

ø16 LB series Control Units

Standard bezel control units with only a panel depth of 27.9 mm. Removable contact blocks ideal for single board mounting.

- Pushbuttons, selector switches, and key selector switches with up to 3PDT contacts.
- Bright and clear illumination surface. LED illumination.
- Gold-clad, cross-bar contact, or high-capacity silver contacts.
- Protection degree: IP65 (IEC60529)

Applicable Standards	Mark	File No. or Organization
UL508		UL Recognition No.E55996
CSA 22.2 No.14		CSA File No. LR 21451
EN60947-5-1		TÜV Rheinland
		EU Low Voltage Directive
GB14048.5		CCC 2011010305486180

Contact Ratings

Gold Contact (switch base: blue)

Rated Insulation Voltage	250V	
Rated Thermal Current	3A	
Rated Operating Voltage	30V DC	125V AC
Rated Operating Current (resistive load)	0.1A	0.1A
Contact Material	Gold-clad silver	

- Minimum applicable load (reference value): 5V AC/DC, 1 mA
- Applicable range is subject to the operating conditions and load.

Silver Contact (switch base: gray)

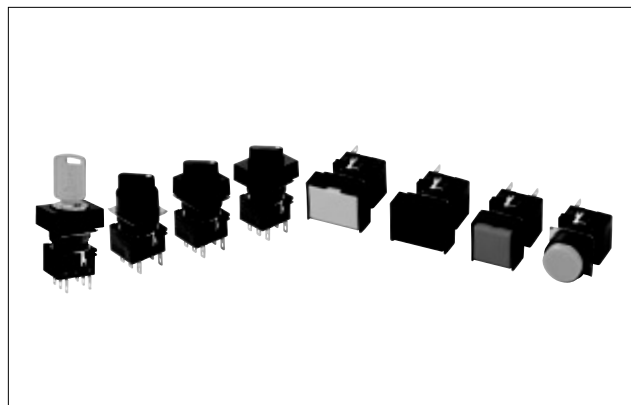
Rated Insulation Voltage				250V		
Rated Operating Voltage				30V	125V	250V
Rated Operating Current	Electrical Life 50,000 operations	AC 50/60Hz	Resistive load	—	5A	5A
			Inductive load	—	3A	1.5A
		DC	Resistive load	5A	1.1A	—
			Inductive load	2.5A	0.55A	—
	Electrical Life 100,000 operations	AC 50/60Hz	Resistive load	—	5A	3A
			Inductive load	—	3A	1.5A
		DC	Resistive load	3A	0.6A	—
			Inductive load	1A	0.22A	—
Rated Thermal Current				5A		
Contact Material				Silver		

- AC inductive load: PF=0.6 to 0.7 DC inductive load: L/R=7 ms max.

LED Ratings

Rated Voltage	5V DC	12V AC/DC	24V AC/DC
Voltage Range	5V DC±5%	12V AC/DC±10%	24V AC/DC±10%
LED Part No.	LB9Z-LED5②	LB9Z-LED1②	LB9Z-LED2②
Current Draw	A, R, W: 22 mA G, PW, S: 16 mA		
Voltage Marking	Marked on the side of the LED unit		
LED Life (reference value)	Approx. 30,000 hours (until the brightness reduces to 50% the initial value when lit at complete direct current the rated voltage under 25°C environment.)		
Internal Circuit	A, PW, R, W		A, PW, R, W
	G, S		G, S

- ② (color code): A (amber), G (green), PW (pure white), R (red), S (blue), W (white)
- Use the pure white (PW) module for yellow illumination.
- LED lamp contains a current-limiting resistor.



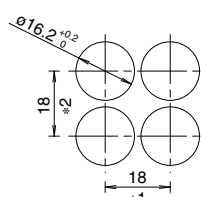
Specifications

Operating Temperature	-25 to +60°C (no freezing) Illuminated units: -25 to +55°C	
Storage Temperature	-30 to +80°C (no freezing)	
Operating Humidity	45 to 85% RH (no condensation)	
Contact Resistance	50 mΩ maximum (initial value)	
Insulation Resistance	100 MΩ minimum (500V DC megger)	
Dielectric Strength	Switch Unit	Between live part and ground: 2,000V AC, 1 minute Between terminals of different poles: 2,000V AC, 1 minute Between terminals of the same poles: 1,000V AC, 1 minute
	Illumination Unit	Between live part and ground: 2,000V AC, 1 minute
Vibration Resistance	Operating extremes/Damage limits: 5 to 55 Hz, amplitude 0.5 mm	
Shock Resistance	Operating extremes: 100 m/s ² Damage limits: 1,000 m/s ²	
Mechanical Life (minimum operations)	Momentary:	2,000,000
	Maintained:	250,000
	Selector switches	250,000
	Key selector switches	250,000
Electrical Life (minimum operations)	Momentary:	50,000 / 100,000 (*1)
	Maintained:	50,000 / 100,000 (*2)
	Selector switches:	50,000 / 100,000 (*2)
	Key selector switches:	50,000 / 100,000 (*2)
Degree of Protection	IP65 (IEC 60529)	
Terminal Style	Solder/tab terminal #110 PC board terminal	
Weight (approx.)	11g (LB3L-M1T24) 10g (LB3P-1T04) 10g (LB3B-M1T2) 12g (LB3S-2T2) 25g (LB3K-2ST2A)	

* 1: Switching frequency 1,800 operations/h.

* 2: Switching frequency 1,200 operations/h.

Mounting Hole Layout



- *1 Rectangular: 24 mm
3PDT: 23.2 mm
- *2 3PDT: 21 mm

Note: When using the LB series with a rubber boot or terminal cover, make sure to note the dimensions on page 126.

Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

ø16 LB series Illuminated Pushbuttons

Round / Square Illuminated Pushbuttons

Package Quantity: 1

Shape	Operation	Contact Material	Operating Voltage	Contact	Part No.		② Color Code
					Solder/Tab Terminal	PC Board Terminal	
Round LB1L  	Momentary	Gold	5V DC	SPDT	LB1L-M1T11②	LB1L-M1T11V②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
				DPDT	LB1L-M1T21②	LB1L-M1T21V②	
			12V AC/DC	SPDT	LB1L-M1T13②	LB1L-M1T13V②	
				DPDT	LB1L-M1T23②	LB1L-M1T23V②	
		Silver	24V AC/DC	SPDT	LB1L-M1T14②	LB1L-M1T14V②	
				DPDT	LB1L-M1T24②	LB1L-M1T24V②	
			5V DC	SPDT	LB1L-M1T51②	—	
				DPDT	LB1L-M1T61②	—	
			12V AC/DC	SPDT	LB1L-M1T53②	—	
				DPDT	LB1L-M1T63②	—	
			24V AC/DC	SPDT	LB1L-M1T54②	—	
				DPDT	LB1L-M1T64②	—	
	Maintained	Gold	5V DC	SPDT	LB1L-A1T11②	LB1L-A1T11V②	
				DPDT	LB1L-A1T21②	LB1L-A1T21V②	
			12V AC/DC	SPDT	LB1L-A1T13②	LB1L-A1T13V②	
				DPDT	LB1L-A1T23②	LB1L-A1T23V②	
		Silver	24V AC/DC	SPDT	LB1L-A1T14②	LB1L-A1T14V②	
				DPDT	LB1L-A1T24②	LB1L-A1T24V②	
			5V DC	SPDT	LB1L-A1T51②	—	
				DPDT	LB1L-A1T61②	—	
			12V AC/DC	SPDT	LB1L-A1T53②	—	
				DPDT	LB1L-A1T63②	—	
			24V AC/DC	SPDT	LB1L-A1T54②	—	
				DPDT	LB1L-A1T64②	—	
Square LB2L  	Momentary	Gold	5V DC	SPDT	LB2L-M1T11②	LB2L-M1T11V②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
				DPDT	LB2L-M1T21②	LB2L-M1T21V②	
			12V AC/DC	SPDT	LB2L-M1T13②	LB2L-M1T13V②	
				DPDT	LB2L-M1T23②	LB2L-M1T23V②	
		Silver	24V AC/DC	SPDT	LB2L-M1T14②	LB2L-M1T14V②	
				DPDT	LB2L-M1T24②	LB2L-M1T24V②	
			5V DC	SPDT	LB2L-M1T51②	—	
				DPDT	LB2L-M1T61②	—	
			12V AC/DC	SPDT	LB2L-M1T53②	—	
				DPDT	LB2L-M1T63②	—	
			24V AC/DC	SPDT	LB2L-M1T54②	—	
				DPDT	LB2L-M1T64②	—	
	Maintained	Gold	5V DC	SPDT	LB2L-A1T11②	LB2L-A1T11V②	
				DPDT	LB2L-A1T21②	LB2L-A1T21V②	
			12V AC/DC	SPDT	LB2L-A1T13②	LB2L-A1T13V②	
				DPDT	LB2L-A1T23②	LB2L-A1T23V②	
		Silver	24V AC/DC	SPDT	LB2L-A1T14②	LB2L-A1T14V②	
				DPDT	LB2L-A1T24②	LB2L-A1T24V②	
			5V DC	SPDT	LB2L-A1T51②	—	
				DPDT	LB2L-A1T61②	—	
			12V AC/DC	SPDT	LB2L-A1T53②	—	
				DPDT	LB2L-A1T63②	—	
			24V AC/DC	SPDT	LB2L-A1T54②	—	
				DPDT	LB2L-A1T64②	—	

- Illuminated pushbuttons contain an LED unit.
- See page 111 for dimensions.
- See page 127 for maintenance LED unit.
- Illuminated pushbuttons can be used with legend markings. Engraving can be done on a marking plate which is placed in the lens, or a clear film can be printed and placed in the lens. See page 129 for details on the marking plate and film.
- When using white lens unit (clear lens + white marking plate) with color codes A, G, R, or S, specify "W" before ② in the Part No.
Example: **LB1L-M1T11W②**

LB Series Illuminated Pushbuttons ø16

Rectangular / Rectangular with 3-sided Barrier Illuminated Pushbuttons

Package Quantity: 1

Shape	Operation	Contact Material	Operating Voltage	Contact	Part No.		② Color Code
					Solder/Tab Terminal	PC Board Terminal	
Rectangular LB3L  	Momentary	Gold	5V DC	SPDT	LB3L-M1T11②	LB3L-M1T11V②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
				DPDT	LB3L-M1T21②	LB3L-M1T21V②	
			12V AC/DC	SPDT	LB3L-M1T13②	LB3L-M1T13V②	
				DPDT	LB3L-M1T23②	LB3L-M1T23V②	
		Silver	24V AC/DC	SPDT	LB3L-M1T14②	LB3L-M1T14V②	
				DPDT	LB3L-M1T24②	LB3L-M1T24V②	
			5V DC	SPDT	LB3L-M1T51②	—	
				DPDT	LB3L-M1T61②	—	
			12V AC/DC	SPDT	LB3L-M1T53②	—	
				DPDT	LB3L-M1T63②	—	
			24V AC/DC	SPDT	LB3L-M1T54②	—	
				DPDT	LB3L-M1T64②	—	
	Maintained	Gold	5V DC	SPDT	LB3L-A1T11②	LB3L-A1T11V②	
				DPDT	LB3L-A1T21②	LB3L-A1T21V②	
			12V AC/DC	SPDT	LB3L-A1T13②	LB3L-A1T13V②	
				DPDT	LB3L-A1T23②	LB3L-A1T23V②	
		Silver	24V AC/DC	SPDT	LB3L-A1T14②	LB3L-A1T14V②	
				DPDT	LB3L-A1T24②	LB3L-A1T24V②	
			5V DC	SPDT	LB3L-A1T51②	—	
				DPDT	LB3L-A1T61②	—	
			12V AC/DC	SPDT	LB3L-A1T53②	—	
				DPDT	LB3L-A1T63②	—	
			24V AC/DC	SPDT	LB3L-A1T54②	—	
				DPDT	LB3L-A1T64②	—	
Rectangular with 3-sided Barrier LB4L  	Momentary	Gold	5V DC	SPDT	LB4L-M1T11②	LB4L-M1T11V②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
				DPDT	LB4L-M1T21②	LB4L-M1T21V②	
			12V AC/DC	SPDT	LB4L-M1T13②	LB4L-M1T13V②	
				DPDT	LB4L-M1T23②	LB4L-M1T23V②	
		Silver	24V AC/DC	SPDT	LB4L-M1T14②	LB4L-M1T14V②	
				DPDT	LB4L-M1T24②	LB4L-M1T24V②	
			5V DC	SPDT	LB4L-M1T51②	—	
				DPDT	LB4L-M1T61②	—	
			12V AC/DC	SPDT	LB4L-M1T53②	—	
				DPDT	LB4L-M1T63②	—	
			24V AC/DC	SPDT	LB4L-M1T54②	—	
				DPDT	LB4L-M1T64②	—	
	Maintained	Gold	5V DC	SPDT	LB4L-A1T11②	LB4L-A1T11V②	
				DPDT	LB4L-A1T21②	LB4L-A1T21V②	
			12V AC/DC	SPDT	LB4L-A1T13②	LB4L-A1T13V②	
				DPDT	LB4L-A1T23②	LB4L-A1T23V②	
		Silver	24V AC/DC	SPDT	LB4L-A1T14②	LB4L-A1T14V②	
				DPDT	LB4L-A1T24②	LB4L-A1T24V②	
			5V DC	SPDT	LB4L-A1T51②	—	
				DPDT	LB4L-A1T61②	—	
			12V AC/DC	SPDT	LB4L-A1T53②	—	
				DPDT	LB4L-A1T63②	—	
			24V AC/DC	SPDT	LB4L-A1T54②	—	
				DPDT	LB4L-A1T64②	—	

- Illuminated pushbuttons contain an LED unit.
- See page 111 for dimensions.
- See page 127 for maintenance LED unit.
- Illuminated pushbuttons can be used with legend markings. Engraving can be done on a marking plate which is placed in the lens, or a clear film can be printed and placed in the lens. See page 129 for details on the marking plate and film.
- When using white lens unit (clear lens + white marking plate) with color codes A, G, R, or S, specify "W" before ② in the Part No.
Example: **LB3L-M1T11W②**

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

ø16 **LB Series Pilot Lights**

Pilot Lights

Package Quantity: 1

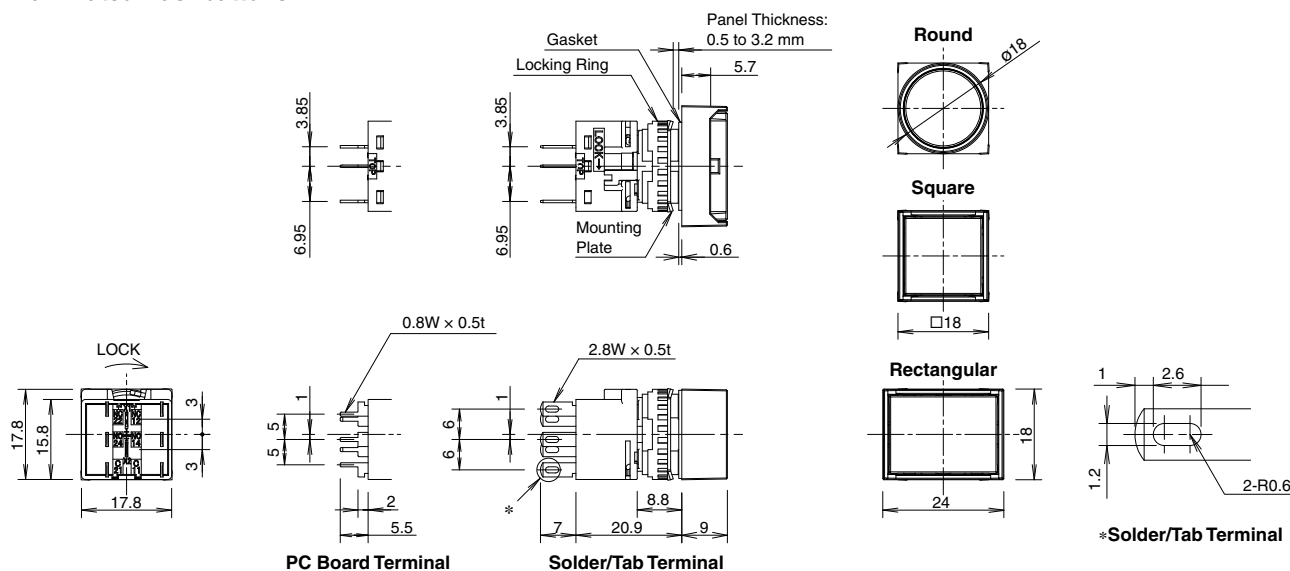
Shape	Operating Voltage	Part No.		② Color Code
		Solder/Tab Terminal	PC Board Terminal	
Round LB1P  	5V DC	LB1P-1T01 ②	LB1P-1T01V ②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
	12V AC/DC	LB1P-1T03 ②	LB1P-1T03V ②	
	24V AC/DC	LB1P-1T04 ②	LB1P-1T04V ②	
Square LB2P  	5V DC	LB2P-1T01 ②	LB2P-1T01V ②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
	12V AC/DC	LB2P-1T03 ②	LB2P-1T03V ②	
	24V AC/DC	LB2P-1T04 ②	LB2P-1T04V ②	
Rectangular LB3P  	5V DC	LB3P-1T01 ②	LB3P-1T01V ②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
	12V AC/DC	LB3P-1T03 ②	LB3P-1T03V ②	
	24V AC/DC	LB3P-1T04 ②	LB3P-1T04V ②	
Rectangular with 3-sided Barrier LB4P  	5V DC	LB4P-1T01 ②	LB4P-1T01V ②	Specify the color code in place of ② in the Part No.: A: amber G: green PW: pure white R: red S: blue W: white Y: yellow
	12V AC/DC	LB4P-1T03 ②	LB4P-1T03V ②	
	24V AC/DC	LB4P-1T04 ②	LB4P-1T04V ②	

- Illuminated pushbuttons contain an LED unit.
- See page 111 for dimensions.
- See page 127 for maintenance LED unit.
- When using white lens unit (clear lens + white marking plate) with color codes A, G, R, or S, specify "W" before ② in the Part No.
Example: **LB6P-1T01W**②

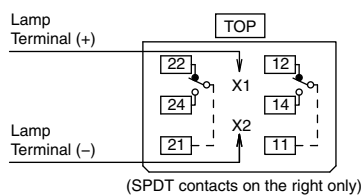
LB Series Illuminated Pushbuttons / Pilot Lights ø16

Dimensions

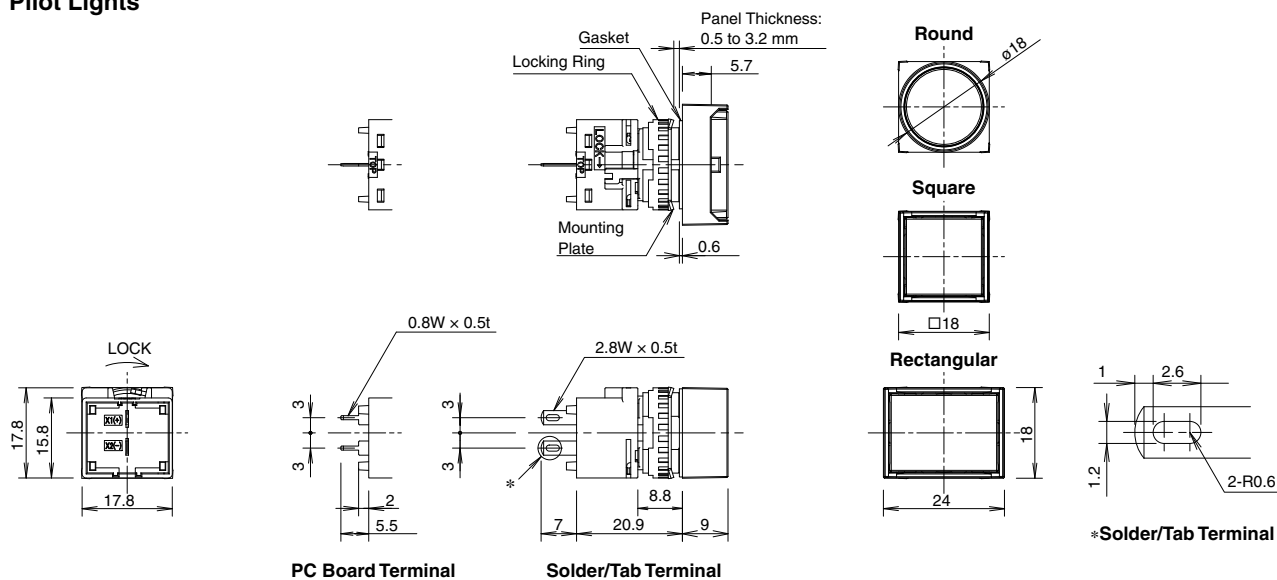
Illuminated Pushbuttons



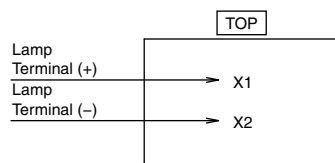
Terminal Arrangement (Bottom View)



Pilot Lights



Terminal Arrangement (Bottom View)



- For details on mounting hole layout, see page 107.
- For details on single board mounting, see page 132.

All dimensions in mm.

Flush Silhouette
Switches & Pilot Lights
Display Lights
LED Illumination Units
Display Units
Safety Products
Terminal Blocks
Comm. Terminals
AS-Interface
Relays & Timers
Sockets
Circuit Protectors
Power Supplies
PLCs & SmartRelay
Operator Interfaces
Sensors
Control Stations
Explosion Protection
References

ø16 LB series Pushbuttons

Round / Square Pushbuttons

Package Quantity: 1

Shape	Button Style	Operation	Contact Material	Contact	Part No.		①② Color Code
					Solder/Tab Terminal	PC Board Terminal	
Round LB1B  	Button	Momentary	Gold	SPDT	LB1B-M1T1①	LB1B-M1T1V①	Specify the color code in place of ① in the Part No.: B: black G: green R: red S: blue W: white Y: yellow
				DPDT	LB1B-M1T2①	LB1B-M1T2V①	
				3PDT	LB1B-M1T3①	LB1B-M1T3V①	
			Silver	SPDT	LB1B-M1T5①	—	
				DPDT	LB1B-M1T6①	—	
				3PDT	LB1B-M1T7①	—	
		Maintained	Gold	SPDT	LB1B-A1T1①	LB1B-A1T1V①	
				DPDT	LB1B-A1T2①	LB1B-A1T2V①	
				3PDT	LB1B-A1T3①	LB1B-A1T3V①	
			Silver	SPDT	LB1B-A1T5①	—	
				DPDT	LB1B-A1T6①	—	
				3PDT	LB1B-A1T7①	—	
	Lens	Momentary	Gold	SPDT	LB1B-M1T1L②	LB1B-M1T1VL②	Specify the color code in place of ② in the Part No.: A: amber G: green R: red S: blue W: white Y: yellow
				DPDT	LB1B-M1T2L②	LB1B-M1T2VL②	
				3PDT	LB1B-M1T3L②	LB1B-M1T3VL②	
			Silver	SPDT	LB1B-M1T5L②	—	
				DPDT	LB1B-M1T6L②	—	
				3PDT	LB1B-M1T7L②	—	
		Maintained	Gold	SPDT	LB1B-A1T1L②	LB1B-A1T1VL②	
				DPDT	LB1B-A1T2L②	LB1B-A1T2VL②	
				3PDT	LB1B-A1T3L②	LB1B-A1T3VL②	
			Silver	SPDT	LB1B-A1T5L②	—	
				DPDT	LB1B-A1T6L②	—	
				3PDT	LB1B-A1T7L②	—	
Square LB2B  	Button	Momentary	Gold	SPDT	LB2B-M1T1①	LB2B-M1T1V①	Specify the color code in place of ① in the Part No.: B: black G: green R: red S: blue W: white Y: yellow
				DPDT	LB2B-M1T2①	LB2B-M1T2V①	
				3PDT	LB2B-M1T3①	LB2B-M1T3V①	
			Silver	SPDT	LB2B-M1T5①	—	
				DPDT	LB2B-M1T6①	—	
				3PDT	LB2B-M1T7①	—	
		Maintained	Gold	SPDT	LB2B-A1T1①	LB2B-A1T1V①	
				DPDT	LB2B-A1T2①	LB2B-A1T2V①	
				3PDT	LB2B-A1T3①	LB2B-A1T3V①	
			Silver	SPDT	LB2B-A1T5①	—	
				DPDT	LB2B-A1T6①	—	
				3PDT	LB2B-A1T7①	—	
	Lens	Momentary	Gold	SPDT	LB2B-M1T1L②	LB2B-M1T1VL②	Specify the color code in place of ② in the Part No.: A: amber G: green R: red S: blue W: white Y: yellow
				DPDT	LB2B-M1T2L②	LB2B-M1T2VL②	
				3PDT	LB2B-M1T3L②	LB2B-M1T3VL②	
			Silver	SPDT	LB2B-M1T5L②	—	
				DPDT	LB2B-M1T6L②	—	
				3PDT	LB2B-M1T7L②	—	
		Maintained	Gold	SPDT	LB2B-A1T1L②	LB2B-A1T1VL②	
				DPDT	LB2B-A1T2L②	LB2B-A1T2VL②	
				3PDT	LB2B-A1T3L②	LB2B-A1T3VL②	
			Silver	SPDT	LB2B-A1T5L②	—	
				DPDT	LB2B-A1T6L②	—	
				3PDT	LB2B-A1T7L②	—	

- See page 114 for dimensions.
- Lens style buttons can be used with legend markings. Engraving can be done on a marking plate which is placed in the lens, or a clear film can be printed and placed in the lens. For details on the marking plate and film, see page 129.
- Black is available for lens style buttons. Black lens consists of a clear lens and a black marking plate. Specify “B” in place of ② in the Part No.
Example: **LB1B-M1T1LB**

LB Series Pushbuttons **ø16****Rectangular / Rectangular with 3-sided Barrier Pushbuttons**

Package Quantity: 1

Shape	Button Style	Operation	Contact Material	Contact	Part No.		①② Color Code
					Solder/Tab Terminal	PC Board Terminal	
Rectangular LB3B  	Button	Momentary	Gold	SPDT	LB3B-M1T1①	LB3B-M1T1V①	Specify the color code in place of ① in the Part No.: B: black G: green R: red S: blue W: white Y: yellow
				DPDT	LB3B-M1T2①	LB3B-M1T2V①	
				SPDT	LB3B-M1T3①	LB3B-M1T3V①	
			Silver	DPDT	LB3B-M1T5①	—	
				SPDT	LB3B-M1T6①	—	
				DPDT	LB3B-M1T7①	—	
		Maintained	Gold	SPDT	LB3B-A1T1①	LB3B-A1T1V①	
				DPDT	LB3B-A1T2①	LB3B-A1T2V①	
				SPDT	LB3B-A1T3①	LB3B-A1T3V①	
			Silver	DPDT	LB3B-A1T5①	—	
				SPDT	LB3B-A1T6①	—	
				DPDT	LB3B-A1T7①	—	
	Lens	Momentary	Gold	SPDT	LB3B-M1T1L②	LB3B-M1T1VL②	Specify the color code in place of ② in the Part No.: A: amber G: green R: red S: blue W: white Y: yellow
				DPDT	LB3B-M1T2L②	LB3B-M1T2VL②	
				SPDT	LB3B-M1T3L②	LB3B-M1T3VL②	
			Silver	DPDT	LB3B-M1T5L②	—	
				SPDT	LB3B-M1T6L②	—	
				DPDT	LB3B-M1T7L②	—	
		Maintained	Gold	SPDT	LB3B-A1T1L②	LB3B-A1T1VL②	
				DPDT	LB3B-A1T2L②	LB3B-A1T2VL②	
				SPDT	LB3B-A1T3L②	LB3B-A1T3VL②	
			Silver	DPDT	LB3B-A1T5L②	—	
				SPDT	LB3B-A1T6L②	—	
				DPDT	LB3B-A1T7L②	—	
Rectangular with 3-sided Barrier LB4B  	Button	Momentary	Gold	SPDT	LB4B-M1T1①	LB4B-M1T1V①	Specify the color code in place of ① in the Part No.: B: black G: green R: red S: blue W: white Y: yellow
				DPDT	LB4B-M1T2①	LB4B-M1T2V①	
				SPDT	LB4B-M1T3①	LB4B-M1T3V①	
			Silver	DPDT	LB4B-M1T5①	—	
				SPDT	LB4B-M1T6①	—	
				DPDT	LB4B-M1T7①	—	
		Maintained	Gold	SPDT	LB4B-A1T1①	LB4B-A1T1V①	
				DPDT	LB4B-A1T2①	LB4B-A1T2V①	
				SPDT	LB4B-A1T3①	LB4B-A1T3V①	
			Silver	DPDT	LB4B-A1T5①	—	
				SPDT	LB4B-A1T6①	—	
				DPDT	LB4B-A1T7①	—	
	Lens	Momentary	Gold	SPDT	LB4B-M1T1L②	LB4B-M1T1VL②	Specify the color code in place of ② in the Part No.: A: amber G: green R: red S: blue W: white Y: yellow
				DPDT	LB4B-M1T2L②	LB4B-M1T2VL②	
				SPDT	LB4B-M1T3L②	LB4B-M1T3VL②	
			Silver	DPDT	LB4B-M1T5L②	—	
				SPDT	LB4B-M1T6L②	—	
				DPDT	LB4B-M1T7L②	—	
		Maintained	Gold	SPDT	LB4B-A1T1L②	LB4B-A1T1VL②	
				DPDT	LB4B-A1T2L②	LB4B-A1T2VL②	
				SPDT	LB4B-A1T3L②	LB4B-A1T3VL②	
			Silver	DPDT	LB4B-A1T5L②	—	
				SPDT	LB4B-A1T6L②	—	
				DPDT	LB4B-A1T7L②	—	

- See page 114 for dimensions.
- Lens style buttons can be used with legend markings. Engraving can be done on a marking plate which is placed in the lens, or a clear film can be printed and placed in the lens. For details on the marking plate and film, see page 129.
- Black is available for Lens style buttons. Black lens consist of a clear lens and a black marking plate. Specify "B" in place of ② in the Part No.
Example: **LB3B-M1T1LB**

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

LB Series Selector Switches **ø16**

Round / Square Selector Switches

Package Quantity: 1

Shape	Operator Position		Contact		Part No.	
					Solder/Tab Terminal	PC Board Terminal
Round LB1S  	90° 2-position	Maintained 	Gold	SPDT	LB1S-2T1	LB1S-2T1V
				DPDT	LB1S-2T2	LB1S-2T2V
				3PDT	LB1S-2T3	LB1S-2T3V
			Silver	SPDT	LB1S-2T5	—
				DPDT	LB1S-2T6	—
				3PDT	LB1S-2T7	—
		Spring return from right 	Gold	SPDT	LB1S-21T1	LB1S-21T1V
				DPDT	LB1S-21T2	LB1S-21T2V
				3PDT	LB1S-21T3	LB1S-21T3V
			Silver	SPDT	LB1S-21T5	—
				DPDT	LB1S-21T6	—
				3PDT	LB1S-21T7	—
	45° 3-position	Maintained 	Gold	DPDT	LB1S-3T2	LB1S-3T2V
				3PDT	LB1S-3T3	LB1S-3T3V
				DPDT	LB1S-3T6	—
			Silver	3PDT	LB1S-3T7	—
		Spring return from right 	Gold	DPDT	LB1S-31T2	LB1S-31T2V
				3PDT	LB1S-31T3	LB1S-31T3V
				DPDT	LB1S-31T6	—
			Silver	3PDT	LB1S-31T7	—
		Spring return from left 	Gold	DPDT	LB1S-32T2	LB1S-32T2V
				3PDT	LB1S-32T3	LB1S-32T3V
				DPDT	LB1S-32T6	—
			Silver	3PDT	LB1S-32T7	—
		Spring return two-way 	Gold	DPDT	LB1S-33T2	LB1S-33T2V
				3PDT	LB1S-33T3	LB1S-33T3V
				DPDT	LB1S-33T6	—
			Silver	3PDT	LB1S-33T7	—
Square LB2S  	90° 2-position	Maintained 	Gold	SPDT	LB2S-2T1	LB2S-2T1V
				DPDT	LB2S-2T2	LB2S-2T2V
				3PDT	LB2S-2T3	LB2S-2T3V
			Silver	SPDT	LB2S-2T5	—
				DPDT	LB2S-2T6	—
				3PDT	LB2S-2T7	—
		Spring return from right 	Gold	SPDT	LB2S-21T1	LB2S-21T1V
				DPDT	LB2S-21T2	LB2S-21T2V
				3PDT	LB2S-21T3	LB2S-21T3V
			Silver	SPDT	LB2S-21T5	—
				DPDT	LB2S-21T6	—
				3PDT	LB2S-21T7	—
	45° 3-position	Maintained 	Gold	DPDT	LB2S-3T2	LB2S-3T2V
				3PDT	LB2S-3T3	LB2S-3T3V
				DPDT	LB2S-3T6	—
			Silver	3PDT	LB2S-3T7	—
		Spring return from right 	Gold	DPDT	LB2S-31T2	LB2S-31T2V
				3PDT	LB2S-31T3	LB2S-31T3V
				DPDT	LB2S-31T6	—
			Silver	3PDT	LB2S-31T7	—
		Spring return from left 	Gold	DPDT	LB2S-32T2	LB2S-32T2V
				3PDT	LB2S-32T3	LB2S-32T3V
				DPDT	LB2S-32T6	—
			Silver	3PDT	LB2S-32T7	—
		Spring return two-way 	Gold	DPDT	LB2S-33T2	LB2S-33T2V
				3PDT	LB2S-33T3	LB2S-33T3V
				DPDT	LB2S-33T6	—
			Silver	3PDT	LB2S-33T7	—

- For dimensions, see page 123.
- Lever operators are also available. To order lever operators, add the letter "L" before "T" in the Part No.

Example: **LB1S-2T1** → **LB1S-2LT1**
 (knob) (lever)



ø16 LB Series Selector Switches

Rectangular Selector Switches

Package Quantity: 1

Shape	Operator Position		Contact		Part No.	
					Solder/Tab Terminal	PC Board Terminal
Rectangular LB3S 	90° 2-position	Maintained 	Gold	SPDT	LB3S-2T1	LB3S-2T1V
				DPDT	LB3S-2T2	LB3S-2T2V
				3PDT	LB3S-2T3	LB3S-2T3V
			Silver	SPDT	LB3S-2T5	—
				DPDT	LB3S-2T6	—
				3PDT	LB3S-2T7	—
		Spring return from right 	Gold	SPDT	LB3S-21T1	LB3S-21T1V
				DPDT	LB3S-21T2	LB3S-21T2V
				3PDT	LB3S-21T3	LB3S-21T3V
			Silver	SPDT	LB3S-21T5	—
				DPDT	LB3S-21T6	—
				3PDT	LB3S-21T7	—
	45° 3-position	Maintained 	Gold	DPDT	LB3S-3T2	LB3S-3T2V
				3PDT	LB3S-3T3	LB3S-3T3V
			Silver	DPDT	LB3S-3T6	—
				3PDT	LB3S-3T7	—
		Spring return from right 	Gold	DPDT	LB3S-31T2	LB3S-31T2V
				3PDT	LB3S-31T3	LB3S-31T3V
			Silver	DPDT	LB3S-31T6	—
				3PDT	LB3S-31T7	—
		Spring return from left 	Gold	DPDT	LB3S-32T2	LB3S-32T2V
				3PDT	LB3S-32T3	LB3S-32T3V
			Silver	DPDT	LB3S-32T6	—
				3PDT	LB3S-32T7	—
		Spring return two-way 	Gold	DPDT	LB3S-33T2	LB3S-33T2V
				3PDT	LB3S-33T3	LB3S-33T3V
			Silver	DPDT	LB3S-33T6	—
				3PDT	LB3S-33T7	—

- For dimensions, see page 123.
- Lever operators are also available. To order lever operators, add the letter “L” before “T” in the Part No.

Example: **LB3S-2T1** → **LB3S-2LT1**
(knob) (lever)



Lever Operator

Contact Operation

Operator Position & Contact Operation (Top View)					
Position		Contact	↖ Left	↑ Center	↗ Right
90° 2-position		SPDT			
		DPDT			
		3PDT			
45° 3-position		DPDT			
		3PDT			

LB Series Key Selector Switches ø16

Round Key Selector Switches

Package Quantity: 1

Shape	Operator Position		Key retained at ●		Contact	Part No.	
						Solder/Tab Terminal	PC Board Terminal
Round LB1K 	90° 2-position	Maintained	A		Gold	SPDT LB1K-2T1A	LB1K-2T1VA
						DPDT LB1K-2T2A	LB1K-2T2VA
						3PDT LB1K-2T3A	LB1K-2T3VA
					Silver	SPDT LB1K-2T5A	—
						DPDT LB1K-2T6A	—
						3PDT LB1K-2T7A	—
			B		Gold	SPDT LB1K-2T1B	LB1K-2T1VB
						DPDT LB1K-2T2B	LB1K-2T2VB
						3PDT LB1K-2T3B	LB1K-2T3VB
					Silver	SPDT LB1K-2T5B	—
						DPDT LB1K-2T6B	—
						3PDT LB1K-2T7B	—
			C		Gold	SPDT LB1K-2T1C	LB1K-2T1VC
						DPDT LB1K-2T2C	LB1K-2T2VC
						3PDT LB1K-2T3C	LB1K-2T3VC
					Silver	SPDT LB1K-2T5C	—
						DPDT LB1K-2T6C	—
						3PDT LB1K-2T7C	—
	45° 3-position	Spring return from right	B		Gold	SPDT LB1K-2T1B	LB1K-2T1VB
						DPDT LB1K-2T2B	LB1K-2T2VB
						3PDT LB1K-2T3B	LB1K-2T3VB
					Silver	SPDT LB1K-2T5B	—
						DPDT LB1K-2T6B	—
						3PDT LB1K-2T7B	—
			A		Gold	DPDT LB1K-3T2A	LB1K-3T2VA
						3PDT LB1K-3T3A	LB1K-3T3VA
					Silver	DPDT LB1K-3T6A	—
						3PDT LB1K-3T7A	—
			B		Gold	DPDT LB1K-3T2B	LB1K-3T2VB
						3PDT LB1K-3T3B	LB1K-3T3VB
					Silver	DPDT LB1K-3T6B	—
						3PDT LB1K-3T7B	—
			C		Gold	DPDT LB1K-3T2C	LB1K-3T2VC
						3PDT LB1K-3T3C	LB1K-3T3VC
					Silver	DPDT LB1K-3T6C	—
						3PDT LB1K-3T7C	—
			D		Gold	DPDT LB1K-3T2D	LB1K-3T2VD
						3PDT LB1K-3T3D	LB1K-3T3VD
					Silver	DPDT LB1K-3T6D	—
						3PDT LB1K-3T7D	—
			E		Gold	DPDT LB1K-3T2E	LB1K-3T2VE
						3PDT LB1K-3T3E	LB1K-3T3VE
					Silver	DPDT LB1K-3T6E	—
						3PDT LB1K-3T7E	—
			G		Gold	DPDT LB1K-3T2G	LB1K-3T2VG
						3PDT LB1K-3T3G	LB1K-3T3VG
					Silver	DPDT LB1K-3T6G	—
						3PDT LB1K-3T7G	—
			H		Gold	DPDT LB1K-3T2H	LB1K-3T2VH
						3PDT LB1K-3T3H	LB1K-3T3VH
					Silver	DPDT LB1K-3T6H	—
						3PDT LB1K-3T7H	—

- Key is retained at ● and removable at ○ positions.
- Two keys are supplied.
- For dimensions, see page 124.
- Wave keys also available.

Add the letter "S" before the "T" in the part no. Example: **LB1K-2ST1A**

Besides the standard key (key number 0H), six other keys are available.

To order other keys, specify the key number as shown below:

Example: **LB1K-2ST1A-1H**

(blank): Standard key (0H)
 1H to 2H: Reversible key
 3H to 6H: Non-reversible key

Note:
 Key number is indicated on the key cylinder.
 Standard keys do not have a key number indication.

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

ø16 LB Series Key Selector Switches

Round Key Selector Switches

Package Quantity: 1

Shape	Operator Position	Key retained at ●	Contact	Part No.				
				Solder/Tab Terminal	PC Board Terminal			
Round LB1K  	45° 3-position	Spring return from right	B		Gold	DPDT	LB1K-31T2B	LB1K-31T2VB
					3PDT	LB1K-31T3B	LB1K-31T3VB	
				Silver	DPDT	LB1K-31T6B	—	
					3PDT	LB1K-31T7B	—	
			D		Gold	DPDT	LB1K-31T2D	LB1K-31T2VD
					3PDT	LB1K-31T3D	LB1K-31T3VD	
				Silver	DPDT	LB1K-31T6D	—	
					3PDT	LB1K-31T7D	—	
			G		Gold	DPDT	LB1K-31T2G	LB1K-31T2VG
					3PDT	LB1K-31T3G	LB1K-31T3VG	
				Silver	DPDT	LB1K-31T6G	—	
					3PDT	LB1K-31T7G	—	
		Spring return from left	C		Gold	DPDT	LB1K-32T2C	LB1K-32T2VC
					3PDT	LB1K-32T3C	LB1K-32T3VC	
				Silver	DPDT	LB1K-32T6C	—	
					3PDT	LB1K-32T7C	—	
			D		Gold	DPDT	LB1K-32T2D	LB1K-32T2VD
					3PDT	LB1K-32T3D	LB1K-32T3VD	
				Silver	DPDT	LB1K-32T6D	—	
					3PDT	LB1K-32T7D	—	
			H		Gold	DPDT	LB1K-32T2H	LB1K-32T2VH
					3PDT	LB1K-32T3H	LB1K-32T3VH	
				Silver	DPDT	LB1K-32T6H	—	
					3PDT	LB1K-32T7H	—	
Spring return two-way	D		Gold	DPDT	LB1K-33T2D	LB1K-33T2VD		
			3PDT	LB1K-33T3D	LB1K-33T3VD			
			Silver	DPDT	LB1K-33T6D	—		
				3PDT	LB1K-33T7D	—		

- Key is retained at ● and removable at ○ positions.
 - Two keys are supplied.
 - For dimensions, see page 124.
 - Wave keys also available.
- Add the letter "S" before the "T" in the part no. Example: **LB1K-31ST1A**
- Besides the standard key (key number 0H), six other keys are available.
- To order other keys, specify the key number as shown below:
- Example: **LB1K-31ST2B-1H**

- (blank): Standard key (0H)
- 1H to 2H: Reversible key
- 3H to 6H: Non-reversible key

Note:
Key number is indicated on the key cylinder.
Standard keys do not have a key number indication.

Contact Operation

Operator Position & Contact Operation (Top View)					
Position		Contact	↙ Left	↑ Center	↘ Right
90° 2-position	 Maintained Spring return from right	SPDT			
		DPDT			
		3PDT			
45° 3-position	 Maintained Spring return from right Spring return from left Spring return two-way	DPDT			
		3PDT			

LB Series Key Selector Switches ø16

Square Key Selector Switches

Package Quantity: 1

Shape	Operator Position		Key retained at ●		Contact	Part No.					
						Solder/Tab Terminal	PC Board Terminal				
Square LB2K  	90° 2-position	Maintained	A		Gold	SPDT	LB2K-2T1A	LB2K-2T1VA			
						DPDT	LB2K-2T2A	LB2K-2T2VA			
						3PDT	LB2K-2T3A	LB2K-2T3VA			
					Silver	SPDT	LB2K-2T5A	—			
						DPDT	LB2K-2T6A	—			
						3PDT	LB2K-2T7A	—			
			B		Gold	SPDT	LB2K-2T1B	LB2K-2T1VB			
						DPDT	LB2K-2T2B	LB2K-2T2VB			
						3PDT	LB2K-2T3B	LB2K-2T3VB			
					Silver	SPDT	LB2K-2T5B	—			
						DPDT	LB2K-2T6B	—			
						3PDT	LB2K-2T7B	—			
		C		Gold	SPDT	LB2K-2T1C	LB2K-2T1VC				
					DPDT	LB2K-2T2C	LB2K-2T2VC				
					3PDT	LB2K-2T3C	LB2K-2T3VC				
				Silver	SPDT	LB2K-2T5C	—				
					DPDT	LB2K-2T6C	—				
					3PDT	LB2K-2T7C	—				
	Spring return from right	B		Gold	SPDT	LB2K-2T1B	LB2K-2T1VB				
					DPDT	LB2K-2T2B	LB2K-2T2VB				
					3PDT	LB2K-2T3B	LB2K-2T3VB				
				Silver	SPDT	LB2K-2T5B	—				
					DPDT	LB2K-2T6B	—				
					3PDT	LB2K-2T7B	—				
				45° 3-position	Maintained	A		Gold	DPDT	LB2K-3T2A	LB2K-3T2VA
									3PDT	LB2K-3T3A	LB2K-3T3VA
									Silver	DPDT	LB2K-3T6A
								3PDT		LB2K-3T7A	—
	B		Gold					DPDT		LB2K-3T2B	LB2K-3T2VB
								3PDT	LB2K-3T3B	LB2K-3T3VB	
			Silver			DPDT	LB2K-3T6B	—			
						3PDT	LB2K-3T7B	—			
	C		Gold			DPDT	LB2K-3T2C	LB2K-3T2VC			
						3PDT	LB2K-3T3C	LB2K-3T3VC			
			Silver			DPDT	LB2K-3T6C	—			
						3PDT	LB2K-3T7C	—			
	D		Gold			DPDT	LB2K-3T2D	LB2K-3T2VD			
						3PDT	LB2K-3T3D	LB2K-3T3VD			
			Silver			DPDT	LB2K-3T6D	—			
						3PDT	LB2K-3T7D	—			
	E		Gold			DPDT	LB2K-3T2E	LB2K-3T2VE			
						3PDT	LB2K-3T3E	LB2K-3T3VE			
			Silver			DPDT	LB2K-3T6E	—			
						3PDT	LB2K-3T7E	—			
	G		Gold			DPDT	LB2K-3T2G	LB2K-3T2VG			
						3PDT	LB2K-3T3G	LB2K-3T3VG			
			Silver			DPDT	LB2K-3T6G	—			
						3PDT	LB2K-3T7G	—			
	H		Gold			DPDT	LB2K-3T2H	LB2K-3T2VH			
						3PDT	LB2K-3T3H	LB2K-3T3VH			
			Silver			DPDT	LB2K-3T6H	—			
						3PDT	LB2K-3T7H	—			

- Key is retained at ● and removable at ○ positions.
- Two keys are supplied.
- For dimensions, see page 124.
- Wave keys also available.

Add the letter "S" before the "T" in the part no. Example: **LB2K-2ST1A**

Besides the standard key (key number 0H) six other keys are available.

To order other keys, specify the key number as shown below:

Example: **LB2K-2ST1A-1H**

(blank): Standard key (0H)
1H to 2H: Reversible key
3H to 6H: Non-reversible key

Note:
Key number is indicated on the key cylinder.
Standard keys do not have a key number indication.

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

ø16 LB series Key Selector Switches

Square Key Selector Switches

Package Quantity: 1

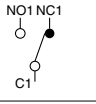
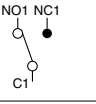
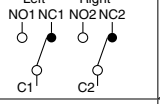
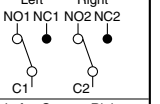
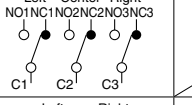
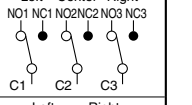
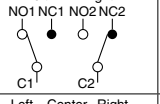
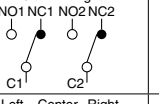
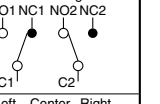
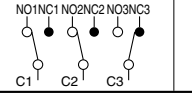
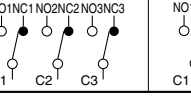
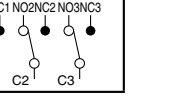
Shape	Operator Position	Key retained at ●	Contact	Part No.				
				Solder/Tab Terminal	PC Board Terminal			
Square LB2K  	45° 3-position	Spring return from right	B		Gold	DPDT 3PDT	LB2K-31T2B LB2K-31T3B	LB2K-31T2VB LB2K-31T3VB
					Silver	DPDT 3PDT	LB2K-31T6B LB2K-31T7B	— —
			D		Gold	DPDT 3PDT	LB2K-31T2D LB2K-31T3D	LB2K-31T2VD LB2K-31T3VD
					Silver	DPDT 3PDT	LB2K-31T6D LB2K-31T7D	— —
			G		Gold	DPDT 3PDT	LB2K-31T2G LB2K-31T3G	LB2K-31T2VG LB2K-31T3VG
					Silver	DPDT 3PDT	LB2K-31T6G LB2K-31T7G	— —
		Spring return from left	C		Gold	DPDT 3PDT	LB2K-32T2C LB2K-32T3C	LB2K-32T2VC LB2K-32T3VC
					Silver	DPDT 3PDT	LB2K-32T6C LB2K-32T7C	— —
			D		Gold	DPDT 3PDT	LB2K-32T2D LB2K-32T3D	LB2K-32T2VD LB2K-32T3VD
					Silver	DPDT 3PDT	LB2K-32T6D LB2K-32T7D	— —
			H		Gold	DPDT 3PDT	LB2K-32T2H LB2K-32T3H	LB2K-32T2VH LB2K-32T3VH
					Silver	DPDT 3PDT	LB2K-32T6H LB2K-32T7H	— —
		Spring return two-way	D		Gold	DPDT 3PDT	LB2K-33T2D LB2K-33T3D	LB2K-33T2VD LB2K-33T3VD
					Silver	DPDT 3PDT	LB2K-33T6D LB2K-33T7D	— —

- Key is retained at ● and removable at ○ positions.
 - Two keys are supplied.
 - For dimensions, see page 124.
 - Wave keys also available.
- Add the letter “S” before the “T” in the part no. Example: **LB2K-31ST1B**
- Besides the standard key (key number 0H) six other keys are available.
- To order other keys, specify the key number as shown below:
- Example: **LB2K-31ST1B-1H**

(blank): Standard key (0H)
 1H to 2H: Reversible key
 3H to 6H: Non-reversible key

Note:
 Key number is indicated on the key cylinder.
 Standard keys do not have a key number indication.

Contact Operation

Operator Position & Contact Operation (Top View)					
Position		Contact	↙ Left	↑ Center	↘ Right
90° 2-position	 Maintained  Spring return from right	SPDT			
		DPDT			
		3PDT			
45° 3-position	 Maintained  Spring return from right  Spring return from left  Spring return two-way	DPDT			
		3PDT			

LB Series Key Selector Switches ø16

Rectangular Key Selector Switches

Package Quantity: 1

Shape	Operator Position		Key retained at ●		Contact	Part No.	
						Solder/Tab Terminal	PC Board Terminal
Rectangular LB3K 	90° 2-position	Maintained	A		Gold	SPDT LB3K-2T1A	LB3K-2T1VA
						DPDT LB3K-2T2A	LB3K-2T2VA
						3PDT LB3K-2T3A	LB3K-2T3VA
					Silver	SPDT LB3K-2T5A	—
						DPDT LB3K-2T6A	—
						3PDT LB3K-2T7A	—
			B		Gold	SPDT LB3K-2T1B	LB3K-2T1VB
						DPDT LB3K-2T2B	LB3K-2T2VB
						3PDT LB3K-2T3B	LB3K-2T3VB
					Silver	SPDT LB3K-2T5B	—
						DPDT LB3K-2T6B	—
						3PDT LB3K-2T7B	—
			C		Gold	SPDT LB3K-2T1C	LB3K-2T1VC
						DPDT LB3K-2T2C	LB3K-2T2VC
						3PDT LB3K-2T3C	LB3K-2T3VC
					Silver	SPDT LB3K-2T5C	—
						DPDT LB3K-2T6C	—
						3PDT LB3K-2T7C	—
		Spring return from right	B		Gold	SPDT LB3K-2T1B	LB3K-2T1VB
						DPDT LB3K-2T2B	LB3K-2T2VB
						3PDT LB3K-2T3B	LB3K-2T3VB
					Silver	SPDT LB3K-2T5B	—
						DPDT LB3K-2T6B	—
						3PDT LB3K-2T7B	—
	45° 3-position	Maintained	A		Gold	DPDT LB3K-3T2A	LB3K-3T2VA
						3PDT LB3K-3T3A	LB3K-3T3VA
					Silver	DPDT LB3K-3T6A	—
						3PDT LB3K-3T7A	—
			B		Gold	DPDT LB3K-3T2B	LB3K-3T2VB
						3PDT LB3K-3T3B	LB3K-3T3VB
					Silver	DPDT LB3K-3T6B	—
						3PDT LB3K-3T7B	—
			C		Gold	DPDT LB3K-3T2C	LB3K-3T2VC
						3PDT LB3K-3T3C	LB3K-3T3VC
					Silver	DPDT LB3K-3T6C	—
						3PDT LB3K-3T7C	—
			D		Gold	DPDT LB3K-3T2D	LB3K-3T2VD
						3PDT LB3K-3T3D	LB3K-3T3VD
					Silver	DPDT LB3K-3T6D	—
						3PDT LB3K-3T7D	—
			E		Gold	DPDT LB3K-3T2E	LB3K-3T2VE
						3PDT LB3K-3T3E	LB3K-3T3VE
					Silver	DPDT LB3K-3T6E	—
						3PDT LB3K-3T7E	—
			G		Gold	DPDT LB3K-3T2G	LB3K-3T2VG
						3PDT LB3K-3T3G	LB3K-3T3VG
					Silver	DPDT LB3K-3T6G	—
						3PDT LB3K-3T7G	—
			H		Gold	DPDT LB3K-3T2H	LB3K-3T2VH
						3PDT LB3K-3T3H	LB3K-3T3VH
					Silver	DPDT LB3K-3T6H	—
						3PDT LB3K-3T7H	—

- Key is retained at ● and removable at ○ positions.
- Two keys are supplied.
- For dimensions, see page 124.
- Wave keys also available.

Add the letter "S" before the "T" in the part no. Example: **LB3K-2ST1A**

Besides the standard key (key number 0H) six other keys are available.

To order other keys, specify the key number as shown below:

Example: **LB3K-2ST1A-1H**

(blank): Standard key (0H)
1H to 2H: Reversible key
3H to 6H: Non-reversible key

Note:
Key number is indicated on the key cylinder.
Standard keys do not have a key number indication.

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

ø16 LB series Key Selector Switches

Rectangular Key Selector Switches

Package Quantity: 1

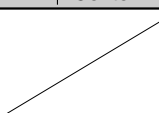
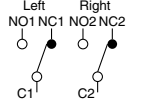
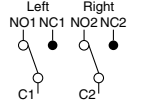
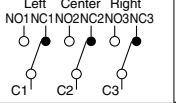
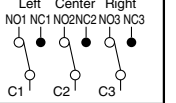
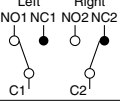
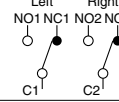
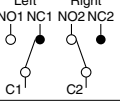
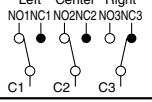
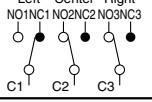
Shape	Operator Position		Key retained at ●		Contact		Part No.	
							Solder/Tab Terminal	PC Board Terminal
Rectangular LB3K  	45° 3-position	Spring return from right	B		Gold	DPDT	LB3K-31T2B	LB3K-31T2VB
					Silver	3PDT	LB3K-31T3B	LB3K-31T3VB
						DPDT	LB3K-31T6B	—
			D		Gold	DPDT	LB3K-31T2D	LB3K-31T2VD
					Silver	3PDT	LB3K-31T3D	LB3K-31T3VD
						DPDT	LB3K-31T6D	—
			G		Gold	DPDT	LB3K-31T2G	LB3K-31T2VG
					Silver	3PDT	LB3K-31T3G	LB3K-31T3VG
						DPDT	LB3K-31T6G	—
		Spring return from left	C		Gold	DPDT	LB3K-32T2C	LB3K-32T2VC
					Silver	3PDT	LB3K-32T3C	LB3K-32T3VC
						DPDT	LB3K-32T6C	—
			D		Gold	DPDT	LB3K-32T2D	LB3K-32T2VD
					Silver	3PDT	LB3K-32T3D	LB3K-32T3VD
						DPDT	LB3K-32T6D	—
			H		Gold	DPDT	LB3K-32T2H	LB3K-32T2VH
					Silver	3PDT	LB3K-32T3H	LB3K-32T3VH
						DPDT	LB3K-32T6H	—
		Spring return two-way	D		Gold	DPDT	LB3K-33T2D	LB3K-33T2VD
					Silver	3PDT	LB3K-33T3D	LB3K-33T3VD
						DPDT	LB3K-33T6D	—
					Silver	3PDT	LB3K-33T7D	—

- Key is retained at ● and removable at ○ positions.
 - Two keys are supplied.
 - For dimensions, see page 124.
 - Wave keys also available.
- Add the letter “S” before the “T” in the part no. Example: **LB3K-31ST2B**
- Besides the standard key (key number 0H) six other keys are available.
- To order other keys, specify the key number as shown below:
- Example: **LB3K-31ST2B-1H**

(blank): Standard key (0H)
 1H to 2H: Reversible key
 3H to 6H: Non-reversible key

Note:
 Key number is indicated on the key cylinder.
 Standard keys do not have a key number indication.

Contact Operation

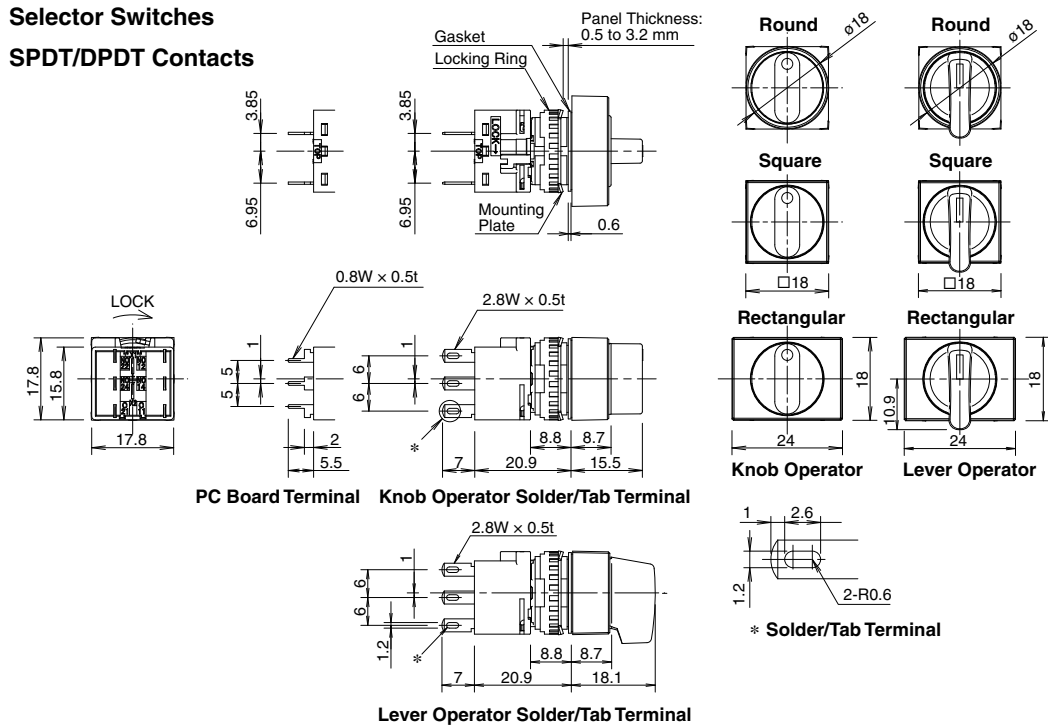
Operator Position & Contact Operation (Top View)						
Position			Contact	↙ Left	↑ Center	↘ Right
90° 2-position	 Maintained	 Spring return from right	SPDT			
			DPDT			
			3PDT			
45° 3-position	 Maintained	 Spring return from right	DPDT			
			3PDT			

LB Series Selector Switches ø16

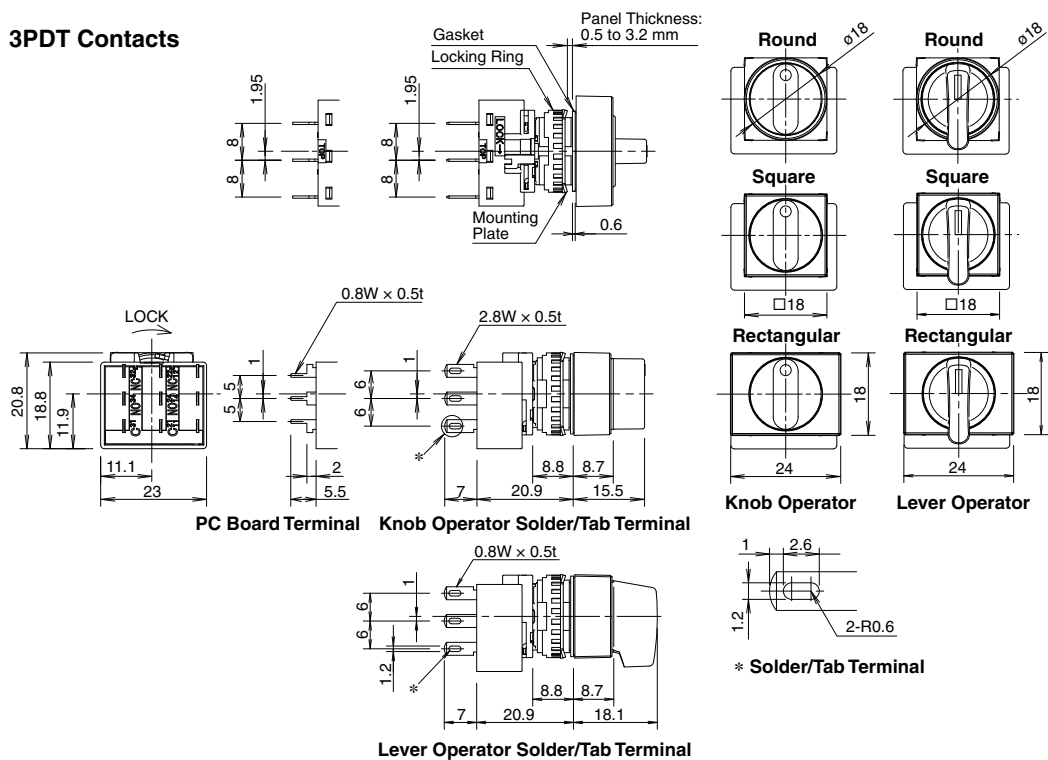
Dimensions

Selector Switches

SPDT/DPDT Contacts



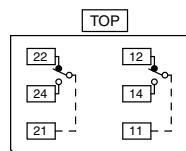
3PDT Contacts



All dimensions in mm.

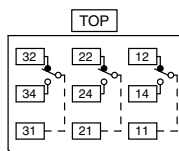
Terminal Arrangement (Bottom View)

SPDT/DPDT Contacts



(SPDT contacts on the right only)

3PDT Contacts



- For details on mounting hole layout, see page 107.
- For details on single board mounting, see page 132.

Flush
Silhouette

Switches &
Pilot Lights

Display
Lights

LED
Illumination
Units

Display
Units

Safety
Products

Terminal
Blocks

Comm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
Protectors

Power
Supplies

PLCs &
SmartRelay

Operator
Interfaces

Sensors

Control
Stations

Explosion
Protection

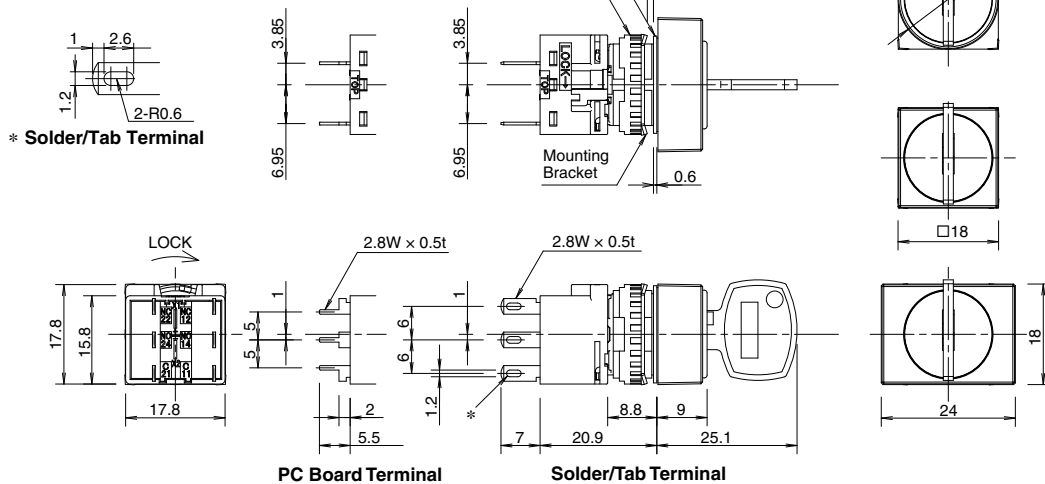
References

ø16 LB Series Key Selector Switches

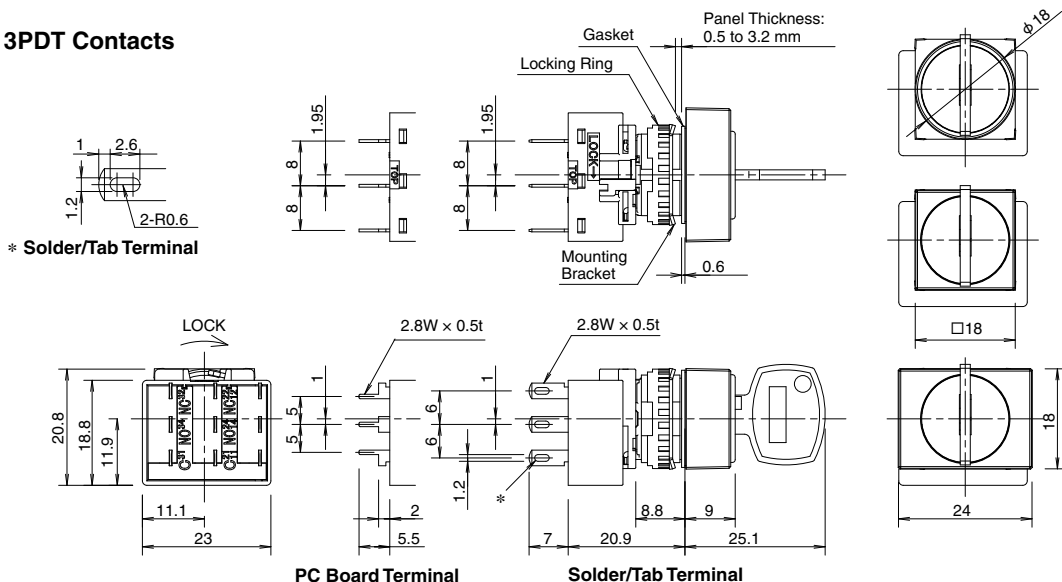
Dimensions

Key Selector Switches

SPDT/DPDT Contacts



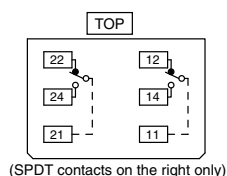
3PDT Contacts



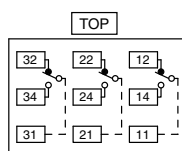
All dimensions in mm.

Terminal Arrangement (Bottom View)

SPDT/DPDT Contacts

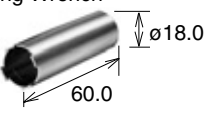
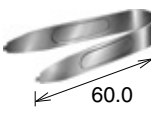


3PDT Contacts



- For details on mounting hole layout, see page 107.
- For details on single board mounting, see page 132.

Accessories

Shape		Material	Part No.	Ordering No.	Package Quantity	Remarks
Locking Ring Wrench 		Metal (Nickel-plated brass)	MT-001	MT-001	1	Used to tighten the locking ring when installing the units on to the panel.
Lens Removal Tool 		Stainless Steel	MT-101	MT-101	1	Used to remove the lens or button.
Switch Guard (180° Spring return) 	For round / square units For rectangular units	Guard (Polyacetal) Base (Polyarylate)	AL-K6SP AL-KH6SP	AL-K6SP AL-KH6SP	1 1	- Degree of protection: IP65 - Used to protect pushbuttons and illuminated pushbuttons from inadvertent operation. - See page 126 for dimensions. - With the gasket mounted on the switch, attach the switch guard and mount on the panel.
Switchguard for Single Board Mounting 	For rectangular units	Guard (Polyacetal) Base (Polyarylate)	LA9Z-K3	LA9Z-K3	1	- Degree of protection: IP65 - With the gasket mounted on the switch, attach the switch guard and mount on the panel. - See page 126 for dimensions.
Ruber Boot 1  2  3 	1. For round units 2. For square units 3. For rectangular units	Rubber (Transparent silicon rubber)	LB9Z-D1 LB9Z-D2 LB9Z-D3	LB9Z-D1 LB9Z-D2 LB9Z-D3	1 1 1	- Degree of protection: IP65 - See page 126 for dimensions. - See page 130 for mounting.
Mounting Hole Plug 	Metal	[Plug] Metal (Zinc diecast) [Locking nut] Polyacetal [Gasket] Nitrile rubber	AL-BM6	AL-BM6	1	- Degree of protection: IP65 - Tightening torque: 0.1 to 0.29 N·m - See page 126 for dimensions.
Mounting Hole Plug 	Rubber	Nitrile rubber (black)	AL-B6	AL-B6PN05	5	- Degree of protection: IP65 - See page 126 for dimensions.
Terminal Cover 1  2 	1. For SPDT/DPDT contacts 2. For 3PDT contacts		LB9Z-VL2 LB9Z-VL3	LB9Z-VL2PN10 LB9Z-VL3PN10	10 10	See page 126 for dimensions. See page 128 for mounting.

Flush Silhouette

Switches & Pilot Lights

Display Lights

LED Illumination Units

Display Units

Safety Products

Terminal Blocks

Comm. Terminals

AS-Interface

Relays & Timers

Sockets

Circuit Protectors

Power Supplies

PLCs & SmartRelay

Operator Interfaces

Sensors

Control Stations

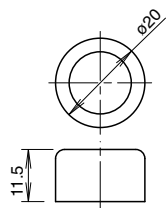
Explosion Protection

References

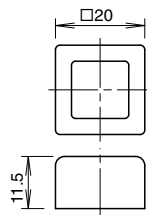
Dimensions for Accessories

Rubber Boot

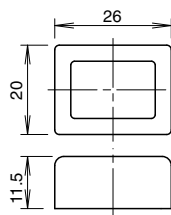
For round units
(LB9Z-D1)



For square units
(LB9Z-D2)

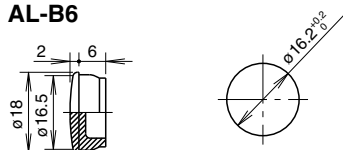


For rectangular units
(LB9Z-D3)



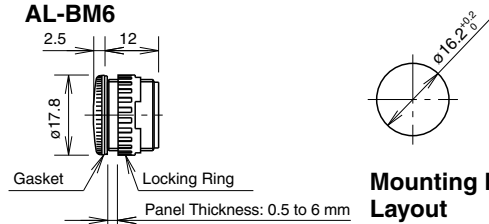
Mounting Hole Plug

AL-B6



Mounting Hole
Layout

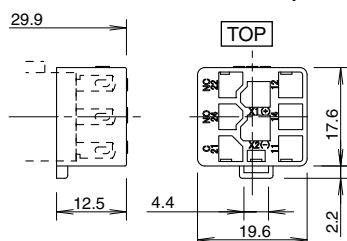
AL-BM6



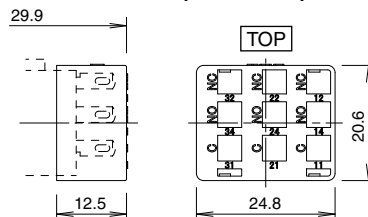
Mounting Hole
Layout

Terminal Cover

For SPDT/DPDT contacts (LB9Z-VL2)

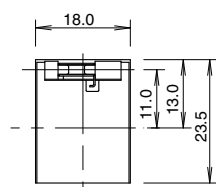


For 3PDT contacts (LB9Z-VL3)



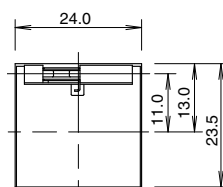
Switch Guard

For round / square units (AL-K6SP)

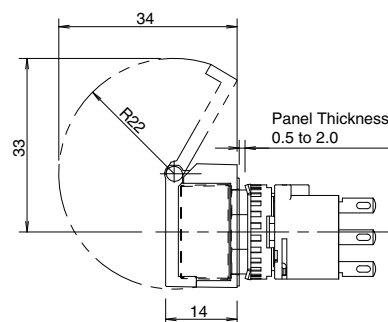


[For round / square units]

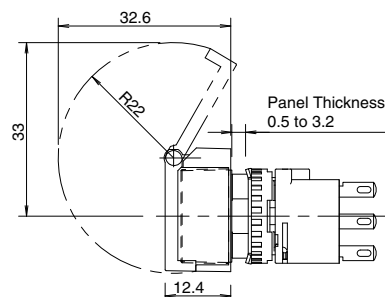
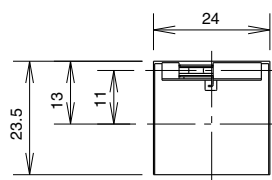
For rectangular units (AL-KH6SP)



[For rectangular units]



For Single Board Mounting (LA9Z-K3)



Note: The panel depth is the same for switches with or without switch guards. Both types can be installed on the same PC board.

All dimensions in mm.

LB Series Maintenance Parts ø16

Maintenance Parts

Shape		Material	Part No.	Ordering No.	Package Quantity	Remarks
Lens 	1. For round units	Polyarylate ø15.4 H4	AL6M-L②	AL6M-L②PN05	5	Specify the color code in place of ② in the part no. A: Amber, C: Clear, G: Green, R: Red, S: Blue, Y: Yellow Note: Use a clear lens for white (W) or pure white (PW) illumination.
	2. For square units	Polyarylate □15.4 H4	AL6Q-L②	AL6Q-L②PN05		
	3. For rectangular units	Polyarylate W21.4 H4 D15.4	AL6H-L②	AL6H-L②PN05		
Button 	1. For round units	Polyarylate ø15.4 H4	AB6M-B①	AB6M-B①PN05	5	Specify the color code in place of ① in the part no. B: Black, G: Green, R: Red, S: Blue W: White, Y: Yellow
	2. For square units	Polyarylate □15.4 H4	AB6Q-B①	AB6Q-B①PN05		
	3. For rectangular units	Polyarylate W21.4 H4 D15.4	AB6H-B①	AB6H-B①PN05		
Marking Plate 	1. For round units	Acrylic ø13.7 H0.8	AL6M-①	AL6M-①PN05	5	Specify the color code in place of ① in the part no. B: Black, W: White See page 129 for dimensions and engraving area.
	2. For square units	Acrylic □13.7 H0.8	AL6Q-①	AL6Q-①PN05		
	3. For rectangular units	Acrylic W19.7 H0.8 (0.4) D13.7	AL6H-①	AL6H-①PN05		
Locking Ring 		Polyamide ø17.9 H3.9	LB9Z-LN	LB9Z-LNPN10	10	
Anti-rotation Ring 		Metal (Stainless steel) □17.9 t0.6	LB9Z-LP1	LB9Z-LP1PN10	10	
Spare key 	For key selector switches (disc tumbler key)	Brass with nickel plating W18 H1.8 D25.1	AS6-SK-132	AS6-SK-132PN02	2	• Thickness 1.8 mm

Flush Silhouette

Switches & Pilot Lights

Display Lights

LED Illumination Units

Display Units

Safety Products

Terminal Blocks

Comm. Terminals

AS-Interface

Relays & Timers

Sockets

Circuit Protectors

Power Supplies

PLCs & SmartRelay

Operator Interfaces

Sensors

Control Stations

Explosion Protection

References

LB Series Maintenance LED Unit

Package Quantity: 1

Shape	Rated Operating Voltage	Part No.	*Color Code
LED Unit 	DC5V	LB9Z-LED5*	A G PW R S W
	AC/DC12V	LB9Z-LED1*	
	AC/DC24V	LB9Z-LED2*	

- *(Color code) R: Red, G: Green, A: Amber, W: White, S: Blue, PW: Pure White
- All LB series contain an LED unit.
- Use a pure white (PW) LED unit for yellow (Y) illumination.

ø16 LB Series Instructions



Safety Precautions

- Turn off the power to the LB series control units before installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid burning your hand, use the lamp holder tool when replacing the lamps.
- For wiring, use wires of a proper size to meet voltage and current requirements. Solder correctly according to the instructions in "Wiring" and "Notes on Terminal Cover." Improper soldering may cause overheating and create a fire hazard. Also, when using tab terminals, use receptacles of appropriate size.

Instructions

Wiring

- 1) Solder the terminals at 350°C within 3 seconds using a 60W soldering iron. Sn-Ag-Cu type is recommended when using leadfree solder. When soldering, do not touch the LB series with the soldering iron. Also ensure that no tensile force is applied to the terminal. Do not bend the terminal or apply excessive force to the terminal.
- 2) Use non-corrosive liquid flux.

Terminal Cover

Solder/tab terminal

Insert the terminal cover into the contact block with the TOP markings on the contact block and the terminal cover in the same direction.

Note: When wiring, insert the lead wires into the terminal cover holes before soldering.
After wiring, the terminal covers cannot be installed.



Operating Environment

- Do not use the LB series where corrosive gases exist or under an environment exceeding the operating temperature and humidity ranges. Otherwise, damages due to contact failure or change of surface color may occur.
- Major parts of the switch are plastic. Scratches or damages may occur when scraped with a sharp object or applied with excessive load or shock. Note that this may cause operation and appearance failure of the operator and bezel.
- Adherence of detergent, cutting oil, or special chemicals to the switch may result in operation failures and appearance failures such as change of surface color.

Handling

Contacts (micro switch)

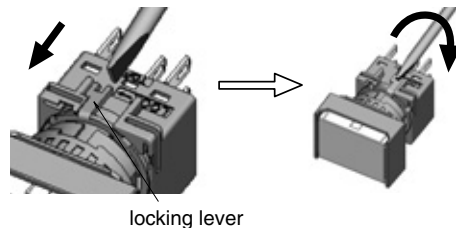
When using NC (normally closed) and NO (normally open) contacts of the same microswitch, avoid connections of different voltages, or connections of different types of power supplies. Failure to observe this instruction may cause a short-circuit.

Protection against oil (IP65)

The LB series has been tested according to JIS C 0920: Appendix 1 by using water insoluble cutting oil Class N3, No. 8 (JIS K 2241) to prove that the switches will not be damaged by oil drops or splashes. This may not apply to special types of oils. Contact IDEC for details.

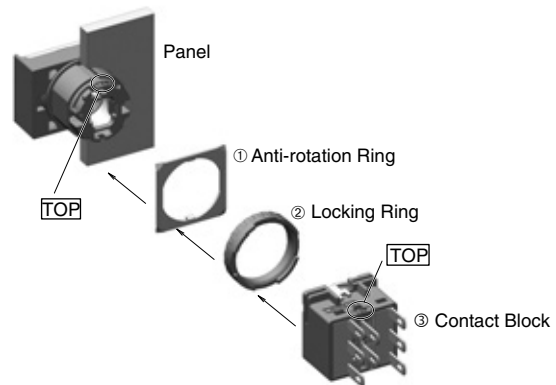
Removing and Installing the Contact Block

- 1) Turn the locking lever on the contact block in the direction opposite to the arrow on the housing. Then the contact block can be removed.
- 2) Insert the contact block with the TOP markings on the contact block and the operator placed in the same direction. Then lock the units, turning the locking lever in the direction of the arrow.



Panel Mounting

Remove the contact block from the operator. Insert the operator into the panel cut-out from the front, then install the contact block to the operator.



Notes on Mounting

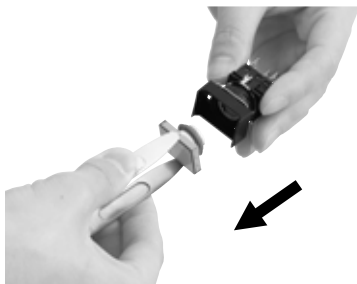
Use the optional ring wrench (MT-001) to mount the operator onto the panel. Tightening torque should not exceed 0.7 N·m. Do not use pliers. Excessive tightening will damage the locking ring.

Instructions

Replacing the Lens and Marking Plate

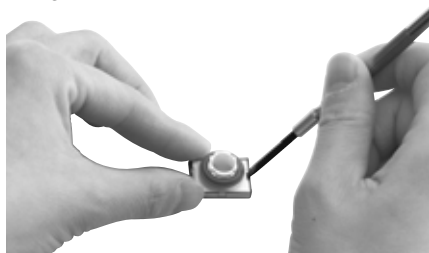
Removing

- 1) From the opposite side of the TOP marking, remove the operator (lens, marking plate, and lens holder) using the optional lens removal tool (MT-101) by gripping the recesses of the color lens. Removing from the TOP side may damage the metallic bezel.



[Removing the Operator (standard bezel)]

- 2) Remove the marking plate by pushing the lens from the rear to disengage the latches between the lens and holder, using the screwdriver as shown below.

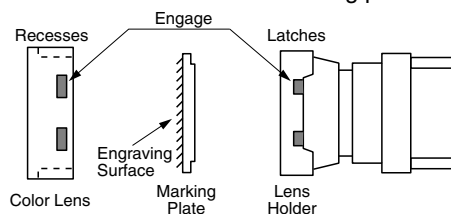


[Removing the Lens]

Note) The translucent in the lens holder cannot be removed because this filter is sealed to make the unit waterproof and oiltight.

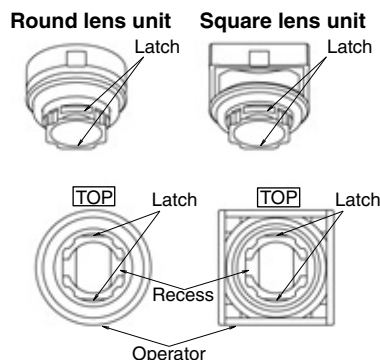
Installing

Insert the marking plate into the color lens, and press the lens onto the lens holder to engage the latches. Pay attention to the orientation of the marking plate.



Installing the Lens Unit and Contact Block

To insert the lens unit into the operator, press in the lens unit by making sure that the latch on the operator is aligned with the latch on the lens unit.



Marking Plates and Films

For illuminated pushbuttons and pushbuttons with illuminated lens, legends and symbols can be engraved on the marking plates, or printed film can be inserted under the lens for labelling purposes.

Marking Plate and Marking Film Size

Lens	Round	Square	Rectangular
Built-in Marking Plate	- Engraving must be made on the engraving area within 0.5 mm deep. - The marking plate is made of white acrylic resin.		
Applicable Marking Film	- Film thickness: 0.1 mm per film - Marking film is not included. - Recommended marking film: Polyester film		

Flush
Silhouette

Switches &
Pilot Lights

Display
Lights

LED
Illumination
Units

Display
Units

Safety
Products

Terminal
Blocks

Comm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
Protectors

Power
Supplies

PLCs &
SmartRelay

Operator
Interfaces

Sensors

Control
Stations

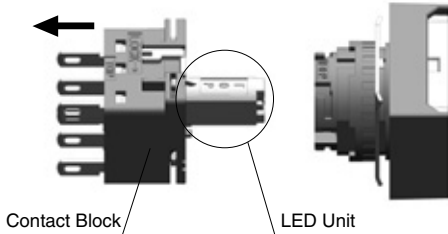
Explosion
Protection

References

Instructions

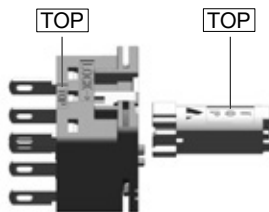
Replacing the LED Unit

The LED unit can be replaced without tools by pulling out the lens unit from the contact block.



Orientation of the LED unit

Insert the LED unit into the contact block with the TOP markings on the contact block and LED unit in the same orientation.

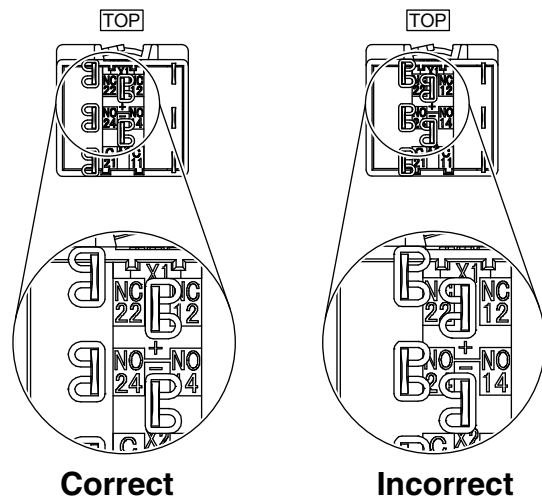


Notes on replacing the LED Unit

When replacing the LED unit, make sure that static electricity is not applied.
Make sure that the LB series has cooled down before replacing the LED unit. To avoid burn injuries, be careful not to touch the unit while it is still hot.

Notes on Using Receptacles

- 1) Use #110 tab receptacles, 0.5 mm-thick.
- 2) When connecting the terminals on the left and center, make sure that surfaces of the receptacles face each other. Otherwise, short-circuit may occur.



- 3) Apply only horizontal force against the panel to the tab. The switch may be damaged if a force other than a horizontal force is applied.

Installing the Rubber Boot

When using in places where the switches are subjected to water splash or an excessive amount of dust, make sure to use the optional rubber boot.

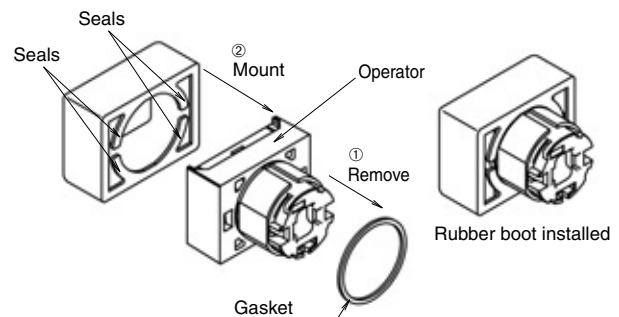
As shown in the drawing below, ① remove the gasket from the operator, and ② attach the rubber boot from the front (button side).

Standard Bezel

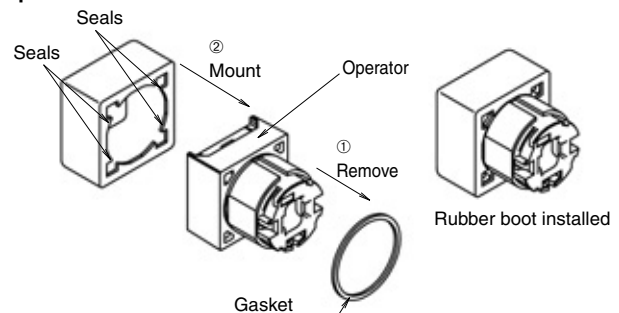
For rectangular and square units, pull out the seals of the rubber boot and place them around the operator sleeve as shown below. Make sure that the seals are not twisted or tucked inside and that the gasket is removed, otherwise waterproof and dustproof characteristics are not ensured.

How to Install the Rubber Boot

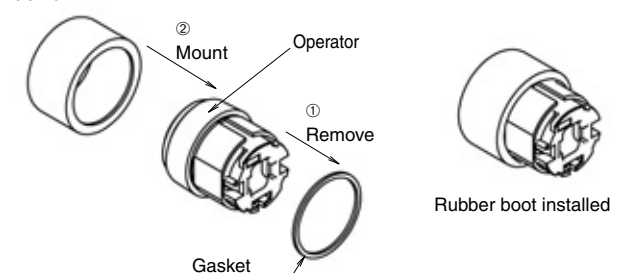
Rectangular



Square



Round



Instructions

Maintained Pushbuttons

Do not replace the buttons when the pushbutton is in the maintained position. Replacing the button in the maintained position may damage the internal mechanism. Also, do not remove the contact block with the button in the maintained position. The contact may not operate properly when the contact block is remounted. Make sure to push down fully when using the pushbuttons.

Pushbuttons and Illuminated Pushbuttons with Switch Guard

Do not apply force to the switch guard when the switch guard is not attached to a panel. When opening the switch guard, do not open more than 180°. The hinge may break.

Selector Switches

When turning the operator or key, make sure that they are turned to the each position properly.

Selector Switches with Key

Observe the following instructions to prevent malfunction or damage.

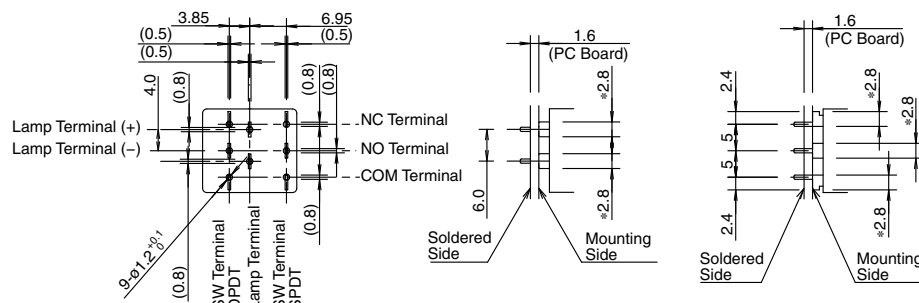
- Insert the key to the bottom of the key hole.
- Do not remove the key from any key retained position.
- For wave key, besides the standard key (key number 0H), six other key numbers are available. Use a key of the matching number with the key cylinder. The standard key does not have a key number indication.
- For wave keys, keys are available in two types. Key numbers 0H (standard), 1H, and 2H are reversible keys which can be inserted in two ways. Key numbers 3H, 4H, 5H, and 6H are non-reversible keys. Make sure of correct insertion direction.

PC Board Drilling Layout

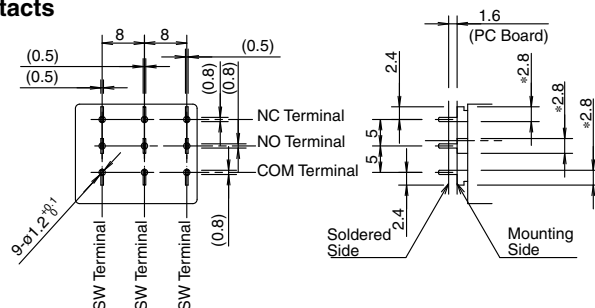
Notes for Designing PC Board and Circuit

- Use 1.6-mm-thick glass epoxy PC board with drilled holes.
- Design a circuit so that the LB series can operate within the rated voltage and current range. Make sure that inrush current and voltage do not exceed the rating.
- Minimum applicable load is 5V AC/DC, 1 mA on gold contacts. Applicable range is subject to the operating condition and load.
- Since the $\varnothing 2.8$ -mm-wide terminal touches the PC board as shown on the right, short circuit may occur with pattern lines. Design a circuit that prevents short circuits.

SPDT/DPDT Contacts



3PDT Contacts

Flush
SilhouetteSwitches &
Pilot LightsDisplay
LightsLED
Illumination
UnitsDisplay
UnitsSafety
ProductsTerminal
BlocksComm.
Terminals

AS-Interface

Relays &
Timers

Sockets

Circuit
ProtectorsPower
SuppliesPLCs &
SmartRelayOperator
Interfaces

Sensors

Control
StationsExplosion
Protection

References

SPDT/DPDT Contacts



3PDT Contacts



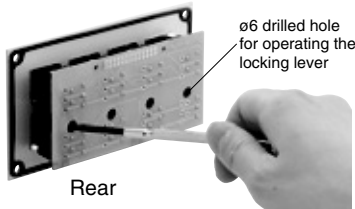
All dimensions in mm.

Note 2: The diameter of the terminal hole is $\varnothing 1.2$.

Note 3: Hole diameter may vary to meet installation requirements. Determine the location and the size of the hole so that the locking lever can be operated.

Single Board Mounting

The IDEC's LB Series is available for single board mounting.



Assembly Procedure

1. Install the operator to the panel.
2. Mount the contact block to the operator from the rear.
3. Turn the locking lever to lock the contact block.
4. Insert the PC board to terminals and solder.

Note 1: Make sure that each terminal is inserted into the PC board correctly.

Note 2: Do not apply tensile force to the connector cable for an extended period of time.

Note 3: Do not expose the contact block to water.

Note 4: Ensure to lock contact blocks when the contact blocks are installed on the operators.

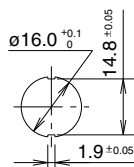
Installing and Removing Contact Blocks

Turn the locking lever to install and remove contact blocks on the PC using a screwdriver from a hole in the PC board. Determine the location of the switches so that the locking lever can be operated.

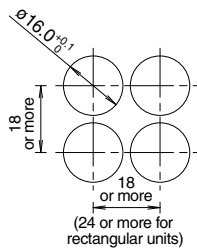
Mounting Holes and Assembly Procedure

Drill mounting holes in the panel as shown below. When the units are mounted collectively, provide adequate clearance.

Panel Cut-out



SPDT/DPDT Contacts



3PDT Contacts

