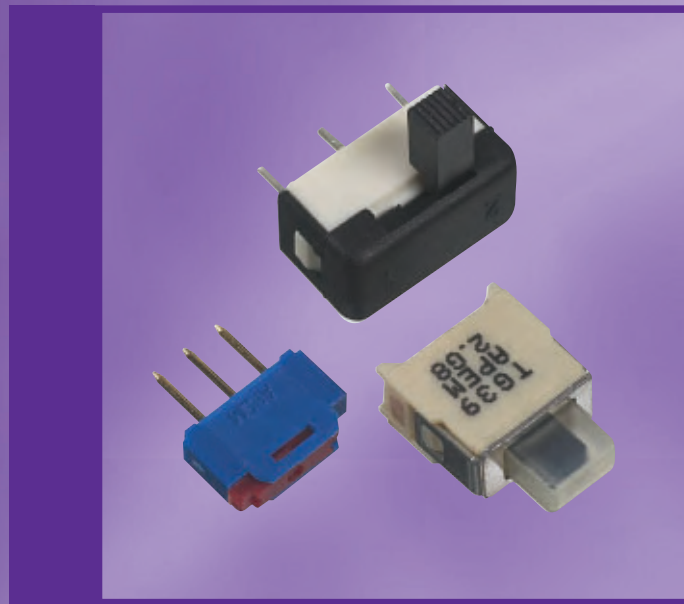


# Slide switches



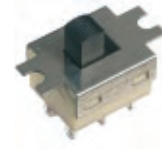
## Section E

<b>NK</b>	Subminiature	E 3
<b>SMT TG</b>	Tiny, SMT, washable	E 4
<b>TG</b>	Tiny, washable	E 6
<b>G</b>	Telecom grade	E 9
<b>25000N</b>	Professional	E 15

# Selection guide

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## Slide switches



Series	NK	SMT TG	TG	G	25000N
Page	E-3	E-4	E-6	E-9	E-15
Poles	1	1	1	1,2	1,2
Maximum ratings	500mA 12VDC	0,4VA 20V AC/DC	0,5A 48V AC/DC	2A 250VAC 3A 30VDC	2A 250VAC 1A 30VDC
<b>Mounting options</b>					
Horizontal SMT		X			
Vertical Through hole	X		X	X	X
Horizontal Through hole	X		X	X	X
Vert. right angle Through hole				X	
Panel				X	
<b>Terminal options</b>					
PCB	X	X	X	X	X
Solder lugs				X	
Sealing	No	Process sealed	Process sealed	No	No

E



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# NK series

## Subminiature slide switches

- The smallest changeover
- Flush and raised actuators

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 0,5A 12V
- Minimum load : 1mA 10mV
- Initial contact resistance : 20 mΩ max.
- Insulation resistance : 10.000 MΩ min. at 500VDC
- Dielectric strength : 250 Vrms. 50 Hz min. between terminals
- 2.000 Vrms 50 Hz min. between adjacent poles of switches placed side by side
- Electrical life with nominal load : 2.000 cycles
- Capacitance : < 1,5 pF

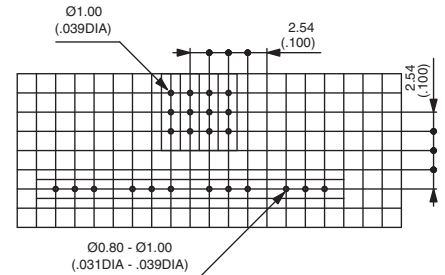
### MATERIALS

- Case : PA6/6, glass filled, UL94-V0
- Actuator : PA6/6, glass filled, UL94-V0
- Contacts : gold over nickel

### GENERAL SPECIFICATIONS

- Wave solderable : flux sealed
- End stackable, 2,54 (.100) terminal to terminal pitch - 4 switches max., hole dia. 1 mm (.039)
- Travel : 1,6 mm (.062)
- Operating temperature : -40°C to +85°C
- Soldering temperature : 250°C for 5 sec. max.
- Moisture test : 21 days at 95 % RH (IEC 68-2-3)

### EXAMPLES OF LAYOUT

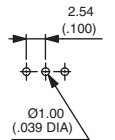
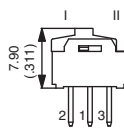
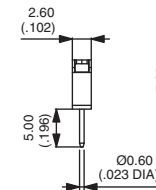
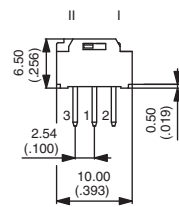
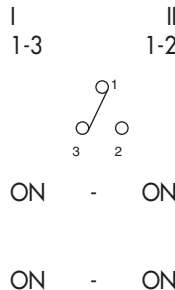


### Straight PC terminals



Flush actuator  
**NK236**

Raised actuator  
**NK236H**

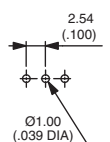
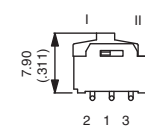
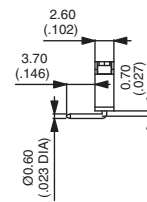
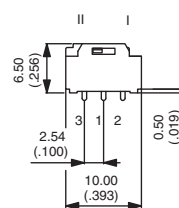
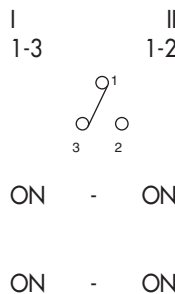


### Right angle terminals



Flush actuator  
**NK236W**

Raised actuator  
**NK236WH**



**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



Packaging unit : 100 pieces.



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# SMT TG series

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## Surface mount tiny washable slide switches

*Distinctive features and specifications*

- ❑ Entirely designed for surface mount
- ❑ Tape and reel packaging
- ❑ Reflow solderable
  - High temperature plastic materials
  - Tin plated ground plate
  - Terminal coating : tin-lead alloy over nickel plating
  - Terminals turned to the outside, preventing the shadow effect in infrared soldering and permitting visual inspection of solder joints
  - Distance between case and circuit : 0,55 mm (.021)
  - End stackable with 10,16 mm (.40) pitch
  - Available with positioning pins to ensure switch orientation during the reflow process and increasing switch mechanical resistance
- ❑ Washable
 

Construction withstands cleaning processes, including hot water under pressure

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load : 0,4VA 20V max. AC or DC
- Minimum load : 10mA 50mV or 10µA 5VDC
- Initial contact resistance : 20 mΩ max
- Insulation resistance : 1.000 MΩ min. at 500VDC
- Dielectric strength : 1.000 Vrms. 50 Hz min. between terminals and frame 500 Vrms. 50 Hz min. between terminals
- Electrical life at full load :
  - 2 position switches : 60.000 cycles
  - 3 position switches : 30.000 cycles

### GENERAL SPECIFICATIONS

- Actuator travel : 2,60 mm (.102)
- Operating temperature : -40°C to +85°C
- Moisture resistance : 21 days per IEC 512-6 test 11c
- Vibration resistance : 10-500 Hz / 10 g per IEC 512-4 test 6d
- Shock resistance : 50 g per IEC 512-4 test 6c

### MATERIALS

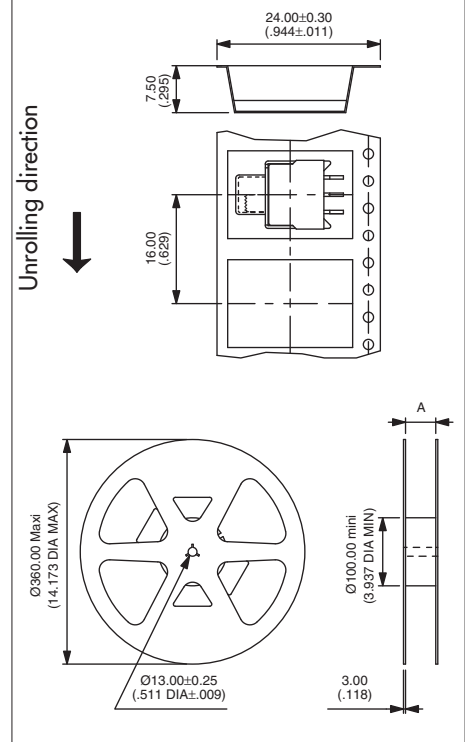
- Case : high temperature plastic material UL94-V0
- Actuator : high temperature plastic material UL94-V0
- Ground plate and positioning pins : steel, tin plated
- Contacts : brass, gold plated
- Terminals : brass, with pure tin plating over nickel barrier
- Rubber seal : silicone, transparent

### SOLDERING AND CLEANING

- Reflow soldering : infrared, vapor phase or infrared convection
- Washable per IEA-RS448-2 :
  - water + detergent - preferred
  - solvents
- Further information on reflow soldering : see end of catalogue.

**Dimensions** : First dimensions are in mm while inches are shown as bracketted numbers.

### PACKAGING



Tape width	24.00 (.944)	44.00 (1.732)
Reel (dimension A)	24.40+2.00/0.00 (.960+.078/.000)	44.40+2.00/0.00 (1.748+.078/.000)

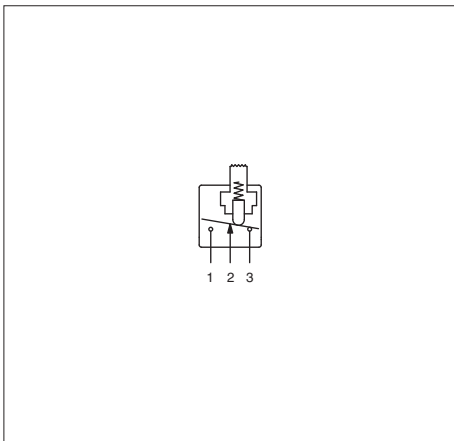
**Standard packaging unit** : 500 pieces  
 Tape meeting international standard IEC - Publication 286-3 (EIA481A)  
 Start leader : 400 mm min.



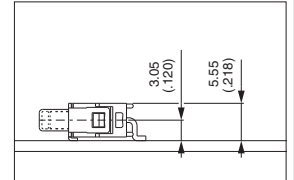
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# SMT TG series

Surface mount tiny washable slide switches



- With or without positioning pins
- Rubber seal removable after cleaning
- Single pole

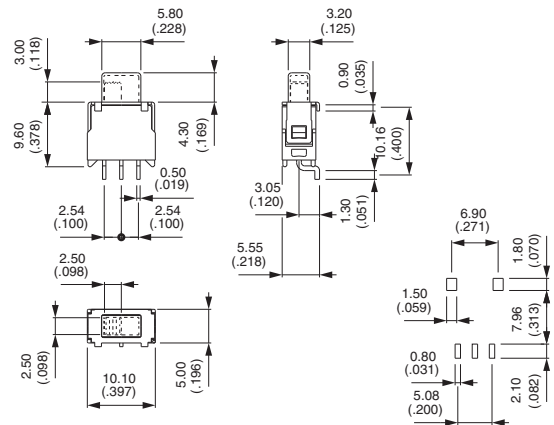


## Slide switches



TG36WS80050  
TG39WS80050

ON - ON  
ON OFF ON

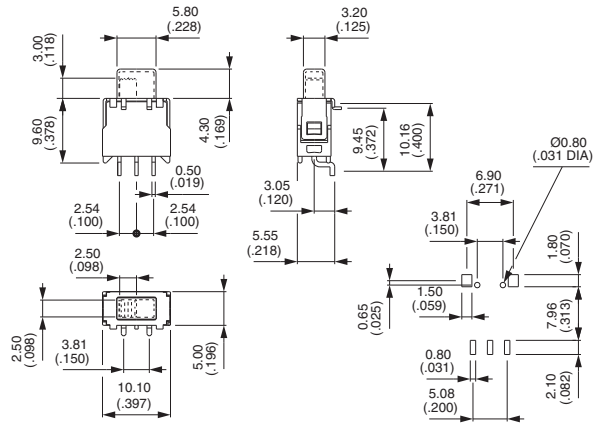


## Slide switches - with positioning pins



TG36WS80065  
TG39WS80065

ON - ON  
ON OFF ON



## Slide switches with flush actuator

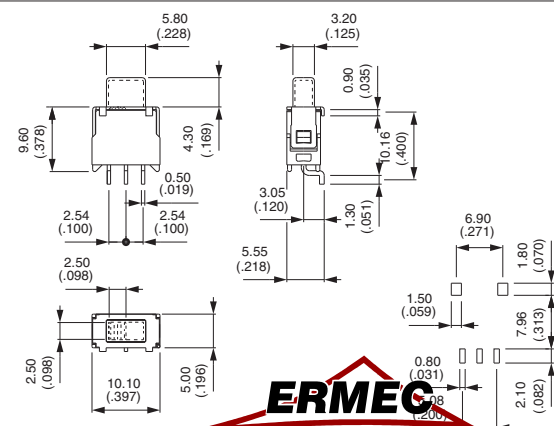


Without positioning pins  
TG36WS81050  
TG39WS81050

ON - ON  
ON OFF ON

With positioning pins  
TG36WS81065  
TG39WS81065

ON - ON  
ON OFF ON



Shown without positioning pins  
(positioning pins same as above)



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## Tiny slide switches

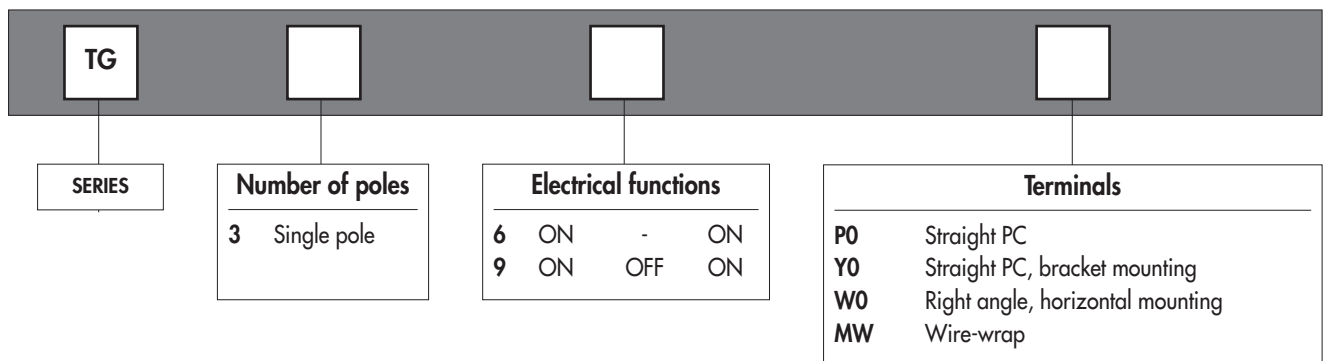
Overview and specifications

- Sealed**
  - Single piece case
  - Epoxy sealed terminals
- Wide variety of contact materials**
- Same PCB layout as TL, TP and TR tiny series**

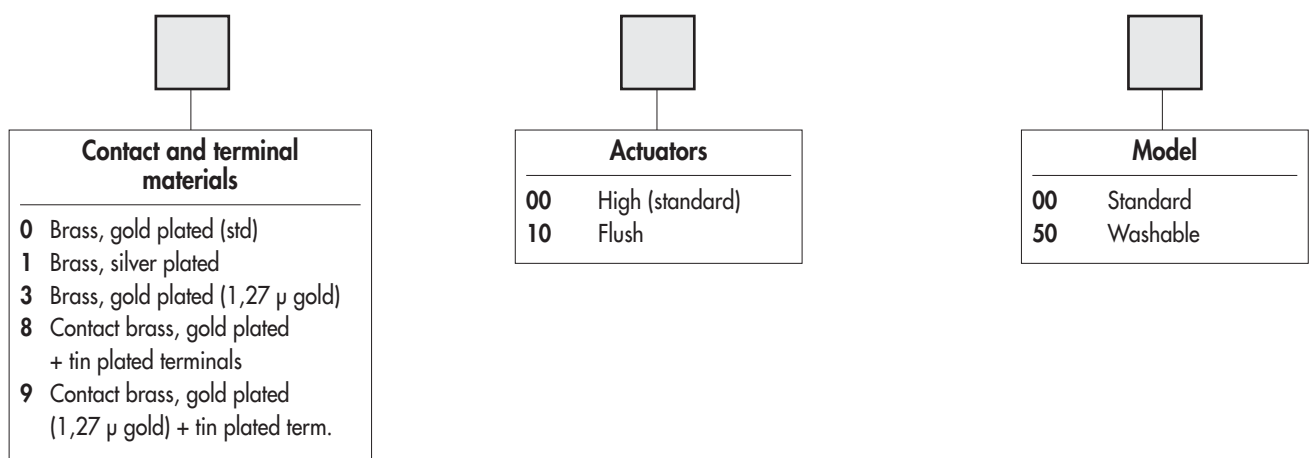
SPECIFICATIONS
<ul style="list-style-type: none"> <li>• Current/voltage rating with resistive load :                             <ul style="list-style-type: none"> <li>- Gold plated contacts : 0,4VA 20V max. AC or DC.</li> <li>- Silver plated contacts : 0,5A 48V max. AC or DC</li> </ul> </li> <li>• Contact resistance : 20 mΩ max.</li> <li>• Insulation resistance : 1.000 MΩ min. at 500VDC</li> <li>• Dielectric strength : 1.000 Vrms 50 Hz min. between terminals and frame 500 Vrms 50 Hz min. between terminals</li> <li>• Electrical life at full load : 2 position switches : 60.000 cycles 3 position switches : 30.000 cycles</li> <li>• Travel : 2,60 mm (.102)</li> <li>• Operating temperature : -30°C to +85°C</li> <li>• Cleaning : solvents or water + detergent</li> <li>• Wave soldering : 260°C - 5 sec. max.</li> </ul>

MATERIALS
<ul style="list-style-type: none"> <li>• Case : flame retardant thermoplastic</li> <li>• Actuator : thermoplastic</li> <li>• Ground plate and bracket : brass, tin plated</li> <li>• Contacts and terminals : see above</li> <li>• Rubber seal : silicone, transparent</li> <li>• Terminal seal : epoxy</li> </ul>

MODEL STRUCTURE



OPTIONS



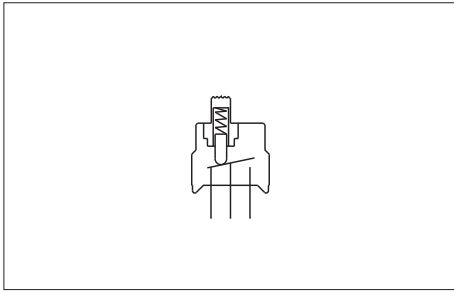
**Dimensions** : First dimensions are in mm while inches are shown as bracketted numbers.



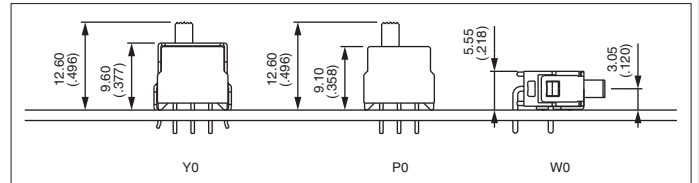
**Packaging unit** : 100 pieces, except for models with right angle terminals (50 pieces)



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- Straight PC, right angle or wire-wrap terminals
- Single pole
- The silicone rubber seal can be removed after cleaning.



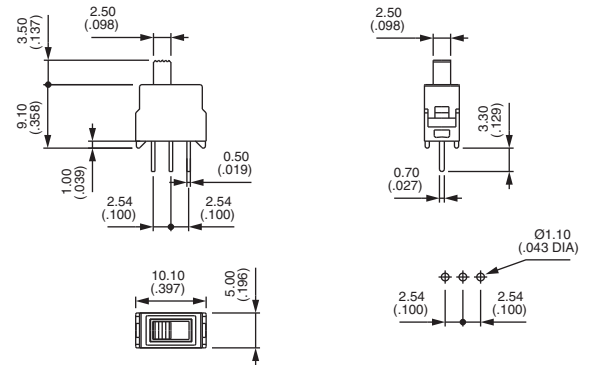
To complete the following part numbers, refer to "Overview" and replace the • symbol with one of the options proposed under "Contact and terminal materials".

### Straight PC terminals - standard model



TG36P0•0000  
TG39P0•0000

ON - ON  
ON OFF ON

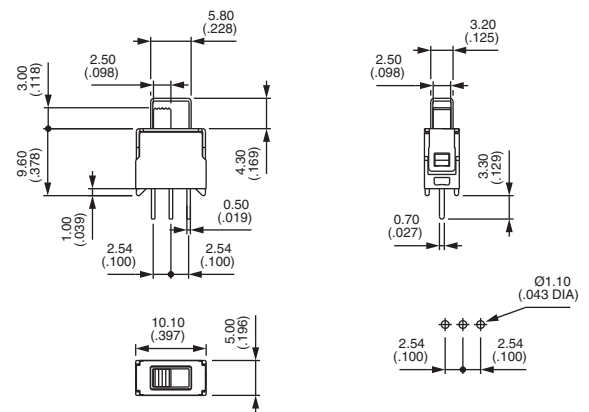


### Straight PC terminals - washable model



TG36P0•0050  
TG39P0•0050

ON - ON  
ON OFF ON

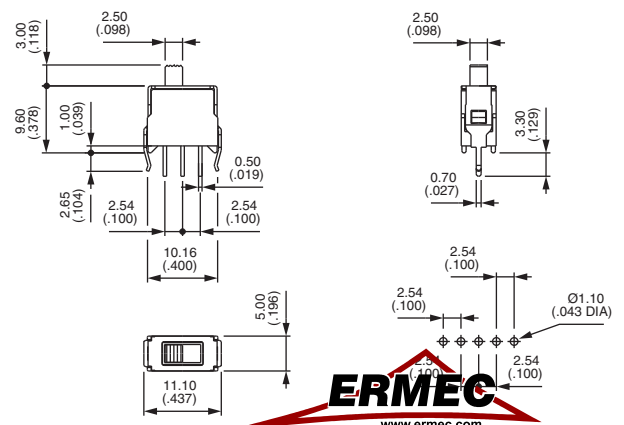


### Straight terminals - bracket mounting - standard model



TG36Y0•0000  
TG39Y0•0000

ON - ON  
ON OFF ON



# TG series

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## Tiny slide switches

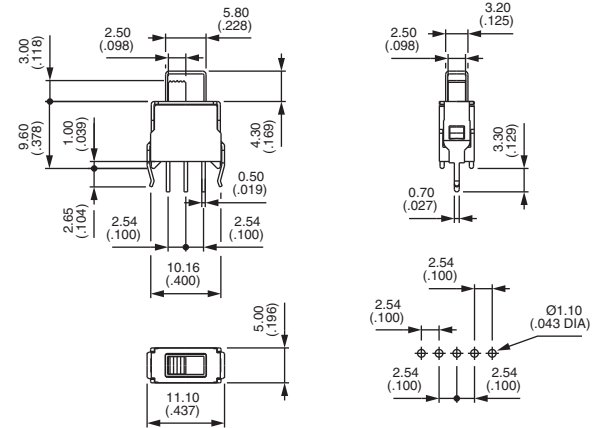
Standard or washable

### Straight terminals - bracket mounting - washable model



TG36Y0•0050  
TG39Y0•0050

ON - ON  
ON OFF ON

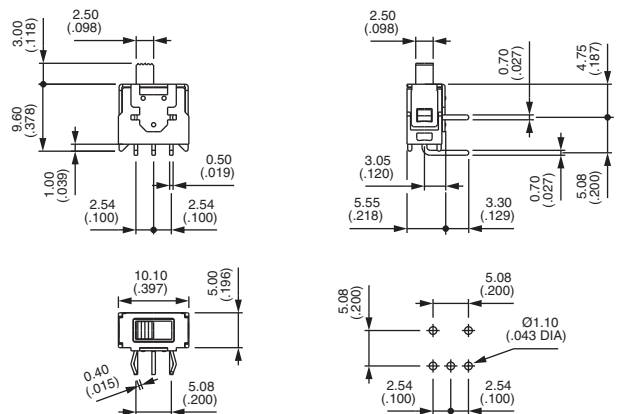


### Right angle terminals - horizontal mounting - standard model



TG36W0•0000  
TG39W0•0000

ON - ON  
ON OFF ON

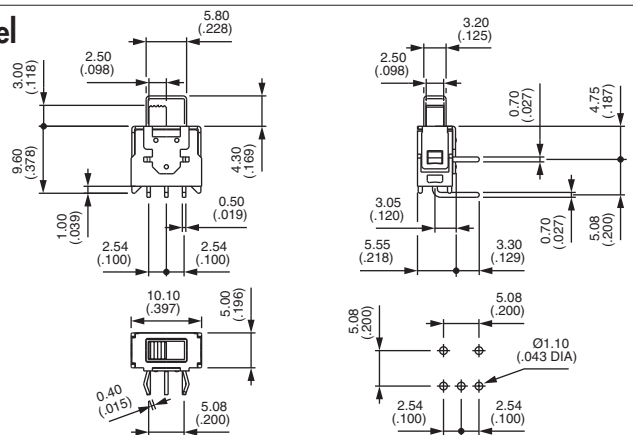


### Right angle terminals - horizontal mounting - washable model



TG36W0•0050  
TG39W0•0050

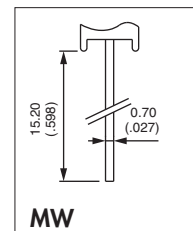
ON - ON  
ON OFF ON



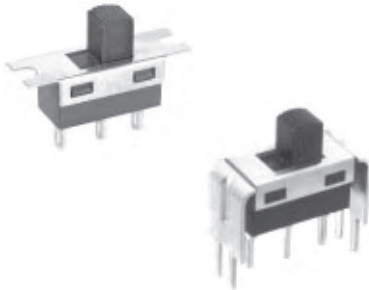
### OTHER CONFIGURATIONS

MW Wire-wrap terminals

10 Flush actuator



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- Panel and PC mount models
- 6 actuator lengths
- Wide variety of contact materials

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - silver contacts (codes 1 or 2) : 2A 250VAC - 4A 125VAC - 3A 30VDC
  - gold plated brass contacts (code 0) : 0,4VA 20VAC or DC max.
- Initial contact resistance : 10 mΩ
- Insulation resistance : 1.000 MΩ min.
- Dielectric strength : 1.000 Vrms 50 Hz min.
- Electrical life with resistive load :
  - silver contacts (codes 1 or 2) : 2 positions : 40.000 cycles
  - 3 positions : 20.000 cycles
  - gold plated brass contacts (code 0) : 60.000 cycles (0,4VA max.)

### MATERIALS

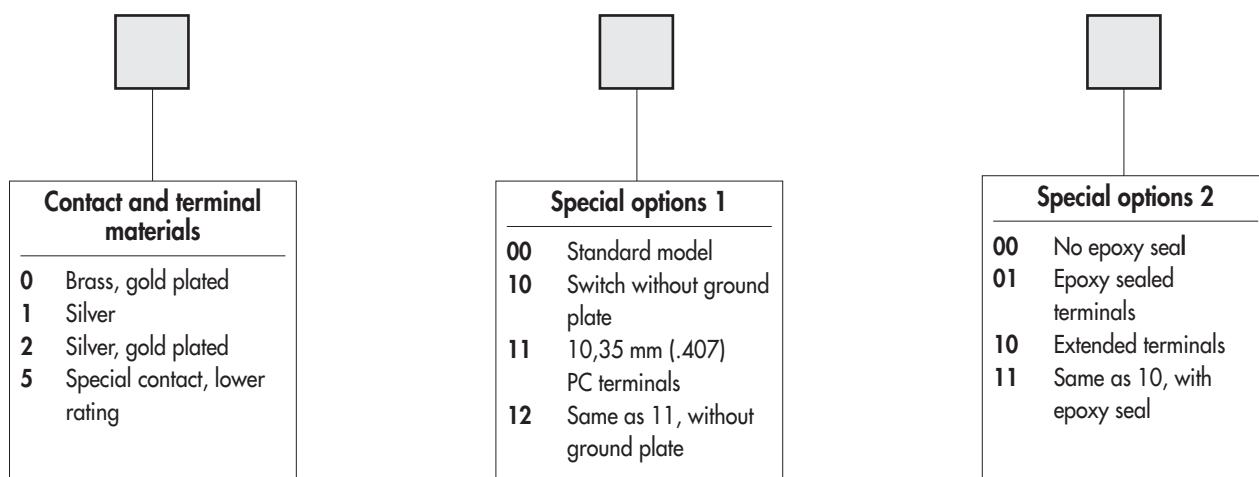
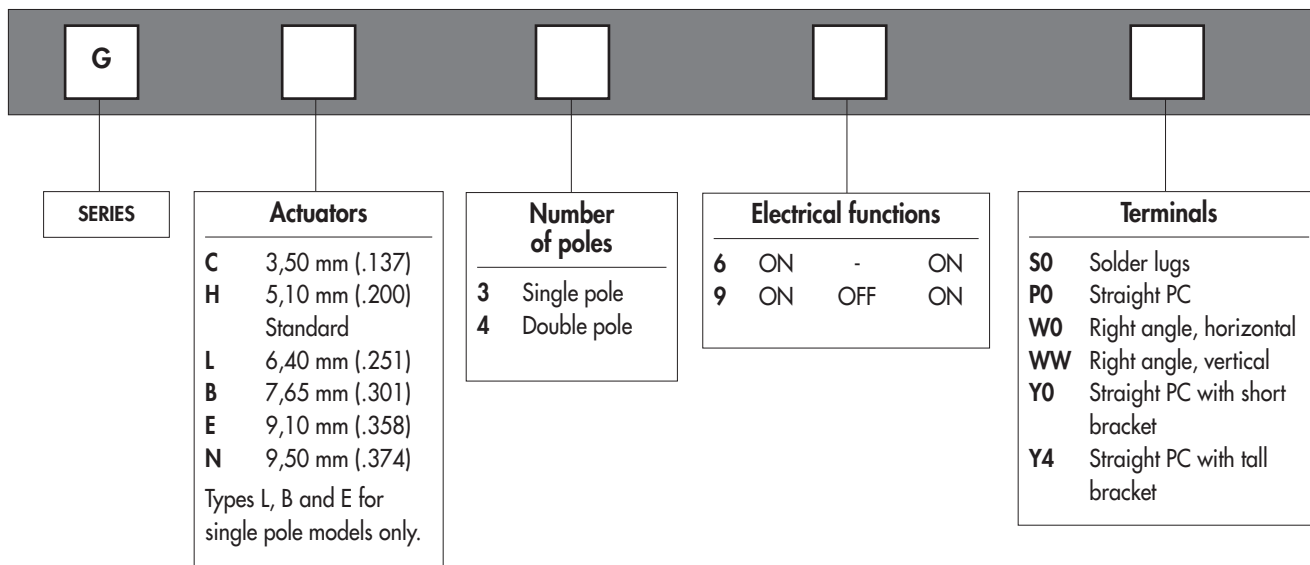
- Case : PES
- Actuator : polyamide, glass filled
- Cover : stainless steel
- Contacts
  - 0 : brass, gold plated
  - 1 : silver
  - 2 : silver, gold plated
  - 5 : special contact, lower rating, minimum quantity : consult factory
- Terminal seal : epoxy

### GENERAL SPECIFICATIONS

- Travel : 2,20 mm (.086), except actuator N on SP model : 2,60 mm (.102)
- Operating temperature : -30°C to +85°C
- Recommended soldering : 300°C 5 sec. max.

## Slide switches - telecom grade

Overview



### ABOUT THIS SERIES

On the following pages, you will find successively :

- model structure of switches
- options in the same order as in above chart

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.



**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.



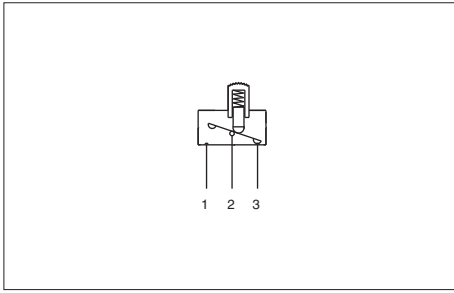
**Packaging unit** : 100 pieces for SP solder lug (S0) and straight terminal (P0) models. 50 pieces for other models.



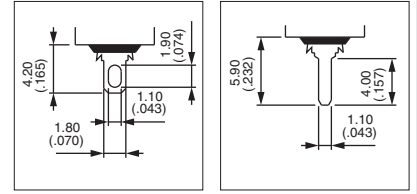


# G series

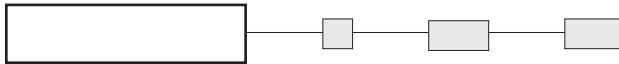
## Slide switches - telecom grade



- Solder lug, straight PC or right angle terminals
- Single and double pole configurations



MODEL  
STRUCTURE

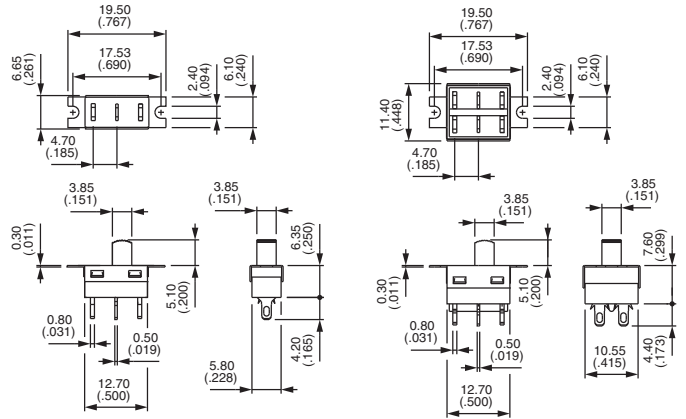


Shown with standard actuator (type H)

### Solder lug terminals



Single pole	Double pole	ON	-	ON
<b>GH36S0</b>	<b>GH46S0</b>	ON	-	ON
<b>GH39S0</b>	<b>GH49S0</b>	ON	OFF	ON

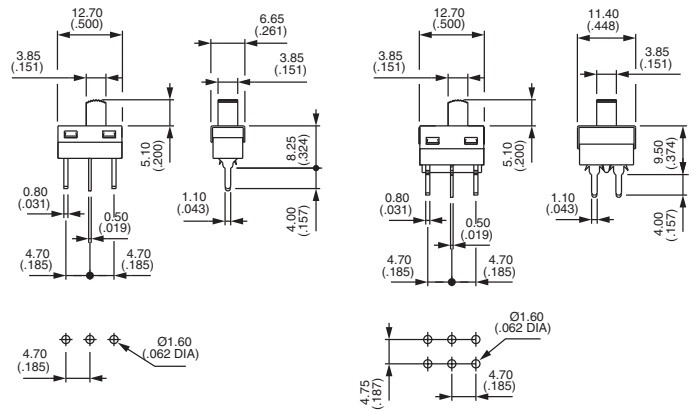


Order with epoxy sealed terminals (option 01).

### Straight PC terminals



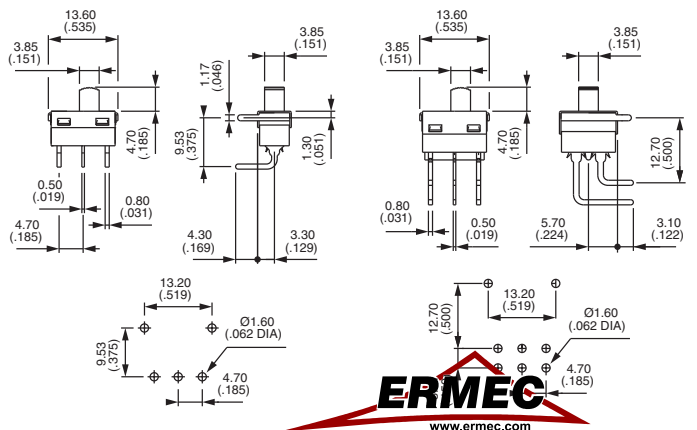
Single pole	Double pole	ON	-	ON
<b>GH36P0</b>	<b>GH46P0</b>	ON	-	ON
<b>GH39P0</b>	<b>GH49P0</b>	ON	OFF	ON



### Right angle terminals - horizontal



Single pole	Double pole	ON	-	ON
<b>GH36W0</b>	<b>GH46W0</b>	ON	-	ON
<b>GH39W0</b>	<b>GH49W0</b>	ON	OFF	ON



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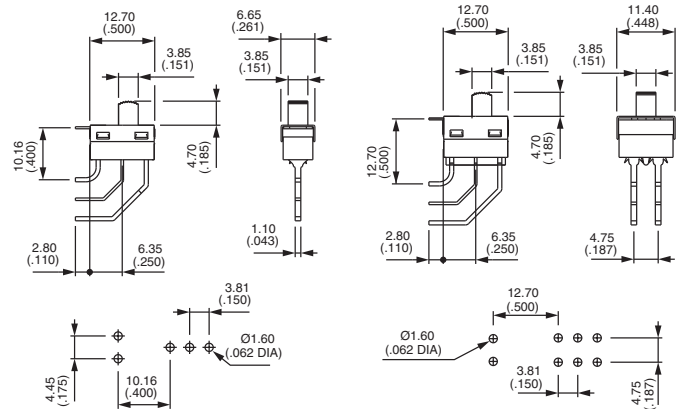
# G series

Slide switches - telecom grade

## Right angle terminals - vertical



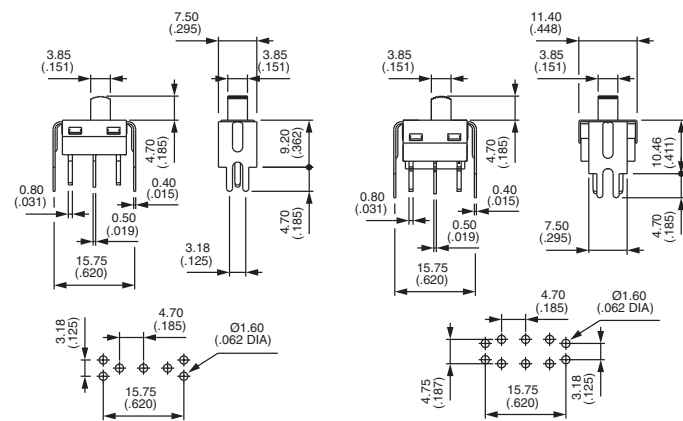
Single pole	Double pole	ON	-	ON
GH36WW	GH46WW	ON	-	ON
GH39WW	GH49WW	ON	OFF	ON



## Straight PC terminals - short bracket : Y0



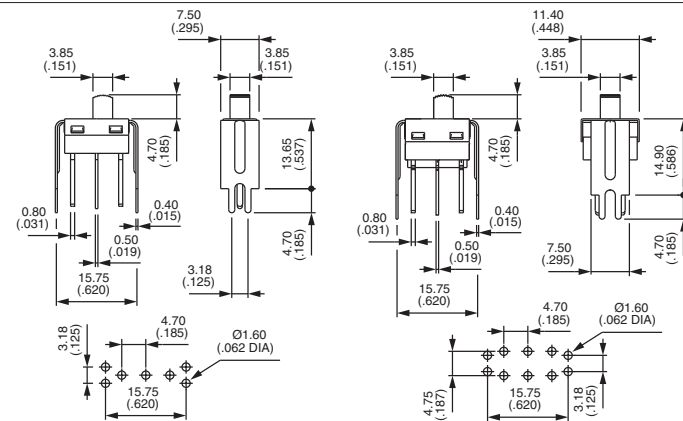
Single pole	Double pole	ON	-	ON
GH36Y0	GH46Y0	ON	-	ON
GH39Y0	GH49Y0	ON	OFF	ON



## Straight PC terminals - tall bracket : Y4

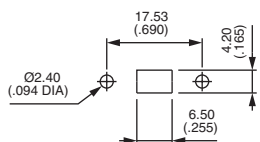


Single pole	Double pole	ON	-	ON
GH36Y4	GH46Y4	ON	-	ON
GH39Y4	GH49Y4	ON	OFF	ON

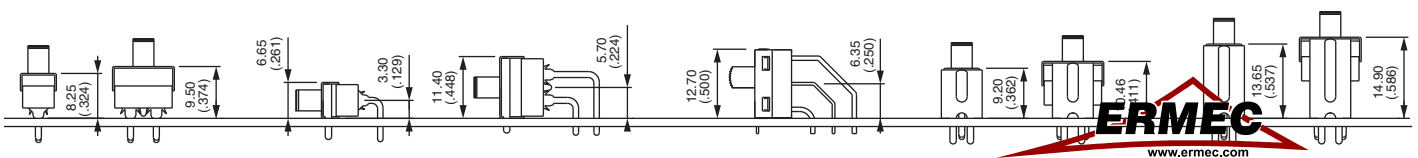


### PANEL CUT-OUT

Solder lug model



### PCB MOUNTING

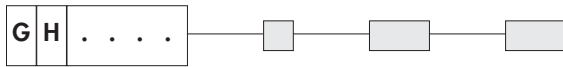




# G series

Slide switches - telecom grade

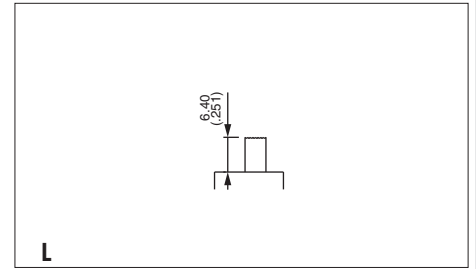
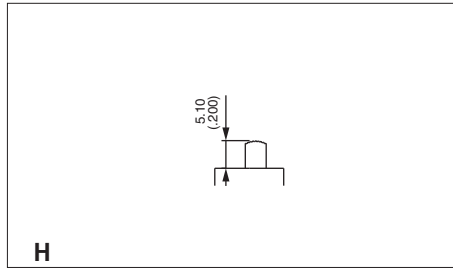
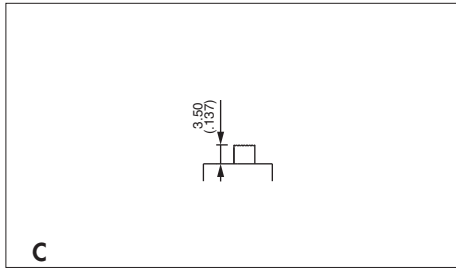
## ACTUATORS



Replace second digit (H) of basic model number with one of the codes below.

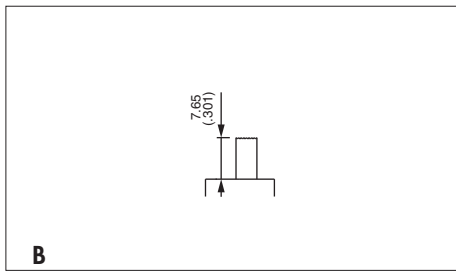


Dimensions below are for solder lug (SO) and straight terminals (PO) models.  
For other models (WO - WW - Y0 - Y4), height is less 0,4 mm (.015).

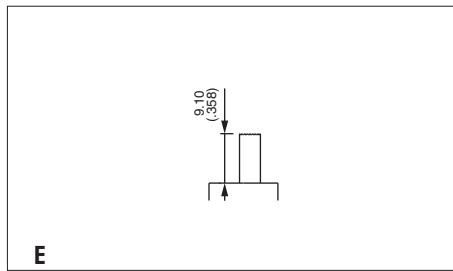


Standard

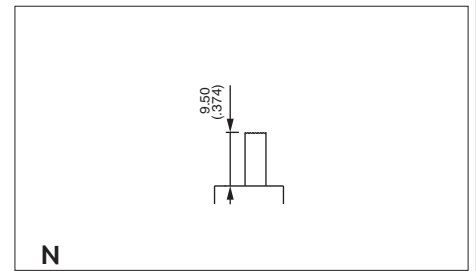
For single pole only



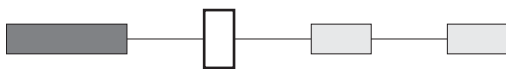
For single pole only



For single pole only



## CONTACT AND TERMINAL MATERIALS

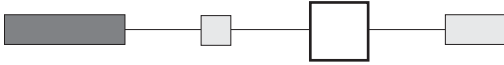


- 0** Brass, gold plated
- 1** Silver
- 2** Silver, gold plated
- 5** Special contact, lower rating, minimum quantity : consult factory



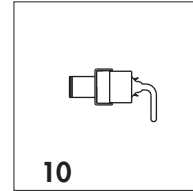
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### SPECIAL OPTIONS 1

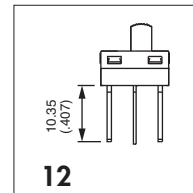


00 Standard switch as presented under "Model Structure"

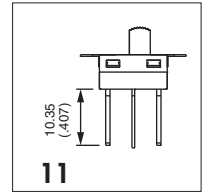
10 Switch **without ground plate**  
 For right angle only (W0 and WW models)



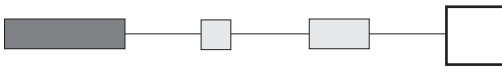
11 10,35 mm (.407) long PC terminals



12 10,35 mm (.407) long PC terminals **without ground plate**



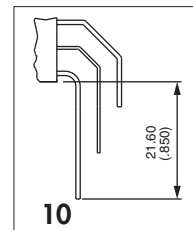
### SPECIAL OPTIONS 2



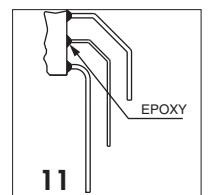
00 No epoxy seal

01 **Epoxy sealed** terminals  
 (compulsory on solder lug models)

10 **Extended terminals**  
 For vertical right angle (WW models)



11 **Extended terminals** as above, **with epoxy seal**

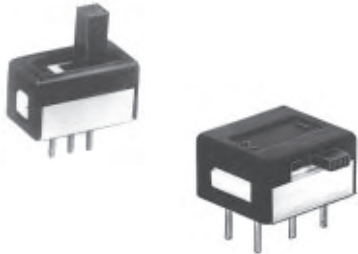


E

# 25000N series

## Professional slide switches

*Distinctive features and specifications*



- Professional grade slide switches for PC boards
- Approved according to UL 1054
- Wave solderable  
Not washable in aqueous process
- Available with flush, high and side actuator
- Various actuator lengths

### ELECTRICAL SPECIFICATIONS

- Max. current/voltage rating with resistive load :
  - silver contacts (A) : 2A 250VAC - 4A 125VAC - 1A 30VDC
  - gold plated brass contacts (LD) : 100mA 30VDC
- Minimum load :
  - silver contacts (A) : 100mA 10V
  - gold plated brass contacts (LD) : 10 $\mu$ A 5VDC - 10mA 50mV
- Initial contact resistance :
  - silver contacts (A) : 10m $\Omega$  max.
  - gold plated brass contacts (LD) : 50m $\Omega$  max.
- Insulation resistance : 1.000 M $\Omega$  min. at 500VDC
- Dielectric strength :
  - 1.000 Vrms 50 Hz min. between terminals
  - 2.000 Vrms 50 Hz min. between poles
  - 2.000 Vrms 50 Hz min. between terminals and frame
- Electrical life : 10.000 cycles at full load
- Low level or mechanical life : 20.000 cycles

### MATERIALS

- Case : PBT
- Actuator : polyamide, glass filled
- Cover : polyamide, glass filled
- Contacts
  - A** : silver
  - LD** : brass, gold plated
- Terminal seal : epoxy

### APPROVALS



**Availability** : consult factory for details of approved models.

**Marking** : To order switches marked UL, complete the "Options and Approvals" box of ordering format.

### GENERAL SPECIFICATIONS

- Operating temperature :
  - 40°C to +85°C
- Overall length : 14 mm (.551)
- Actuator height (outside case) :
  - high : 2,80 mm (.110)
  - extra high : 6 mm (.236)
  - side : 2,3 mm (.090)
  - long side : 6 mm (.236)
- Travel : 4 mm (.157)



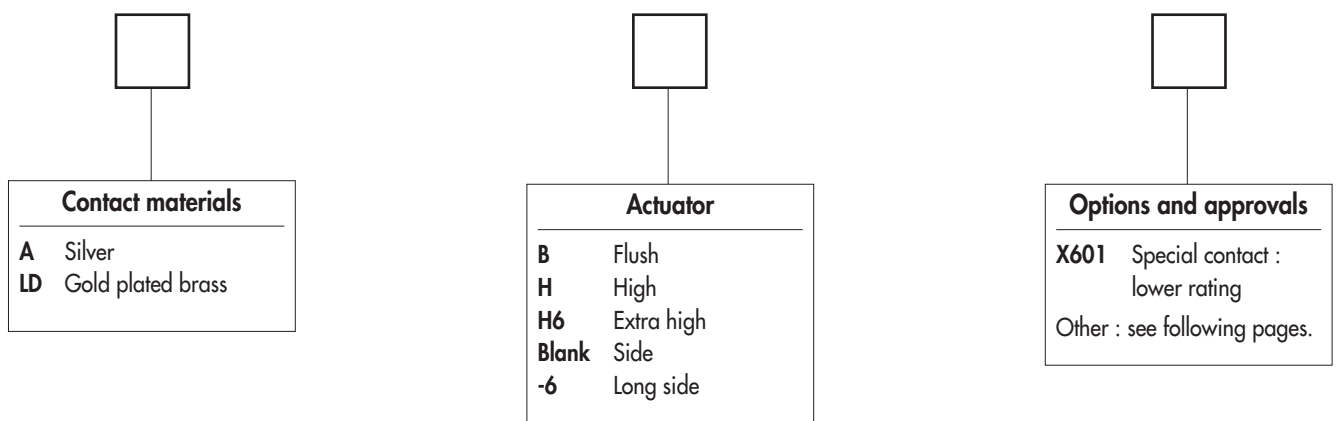
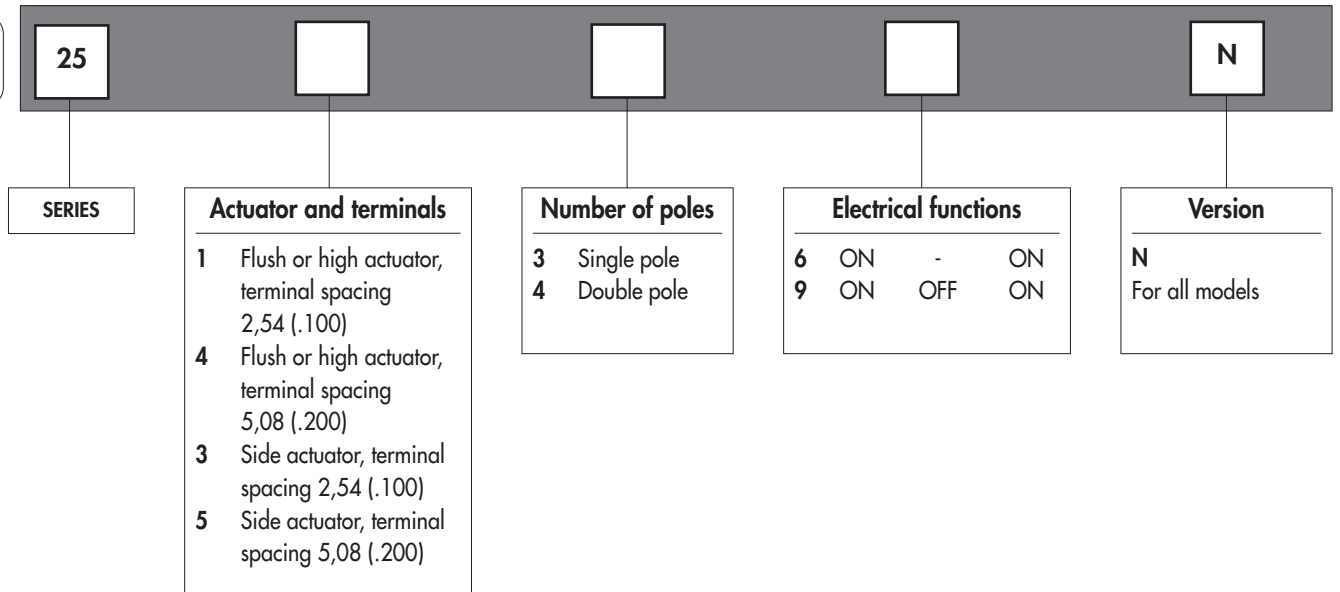
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# 25000N series

ermec@ermec.com

## Professional slide switches

### Overview



### ABOUT THIS SERIES

On the following pages, you will find successively :  
 - model structure of switches (including actuator options)  
 - contact options

**Dimensions** : first dimensions are in mm while inches are shown as bracketted numbers.

**NOTICE** : please note that not all combinations of above numbers are available. Refer to the following pages for further information.

**Packaging unit** : single pole : 100 pieces - double pole : 50 pieces

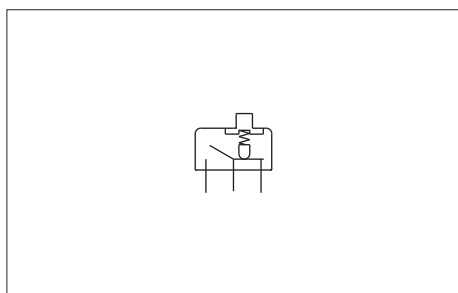


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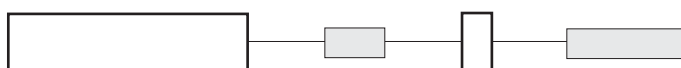
# 25000N series

Professional slide switches



- Epoxy sealed terminals standard
- 1 and 2 pole configurations
- **UL approved models** : see next page.

MODEL  
STRUCTURE



## Flush actuator : 25000NB

Terminal spacing  
2,54 (.100)

Single pole  
**25136N B**  
**25139N B**

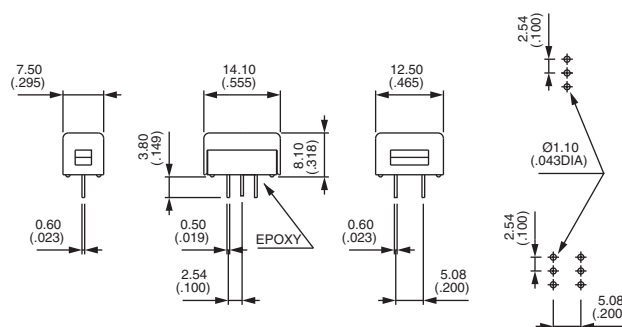
Double pole  
**25146N B**  
**25149N B**



Terminal spacing  
5,08 (.200)

Single pole  
**25436N B**  
**25439N B**

Double pole  
**25446N B**  
**25449N B**



## High actuator : 25000NH

Terminal spacing  
2,54 (.100)

Single pole  
**25136N H**  
**25139N H**

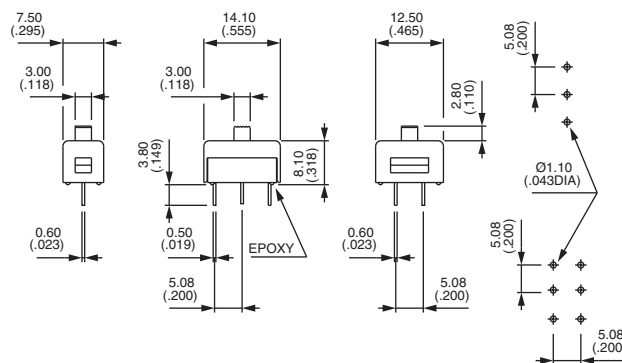
Double pole  
**25146N H**  
**25149N H**



Terminal spacing  
5,08 (.200)

Single pole  
**25436N H**  
**25439N H**

Double pole  
**25446N H**  
**25449N H**



## Extra high actuator : 25000NH6

Terminal spacing  
2,54 (.100)

Single pole  
**25136N H6**  
**25139N H6**

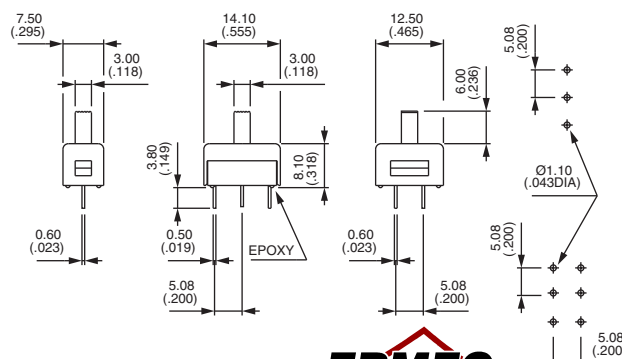
Double pole  
**25146N H6**  
**25149N H6**



Terminal spacing  
5,08 (.200)

Single pole  
**25436N H6**  
**25439N H6**

Double pole  
**25446N H6**  
**25449N H6**



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# 25000N series

Professional slide switches

## Side actuator : 25000N



Terminal spacing  
2,54 (.100)

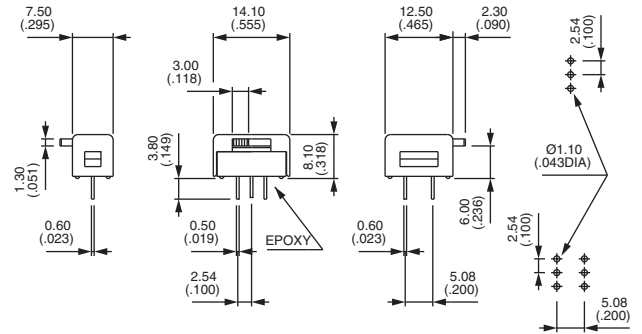
Single pole  
**25336N**  
**25339N**

Double pole  
**25346N**  
**25349N**

Terminal spacing  
5,08 (.200)

Single pole  
**25536N**  
**25539N**

Double pole  
**25546N**  
**25549N**



## Long side actuator : 25000N-6



Terminal spacing  
2,54 (.100)

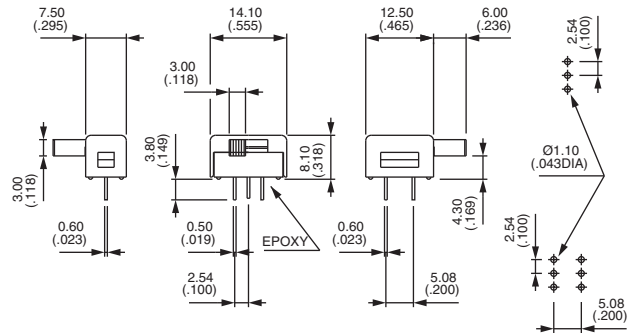
Single pole  
**25336N -6**  
**25339N -6**

Double pole  
**25346N -6**  
**25349N -6**

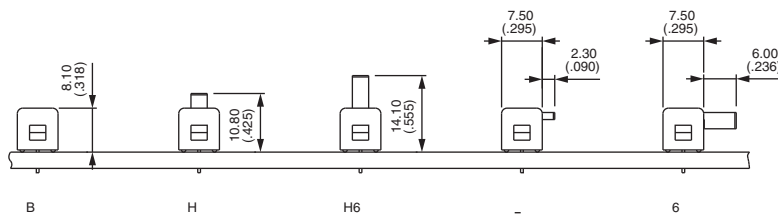
Terminal spacing  
5,08 (.200)

Single pole  
**25536N -6**  
**25539N -6**

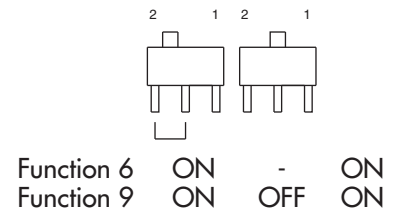
Double pole  
**25546N -6**  
**25549N -6**



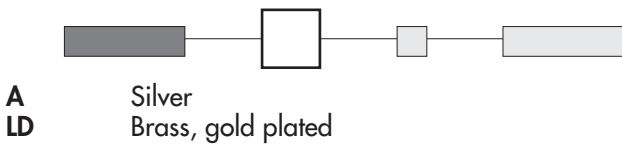
### PCB MOUNTING



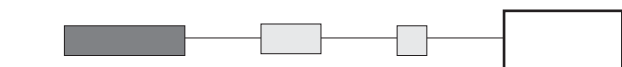
### POSITIONS AND CONNECTIONS



### CONTACT MATERIALS



### OPTIONS AND APPROVALS



- X601** Silver plated brass contacts - Lower rating 3VA 30VDC. Min quantity : 5.000 pieces per model and shipment.
- X693** Flame retardant plastic materials
- X693UL** Switches approved and marked UL (silver contacts only)

