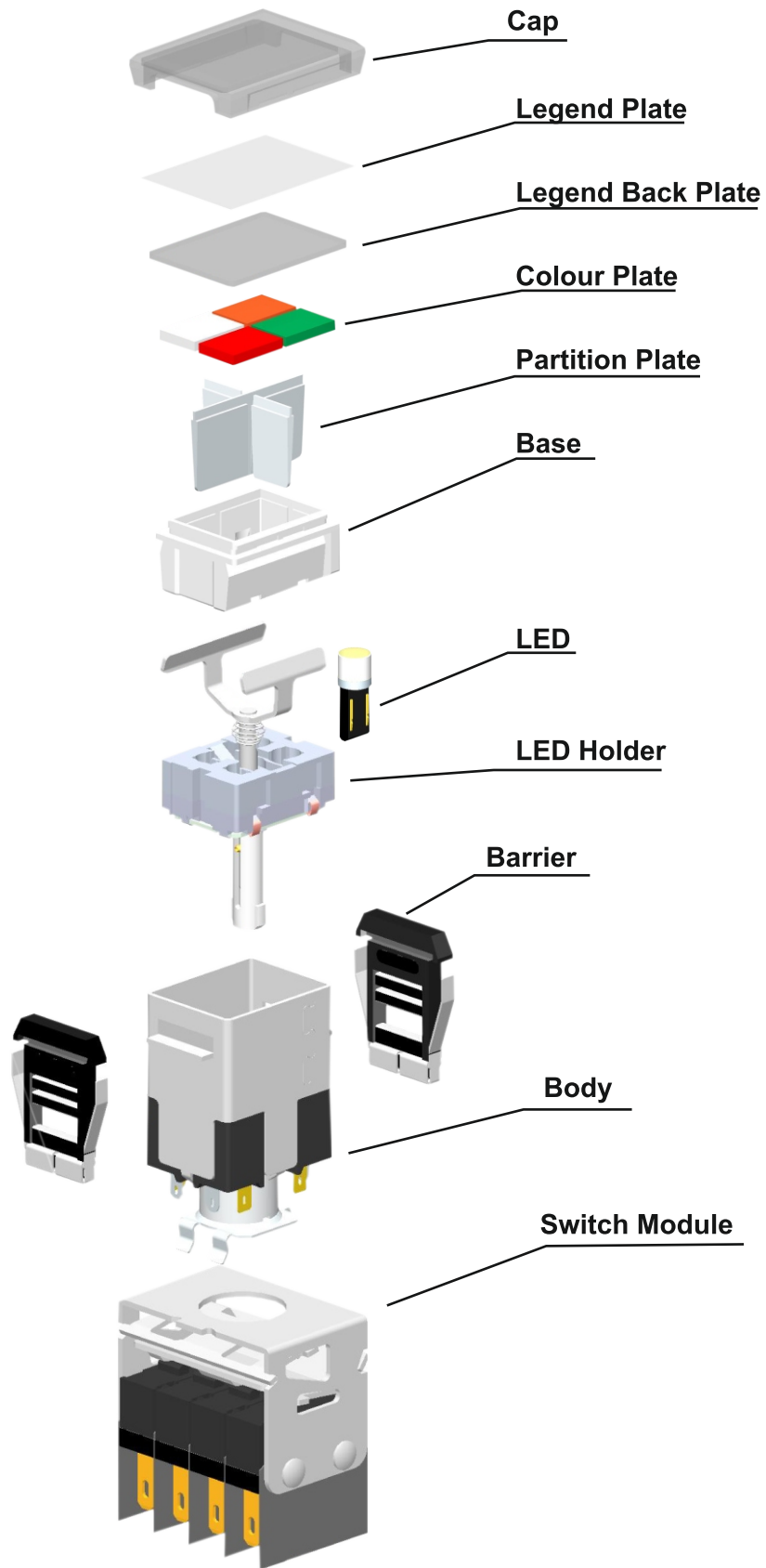
Dimensions	1	2	3	4	5	6	7	8	9	10	11	12
Type Number of units	36.1	68.0	99.9	131.8	163.6	195.5	227.4	259.3	291.1	323.0	354.9	386.7

Dimensional tolerance is ± 0.30 mm
 in the case of gang-mounting of 12 units or more, calculate as follows

$$\text{Short barrier type: } 31.86 n + 4 \begin{matrix} +0.30 \\ -0 \end{matrix}$$

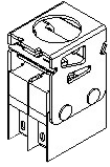
All Dimensions in mm.

EXPLODED VIEW

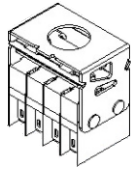


All Dimensions in mm.

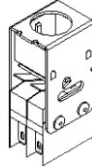
SWITCH



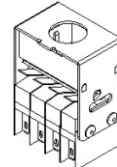
64 SW 2M
(MOMENTARY)



64 SW 4M
(MOMENTARY)

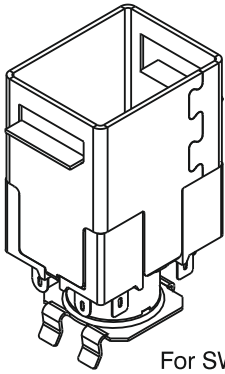


64 SW 2A
(ALTERNATE)



64 SW 4A
(ALTERNATE)

BODY



For SWITCH

64 BD

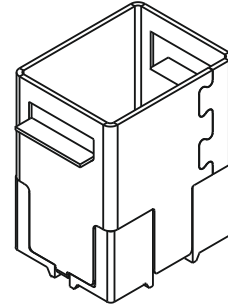
S-Switch
L-Indicator

Display layout

A - Full
B - Split-2
C - Split-3/4

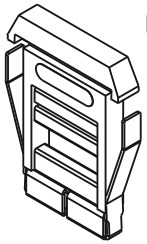
Voltage

05 V DC
12 V DC
24 V DC



For INDICATOR

BARRIER



64 BR

Colour

K - Black
W - White

LED

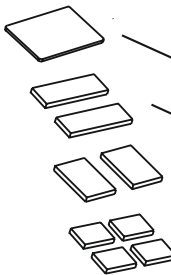


64 LD

Colour

R - Red
W - Milky White
D - Orange
G - Green

COLOUR PLATE



64 CP

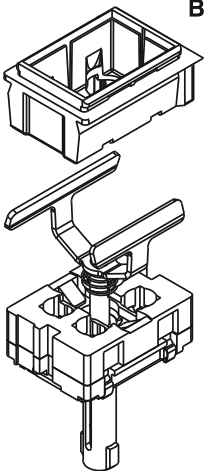
layout

1
2
3
4

Colour

R - Red
W - Milky White
D - Orange
G - Green

BUTTON



64 BT

S-Switch
L-Indicator

Display layout

A
B
C
D
E
F
G
H

Voltage

05 VDC
12 VDC
24 VDC

All Dimensions in mm.

SPECIFICATION

Electrical & Mechanical

- | | |
|-----------------------------------|--|
| 1. Allowable Operating Frequency: | A) Mechanical
(I) Momentary Max 120 operation/min
(II) Alternating Max 60 operation/min
B) Electrical - Max 20 operation/min. |
| 2. Current Rating | Resistive Load 5 A @ 250V AC OR 30V DC
Inductive Load 3 A @ 250V AC OR 30V DC |
| 3. Insulation resistance | Max 100 M ohms @ 500 V DC |
| 4. Dielectric strength | Between non-continuous terminals - 600 V AC for 1 min.
Between different poles 2000 V AC for 1 min.
Between each terminals and ground - 2000 V AC for 1 min. |
| 5. Mechanical life | Min 100,000 operations |
| 6. Electrical life | Min 100,000 operations at \circ
2A @ 250V AC / 28V DC @ +40 C |
| 7. Initial Contact resistance | Max 60 m ohms |
| 8. Terminal strength | Soldered terminal 12 N for 1 min |
| 9. Stroke | Approx 3 mm |

Environmental

- | | |
|-----------------|--|
| 1. Temperature | |
| a) Storage | : -25°C to + 65°C |
| b) Operating | -20°C to + 40°C |
| 2. Damp Heat | : 16 hrs @
RH 85% at 40°C |
| 3. Vibration | : 10 - 55 Hz, 3mm peak
(1 hr.on each axis) |
| 4. Impact Shock | : Peak acceleration
750 m/s ² for
5 m sec duration
In all 6 direction. |
| 5. Salt mist | : As per JSS 50101
For 48 hrs. |

MATERIAL & FINISH

- METALS:-** Stainless Steel, BerylliumCopper and Brass as required.
- PLASTICS:-** Thermoset and Termoplastic are UL-94 V0 grade.
- PLATING:-** Heavy Silver OR Gold on Nickel as required.

ORDERING DETAIL FOR PRE ASSEMBLED COMPLETE SWITCH.

COMPONENTS	PART No.
SWITCH MODULE	64 SW ___ ___
BODY	64 BD ___ ___ ___ ___
BARRIER	64 BR ___
LED	64 LD ___
COLOUR PLATE	64 CP ___ ___
BUTTON	64 BT ___ ___ ___ ___

A Special **customer specific number** will be allotted keeping the above Configuration.

Ordering Detail Example:

Switch Module	64 SW	2	M	means	2 Switch Momentary Type.
Body	64 BD	S	A 2 4	means	Body for full display 24V Switch
Barrier	64 BR	K		means	Black Short Barrier
LED	64 LD	R		means	Red Colour LED
Colour Plate	64 CP	1	R	means	Red Colour full display lens.
Button	64 BT	S	A 2 4	means	Button for full display 24 V Switch

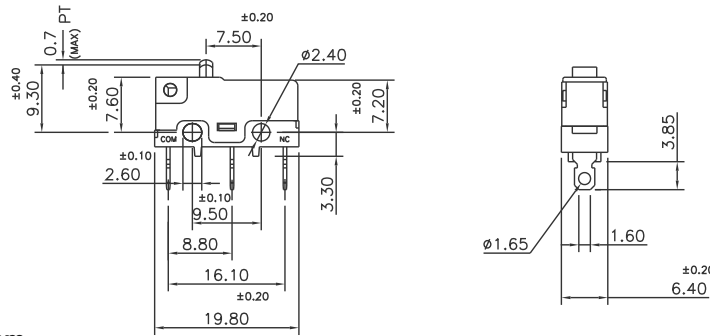
All Dimensions in mm.

Series 66

DESCRIPTION :

Integral Series 66 Micro Switches are characterized by their high functional reliability and switching accuracy. Can be used for Office Equipment, Industrial Machinery, Household Equipment.

DIMENSIONS:



All Dimensions in mm.

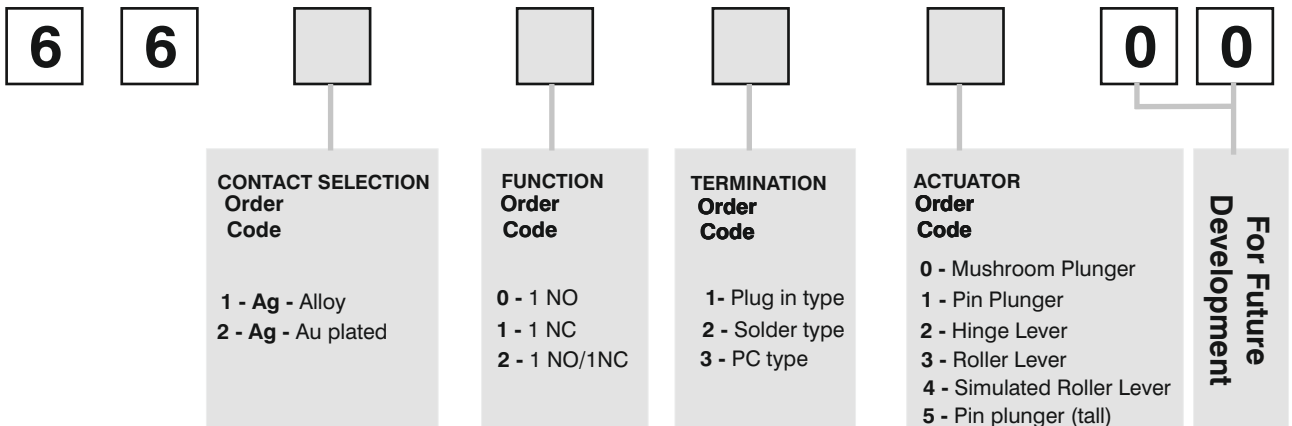
SPECIFICATION:-

- CONTACT RATING : 5A (Resistive Load) @ 250v AC/30V DC
- CONTACT RESISTANCE : 100 m ohms (max) at 2-6V DC, 0.1 A Initial
- INSULATION RESISTANCE : 100 M ohms (min) @ 500V DC
- DIELECTRIC STRENGTH : 1000V AC (1min)
- LIFE (ELECTRICAL) : 50,000 Cycles @ full electrical load
- LIFE (MACHANICAL) : 300,000 Cycles
- OPERATING TEMPERATURE RANGE : -25° to +85° C

MATERIALS & FINISHES

- BASE : DAP (Glass filled) UL approved
- CONTACTS : Silver Rivets
- TERMINALS : Copper Alloy Silver plated
- SPRING : Beryllium Copper

ORDERING CODE



10/2011 ISSUE 03, DCR 1182

TACTILE SWITCHES

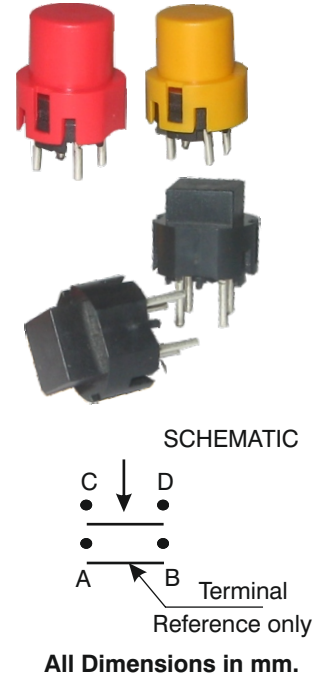
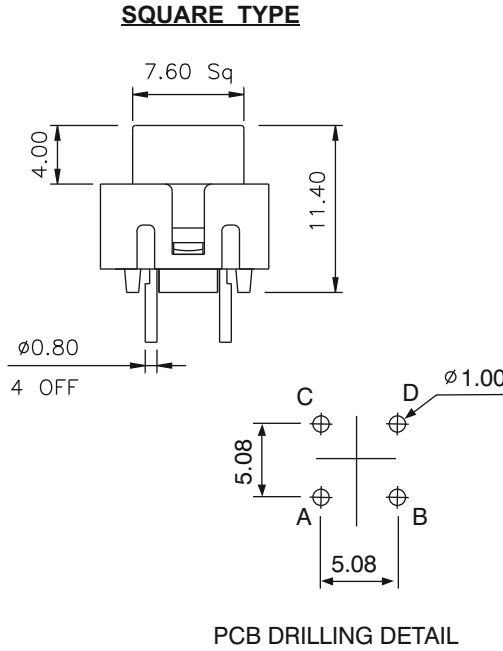
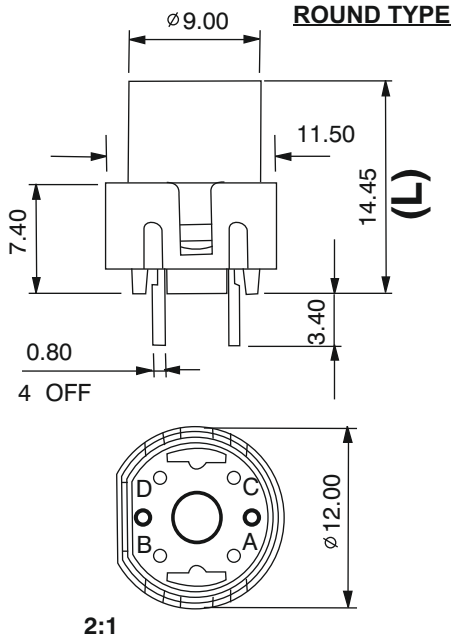


Series - 68

DESCRIPTION

Integral Series 68 Tactile switch is characterized by its high functional reliability and switching accuracy. Mounted on a PC Board the total height of the switch can be altered as per customer specification (L). The tactile feel is provided by a Stainless Steel Spring where as the actual Contact is established between Silver Plated Copper alloy parts.

DIMENSIONAL DETAILS



SPECIFICATIONS

SWITCHING CURRENT	: 30mA @ 30 V DC
CONTACT RESISTANCE	: 30 m ohms max. Initial
INSULATION	: 100 M ohms min.
DIELECTRIC STRENGTH	: 500V AC/1 min
OPERATING FORCE	: 100 ± 50 gms.
LIFE (MECHANICAL)	: 100,000 Cycles
OPERATING TEMPERATURE	: -25°C to +60°C

MATERIALS & FINISHES

BODY	: PBT GF(30) UL94V0
CAP	: ABS
CONTACTS	: Copper alloy Silver pltd.
TERMINALS	: Copper alloy Silver pltd.
SPRING	: Stainless Steel

ORDERING INFORMATION:

ORDERING CODE: **6** **8** **8** - **3**

<p>CONTACT MATERIAL</p> <ul style="list-style-type: none"> * 0 - Cu - (Ag.Pltd.) 1 - Ag - (Ag.Pltd.) 2 - Cu - (Ag.Pltd.) 3 - Ag - (Au.Pltd.) <p>* Standard</p>	<p>CAP (L=Length)</p> <ul style="list-style-type: none"> 1 - Short - 10.75 2 - Long - 14.45 	<p>CAP COLOUR</p> <ul style="list-style-type: none"> 1 - RED 2 - BLACK 3 - GREEN 4 - YELLOW 5 - WHITE 	<p>CAP SHAPE</p> <ul style="list-style-type: none"> 1 - ROUND 2 - SQUARE
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10/2011 ISSUE 03, DCR 1182