

A6 Series — Miniature Switches and Pilot Devices: 16mm

Key features of the A6 series switches and pilot lights include:

- 16mm (5/8") mounting hole
- LED illumination
- Compact design saves space
- Momentary, Maintained, Selectors, and E-Stops
- Gold-clad Silver contacts for reliable low level switching
- Snap action contacts
- IP40 (dustproof) or IP65 (oiltight) versions



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Switches & Pilot Devices



UL Recognized
File No. E55996



CSA Certified
File No. LR21451



Certificate No.
2030010305027380

Specifications	Degree of Protection	IP40: Dustproof IP65 Waterproof/Oiltight/Corrosion Resistant			
	Contact Configuration	SPDT, DPDT			
	Maximum Voltage	250V AC/DC			
	Thermal Current	3A			
	Minimum Applicable Load	5V AC/DC, 1mA (subject to operating conditions)			
	Contact Material	Gold-clad silver			
	Terminal Style	.110" Solder/ Quick Connect			
	Operating Temperature	LED Type: -25° to +55°C (no freezing)			
	Operating Humidity	45 to 85% RH			
	Contact Resistance	50mΩ maximum (initial value)			
	Insulation Resistance	100MΩ minimum (500V DC megger)			
	Vibration Resistance	10 to 55Hz, amplitude 1.5mm p-p			
	Shock Resistance	Damage limits: 500m/sec ² (approx. 50G) Operating extremes: 200m/sec ² (approx. 20G)			
Electrical Life	100,000 operations minimum (at full rated load)				
Mechanical Life	Maintained: 100,000 operations minimum Momentary: 1,000,000 operations minimum Selector/Keylock: 250,000 operations minimum				
Dielectric Strength	Switch Unit: 2,000VAC, 1 min. between live/dead part and terminals of different poles; 1,000V AC, 1 minute between terminals of the same pole; 1,500V AC, 1 minute between contact and lamp terminals. Illumination Unit: 2,000VAC, 1 min. between live part/ground				
Soldering Temperature	20W/5 seconds or 260°C/3 seconds				
Contact Ratings	Operating Voltage	24V	120V	240V	
	AC (50/60Hz)	Resistive	—	1.0A	0.5A
		Inductive	—	0.7A	0.5A
	DC	Resistive	1.0A	0.2A	—
Inductive		0.7A	0.1A	—	
LED Lamp Ratings	Rated Voltage/Current	5V DC ±5%	6V AC/DC (±10%)	12V AC/DC (±10%)	24V AC/DC (±10%)
		8mA	DC: A, R, W, Y: 6mA G, S: 5mA AC: A, R, W, Y: 8mA G, S: 7mA	DC: 8mA AC: 9mA	DC: 8mA AC: 9mA









1. AC Inductive Load, PF = 0.6 – 0.7; DC Inductive Load, L/R = 7ms.
2. Minimum applicable load (reference value) is 5V AC/DC/1mA (applicable range is subject to the operating conditions and load).
3. LED lamp contains a built-in current-limiting resistor and a protection diode.
4. LED's don't "burn out." Luminance is reduced to 50% of initial intensity after being lit for 50,000 hours continuously.

AL6 Illuminated Pushbuttons (Assembled)

Part Numbers: LED Illuminated Pushbuttons

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Description	Style	Voltage	Contact	Part Numbers			
				Momentary		Maintained (Latching)	
				Dustproof (IP40)	Oiltight (IP65)	Dustproof (IP40)	Oiltight (IP65)
Standard Lens	Round 18mm diameter 	24V AC/DC ±10%	SPDT DPDT	AL6M-M14-② AL6M-M24-②	AL6M-M14P-② AL6M-M24P-②	AL6M-A14-② AL6M-A24-②	AL6M-A14P-② AL6M-A24P-②
	Square 18mm 	24V AC/DC ±10%	SPDT DPDT	AL6Q-M14-② AL6Q-M24-②	AL6Q-M14P-② AL6Q-M24P-②	AL6Q-A14-② AL6Q-A24-②	AL6Q-A14P-② AL6Q-A24P-②
	Rectangular 18mm x 24mm 	24V AC/DC ±10%	SPDT DPDT	AL6H-M14-② AL6H-M24-②	AL6H-M14P-② AL6H-M24P-②	AL6H-A14-② AL6H-A24-②	AL6H-A14P-② AL6H-A24P-②
Oversize Lens	Round 24mm diameter 	24V AC/DC ±10%	SPDT DPDT	-	AL6M-M14P-M② AL6M-M24P-M②	-	AL6M-A14P-M② AL6M-A24P-M②
	Square 24 mm 	24V AC/DC ±10%	SPDT DPDT	-	AL6Q-M14P-Q② AL6Q-M24P-Q②	-	AL6Q-A14P-Q② AL6Q-A24P-Q②
	Rectangular 18mm x 24mm 	24V AC/DC ±10%	SPDT DPDT	-	AL6Q-M14P-H② AL6Q-M24P-H②	-	AL6Q-A14P-H② AL6Q-A24P-H②

- 1. In place of ②, specify Lens/LED Color Code from table below.
- 2. Lamps also available in 5V DC, 6V AC/DC or 12 V AC/DC, change "4" using voltage/lamp codes (ie AL6M-M13-② uses 12V AC/DC LED).
- 3. LED lamp is included in unit and contains a current-limiting resistor and a protection diode. (External resistor not required.)
- 4. To order as sub-assembled, see page A2-21.
- 5. For accessories, see page A2-25.
- 6. For dimensions, see page A2-27.

② Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White	W
Yellow	Y

Voltage Code

Voltage	Code
5V DC	1
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4

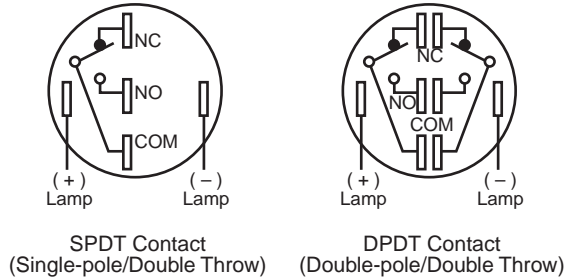
Schematics — A Series: 5/8" (16mm)

Switches & Pilot Devices

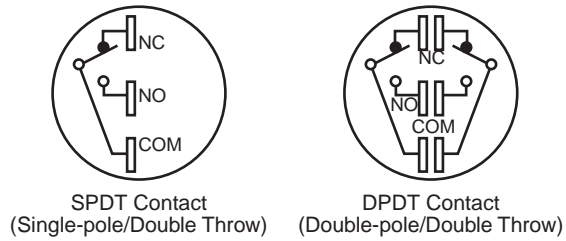
A2

Terminal Arrangement (Top View)

Illuminated Pushbuttons



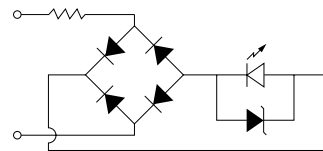
Non-illuminated Pushbuttons and Selector Switches



IDEC's Superbright LED

Internal Circuit

LATD-1,-2,-6 (GS)

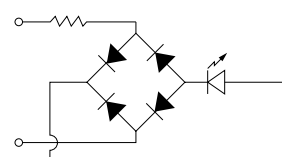


- LED Chip
- Protective Diode
- Zener Diode

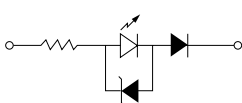
LATD-5 (ARWY)



LATD-1,-2,-6 (ARWY)

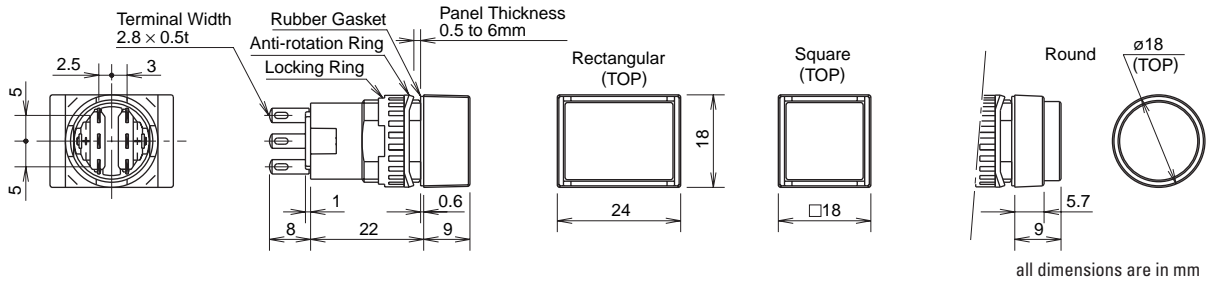


LATD-5 (GS)

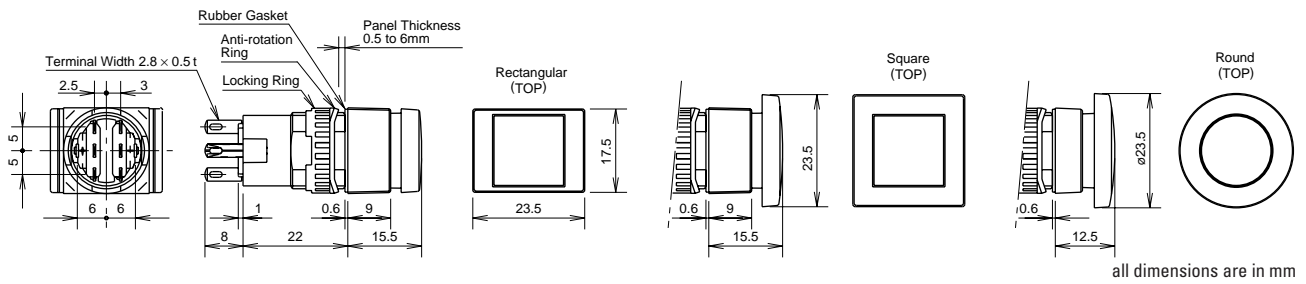


Dimensions — A Series: 5/8" (16mm)

Pushbuttons, Ø 5/8" (16mm)



Large Size Lens



Selector Switches, Ø 5/8" (16mm)

