

Switch

LED Push Button Switches series


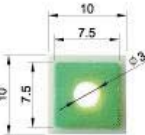

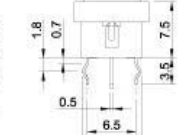
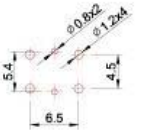


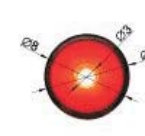
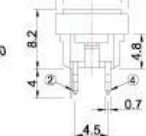
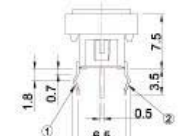
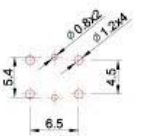
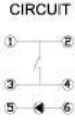

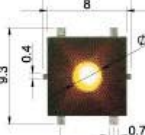
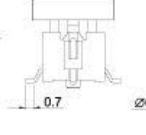


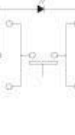

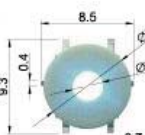
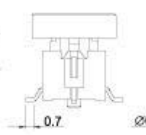

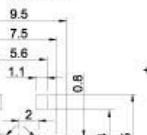
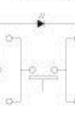
KLS7-LED-TS

SPECIFICATIONS

Rating:50mA 12VDC
 Insulation Resistance:100MΩ Min (at 500 VDC)
 Dielectric Strength:AC 250V (50/60 Hz for 1minute)
 Contact Resistance 100mΩ Max. (Initial)
 Electrically Life:100,000 Cycles Min
 Ambient Temperature:-20 C~+70°C
 Operating Force:180 ± 50gf , 250 5 0gf
 Travel:0.25 ± 0.1mm

FEATURES:

Contact Reliability Clip type contacts are applied to ensure high reliability.
 For PC Board Terminals are IC pitched (multiple of 2.54mm).
 By a particular terminal shape,the switch tightly when solder-dipped.
 Protection from Flux Entry Terminals are all completely sealed by epoxy.
 Many LED lights are a available.

 <p>TS-ALGNN-G</p>				<p>P.C.B. LAYOUT</p> 	<p>CIRCUIT</p> 
 <p>TS-BLBR-R</p>				<p>P.C.B. LAYOUT</p> 	<p>CIRCUIT</p> 
 <p>TS-ALSB-Y</p>				<p>P.C.B. LAYOUT</p> 	<p>CIRCUIT</p> 
 <p>TS-BLSG-BU</p>				<p>P.C.B. LAYOUT</p> 	<p>CIRCUIT</p> 
HOW TO ORDER					
TS -	CAP TYPE	+ TERMINAL	+ HOUSING COLOR	+ CAP COLOR	- LED COLOR
	N : WITHOUT CAP A : □ B : ○ AL : □ W LED BL : ○ W LED	□ : DIP TYPE S : SMD TYPE	□ : WITHOUT HOUSING (SMD TYPE ONLY) G : LIGHT GRAY B : BLACK	□ : WITHOUT CAP R : RED GN : GREEN B : BLACK O : ORANGE G : GRAY W : WHITE	□ : WITHOUT LED R : RED Y : YELLOW G : GREEN O : ORANGE BU : BLUE

Switch

LED Push Button Switches series

KLS7-LED-SPA



SPECIFICATION:

Item	: SPA-A Type & SPA-M Type.	: SPA-T Type.
Current rating	: 100mA.	: 50mA.
Voltage rating	: 30V DC.	: 12V DC.
Led rating	: See the table below.	: See the table below.
Circuit	: DPDT.	: SPST.
Total travel	: Max. 1.9mm; Lock 1.5mm.	: 0.3±0.2mm.
Contact resistance	: 100mΩ Max. (initial)	: 100mΩ Max. (initial)
Insulation resistance	: 100MΩ Min at 500V DC.	: 100MΩ Min.
Operating temperature	: -36 C ~ +65 C.	: +10 C ~ +60 C.
Operating force	: 200±80g.	: 180±50g.
Life	: 10,000 Cycles Min.	: 800,000 Cycles Min.
Soldering temperature	: 250 C for 3 sec.	: 250 C for 3 sec.

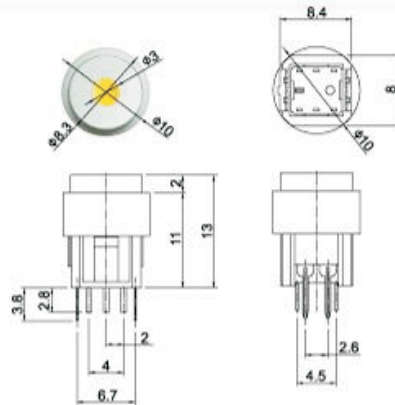
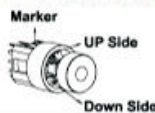
MATERIALS:

SW Button	: Polyacetal. (POM)	Housing	: Polyamide. (PA)
SW Base	: Polyamide. (PA)	Lens	: Polycarbonate. (PC)
SW Terminal	: Brass with Silver plating.	Contact	: Phosphor bronze (PBS) with Silver plating.
Spring	: Piano wire.	Cover	: Acrylonitrile Butadine Styrene. (ABS)
Cap	: Polycarbonate. (PC)	Led terminal	: Phosphor bronze (PBS) with Gold plating.
Act. Dome	: Stainless steel with Silver plating.		

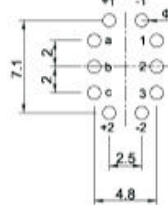
NEW DPDT (Lock)



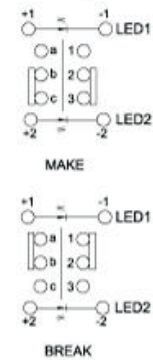
SPA-A-LED-SPA-CV04-23



P.C.B. Mounting Holes



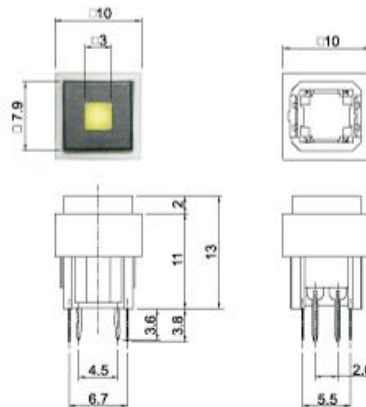
Circuit Diagram



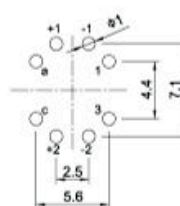
NEW SPST (Tact)



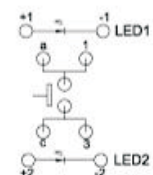
SPA-T-LED-SPA-CV05-23



P.C.B. Mounting Holes



Circuit Diagram



HOW TO ORDER

SPA - FUNCTION - HOUSING TYPE - CV + CAP COLOR -

A : LOCK
M : MOMENTARY
T : TACT

SA : SPHERICAL
CA : CUBOIDAL

04 WHITE
05 BLACK

LED COLOR		
CODE	UP	DOWN
12	RED	YELLOW
13	RED	GREEN
1P3	RED	PURE GREEN
14	RED	WHITE
17	RED	BLUE
23	YELLOW	GREEN
2P3	YELLOW	PURE GREEN
24	YELLOW	WHITE
27	YELLOW	BLUE
3P3	GREEN	PURE GREEN
34	GREEN	WHITE
37	GREEN	BLUE
P34	PURE GREEN	WHITE
P37	PURE GREEN	BLUE
47	WHITE	BLUE


Switch

DIP Switch Series

KLS7-LED-SPA

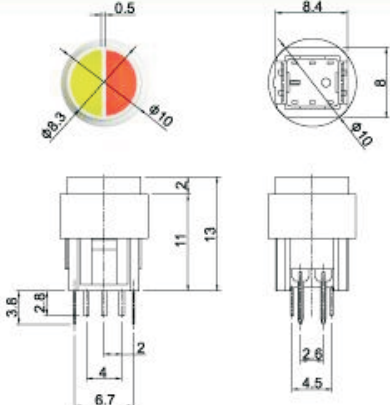


NEW DPDT (Lock)

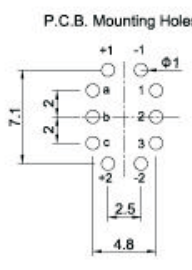


SPA-A-SA-2V13-13

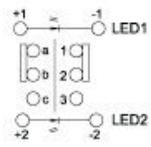
Marker
UP Side
Down Side



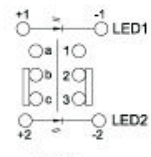
P.C.B. Mounting Holes



Circuit Diagram




BREAK



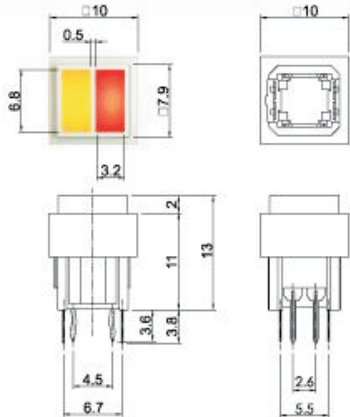
MAKE

NEW SPST (Tact)

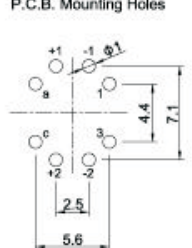


SPA-T-CA-2V12-12

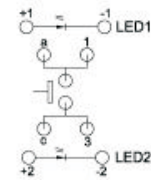
Marker
UP Side
Down Side



P.C.B. Mounting Holes



Circuit Diagram



HOW TO ORDER

SPA	-	FUNCTION	-	HOUSING TYPE	-	2V	+	LENS COLOR																																				
		T: TACTILE M: MOMENTARY A: ALTERNATE		SA: SPHERICAL CA: CUBOIDAL				<table border="1"> <thead> <tr> <th>CODE</th> <th>UP</th> <th>DOWN</th> </tr> </thead> <tbody> <tr><td>12</td><td>RED</td><td>YELLOW</td></tr> <tr><td>13</td><td>RED</td><td>GREEN</td></tr> <tr><td>14</td><td>RED</td><td>WHITE</td></tr> <tr><td>17</td><td>RED</td><td>BLUE</td></tr> <tr><td>23</td><td>YELLOW</td><td>GREEN</td></tr> <tr><td>24</td><td>YELLOW</td><td>WHITE</td></tr> <tr><td>27</td><td>YELLOW</td><td>BLUE</td></tr> <tr><td>34</td><td>GREEN</td><td>WHITE</td></tr> <tr><td>37</td><td>GREEN</td><td>BLUE</td></tr> <tr><td>44</td><td>WHITE</td><td>WHITE</td></tr> <tr><td>47</td><td>WHITE</td><td>BLUE</td></tr> </tbody> </table>	CODE	UP	DOWN	12	RED	YELLOW	13	RED	GREEN	14	RED	WHITE	17	RED	BLUE	23	YELLOW	GREEN	24	YELLOW	WHITE	27	YELLOW	BLUE	34	GREEN	WHITE	37	GREEN	BLUE	44	WHITE	WHITE	47	WHITE	BLUE
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LED COLOR		
CODE	UP	DOWN
12	RED	YELLOW
13	RED	GREEN
1P3	RED	PURE GREEN
14	RED	WHITE
17	RED	BLUE
23	YELLOW	GREEN
2P3	YELLOW	PURE GREEN
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3P3	GREEN	PURE GREEN
34	GREEN	WHITE
37	GREEN	BLUE
P34	PURE GREEN	WHITE
P37	PURE GREEN	BLUE
47	WHITE	BLUE

Switch

LED Push Button Switches series

KLS7-LED-SPB

SPECIFICATIONS

Rating: 0.1A 30 VDC
Operating Force: 150g Non Lock
180g Lock

With LED

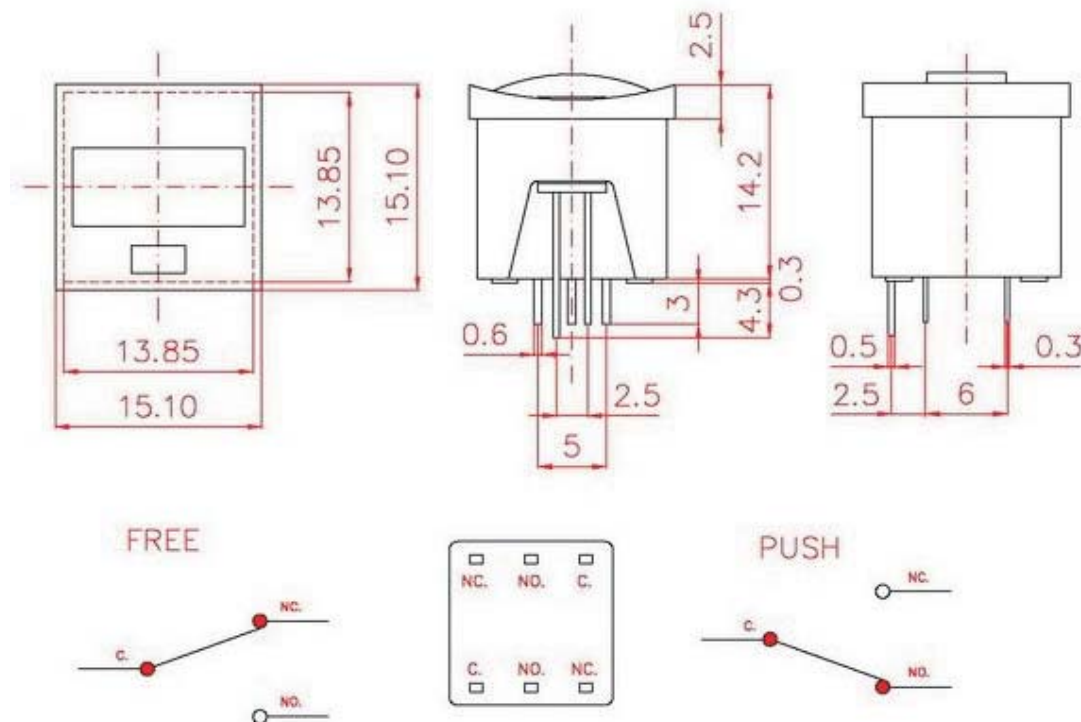
Insulation Resistance: 100 MΩ (minDC 500V)
Operating Temperature: 0 C ~ 55°C
Mechanical Life: 100,000 cycles
Electrical Life: 10,000 cycles

LED Color FUNCTION:

R=Red
G=Green
Y=Yellow



VII



ORDER INFORMATION

Switch

DIP Switch Series

KLS7-LED-ST

VII

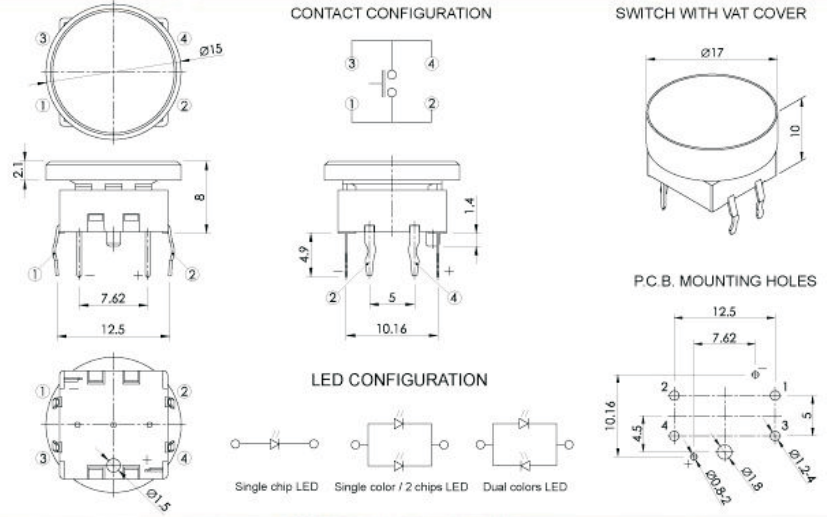
HOW TO ORDER

MODEL NO.	CAP COLOR	LED COLOR	TRANSPARENT COVER STYLE	MARKING TYPE	MARKING POSITION
ST-12	1 : Red 2 : Yellow 3 : Green 4 : White 5 : Transparent 6 : Orange 7 : Blue	00 : Without LED 01 : Red S2 : Super Yellow 03 : Green S3 : Super Green	00 : Without Cover FC : Flat/clear RC : Round h=4.9mm/clear RH : Round h=6.9mm/clear SC : Square h=4.9mm/clear SH : Square h=6.9mm/clear UT : UP Triangle/clear DT : Down Triangle/clear RT : Right Triangle/clear LT : Left Triangle/clear C5 : Flat cover/clear C4 : Flat cover/white (Solid)	<input type="checkbox"/> : Non E0 : D6 : Power D7 : H9 : D8 : ON Others : For inquiry	<input type="checkbox"/> : Non PO : Laser-Engraving on Transparent Cover PI : Laser-Engraving on Cap M : Print on Transparent Mylar

Transparent Mylar

0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z	Power	ON	OFF	
		Auto	MAN	EN	STOP	RESET	PAUSE	ESC	Menu

put in and assembled by customer

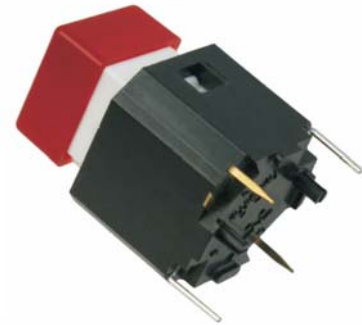


HOW TO ORDER

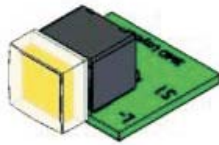
MODEL NO.	CAP COLOR	LED COLOR	COVER STYLE
SPL15	1 : Red 2 : Yellow 3 : Green 4 : White 5 : Transparent 6 : Orange 7 : Blue	00 : Without LED 01 : Red S2 : Super Yellow 03 : Green S3 : Super Green P3S : Pure Green(single) 4S : White(single) 7S : Blue(single) 17 : Red/Blue 1P3 : Red/Pure Green P37 : Pure Green/Blue	<input type="checkbox"/> : Without Cover VAT : Transparent

LED Push Button Switches series

KLS7-LED-SPJ



SPJ	TERMINAL	LED COLOR	CAP TYPE	CAP COLOR
	S : SMD TYPE P : DIP TYPE	N : WITHOUT LED 1 : RED 2 : YELLOW 3 : GREEN 4 : WHITE 7 : BLUE	N : WITHOUT CAP FC : FC TYPE	T : TRANSPARENCY 7 : WHITE

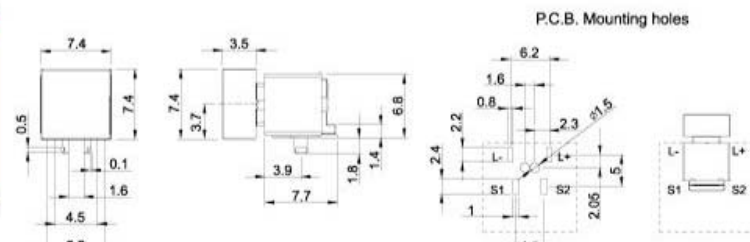
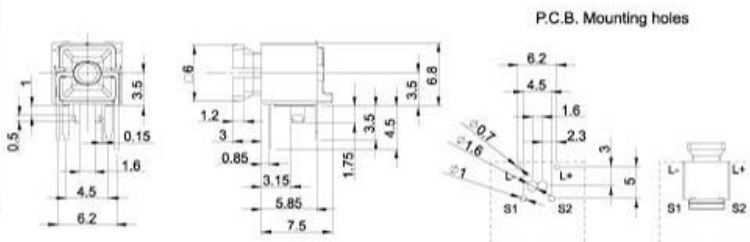
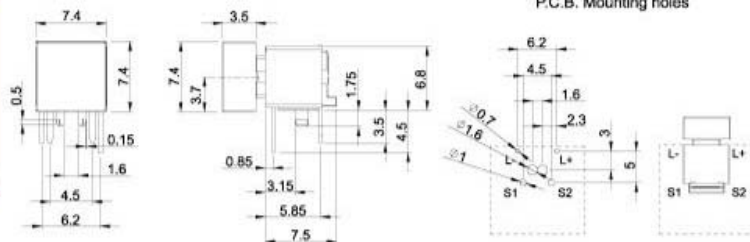


SPECIFICATION:

Contact arrangement : SPST. (Tact)
 Rating : 50mA 12V DC.
 Contact resistance : 100mΩ Max. (initial)
 Insulation resistance : 100MΩ Min at 100V DC.
 Solder specifications : 250°C Max for 3 sec.
 Operating force : 200±50g.
 Total travel : 0.3±0.1mm.
 Operating life : 100,000 Cycles Min.
 Dielectric strength : 250V AC 1 minute.

MATERIALS:

Cap : PC.
 Base : LCP.
 Reflector : PA9T.
 Film insert : White plastic tape.
 Terminal : Brass with gold plating.
 Led : Resin(mold) epoxy wire.
 Waterproof cushion : Transparent-white paste.
 Action dome : Stainless steel with silver plating



Switch

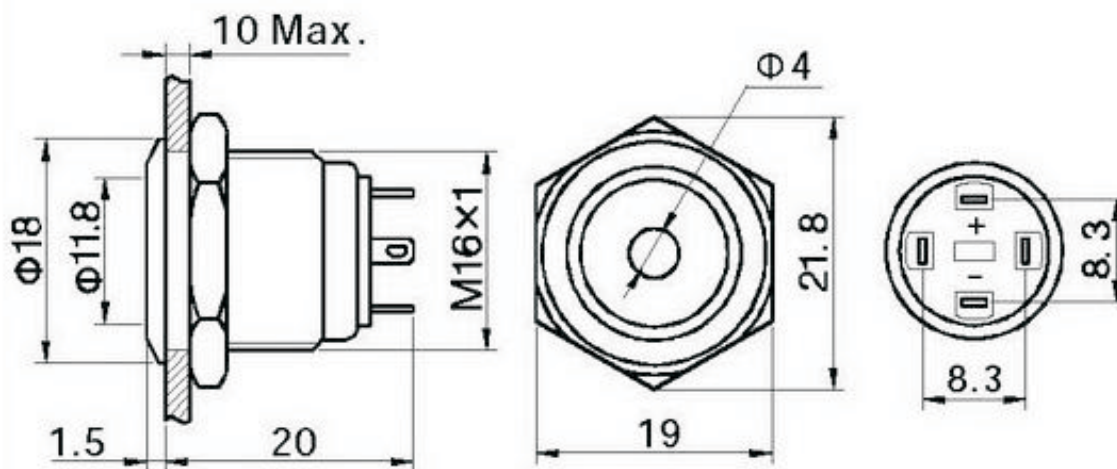
LED Push Button Switches series

KLS7-LED-PB-M16-01

SPECIFICATIONS

Rating: 2A 36V DC
Mounting Hole: $\text{Ø}16$ mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: $-20^{\circ}\text{C} \sim +55^{\circ}\text{C}$
Mechanical Life: 1,000,000 cycles
Electrical Life: 20,000 cycles
Function:
1No 1Nc
Non Lock Type
LED Color : Red, Yellow, Orange (1.7V AC/DC)
Green, Blue, White (2.8V AC/DC)

Approvals :
RoHS, IP65



ORDER INFORMATION

Switch

LED Push Button Switches series

KLS7-LED-PB-M16-02

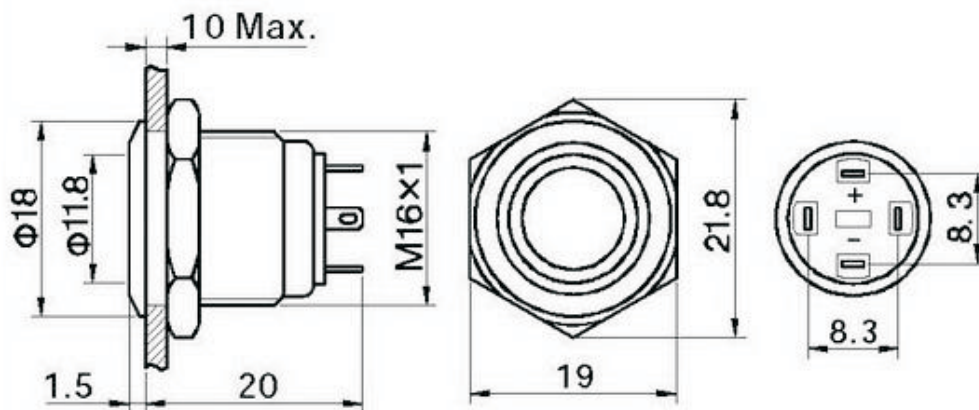
SPECIFICATIONS

Rating: 2A 36V DC
Mounting Hole: $\varnothing 16$ mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: -20°C ~ +55°C
Mechanical Life: 1,000,000 cycles
Electrical Life: 20,000 cycles
Function:
1No 1Nc
Non Lock Type
LED Color : Red, Yellow, Orange (1.7V AC/DC)
Green, Blue, White (2.8V AC/DC)

Approvals :
RoHS, IP65



VII



ORDER INFORMATION

Switch

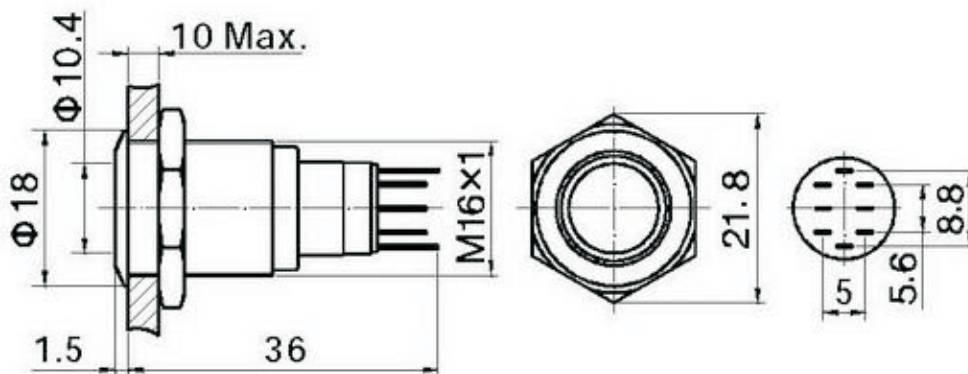
LED Push Button Switches series

KLS7-LED-PB-M16-03

SPECIFICATIONS

Rating: 3A 250V DC
Mounting Hole: $\varnothing 16$ mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: -20°C ~ +55°C
Mechanical Life: 200,000 cycles
Electrical Life: 50,000 cycles
Function:
11 = 1No 1Nc , 22 = 2No 2Nc
Z = Lock Type , □ = Non Lock Type
LED Color : Red , Green , Yellow , Orange ,Blue , White
LED Lamp : 6V,12V,24V,110V,220V AC/DC
IP67 & Ip40

Approvals : RoHS,CE,3C



ORDER INFORMATION

Switch

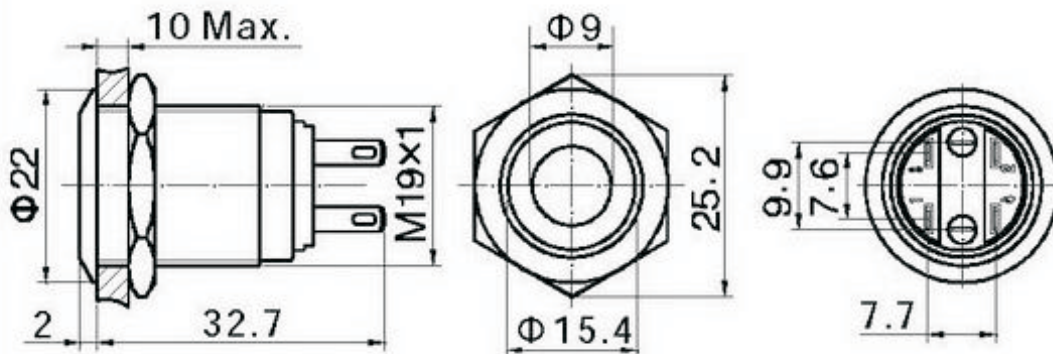
LED Push Button Switches series

KLS7-LED-PB-M19-01

SPECIFICATIONS

Rating: 5A 250V AC
Mounting Hole: $\varnothing 19$ mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: -20°C ~ +55°C
Mechanical Life: 100,000 cycles
Electrical Life: 50,000 cycles
Function:
1No 1Nc
Non Lock Type
LED Color : Red , Green , Yellow , Orange ,Blue , White
LED Lamp : 6V,12V,24V,110V,220V AC/DC

Approvals : RoHS,CE,3C,IP65



ORDER INFORMATION

Switch

DIP Switch Series

KLS7-LED-PB-M19-02

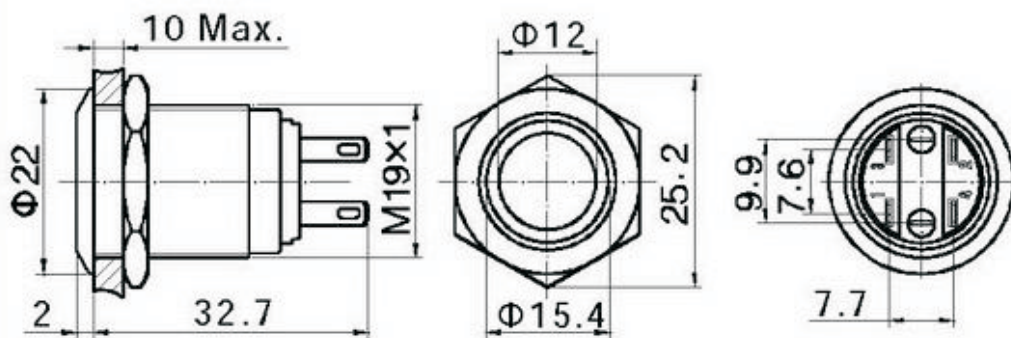
SPECIFICATIONS

Rating: 5A 250V AC
Mounting Hole: \varnothing 19 mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: -20°C ~ +55°C
Mechanical Life: 100,000 cycles
Electrical Life: 50,000 cycles
Function:
1No 1Nc
Non Lock Type
LED Color : Red , Green , Yellow , Orange ,Blue , White
LED Lamp : 6V,12V,24V,110V,220V AC/DC

Approvals : RoHS,CE,3C,IP65



VII



ORDER INFORMATION

Switch

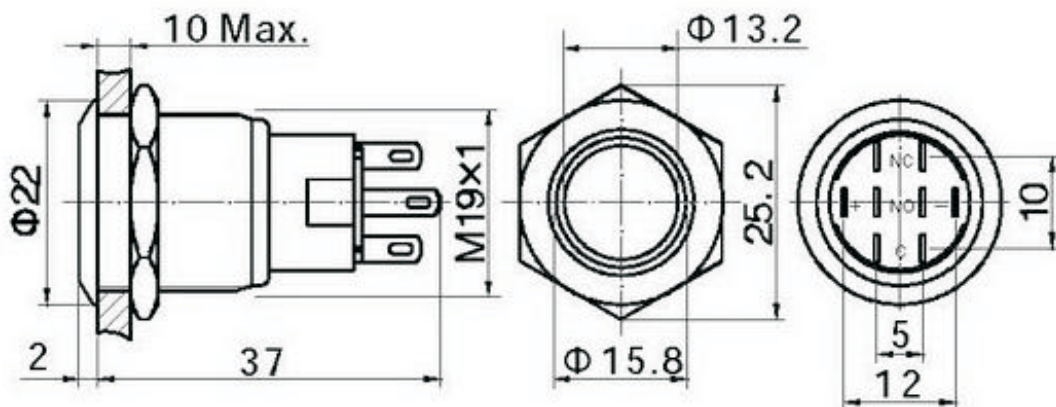
LED Push Button Switches series

KLS7-LED-PB-M19-03

SPECIFICATIONS

Rating: 5A 250V AC
Mounting Hole: $\varnothing 19$ mm
Insulation Resistance: 1,000M Ω Mim
Contact Resistance: 50M Ω Max.
Dielectric Strength: AC 2,000V 1 Minute
Operating Temperature: -20 $^{\circ}$ C ~ +55 $^{\circ}$ C
Mechanical Life: 100,000 cycles
Electrical Life: 50,000 cycles
Function:
11 = 1No 1Nc , 22 = 2No 2Nc
Z = Lock Type , \square = Non Lock Type
LED Color : Red , Green , Yellow , Orange ,Blue , White
LED Lamp : 6V,12V,24V,110V,220V AC/DC

Approvals : RoHS,CE,3C,IP67



ORDER INFORMATION