

Part Number Description

T	1	2	3	4	5	6	7	8
1 Model	16 : Ø16	19 : Ø19	22 : Ø22	25 : Ø25	30 : Ø30			
2 Operator Type	1 : Pilot Light 6 : 2 Position Key	2 : Momentary Push 7 : 3 Position Key	3 : Maintained Push 8 : Emergency Stop	4 : 2 Position Selector	5 : 3 Position Selector			
3 Illumination & Shape	1 : Non-illuminated Round CL : Continuous(Illuminated)		7 : Illuminated LED Round					
4 Contact Form	0 : No Contact	1 : 1C(1N/O + 1N/C)	2 : 2C(2N/O + 2N/C)					
5 Button Type	No mark : Flush Head P : Power Marking Q : Lit type*	H : Extended (Non-Illuminated) HC : Extended (Illuminated)	A : Dome(Non-Illuminated)* AC : Dome(Illuminated)*					
6 Connection	None : Standard	P : Terminal type	S : Bolt Type*(Only Pilot light)					
7 Color	R : Red K : Black*	G : Green	Y : Yellow	B : Blue	W : White			
8 Rated Voltage	D06 : 6VDC	D12 : 12VDC	D4 : 24VDC	A1 : 110VAC*	A2 : 220VAC			

- ※ * The mark is on demand.
- ※ Bolt type is available only for indicators.
- ※ Black color for each model is on-demand.
- ※ 6VDC (out of Flush Head type), 12VDC (out of Flush Head type) and 110VAC for each model are on-demand.

Ø16

Ø19

Ø22

Ø25

Ø30

Dimension

Caution

Control Switch

T Series Full Metal

General Specification

Type	T16	T19	T22, 25, 30	
General Ratings	Contact Resistance	Max. 50mΩ		
	Insulation Resistance	Min. 100MΩ (500VDC)		
	Dielectric Strength	2,000VAC (1 minute)		
	Vibration Resistance	5 ~ 55Hz dual amplitude : 0.75mm Operation		
	Shock Resistance	Endurance : 500m/s ² , operation : 200m/s ²		
	Life Cycles	Mechanical	Momentary : Min. 1,000,000	
			Maintained : Min. 250,000	
		Electrical	Momentary : Min. 100,000 (frequency of on/off 1,200 times / hour)	
			Maintained : Min. 50,000	
	Ambient Temperature	Temperature : -25°C ~ +55°C (with no icing or condensation)		
	Ambient Humidity	45% ~ 85%RH		
	Degree of Protection	IP67	IP54 : S/S, Emergency Stop	IP40 : Buzzer, Key
Terminal Soldering Temperature	260°C 3sec			
Contact Ratings	Contact Type	1N/O + 1N/C, 2N/O + 2N/C, 1C, 2C		
	Contact Material	Ag alloy (24K gold plate)		
	Rated Insulation Voltage	250VAC		
	Maximum Switching Current	3A	5A	
	Maximum Switching Voltage	250VAC, 110VDC		
	Current Rated	1A 24VDC / 120VAC	3A 24VDC / 120VAC	
		0.5A 250VAC	1.5A 250VAC	
Minimum Switching Current	1mA 5VDC			
Illumination	Lens Color	Red, Green, Yellow, Blue, White, Black		
	Operator type	Round		
	Rated Voltage	6VDC, 12VDC, 24VDC, 110VAC, 220VAC		
	Rated Current	Approx. 10mA		
	Life Cycles ¹⁾	50,000 hours		
Buzzer	Sound Type	Continuous		
	Volume	80dB (Phon) / 0.1m		
	Rated Voltage	24VDC		
	Rated Current	Approx. 15mA		
	Life Cycles	1,000 hours		

1) Luminance is reduced to 50% of initial intensity after being lit for 50,000 hours continuously.

Control Switch

T Series - Ø 22

2-1
Part

Products Selection

	Operator Type	Ø	Contact Form	LED Color	Operator Function	Rated Voltage	Part Number
	2 Position Key Switch Standard	Ø 19	1C	-		-	T19-611P
			2C	-		-	T19-612P
	3 Position Key Switch Standard	Ø 19	2C	-		-	T19-712P
	Emergency Stop Switch Standard	Ø 19	1C	Red	-	-	T19-811P
			2C	Red	-	-	T19-812P
	Emergency Stop Switch Dome Standard	Ø 19	1C	Red	-	-	T19-811AP
			2C	Red	-	-	T19-812AP
	Illuminated LED Buzzer Standard	Ø 19	-	Red	-	24VDC(D4)	T19-CZCLR
	Power Marking Illuminated LED Momentary Push Button Flush head Switch Standard	Ø 19	1C	Red	-	24VDC(D4) 220VAC(A2)	T19-271PPR
				Green	-	T19-271PPG	
	Ø 19	2C	Red	-	24VDC(D4) 220VAC(A2)	T19-272PPR	
			Green	-	T19-272PPG		
	Power Marking Illuminated LED Maintained Push Button Flush head Switch Standard	Ø 19	1C	Red	-	24VDC(D4) 220VAC(A2)	T19-371PPR
				Green	-	T19-371PPG	
	Ø 19	2C	Red	-	24VDC(D4) 220VAC(A2)	T19-372PPR	
			Green	-	T19-372PPG		

Ø 16

Ø 19

Ø 22

Ø 25

Ø 30

Dimension

Caution

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Control Switch

T Series - Ø 22

Products Selection

	Operator Type	Ø	Contact Form	LED Color	Operator Function	Rated Voltage	Part Number	
	Illuminated 2 Position Selector Switch Standard	Ø 22	1N/O + 1N/C	Red		24VDC(D4) 220VAC(A2)	T22-471PR	
				Green			T22-471PG	
				Yellow			T22-471PY	
				Blue			T22-471PB	
				White			T22-471PW	
	Illuminated 3 Position Selector Switch Standard	Ø 22	2C	Red		24VDC(D4) 220VAC(A2)	T22-472PR	
				Green			T22-472PG	
				Yellow			T22-472PY	
				Blue			T22-472PB	
				White			T22-472PW	
	2 Position Key Switch Standard	Ø 22	1N/O + 1N/C	-		-	T22-611P	
			2C	-		-	T22-612P	
	3 Position Key Switch Standard	Ø 22	2C	-		-	-	T22-712P
		Emergency Stop Switch Standard	Ø 22	1N/O + 1N/C	Red	-	-	T22-811P
				2C	Red	-	-	T22-812P
	Illuminated LED Buzzer Standard	Ø 22	-	Red	-	24VDC(D4)	T22-CZLR	

Control Switch

K16 Series

Part Number Description

K16		1	2	3	4	5
Model	K16 Control Switch					
1 Operator Type	1 : Pilot Light	2 : Momentary	3 : Maintained	4 : 2 Position selector	5 : 3 Position selector	6 : 2 Position key
	7 : 3 Position key	8 : Emergency Stop (nominal)	9 : Push mushroom			
2 Illumination & Shape	1 : Non - Illuminated Round	2 : Non - Illuminated Square	3 : Non - Illuminated Rectangular	4 : Non-Illuminated Round(Ø20 Metal)	5 : Illuminated Round(Ø20 Flush Type)	
	7 : Illumination Round (LED)	8 : Illumination Square (LED)	9 : Illumination Rectangular (LED)			
3 Contact Form	0 : No Contact	1 : 1C	2 : 2C			
4 Color	R : Red	G : Green	Y : Yellow	B : Blue	W : White	K : Black
5 Rated Voltage	No mark : Standard (no voltage)	6VDC	12VDC	24VDC	220VAC	
Illuminated Buzzer	K16-CZL (Round - continuous sound)	K16-BZL (Rectangular - continuous sound)	K16-CZL2 (Ø20 Flush Type - continuous sound)			
Non-Illuminated Buzzer	K16-CZ (Round - continuous sound)	K16-BZ (Rectangular - continuous sound)	K16-CZ2 (Ø20 Flush Type - continuous sound)			

⇒ Ø20 : Flush Type

General Specification

Contact Ratings	Contact Form	1C, 2C		
	Contact Material	Ag Alloy (24K gold plate)		
	Maximum Switching Current	3A		
	Maximum Rated Voltage	250VAC, 110VDC		
	Rated Current	1A 24VDC / 120VAC		
		0.5A 250VAC		
LED Module Ratings	Minimum Switching Current	1mA 5VDC		
	Color	Red, Green, Yellow, Blue, White, Black		
	Rated Voltage	6VDC, 24VDC, 12VDC, 220VAC		
	Rated Current	Approx. 10mA		
Buzzer Ratings	Life Cycle ¹⁾	50,000 hrs		
	Tone	Continuous		
	Amplitude	80dB(phon) / 0.1m		65dB(phon) / 1m
		Rated Voltage		
	Rated Current	Approx. 15mA		
Life Cycle	1,000 hours			
General Ratings	Contact Resistance	Max. 50mΩ		
	Insulation Resistance	Min. 100MΩ (500VDC)		
	Dielectric Strength	2,000VAC (1minute)		
	Vibration Resistance	5 ~ 55Hz dual amplitude : 0.75mm		
	Shock Resistance	Endurance : 500m/s ² , Operation : 200m/s ²		
	Life Cycle	Push button (release) : Min. 1,000,000		
		Mechanical	Selector, key : Min. 250,000	
		Electrical	Maintained : Min 50,000 (frequency of on/off 1,200 times / hour)	
	Ambient Temperature	Others : Min. 100,000		
		Others : Min. 100,000		
	Ambient Humidity	-25°C ~ +55°C (with no icing or condensing)		
	Degree Of Protection	45% ~ 85%RH		
	Termination	IP65 waterproof		IP40 : Key, Selector
	Terminal Soldering Temperature	#110 quick-fit / solder		
Operating Characteristic	Terminal Soldering Temperature	260°C 3sec		
	Operator Type	1C	2C	2 Position 3 Position
	OF	250g	450g	1,000g-cm
	RF	30g		-
	PT	2.5mm		-
	SP	-		90 degree 45 degree









1) After 50,000 hours of continuous lighting, the brightness decreases to 50%.

* LED is to be used with DC only. Watch the polarity when using them.

Control Switch

K16 Series - Standard

Products Selection

Operator Type	Shape	Contact Form	Color	Operator Function	Part Number	Rated Voltage
Ø 20 Non-Illuminated Selector Switch - Flush Type 	Round	1C	Black	-	K16-441K	-
		2C	Black	-	K16-442K	-
		2C	Black	-	K16-542K	-
Ø 20 Illuminated Selector Switch - Flush Type 	Round	1C	Red	-	K16-451R	6VDC
			Green		K16-451G	12VDC
			Blue		K16-451B	24VDC
			Yellow		K16-451Y	220VAC
			White		K16-451W	
		2C	Red	-	K16-452R	6VDC
			Green		K16-452G	12VDC
			Blue		K16-452B	24VDC
			Yellow		K16-452Y	220VAC
			White		K16-452W	
		2C	Red	-	K16-552R	6VDC
			Green		K16-552G	12VDC
Blue	K16-552B		24VDC			
Yellow	K16-552Y		220VAC			
White	K16-552W					
Ø 20 Key Switch - Flush Type 	Round	1C			K16-641	-
		2C			K16-642	-
		2C			K16-742	-
Ø 20 Non-Illuminated Buzzer - Flush Type 	Round	-		-	K16-CZ2	24VDC
Ø 20 Illuminated Buzzer - Flush Type 	Round	-		-	K16-CZL2	24VDC

Ø30 Flush Type Buzzer

KPL AL Series - Flush Type



Part Number Description



KPL - **1** **2** AL **3**

1 Operator Type	BZI : Alternating frequency buzzer	BZC : Continuous frequency buzzer		
2 Color	R : Red	G : Green		
3 Rated Voltage	12VAC/DC	24VAC/DC	110VAC/DC	220VAC

General Specification

Current Consumption	20mA
Insulation Resistance	100MΩ 500VDC
Life Cycles	50,000 hrs
Sound Type	Continuous, Alternating frequency
Volume	80dB(Phon) / 1m
Weight	24g
Ambient Temperature	-25°C ~ +55°C (with no icing)
Tightening Torque	0.8N·m (8.16kg·cm)

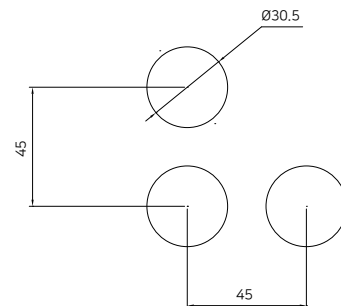
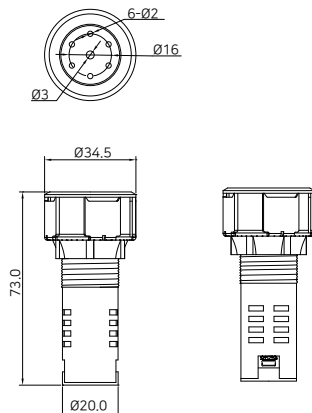
Product Selection

Type	Color	Part Number	Supply Voltage
 Alternating frequency buzzer	Red	KPL-BZIR AL	12VAC/DC
	Green	KPL-BZIG AL	24VAC/DC
			110VAC/DC
			220VAC
 Continuous frequency buzzer	Red	KPL-BZCR AL	12VAC/DC
	Green	KPL-BZCG AL	24VAC/DC
			110VAC/DC
			220VAC

Dimension

Unit : mm **Panel Cut out**

Unit : mm



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