

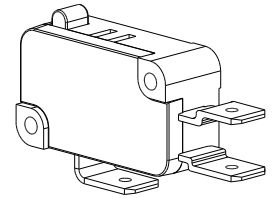
TEKNIC Miniature, snap action, Micro switches are robust in their construction and possess a built in precision, repeatability and reliability in their operation. They are versatile and find application in Domestic Appliances, Instrumentation, Telecommunication and other Electronic Equipment.



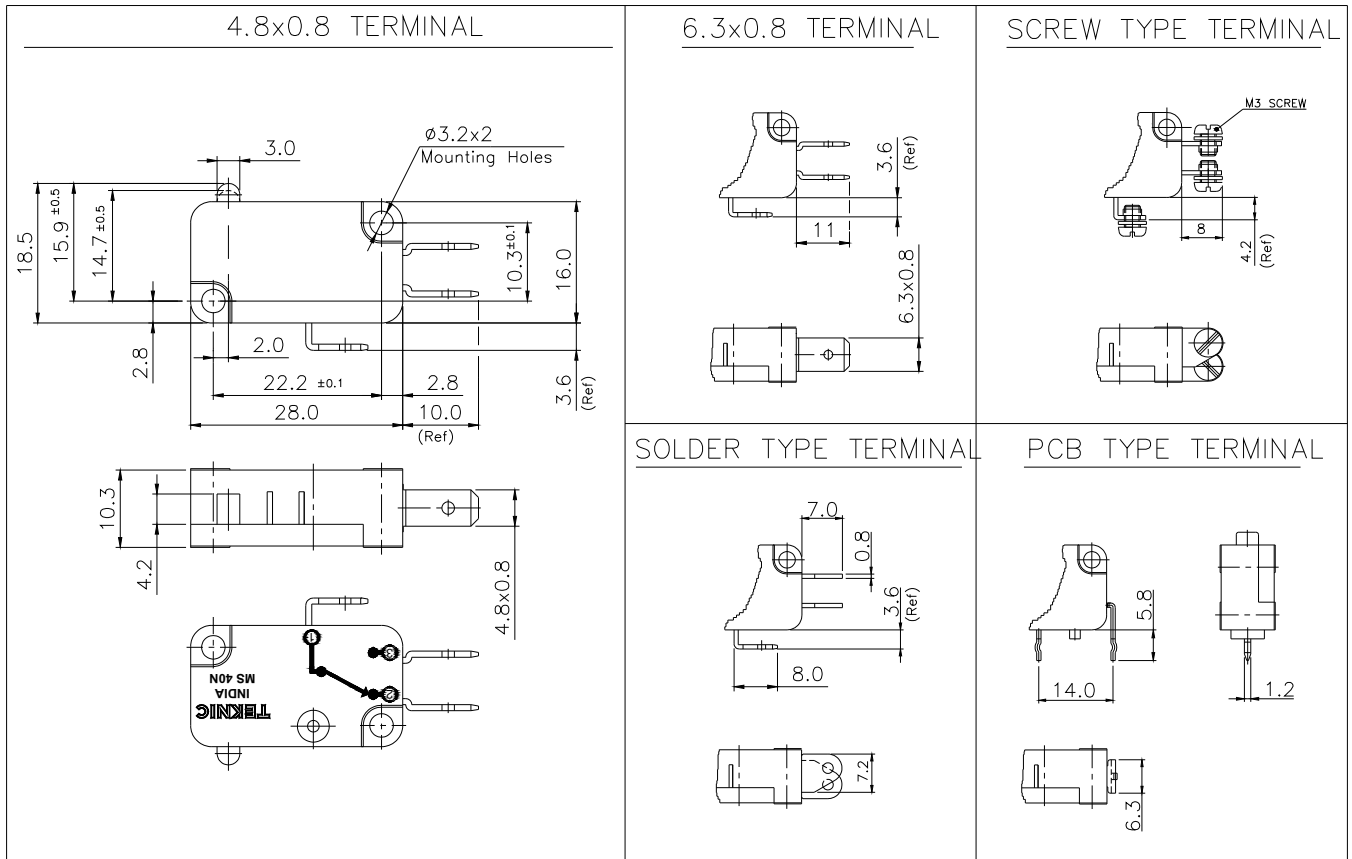
**MECHANISM :**

To provide a double throw switch to change from one circuit to another with a common supply line, or may be used as normally open or normally closed switches.

The changeover time in all cases is independent of the plunger speed.



**TERMINAL TYPES :**



**TECHNICAL DATA :**

<b>UL &amp; CSA RATING</b>	: 6A, 125/250 V AC , 6A, 32 V DC 16 A, 125/250 V AC, 1/2 HP, 16 A 32 V DC 21 A, 125/250 V AC, 1/2 HP
<b>KEMA RATING (ENEC)</b>	: 6(2)A, 250 V AC , T85 , 5E4 16(4) A, 250 V AC, T85 , 5E4 20(4) A, 250 V AC, T85 , 5E4
<b>ELECTRICAL ENDURANCE</b>	: 50,000 CYCLES (5E4) as per EN 61058 6,000 CYCLES as per UL 1054 & CSA- C22.2 No. 55-M1986.
<b>INITIAL INSULATION RESISTANCE</b>	: > 100 MEGOHMS.
<b>CONTACT GAP</b>	: MICRO DISCONNECTION (μ) AS PER EN 61058
<b>DI-ELECTRIC STRENGTH</b>	: POLE TO BODY - 1500V ACROSS OPEN CONTACTS - 750V
<b>CASE MATERIAL</b>	: PBT
<b>CONTACT MATERIAL</b>	: SILVER / SILVER ALLOY
<b>TERMINAL MATERIAL</b>	: COPPER / COPPER ALLOY
<b>FREE POSITION</b>	: 15.9 ±0.5
<b>OPERATING POINT (OP)</b>	: 14.7 ±0.5

<b>AVAILABLE OVER TRAVEL</b>	: DEPRESS TO CASE
<b>FIXING</b>	: BY SCREW OR BY BODY MOUNTING
<b>PROTECTION AGAINST ELECTRIC SHOCK</b>	: CLASS II APPLIANCES REF. EN 61058-1
<b>OPERATING TEMPERATURE</b>	: T 85 - EN 61058-1 T 65 - UL 1054
<b>DEGREE OF PROTECTION</b>	: IP 40 (MECHANISM ONLY)
<b>REFERENCE STANDARDS</b>	: EN 61058-1 CSA-C22.2 No.55-M1986. UL-1054
<b>RESISTANCE TO HEAT &amp; FIRE</b>	: LEVEL 'C', 850° C, EN 61058-1
<b>DEGREE OF POLLUTION</b>	: NORMAL
<b>PROOF OF TRACKING INDEX</b>	: PTI 250 V EN 61058-1
<b>APPROVALS</b>	: cULus C US 05



# TEKNIC

## SUB - MINIATURE MICRO SWITCH MS-11



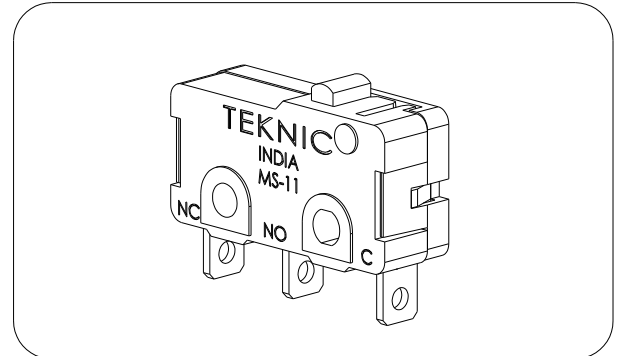
Sub - miniature Micro switches possess a high degree of repeatability and reliability in their operation. They find an application in telephone, computer, timer, kitchen machines and other electronic and electrical equipments.

### MECHANISM :

Single pole, Snap action, Change over contacts which may be used to provide a double throw switch to change from one circuit to another circuit with a common supply line or may be used as normally open or normally closed switches. The changeover time in all cases is fairly independent of the plunger speed. The contact points are an alloy of Silver suitable for long life.

### ENCLOSURE & PLUNGER :

Flame retardant Thermoplastic, V0 - UL94.

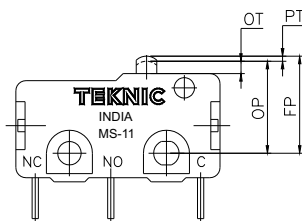


### TECHNICAL DATA :

UL & CSA RATING	: 5A , 125/250V AC , 24V DC
KEMA (ENEC) RATING	: 6(2)A , 250V AC , 5E4
ELECTRICAL ENDURANCE	: 6000 CYCLES Min. AS PER UL 1054/CSA 22.2 NO.55 50,000 CYCLES Min. AS PER EN-61058
OPERATING FORCE	: MEDIUM FORCE 150gm Max. HIGH FORCE 250gm Max.
INITIAL INSULATION RESISTANCE	: > 100 MEG.OHMS
INITIAL CONTACT RESISTANCE	: < 10 MILLIOHMS
DI-ELECTRIC STRENGTH	: 1500V AC FOR 1 MINUTE. BETWEEN POLE TO BODY 750V AC ACROSS MICRO DISCONNECTION
CONTACT GAP	: MICRO DISCONNECTION (μ)
CASE & PLUNGER MATERIAL	: THERMOPLASTIC
CONTACT MATERIAL	: SILVER ALLOY
TERMINAL MATERIAL	: BRASS
FIXING	: BY SCREWS/ PCB/ BODY
OPERATING TEMPERATURE	: T85
TERMINALS	: SOLDERABLE/ PCB
DEGREE OF PROTECTION	: IP 40
PROTECTION AGAINST ELECTRIC SHOCK	: CLASS II APPLIANCES
GLOW WIRE TEST	: LEVEL 'C', 850°C
DEGREE OF POLLUTION	: NORMAL
PROOF OF TRACKING INDEX	: PTI 175V
APPROVALS	:

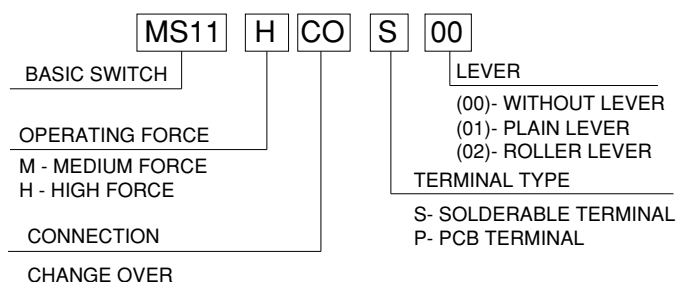
### OPERATING CHARACTERISTICS WITHOUT LEVER:

	OF Max. (gms)	RF Min. (gms)	OP (mm)	PT Max. (mm)	MD Max. (mm)	FP Max. (mm)	OT Min. (mm)
M	150	M 25	8.6 <sup>+0.4</sup> <sub>-0.2</sub>	1.0	0.2	9.4	0.4
H	250	H 45					



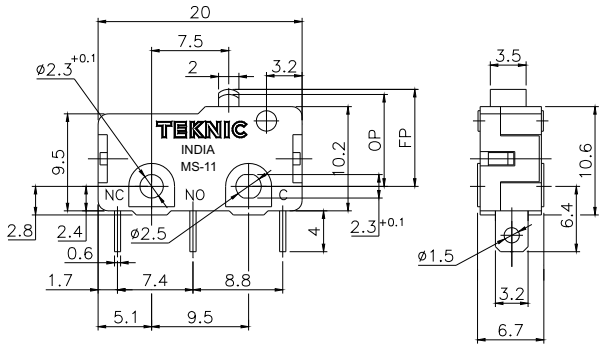
- OP - OPERATING POINT
- PT - PRE TRAVEL
- OT - OVER TRAVEL
- MD - MOVEMENT DIFFERENTIAL
- FP - FREE POSITION
- OF - OPERATING FORCE
- RF - RETURN FORCE

### ORDERING EXAMPLE :

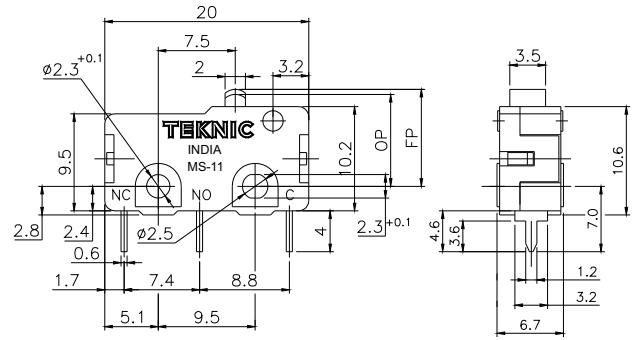


# TERMINAL TYPES

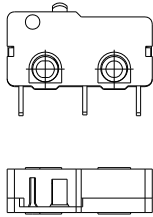
## SOLDERABLE TERMINAL 'S' TYPE



## PCB TERMINAL 'P' TYPE

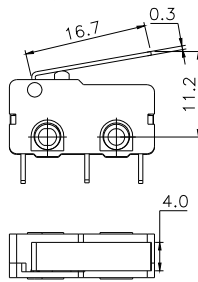


### WITHOUT LEVER



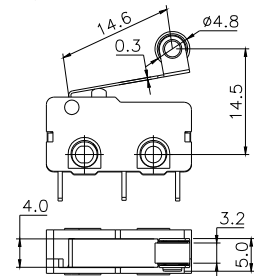
(00)

### PLAIN LEVER



(01)

### ROLLER LEVER



(02)

ROLLER : NICKEL PLATED BRASS.

For further details, please write to:

## TEKNIC ELECTROMECONICS PVT. LTD.

Regd. : 36, SNS CHAMBERS, 239, SANKEY ROAD, BANGALORE-560 080  
 Office Tel. 0091-80-23617867, 23619348. Fax. 0091-80-23618607,  
 E-MAIL : [teknic ofs@satyam.net.in](mailto:teknic ofs@satyam.net.in)

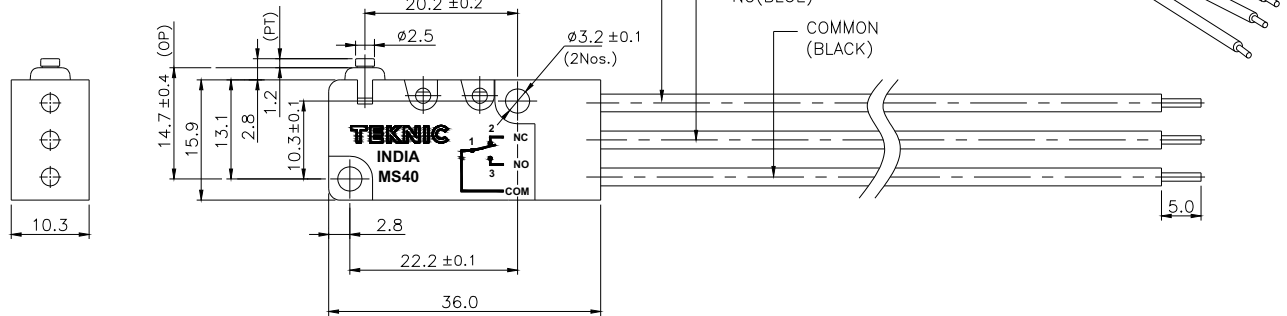
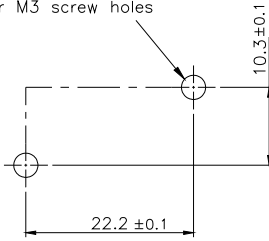
Factory : 93, Electronic city, Hosur Road, Bangalore-560 100  
 Tel. 0091-80-28520472, 28520714. Fax. 0091-80-28520254.  
 E-MAIL : [tepl\\_wks@satyam.net.in](mailto:tepl_wks@satyam.net.in) & [tepl.wpl@satyammail.com](mailto:tepl.wpl@satyammail.com)

Head : 703, Madhava, Bandra Kurla Complex, Bandra(East), Mumbai - 400 051.  
 Office Tel. 0091-22-26592392/94. Fax. 0091-22-26592391  
 Email : [teknic@vsnl.com](mailto:teknic@vsnl.com)

Website: [www.teknico.co.in](http://www.teknico.co.in)

**MOUNTING HOLE DIMENSION**

Two  $\phi 3.2$  mounting holes  
or M3 screw holes



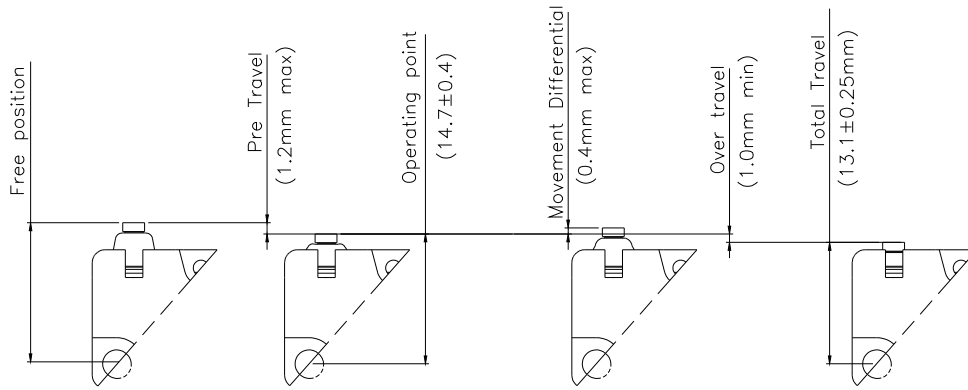
**TEKNIC** miniature, snap action, sealed microswitches are robust in their construction and possess a built in precision, repeatability and reliability in their operation. They are versatile and find application in Automobiles, Home appliances, agricultural m/cs and industrial equipment which require high environmental resistance. We have the approvals from CSA, UL and ENEC mark from KEMA.

**MECHANISM:** Single pole, snap action, change-over contacts which may be used to provide a double throw switch to change from one circuit to another with a common supply line, or may be used as normally closed or normally open switches. The change-over time in all the cases is independent of the plunger speed. The epoxy resin and the seal used gives a very good protection against the ingress of dust and water.

**TECHNICAL DATA :**

UL RATING	: 0.1A, 125V AC 0.1A, 32V DC
CSA RATING	: 0.1A, 125V AC 0.1A, 32V DC
ENEC RATING	: 6A, 125/250 V AC 6A, 32V DC 6(4)A 250V AC 5E4 0.1A, 32V DC 5E4
MECHANICAL ENDURANCE	: 1,000,000 CYCLES (min.)
ELECTRICAL ENDURANCE AT ACTUAL LOAD	: 1,000,000 CYCLES (min.) for rating of 0.1A, 125VAC/32VDC 50,000 CYCLES (min.) for rating of 6(4)A, 250V AC
INITIAL INSULATION RESISTANCE	: > 100 M $\Omega$ (AT 500 VDC)
INITIAL CONTACT RESISTANCE	: < 100 m $\Omega$
CONTACT GAP	: MICRO DISCONNECTION $\mu$ L
DI-ELECTRIC STRENGTH	: 1500V FOR 1 MIN. BETWEEN POLE TO BODY 750V ACROSS MICRO DISCONNECTION
CASE MATERIAL	: PBT (GF)
TERMINAL MATERIAL	: BRASS
MOUNTING	: M3 MOUNTING SCREWS WITH PLAIN OR SPRING WASHER IS RECOMMENDED. SCREWS TO BE TIGHTENED WITH A TORQUE OF 0.4 TO 0.6 N m

CONTACT MATERIAL	: SILVER (Gold plated)-crossbar for rating of: 0.1A, 125VAC/32VDC SILVER ALLOY for rating of 6(4)A, 250VAC/32V DC
OPERATING TEMPERATURE	: T85
DEGREE OF PROTECTION	: IEC IP 67
PROTECTION AGAINST ELECTRIC SHOCK	: CLASS II APPLIANCES EN 61058-1
GLOW WIRE TEST	: LEVEL 'C', 850°C EN 61058-1
DEGREE OF POLLUTION	: NORMAL EN 61058-1
PROOF OF TRACKING INDEX	: PTI 175V
VIBRATION RESISTANCE	: 20G, 50 TO 250Hz
SHOCK RESISTANCE	: 20G
APPROVALS	:
APPLICABLE STANDARDS	: UL 1054, CSA C22.2 No. 55 EN 61058-1



Force measured at PT is the Operating Force (200g max)

Force measured at MD is the Return Force (30g min)

<p>WITHOUT LEVER</p> <p>(00)</p>	<p>SHORT PLAIN LEVER</p> <p>(01)</p>	<p>MEDIUM PLAIN LEVER</p> <p>(02)</p>	<p>LONG PLAIN LEVER (PART NO 2 440 4447)</p> <p>(03)</p>	<p>SHORT ROLLER LEVER (WITH METAL ROLLER) (PART NO 2 440 4598)</p> <p>(04)</p>
<p>SHORT ROLLER LEVER (WITH PLASTIC ROLLER) (PART NO 2 440 4598)</p> <p>(05)</p>				

**OPERATING CHARACTERISTICS WITHOUT LEVER**

OPERATING FORCE (OF)	: 200 gms (1.96 N) MAX.
RETURN FORCE (RF)	: 30 gms (0.29 N) MIN.
PRE TRAVEL (PT)	: 1.2 mm (MAX)
OVER TRAVEL (OT)	: 1.0 mm (MIN)
MOVEMENT DIFFERENTIAL (MD)	: 0.4 mm (MAX)
OPERATING POINT (OP)	: 14.7 ± 0.4 mm
TOTAL TRAVEL	: 13.1 ± 0.25 mm

**ORDERING CODE**

MS40 - NC - 30 - 01 - 00	
BASIC SWITCH	LEVER TYPE (REFER ABOVE SKETCH)
CONNECTION NC-NORMALLY CLOSED NO-NORMALLY OPEN CO-CHANGE OVER	00-WITHOUT LEVER
0.5mmsq. PVC INSULATED WIRE LENGTH 10-100MM 15-150MM 20-200MM 25-250MM 30-300MM 35-350MM 40-400MM 45-450MM 50-500MM (1ST DIGIT FOR MULTIPLE OF 100 2ND DIGIT FOR MULTIPLE OF 10)	RATING 01- 0.1A, 125VAC/32VDC 6- 6(4)A, 250VAC /32V DC

**For further details, please write to:**

**TEKNIC ELECTROMECONICS PVT. LTD.**

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E-MAIL : [teknicofs@satyam.net.in](mailto:teknicofs@satyam.net.in)

Factory : 93, Electronic city, Hosur Road, Bangalore-560 100

Tel. (080) 28520472, 28520714. Fax. (080) 28520254.

E-MAIL : [tepl\\_wks@satyam.net.in](mailto:tepl_wks@satyam.net.in) & [tepl.wpl@satyammail.com](mailto:tepl.wpl@satyammail.com)

Head : 703, Madhava, Bandra Kurla Complex, Bandra(East), Mumbai - 400 051

Office : Tel. (022) 26592392/94. Fax. (022) 26592391

Email : [teknico@vsnl.com](mailto:teknico@vsnl.com)

Website : [www.teknico.co.in](http://www.teknico.co.in)

TEKNIC miniature, snap action, Micro switches are robust in their construction and possess a built in precision, repeatability and reliability in their operation. They are versatile and find application in Domestic Appliances, Instrumentation, Telecommunication and other Electronic Equipment, including voting machines.

MECHANISM : Single pole, snap action, change over contacts which may be used to provide a double throw switch to change from one circuit to another with a common supply line, or may be used as normally open or normally closed switches. The changeover time in all cases is independent of the plunger speed.

**TECHNICAL DATA :**

UL & CSA RATING	: 6/10/16A , 125/250V AC ,24V DC
KEMA (ENEC) RATING	: 10(4)/16(4)A , 250V AC 5E4
ELECTRICAL ENDURANCE	: 6000 CYCLES Min. AS PER UL1054 10,000 CYCLES Min. AS PER EN-61058-1
INITIAL INSULATION RESISTANCE	: > 100 MEG.OHMS
INITIAL CONTACT RESISTANCE	: < 10 MILLIOHMS
DI-ELECTRIC STRENGTH	: POLE TO BODY-1500V FOR 1MIN. ACROSS OPEN CONTACTS - 750V
CONTACT GAP	: MICRODISCONNECTION ( $\mu$ )
CASE/SLIDER MATERIAL	: PBT (FR),
TERMINAL MATERIAL	: BRASS
CONTACT MATERIAL	: SILVER/SILVER ALLOY
FREE POSITION	: 15.9 $\pm$ 0.2
OPERATING POSITION	: 14.7 $\pm$ 0.5


MOVEMENT DIFFERENTIAL (MAX.)	: 0.4 mm
AVAILABLE OVERTRAVEL	: DEPRESS TO CASE
FIXING	: BY SCREW OR BY BODY MOUNTING
OPERATING TEMPERATURE	: T85
REFERENCE STANDARDS	: EN61058-1 CSA C22.2 No.55 M1986 & UL1054
DEGREE OF PROTECTION	: IP 40 (MECHANISM ONLY)
PROTECTION AGAINST ELECTRIC SHOCK	: CLASS II APPLIANCES EN-61058-1
RESISTANCE TO HEAT&FIRE	: LEVEL 'C', 850°C EN61058-1
DEGREE OF POLLUTION	: NORMAL EN-61058-1
PROOF OF TRACKING INDEX	: PTI 250V EN-61058-1
APPROVALS	: 

TABLE 1: – Terminal Types

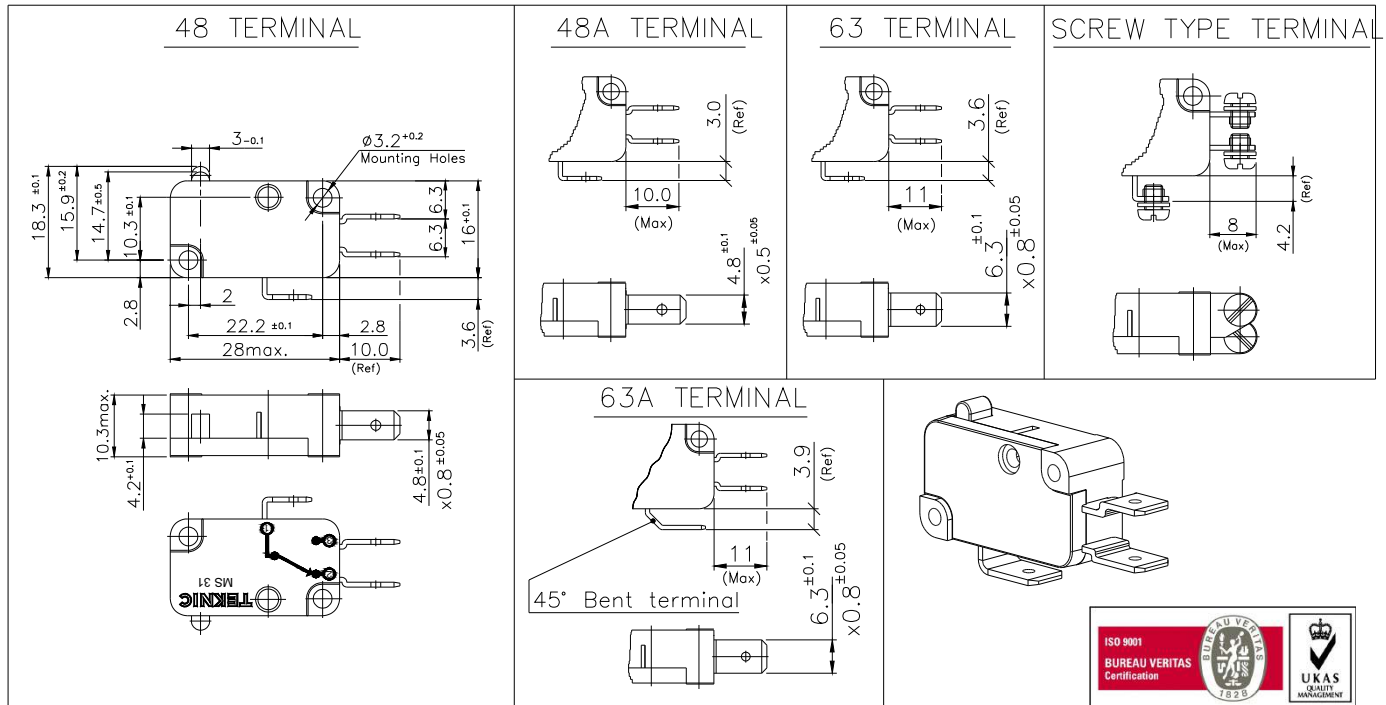
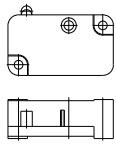
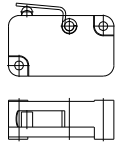
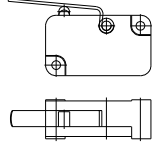
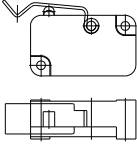
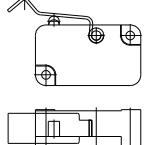
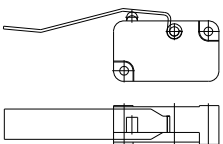
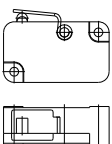
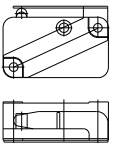
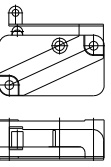
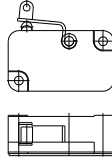
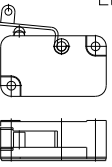
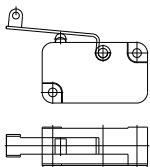
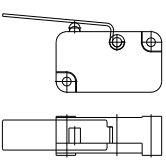
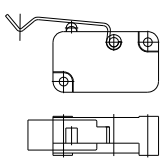
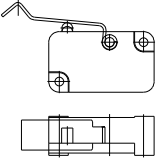


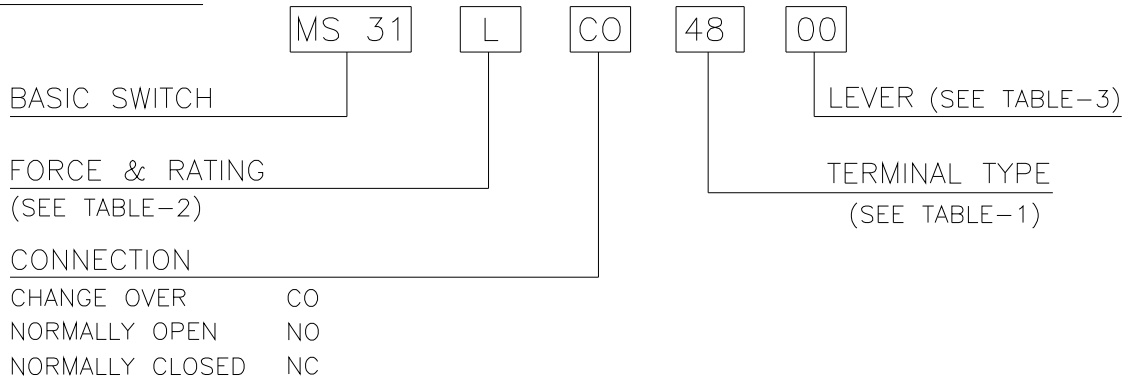
TABLE 2: – Force & Rating

PARAMETER	LOW FORCE	MEDIUM FORCE	HIGH FORCE
STD.RATING 250V/125V AC	10(4)A	16(4)A	16(4)A
Operating force	100–150 gms.	250–350 gms.	400–500 gms.
Release force	60–120 gms.	130–170 gms.	200–250 gms.
Slider colour	GREEN	RED	BLACK
Code	L	M	H

TABLE 3: - Lever Type

<p>WITHOUT LEVER</p>  <p>(00)</p>	<p>SHORT PLAIN LEVER</p>  <p>2 431 0057 (01)</p>	<p>MEDIUM PLAIN LEVER</p>  <p>2 431 0058 (02)</p>	<p>SHORT 'V' BEND LEVER</p>  <p>2 431 0059 (03)</p>	<p>SHORT 'N' BEND LEVER</p>  <p>2 431 0060 (04)</p>
<p>LONG 'Z' BEND LEVER</p>  <p>2 431 0061 (05)</p>	<p>SHORT BROAD LEVER</p>  <p>2 431 0062 (06)</p>	<p>AUX. SHORT LEVER</p>  <p>2 431 0063 (07)</p>	<p>AUX. ROLLER LEVER</p>  <p>2 431 0064 (08)</p>	<p>SHORT ROLLER LEVER</p>  <p>2 431 0065 (09)</p>
<p>SEMI-MEDIUM ROLLER LEVER</p>  <p>2 431 0066 (10)</p>	<p>MEDIUM ROLLER LEVER</p>  <p>2 431 0067 (11)</p>	<p>SHORT BROAD MED. LEVER</p>  <p>2 431 1457 (12)</p>	<p>MEDIUM 'V' BEND LEVER</p>  <p>2 431 1845 (13)</p>	<p>MEDIUM 'N' BEND LEVER</p>  <p>2 431 1843 (14)</p>

ORDERING EXAMPLE:



Micro Switch MS31, Low force, Change over contacts with  $4.8^{+0.1} \times 0.8^{+0.05}$  contact terminals, and without lever.

For further details, please write to:

**TEKNIC** ELECTROMECONICS PVT. LTD.

Regd. : 36, SNS CHAMBERS, 239, SANKEY ROAD, BANGALORE-560 080  
Office Tel. 0091-80- 23617867, 23619348. Fax. 0091-80- 23618607,  
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Factory : 93, Electronic city, Hosur Road, Bangalore-560 100  
Tel. 0091-80- 28520472, 28520714. Fax. 0091-80-28520254.  
E-MAIL : [tepl\\_wks@satyam.net.in](mailto:tepl_wks@satyam.net.in) & [tepl.wpl@satyammail.com](mailto:tepl.wpl@satyammail.com)

Head : 703, Madhava, Bandra Kurla Complex, Bandra(East), Mumbai - 400 051.  
Office Tel. 0091-22-26592392/94. Fax. 0091-22-26592391  
Email : [teknic@vsnl.com](mailto:teknic@vsnl.com)

Website : [www.teknico.in](http://www.teknico.in)