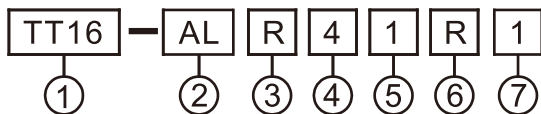


MODEL DESIGNATION

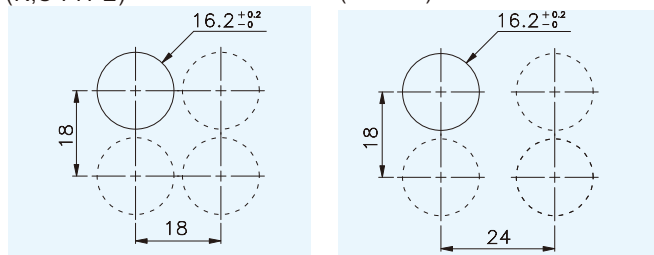


Designation	Signal	Description
1. Mounting Hole	TT16	16mm Series
2. Type	AL ML PL	ILLUMINATED Push Button(Alternate)(LED lamp) ILLUMINATED Push Button(Momentary)(LED lamp) Pilot lamp(LED lamp)
3. Shape	R S L	Round Square Rectangular
4. Operator Protection	4 6	IP40 IP65
5. Voltage	1 2 5 7 9	110VAC LED lamp 220VAC LED lamp 6V LED lamp 24V LED lamp 12V LED lamp
6. Lens Color	R G O W BL Y	Red Green Orange White Blue Yellow
7. Contact Blocks	1 2	1a1b(1 No 1Nc) 2a2b(2 No 2Nc)

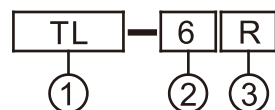
PANEL CUT-OUT

(R,S TYPE)

(L TYPE)



LAMP DESIGNATION



Designation	Signal	Description
1. Lamp Type	TL	LED lamp
2. Voltage	6 12 24 110 220	6V DC 12V DC 24V DC 110V AC 220V AC
3. Color	R G O W BL	Red Green Orange White Blue

CHARACTERISTICS

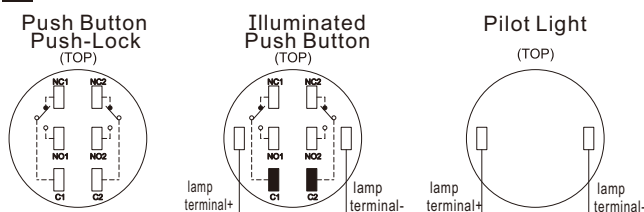
Contact resistance	50mΩ max.(initial)
Insulation resistance	100MΩ min.(at 500VDC)
Dielectric strength	100VAC,50/60Hz for 1 minute between non-continuous terminals 2000VAC,50/60Hz for 1 minute between current-carrying part and ground
Vibration	Mechanical durability:10 to 55Hz 1.5mm double amplitude
Shock	Mechanical durability: Approx.500m/sec ² (approx.50G's) Malfunction durability: Approx.500m/sec ² (approx.50G's)
Ambient operating temperature	Operating:-25°C to 55°C Storage:-30°C to 80°C
Humidity	45% to 80% RH
Mechanical Life (min)	Momentary:2,000,000 Alternate:250,000
Electrical Life (min)	Momentary:100,000(1800 operations/hour) Alternate:100,000(1200 operations/hour)

RATING(CONTACT)

Rated insulation voltage			250VAC		125VAC
Rated continuous current(A)			3A		5A
Rated operating current(A)					
AC			DC		
voltage	AC13	AC12	voltage	DC13	DC12
110V	0.7A	1A	12V	0.7A	1A
220V	0.5A	0.5A	24V	0.7A	1A

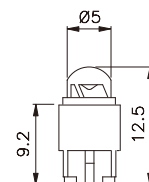
AC13/DC13:Inductive load : AC12 / DC12: Resistivw load

TERMINAL ARRANGEMENT



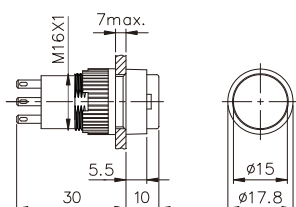
LAMP DIMENSIONS (For TT16)

LED TL-□□

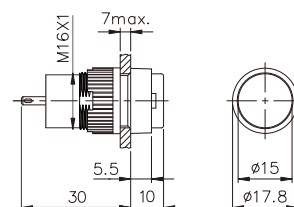


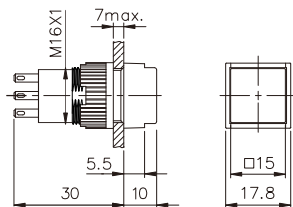
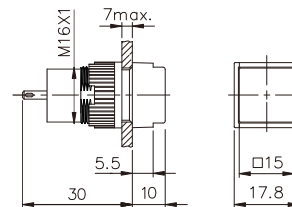
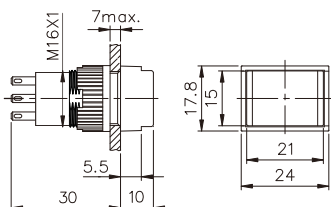
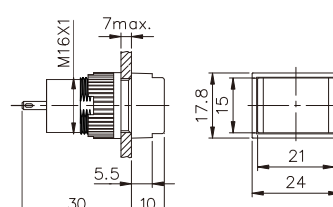
DIMENSIONS

TT16-ALR/MLR



TT16-PLR

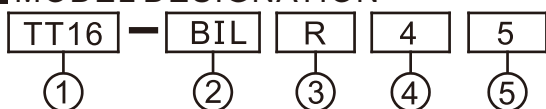


TT16-ALS/MLS

TT16-PLS

TT16-ALL/MLL

TT16-PLL


tend Ø16m/m BUZZER/BUZZER PILOT LAMP

TT16

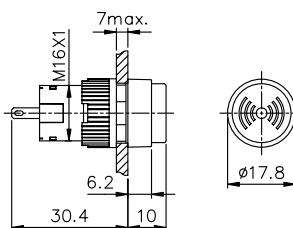
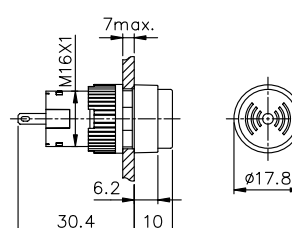
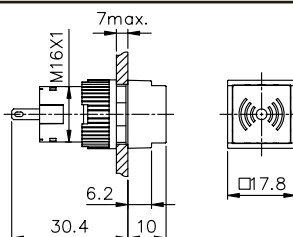
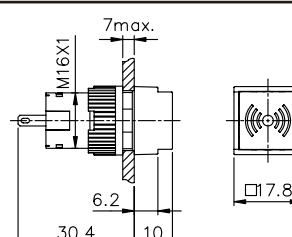
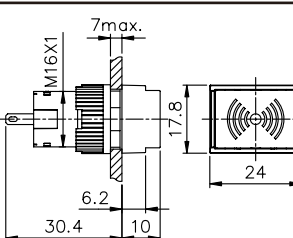
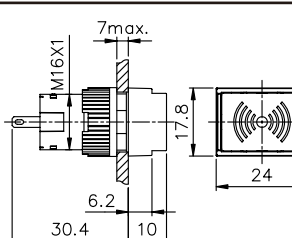
MODEL DESIGNATION



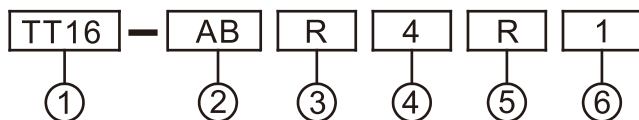
Buzzer with Flash Type		Buzzer Type	
Voltage	Current consumption	Voltage	Current consumption
6 Vac	48 mA	6 Vac	44 mA
6 Vdc	23 mA	6 Vdc	21 mA
12 Vac	39 mA	12 Vac	40 mA
12 Vdc	29 mA	12 Vdc	25 mA
24 Vac	35 mA	24 Vac	36 mA
24 Vdc	31 mA	24 Vdc	30 mA

- Indicator light of the buzzer is a red LED light
- Sound level is approximately above 80dB (10CM)
- The housing of the buzzer is black.

DIMENSIONS

TT16-BIR

TT16-BILR

TT16-BIS

TT16-BILS

TT16-BIL

TT16-BILL


MODEL DESIGNATION



CHARACTERISTICS

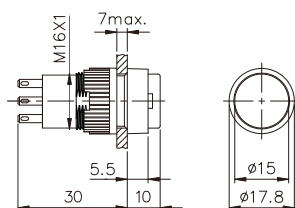
Designation	Signal	Description
1.Mounting Hole	TT16	16m/m series
2.Type	AB	Push Button (Alternate)
	MB	Push Button (Momentary)
	MM	Push Button (Momentary) (Mushroom Head)
	BK	Push-lock Turn-reset
	BKL	Push-lock Turn-reset (Mushroom Head)
3.Shape	R	Round
	S	Square
	L	Rectangular
4.Operator Protection	4	IP40
	6	IP65
5.Lens Color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
	B	Black
	Y	Yellow
6.Contact Blocks	1	1a1b
	2	2a2b

●BK, BKL Only Round and Red.

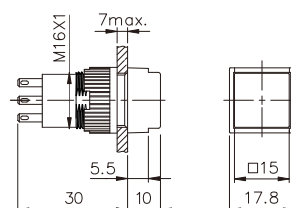
Contact Resistance	50mΩ max (initial)
Insulation Resistance	100MΩ min (At 500VDC)
Dielectric Streng	1000VAC, 50/60Hz for 1 minute between non-continuous terminals 2000 VAC, 50/60 Hz for 1 minute current-carrying part and ground
Vibration	Malfunction Durability: 10 to 55Hz 1.5mm Double Amplitude
Shock	Mechanical Durability: Approx. 500m/sec ² (approx. 50G's) Malfunction Durability: Approx. 500m/sec ² (approx. 50G's)
Ambient Temperature	Operating: -25°C to 55°C Storage: -30°C to 80°C
Humidity	45% to 80% RH
Mechanical Service Life	Momentary: 2,000,000 Alternate/BKR: 250,000
Electrical Service Life	Momentary: 100,000 (1800 operations/hour) Alternate/BKR: 100,000 (1200 operations/hour)

DIMENSIONS

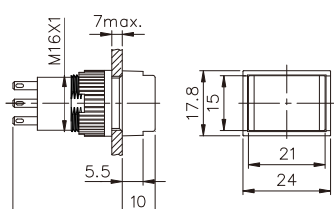
TT16-ABR/MBR



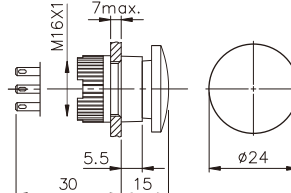
TT16-ABS/MBS



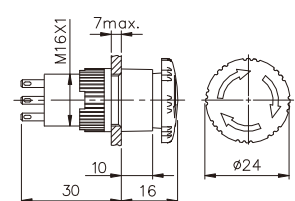
TT16-ABL/MBL



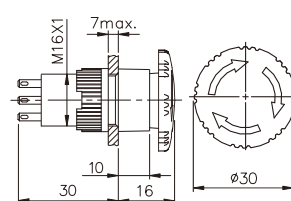
TT16-MMR



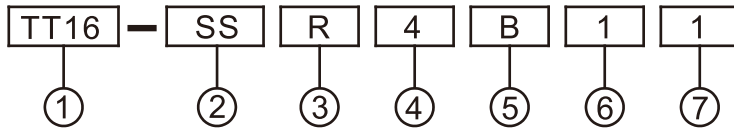
TT16-BKR



TT16-BKLR



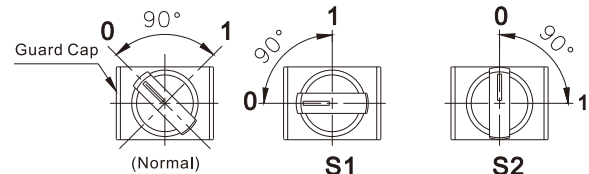
MODEL DESIGNATION



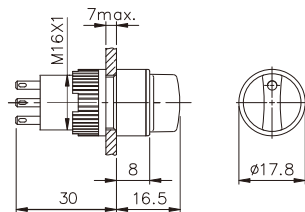
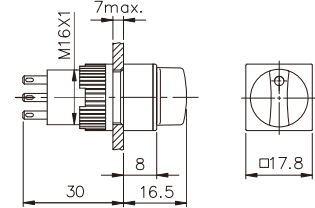
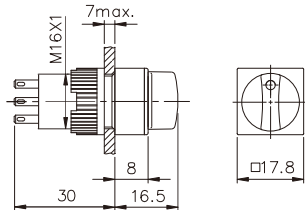
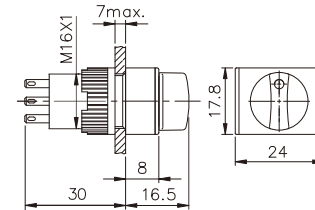
Designation	Signal	Description
1. Mounting Hole	TT16	16m/m series
2. Type	SS	Knob Operator
3. Shape	R S L	Round Square Rectangle
4. Operator Protection	4	IP40
5. Color	R G B	Red Green Black
6. Position	1	90° 2-Position
	7	90° 3-Position

Designation	Signal	Description	
		2-Position	3-Position
7. Contact Blocks	1	1a1b	—
	2	2a2b	1a1b 0 1a1b

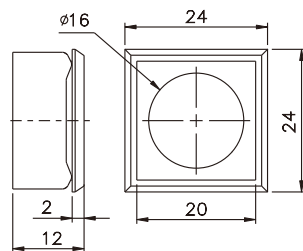
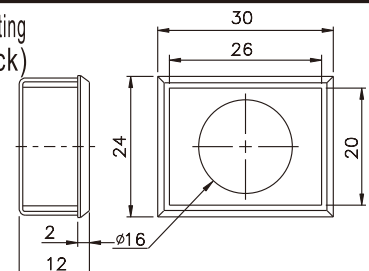
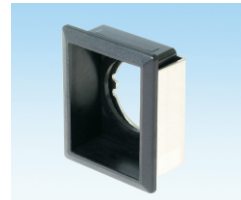
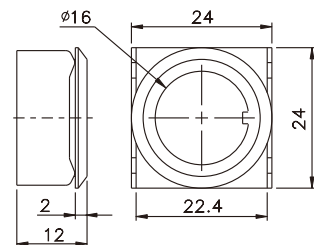
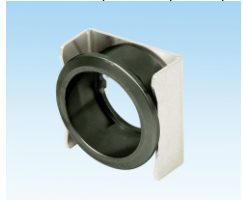
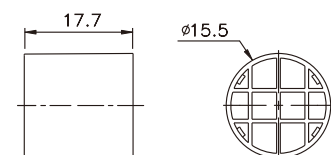
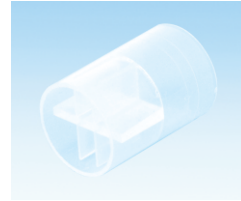
• For variations of the Selector, push out the guard cap upwards. Guard cap can be pressed in according to the below three operating methods.



DIMENSIONS

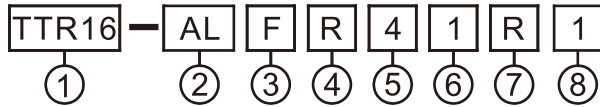
TT16-SSR

TT16-SSS

TT16-SSS

TT16-SSL


ACCESSORIES

**Square flush silhouette mounting
TT16-FS(Silver)/BS(Black)**

**Rectangular flush silhouette mounting
TT16-FL(Silver)/BL(Black)**

**Round flush silhouette mounting
TT16-FR(Silver)/BR(Black)**

**Terminal Cover
TT16-TC**


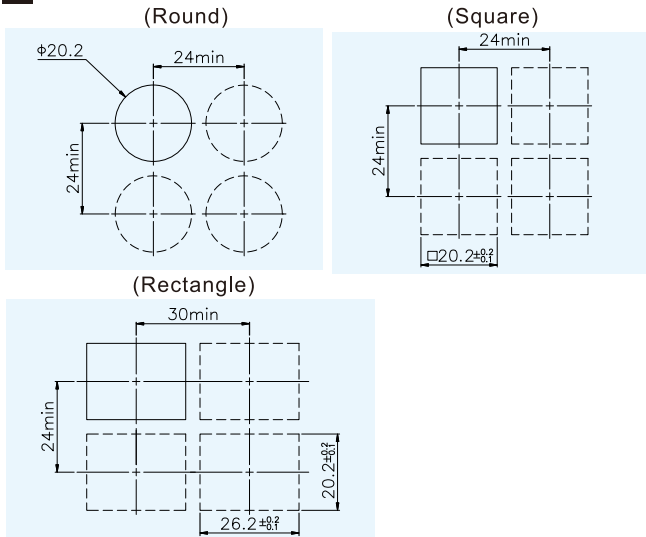
tend Ø16mm/m ILLUMINATED RECESSED TYPE PUSH BUTTON **TTR16**

MODEL DESIGNATION

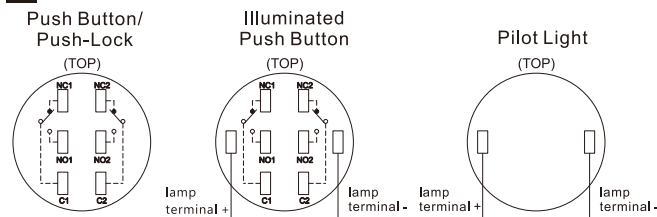


DESIGNATION	CODE	DESCRIPTION
1. Mounting Hole	TTR16	20.2mm
2. Type	AL ML PL	ILLuminated Push Button (Alternate) (LED) ILLuminated Push Button (Momentary) (LED) Pilot Lamp (LED)
3. Color of Guard Ring	F B	Silver Black
4. Shape	R S L	Round Square Rectangle
5. IP Rating	4 6	IP40 IP65
6. Voltage	1 2 5 7 9	110VAC (LED) 220VAC (LED) 6V (LED) 24V (LED) 12V (LED)
7. Lens Color	R W G BL O	Red White Green Blue Orange
8. Contact Blocks	1 2	1a1b(1 No 1Nc) 2a2b(2 No 2Nc)

PANEL CUT-OUT

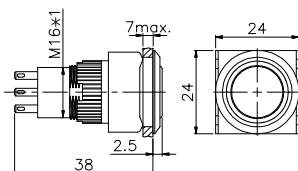


TERMINAL ARRANGEMENT



DIMENSIONS

TTR16-ALBR/MLBR



CHARACTERISTICS

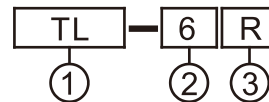
Contact Resistance	50mΩ max (initial)
Insulation Resistance	100MΩ min(at 500VDC)
Dielectric Strength	1000VAC, 50/60Hz for 1 minute between non-continuous terminals 2000VAC, 50/60Hz for 1 minute between current-carrying part and ground
Vibration	Malfunction durability: 10 to 55Hz 1.5mm double amplitude
Shock	Mechanical durability: Approx. 500m/sec ² (approx. 50G's) Malfunction durability: Approx. 500m/sec ² (approx. 50G's)
Ambient Temperature	Operating: -25°C to 55°C Storage: -30°C to 80°C
Humidity	45% to 80% RH
Mechanical Service Life	Momentary: 2,000,000 Alternate: 250,000
Electrical Service Life	Momentary: 100,000 (1800 operations/hour) Alternate: 100,000 (1200 operations/hour)

CONTACT RATING

Rated Insulation Voltage			250VAC		125VAC	
Rated Contact Current (A)			3A		5A	
Rated Operating Current (A)						
AC			DC			
Voltage	AC13	AC12	Voltage	DC13	DC12	
110V	0.7A	1A	12V	0.7A	1A	
220V	0.5A	0.5A	24V	0.7A	1A	

AC13/DC13: Inductive Load; AC12/DC12: Resistive Load

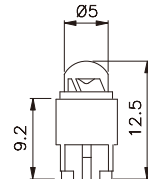
MODEL DESIGNATION



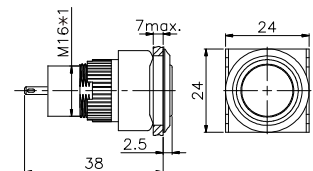
DESIGNATION	CODE	DESCRIPTION	
1. Lamp	TL	LED	
2. Voltage	6	6V DC	20mA
	12	12V DC	20mA
	24	24V DC	20mA
	110	110V AC	2mA
	220	220V AC	2mA
3. Color	R	Red	
	G	Green	
	O	Orange	
	W	White	
	BL	Blue	

LAMP DIMENSIONS (For TT16)

LED TL-□□

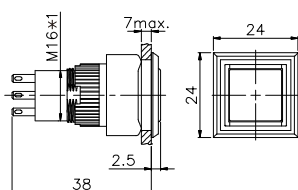


TTR16-PLFR

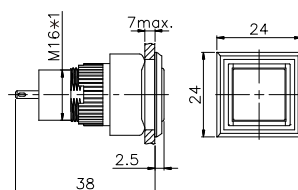
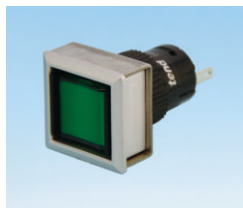


tend Ø16m/m ILLUMINATED RECESSED TYPE PUSH BUTTON TTR16

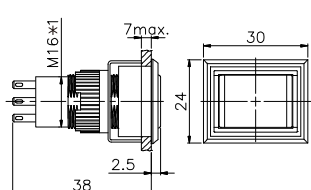
TTR16-ALBS/MLBS



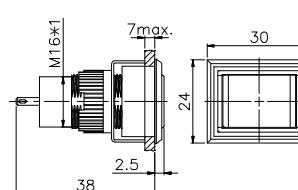
TTR16-PLFS



TTR16-ALBL/MLBL

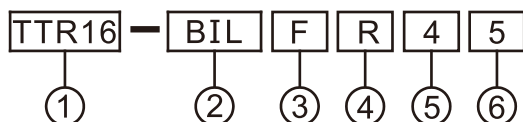


TTR16-PLFL



tend Ø16m/m RECESSED TYPE BUZZER/BUZZER PILOT LAMP TTR16

MODEL DESIGNATION



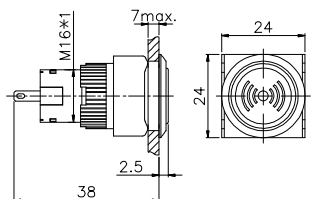
DESIGNATION	CODE	DESCRIPTION
1. Mounting Hole	TTR16	20.2m/m

- 蜂鳴指示燈皆為LED紅色。
- 蜂鳴器的外殼皆為黑色。
- 蜂鳴分貝約80dB以上(10CM)

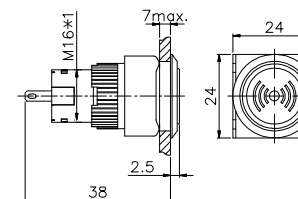
DIMENSIONS

DESIGNATION	CODE	DESCRIPTION
2. Type	BI BC BIL BCL	Intermittent Buzzer Continuous Buzzer Flashing LED with Audible Alarm Continuous LED with Audible Alarm
3. Color	F B	Silver Black
4. Shape	R S L	Round Square Rectangle
5. IP Rating	4	IP40
6. Voltage	5 7 9	6VAC/DC 24VAC/DC 12VAC/DC

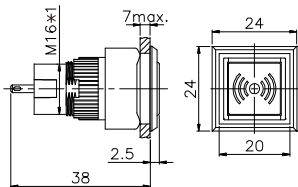
TTR16-BILBR



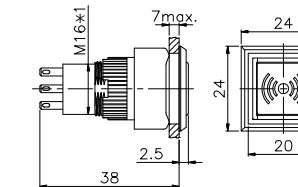
TTR16-BILFR



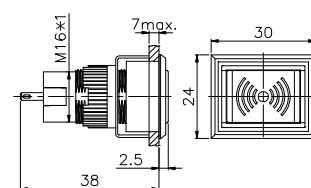
TTR16-BILBS



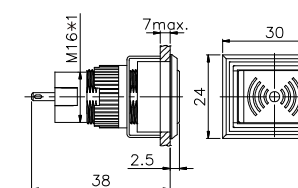
TTR16-BILFS



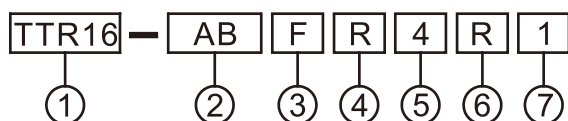
TTR16-BILBL



TTR16-BILFL



MODEL DESIGNATION



DESIGNATION	CODE	DESCRIPTION
1. Mounting Hole	TTR16	20.2m/m
2. Type	AB	Push Button (Alternate)
	MB	Push Button (Momentary)
	MM	Push Button (Momentary) (Mushroom Head)
	BK	Push-Lock Turn-Reset (Mushroom Head)
3. Color of Guard Ring	F	Silver
	B	Black
4. Shape	R	Round
	S	Square
	L	Rectangle
5. IP Rating	4	IP40
	6	IP65
6. Lens Color	R	Red
	G	Green
	O	Orange
	W	White
	BL	Blue
	B	Black
7. Contact Blocks	1	1a1b
	2	2a2b

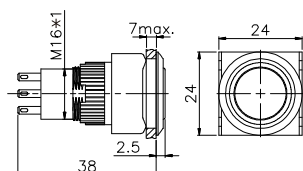
●BK-BKL Only Round and Red
BK-BKL Not Waterproof

CHARACTERISTICS

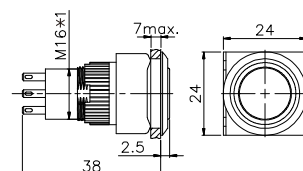
Contact Resistance	50mΩ max (initial)
Insulation Resistance	100MΩ min (At 500VDC)
Dielectric Strength	1000VAC, 50/60Hz for 1 minute between non-continuous terminals 2000 VAC, 50/60 Hz for 1 minute current-carrying part and ground
Vibration	Malfunction Durability: 10 to 55Hz 1.5mm Double Amplitude
Shock	Mechanical Durability: Approx. 500m/sec ² (approx. 50G's) Malfunction Durability: Approx. 500m/sec ² (approx. 50G's)
Ambient Temperature	Operating: -25°C to 55°C Storage: -30°C to 80°C
Humidity	45% to 80% RH
Mechanical Service Life	Momentary: 2,000,000 Alternate/Push-Lock Turn-Reset: 250,000
Electrical Service Life	Momentary: 100,000 (1800 operations/hour) Alternate/Push-Lock Turn-Reset: 100,000 (1200 operations/hour)

DIMENSIONS

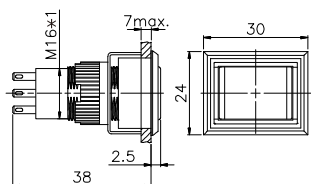
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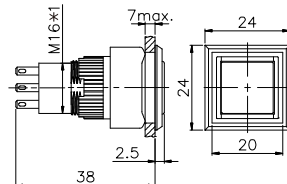
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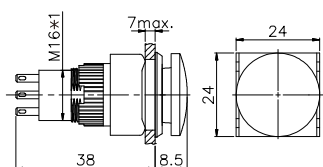
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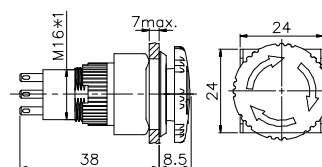
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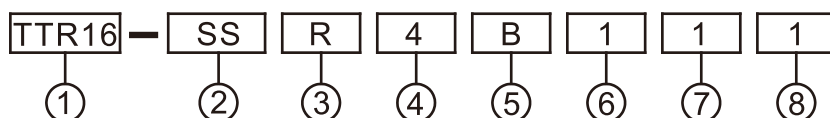
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TTR16-BKLFR



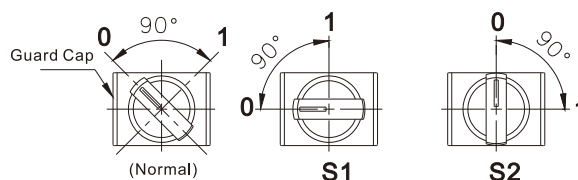
MODEL DESIGNATION



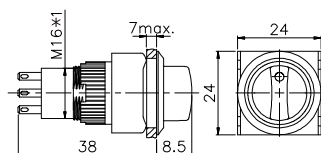
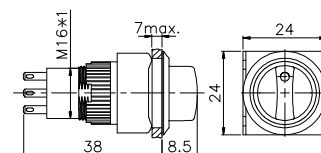
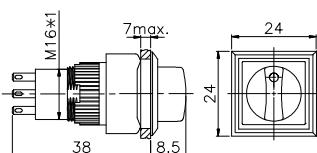
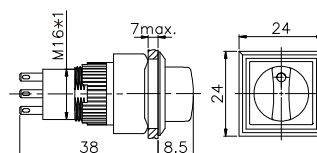
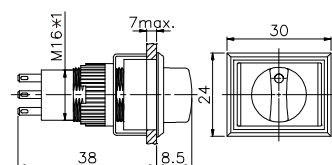
DESIGNATION	CODE	DESCRIPTION
1. Mounting Hole	TTR16	20.2mm/m
2. Type	SS	Selector Switch
3. Color of Guard Ring	F B	Silver Black
4. Shape	R S L	Round Square Rectangle
5. IP Rating	4	IP40
6. Color	R G B	Red Green Black
7. Positions	1	90° 2-Position
	2	90° 2-Position Spring Return from Right
	7	90° 3-Position
	8	90° 3-Position Spring Return from Right

DESIGNATION	CODE	DESCRIPTION	
7. Positions	9	90° 3-Position Spring Return from Left	
	0	90° 3-Position 2-Way Spring Return	
8. Types of Contact Block Fitted		2-Position	3-Position
	1 2	1a1b 2a2b	— 1a1b 0 1a1b

- For variations of the Selector, push out the guard cap upwards. Guard cap can be pressed in according to the below three operating methods.



DIMENSIONS

TTR16-SSBR

TTR16-SSFR

TTR16-SSBS

TTR16-SSFS

TTR16-SSBL

TTR16-SSFL
