ø16 Switches & Pilot Lights

A6 Series



Light duty in short 22 mm body length. Flush bezel accessories can be used to change A6 series to Flush Silhouette switches.









- CCC: Except pilot lights
- · See website for details on approvals and standards.

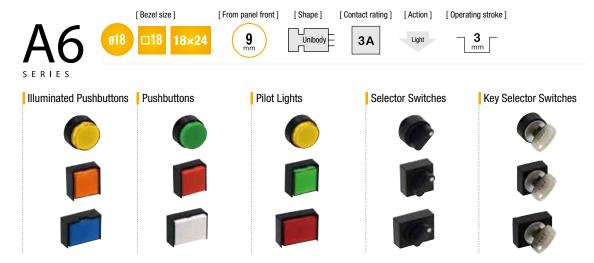
Suitable for a wide variety of office and factory aplications.

Features IDEC's original mechanism for snap-action switching.

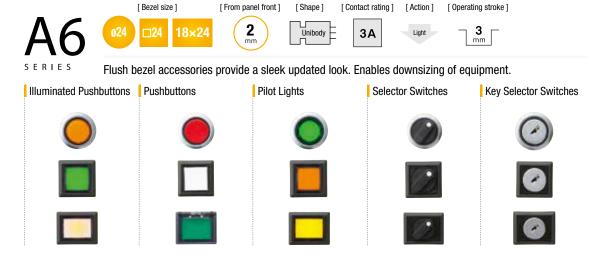
The LED lamp contains a current-limiting resistor and a diode for protection against reverse connection.

Degree of protection: IP40 and IP65 (IEC 60529)

Standard Bezel



Flush Bezel



Control Boxes Emergency Stop Switches Enabling Switches Safety Products

Relays & Sockets

Power Supplies LED Illumination Controllers Operator

Circuit Protectors

Sensors AUTO-ID

Flush Silhouette

ø22 ø30 Miniature Pilot Lights

Ø16 A6 Series Miniature Switches & Pilot Lights

Light duty in short 22mm body length.



Specifications and Ratings

Contact Ratings (Contact Block)

Rated Insulation	250V					
Rated Thermal	3A					
Operating Volta	12V	24V	110V	220V		
AC 50/60 Hz	Resistive Load	_	_	1.0A	0.5A	
AC 50/60 HZ	Inductive Load	_	_	0.7A	0.5A	
DC	Resistive Load	1.0A	1.0A	0.2A	_	
DC	Inductive Load	0.7A	0.7A	0.1A	_	
Contact Material		Gold plated silver				

• Minimum applicable load: 5V AC/DC, 1 mA (applicable range may vary with operating conditions and load types)

Weight (example)

	AL6M-M24: 8g
	AL6M-M221: 46g
	AL6M-P4: 6g
Weight (approx.)	AL6M-P21: 45g
	AB6M-M2: 7g
	AS6M-2Y2: 9g
	AS6M-2KT2A: 21g

Specifications

Operating Temperature		-25 to +55°C (no freezing)					
Storage Temperature		-30 to +80°C (no freezing)					
Opera	ting Humidity	45 to 85% RH (no condensation)					
Contac	ct Resistance	50 mΩ maximum (initial value)					
Insulat	tion Resistance	100 MΩ minimum (500V DC megger)					
Dielectric Strength	Switch Unit	Between live and dead metal parts: 2,000V AC, 1 minute Between terminals of different poles: 2,000V AC, 1 minute Between terminals of the same pole: 1,000V AC, 1 minute Between contact and lamp terminals: 1,500V AC, 1 minute					
	Illumination Unit	Between live part and ground: 2,000V AC, 1 minute					
Vibrati	on Resistance	Operating extremes: 5 to 55 Hz, amplitude 0.75 mm					
Shock	Resistance	Damage limits: 500 m/s ² Operating extremes: 200 m/s ²					
	anical Durability num operations)	Momentary: 1,000,000 operations Maintained: 100,000 operations Selector Switch: 250,000 operations Key Selector Switch: 250,000 operations					
	cal Durability num operations)	Other than Maintained: 100,000 operations Maintained: 50,000 operations (Switching frequency 1200 operations/h)					
Degree	e of Protection	IP40, IP65 (IEC 60529)					
Termin	nal Style	Solder terminal					

LED Lamp Ratings (LATD)

LLD Lamp	natings (LATD)							
l lait	Rated Voltage	5V DC	12V AC/DC	24V AC/DC				
Unit	Voltage Range	5V DC ±5%	12V AC/DC ±10%	24V AC/DC ±10%				
	Part No.	LATD-5@N	LATD-1@N	LATD-2@N				
	Lamp Base	Exclusive for A series control units						
	Current Draw	5 mA						
	Lamp Base Color	Same as illumination color (except JW - gray base)						
	Voltage Marking	Die stamped on the base						
LED Lamp	Life (reference value)	Approx. 50,000 hours (The luminance is reduced to 50% of the initial intensity when used on complete DC.)						
LED Lamp .	Internal Circuit	X1 (+) Limited current circuit Noise protection circuit Dimmer protection circuit	Noise prot	rrent circuit ection circuit ircuit votection circuit				

- Specify a color code in place of ② in the Part No. A (amber), G (green), JW (pure white), R (red), S (blue)
- Use a pure white (JW) LED lamp for yellow illumination.

operating remperature		-25 to +55°C (no freezing)				
Storage Temperature		-30 to +80°C (no freezing)				
Opera	ting Humidity	45 to 85% RH (no condensation)				
Contac	ct Resistance	50 mΩ maximum (initial value)				
nsula	tion Resistance	100 MΩ minimum (500V DC megger)				
Dielectric Strength	Switch Unit	Between live and dead metal parts: 2,000V AC, 1 minute Between terminals of different poles: 2,000V AC, 1 minute Between terminals of the same pole: 1,000V AC, 1 minute Between contact and lamp terminals: 1,500V AC, 1 minute				
	Illumination Unit	Between live part and ground: 2,000V AC, 1 minute				
/ibrati	ion Resistance	Operating extremes: 5 to 55 Hz, amplitude 0.75 mm				
Shock Resistance		Damage limits: 500 m/s ² Operating extremes: 200 m/s ²				
	anical Durability num operations)	Momentary: 1,000,000 operations Maintained: 100,000 operations Selector Switch: 250,000 operations Key Selector Switch: 250,000 operations				
	cal Durability num operations)	Other than Maintained: 100,000 operations Maintained: 50,000 operations (Switching frequency 1200 operations/h)				
Degre	e of Protection	IP40, IP65 (IEC 60529)				
Termir	nal Style	Solder terminal				

Control Boxes

Emergency
Stop Switches
Enabling
Switches
Safety Products

Explosion Proof
Terminal Blocks
Relays & Sockets
Circuit
Protectors
Power Supplies

LED Illumination
Controllers
Operator

Sensors AUTO-ID

Flush Silhouette

ø22 ø30 Miniature Pilot Lights

LB

Illuminated Pushbuttons

Quantity: 1

Shape	Operation	Operating	Contact	F	Part No.	② Illumination	
- Sпаре	Operation	Voltage	Contact	IP40	IP65	Color Code	
Round		5V DC	SPDT	AL6M-M112	AL6M-M11P2		
AL6M		37 00	DPDT	AL6M-M212	AL6M-M21P2		
	Momentary	12V AC/DC	SPDT	AL6M-M132	AL6M-M13P2		
	Wildinemary	12V AG/DG	DPDT	AL6M-M232	AL6M-M23P2		
		24V AC/DC	SPDT	AL6M-M142	AL6M-M14P2		
		24V AU/DU	DPDT	AL6M-M242	AL6M-M24P2		
		5V DC	SPDT	AL6M-A112	AL6M-A11P2		
		3V DC	DPDT	AL6M-A21®	AL6M-A21P2		
	Maintained	10// AC/DC	SPDT	AL6M-A13©	AL6M-A13P2		
	Maintained	12V AC/DC	DPDT	AL6M-A23©	AL6M-A23P2		
		241/ AC/DC	SPDT	AL6M-A142	AL6M-A14P2		
		24V AC/DC	DPDT	AL6M-A242	AL6M-A24P2		
Square		EV DC	SPDT	AL6Q-M112	AL6Q-M11P2		
AL6Q		5V DC	DPDT	AL6Q-M21@	AL6Q-M21P2		
	Momente	10// 10//00	SPDT	AL6Q-M13@	AL6Q-M13P2		
	Momentary	12V AC/DC	DPDT	AL6Q-M23@	AL6Q-M23P2		
		0.41/.40/D0	SPDT	AL6Q-M142	AL6Q-M14P2		
		24V AC/DC	DPDT	AL6Q-M242	AL6Q-M24P2		
		5V DC	SPDT	AL6Q-A11@	AL6Q-A11P2		
			DPDT	AL6Q-A21@	AL6Q-A21P2		
		12V AC/DC	SPDT	AL6Q-A13@	AL6Q-A13P2		
	Maintained		DPDT	AL6Q-A23@	AL6Q-A23P2	Specify a color code in	
			SPDT	AL6Q-A142	AL6Q-A14P2	place of ② in the Part No.	
		24V AC/DC	DPDT	AL6Q-A24@	AL6Q-A24P2	A: amber	
Rectangular			SPDT	AL6H-M112	AL6H-M11P2	G: green JW: pure white	
AL6H		5V DC	DPDT	AL6H-M212	AL6H-M21P2	R: red	
		12V AC/DC	SPDT	AL6H-M132	AL6H-M13P2	S: blue Y: yellow	
	Momentary		DPDT	AL6H-M232	AL6H-M23P2	I. yellow	
		0.011.00/20	SPDT	AL6H-M142	AL6H-M14P2		
		24V AC/DC	DPDT	AL6H-M242	AL6H-M24P2		
			SPDT	AL6H-A112	AL6H-A11P2		
		5V DC	DPDT	AL6H-A21@	AL6H-A21P2		
			SPDT	AL6H-A132	AL6H-A13P2		
	Maintained	12V AC/DC	DPDT	AL6H-A232	AL6H-A23P2		
			SPDT	AL6H-A142	AL6H-A14P2		
		24V AC/DC	DPDT	AL6H-A242	AL6H-A24P2		
Rectangular		=1.1	SPDT	AL6G-M112	AL6G-M11P2		
w/three-sided barrier		5V DC	DPDT	AL6G-M212	AL6G-M21P2		
AL6G			SPDT	AL6G-M13②	AL6G-M13P2		
	Momentary	12V AC/DC	DPDT	AL6G-M23②	AL6G-M23P2		
				AL6G-M142	AL6G-M14P2		
, h.			SPDT		1		
		24V AC/DC	DPDT	AL6G-M242	AL6G-M24P2		
			DPDT		AL6G-M24P② AL6G-A11P②		
		24V AC/DC 5V DC	DPDT SPDT	AL6G-A11②	AL6G-A11P2		
		5V DC	DPDT SPDT DPDT	AL6G-A112 AL6G-A212	AL6G-A11P② AL6G-A21P②		
	Maintained		DPDT SPDT DPDT SPDT	AL6G-A11② AL6G-A21② AL6G-A13②	AL6G-A11P② AL6G-A21P② AL6G-A13P②		
	Maintained	5V DC	DPDT SPDT DPDT	AL6G-A112 AL6G-A212	AL6G-A11P② AL6G-A21P②		

- See B-151 for dimensions.
- \bullet See B-166 for marking plate size and engraving area.
- IP65 types come with a packing in the lens unit.
- Illuminated switches have a built-in LED lamp.



Pilot Lights

Quantity: 1

Chana	Operating Valtage	Par	t No.	② Illumination	<u> </u>
Shape	Operating Voltage	IP40	IP65	Color Code	lot Lights
Round AL6M-P	5V DC	AL6M-P1②	AL6M-P1P②		APEM
	12V AC/DC	AL6M-P3@	AL6M-P3P@		Switches & Pilot Lights Control Boxes
	24V AC/DC	AL6M-P4②	AL6M-P4P@		Emergency Stop Switches Enabling Switches
Square AL6Q-P	5V DC	AL6Q-P1②	AL6Q-P1P@		Safety Product Explosion Proo
	12V AC/DC	AL6Q-P3②	AL6Q-P3P②		Terminal Block Relays & Socke Circuit
				Cassify a salar and in place of	Protectors Power Supplies
•	24V AC/DC	AL6Q-P42	AL6Q-P4P②	Specify a color code in place of ② in the Part No.	LED Illuminatio
				A: amber G: green JW: pure white R: red S: blue Y: yellow	Controllers
Rectangular AL6H-P	5V DC	AL6H-P1②	AL6H-P1P2		Operator Interfaces
	34 00		ALON THE		Sensors
	12V AC/DC	AL6H-P3②	AL6H-P3P@		AUTO-ID
	24V AC/DC	AL6H-P4②	AL6H-P4P@		Flush Silhouett
Rectangular w/three-sided barrier					ø22
AL6G-P	5V DC	AL6G-P1②	AL6G-P1P②		ø30
					Miniature
	12V AC/DC	AL6G-P3②	AL6G-P3P2		Pilot Lights
	24V AC/DC	AL6G-P4②	AL6G-P4P②		LB A6

- See B-151 for dimensions.
- \bullet See $\mbox{\sc B-166}$ for marking plate size and engraving area.
- Pilot lights have a built-in LED lamp.

Dimensions (Illuminated Pushbuttons & Pilot Lights)

All dimensions in mm.

Ø18

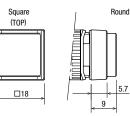
(TOP)



Pilot Light

Terminal Width 2.8×0.5t Anti-rotation Ring Locking Ring Locking Ring Locking Ring Locking Ring Rectangular (TO

Rectangular M/3-way barrier (TOP)



*Solder/tab terminal

APEM

Pilot Lights

Control Boxes

Emergency
Stop Switches

Enabling

Safety Products

Switches

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit
Protectors

Power Supplies

LED Illumination

Controllers

Operator

Interfaces Sensors

AUTO-ID

Flush Silhouette

ø16 ø22

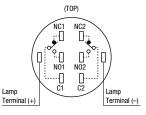
ø30

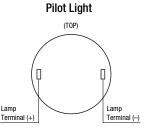
Miniature Pilot Lights

LB

Terminal Arrangement (bottom view)

Illuminated Pushbutton

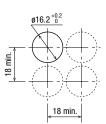




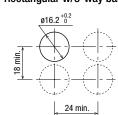
1NO: NC1, NO1, C1 terminal only

Mounting Hole Layout

Round/Square



Rectangular Rectangular w/3-way barrier



Note: Determine mounting centers to ensure easy operation.

Pushbuttons

Quantity: 1

					Quantity: 1	<u>e</u>	
Shape	Button Style	Operation	Contact	IP40	Part No. IP65	Color Code ①②	ilot Lights
Round			SPDT	AB6M-M1①	AB6M-M1P①	B black	hts
AB6M		Momentary	DPDT	AB6M-M2①	AB6M-M2P①	G: green R: red	
	Button		SPDT	AB6M-A1①	AB6M-A1P①	S: blue	APEM
		Maintained	DPDT	AB6M-A2①	AB6M-A2P①	W: white Y: yellow	Switches &
			SPDT	AB6M-M1L2	AB6M-M1PL2	A: amber	Pilot Lights
		Momentary	DPDT	AB6M-M2L2	AB6M-M2PL②	G: green R: red	Control Boxes
	Lens		SPDT	AB6M-A1L@	AB6M-A1PL@	S: blue	Emergency Stop Switches
		Maintained	DPDT	AB6M-A2L2	AB6M-A2PL2	W: white Y: yellow	Enabling Switches
Square		Mamaritani	SPDT	AB6Q-M1①	AB6Q-M1P①	B black	Safety Products
AB6Q	Putton	Momentary	DPDT	AB6Q-M2①	AB6Q-M2P①	G: green R: red	Explosion Proof
	Button	Maintained	SPDT	AB6Q-A1①	AB6Q-A1P①	S: blue W: white	
		Maintained -	DPDT	AB6Q-A2①	AB6Q-A2P①	Y: yellow	Terminal Blocks
		Momentory	SPDT	AB6Q-M1L ²	AB6Q-M1PL@	A: amber	Relays & Sockets
	Lens	Momentary	DPDT	AB6Q-M2L2	AB6Q-M2PL2	G: green R: red	Circuit Protectors
	Lens	Maintained -	SPDT	AB6Q-A1L②	AB6Q-A1PL2	S: blue W: white	Power Supplies
			DPDT	AB6Q-A2L②	AB6Q-A2PL2	Y: yellow	LED Illumination
Rectangular		Momentary -	SPDT	AB6H-M1①	AB6H-M1P①	B black	
AB6H	Button		DPDT	AB6H-M2 ①	AB6H-M2P①	G: green R: red	Controllers
. &	Bullon	Maintained -	SPDT	AB6H-A1①	AB6H-A1P①	S: blue W: white	Operator Interfaces
		Iviaiiitaiiieu	DPDT	AB6H-A2 ①	AB6H-A2P①	Y: yellow	Sensors
		Momentary	SPDT	AB6H-M1L ²	AB6H-M1PL@	A: amber	AUTO-ID
A STATE	Lens	Womentary	DPDT	AB6H-M2L2	AB6H-M2PL@	G: green R: red	
	LGIIS	Maintained -	SPDT	AB6H-A1L2	AB6H-A1PL2	S: blue W: white	
		Ivianitanicu	DPDT	AB6H-A2L2	AB6H-A2PL2	Y: yellow	Flush Silhouette
Rectangular w/three-sided barrier		Momentary	SPDT	AB6G-M1①	AB6G-M1P①	B black G: green	
AB6G	Button	womentary	DPDT	AB6G-M2①	AB6G-M2P①	R: red	ø16
	Dutton	Maintained -	SPDT	AB6G-A1①	AB6G-A1P①	S: blue W: white	ø22
		Mantanou	DPDT	AB6G-A2①	AB6G-A2P①	Y: yellow	ø30
		Momentary	SPDT	AB6G-M1L2	AB6G-M1PL②	A: amber G: green	Miniature
	Lens	womonary	DPDT	AB6G-M2L②	AB6G-M2PL②	R: red	Pilot Lights
	Lono	Maintained -	SPDT	AB6G-A1L ²	AB6G-A1PL②	S: blue W: white	
		mamamou	DPDT	AB6G-A2L2	AB6G-A2PL2	Y: yellow	

- \bullet Specify a color code in place of \odot or $\ensuremath{\mathfrak{D}}$ in the Part No.
- See B-151 for dimensions.
- See B-166 for marking plate size and engraving area.
- 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. $\hbox{Example:} \textbf{AB6H-M2L} \underline{\textbf{B}}$

LB

ø16 A6 Series Miniature Switches & Pilot Lights

Dimensions (Pushbuttons)

All dimensions in mm.

APEM

Control Boxes

Emergency Stop Switches Enabling Switches

Safety Products

Terminal Blocks

Relays & Sockets Circuit

Protectors

Power Supplies

LED Illumination

Controllers

Operator Interfaces

Sensors AUTO-ID

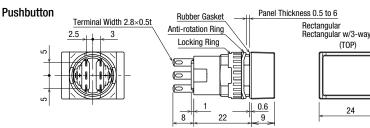
Flush Silhouette

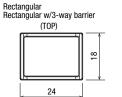
ø22

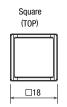
ø30

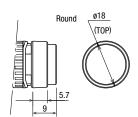
Miniature Pilot Lights

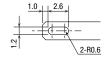
LB







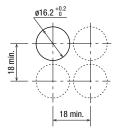




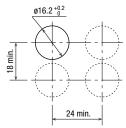
- * Solder/Tab Terminal
- See B-164 for lens and button maintenance parts.

Mounting Hole Layout

Round/Square



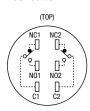
Rectangular w/3-way barrier



Note: Determine mounting centers to ensure easy operation.

Terminal Arrangement (bottom view)

Pushbutton



Note: SPDT has only NC1, NO1, and C1 terminals.

Selector Switches

Operator position can be changed by IDEC's original bezel rotating and locking system. The bezel can be locked at every 45° and bezel rotation is prevented while mounting on a panel.

Example: 3-position









Normal Operator Position

How to change the operator position



Pull out the bezel to release the lock. Rotate the bezel, and push it in at 45° intervals to lock the bezel.

Quantity: 1

Chana		Desition	0	Part No.		
Shape		Position	Contact	IP40	IP65	
Round		Maintained	SPDT	AS6M-2Y1	AS6M-2Y1P	
AS6M-□Y	90° position	Maintaineu	DPDT	AS6M-2Y2	AS6M-2Y2P	
<u> </u>	96 2-po	Spring return from right to left	SPDT	AS6M-21Y1	AS6M-21Y1P	
		Spring return from right to left	DPDT	AS6M-21Y2	AS6M-21Y2P	
	_	Maintained	DPDT	AS6M-3Y2	AS6M-3Y2P	
	45° ositior	Spring return from right to center	DPDT	AS6M-31Y2	AS6M-31Y2P	
	45° 3-position	Spring return from left to center	DPDT	AS6M-32Y2	AS6M-32Y2P	
		Spring return two-way	DPDT	AS6M-33Y2	AS6M-33Y2P	
Square	_	Maintained	SPDT	AS6Q-2Y1	AS6Q-2Y1P	
AS6Q-□Y	sition	Maintaineu	DPDT	AS6Q-2Y2	AS6Q-2Y2P	
-	90° 2-position	Spring return from right to left	SPDT	AS6Q-21Y1	AS6Q-21Y1P	
		Spring return from right to left	DPDT	AS6Q-21Y2	AS6Q-21Y2P	
1	45° 3-position	Maintained	DPDT	AS6Q-3Y2	AS6Q-3Y2P	
111000		Spring return from right to center	DPDT	AS6Q-31Y2	AS6Q-31Y2P	
	3 pg 4	Spring return from left to center	DPDT	AS6Q-32Y2	AS6Q-32Y2P	
		Spring return two-way	DPDT	AS6Q-33Y2	AS6Q-33Y2P	
Rectangular	_	 Maintained	SPDT	AS6H-2Y1	AS6H-2Y1P	
AS6H-□Y	90° 2-position	Maintaineu	DPDT	AS6H-2Y2	AS6H-2Y2P	
	19 g	Spring return from right to left	SPDT	AS6H-21Y1	AS6H-21Y1P	
		Spring return from right to left	DPDT	AS6H-21Y2	AS6H-21Y2P	
		Maintained	DPDT	AS6H-3Y2	AS6H-3Y2P	
	45° 3-position	Spring return from right to center	DPDT	AS6H-31Y2	AS6H-31Y2P	
	3-pg-8	Spring return from left to center	DPDT	AS6H-32Y2	AS6H-32Y2P	
	(,,	Spring return two-way	DPDT	AS6H-33Y2	AS6H-33Y2P	

ουπασι ομσταιισπ									
Position	Operation	► Left	↑ Center						
			SPDT						
90° 2-position	L R Maintained	NO NC		NO NC					
5-po			DPDT						
2.06	Spring return from right	Left Right Contact Contact NO NC NO NC C C C	-	Left Right Contact Contact NO NC NO NC C C C					
	C 12	DPDT							
45° 3-position	Maintained L C R Spring return from right L C R Spring return from left L C R Two-way return	Left Right Contact Contact NO NC NO NC C	Left Right Contact Contact NO NC NO NC C C	Left Right Contact NO NC NO NC NO NC CO					

· Bezel: black

• Knob: black

IDEC

APEM

Control Boxes

Emergency Stop Switches Enabling Switches

Safety Products **Explosion Proof**

Terminal Blocks Relays & Sockets

Circuit Protectors Power Supplies

LED Illumination Controllers

Operator Sensors AUTO-ID

Flush Silhouette

ø22

ø30

Miniature

Pilot Lights

Dimensions (Selector Switches)

Terminal Width 2.8×0.5t

All dimensions in mm.

Dimensions

All dimensions in mm.



Enabling Switches Safety Products

Explosion Proof

Terminal Blocks
Relays & Sockets

Power Supplies

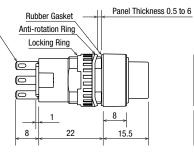
LED Illumination

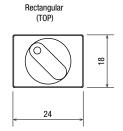
Controllers

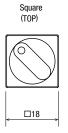
Operator

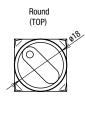
Sensors AUTO-ID

Circuit Protectors 2.5



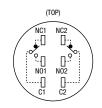






Terminal Arrangement (bottom view)

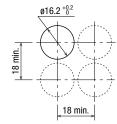
(Selector Switch)

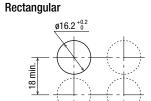


SPDT has NC1, NO1, and C1 only.

Mounting Hole Layout

Round/Square





24 min.

Note: Determine mounting centers to ensure easy operation.

Flush Silhouette

ø16

ø22

ø30

Miniature

Pilot Lights

LB

Key Selector Switches (Round)

Quantity: 1

Chana	Docition	Operation		Key Retained	Contact	Part No.		
Shape	Position	Operation		at ●	Contact	IP40	IP65	
Round			Α	L B	SPDT	AS6M-2KT1A	AS6M-2KT1PA	
AS6M			A		DPDT	AS6M-2KT2A	AS6M-2KT2PA	
		Maintained	В	Q 0	SPDT	AS6M-2KT1B	AS6M-2KT1PB	
	90°	iviaiiitaiiitu			DPDT	AS6M-2KT2B	AS6M-2KT2PB	
	2-position		С	Q ®	SPDT	AS6M-2KT1C	AS6M-2KT1PC	
					DPDT	AS6M-2KT2C	AS6M-2KT2PC	
		Spring return from right	В	Ū, 🔞	SPDT	AS6M-21KT1B	AS6M-21KT1PB	
		Spring return from right	0		DPDT	AS6M-21KT2B	AS6M-21KT2PB	
			А	$\mathbb{Q} \stackrel{\mathbb{Q}}{\longrightarrow} \mathbb{B}$	DPDT	AS6M-3KT2A	AS6M-3KT2PA	
			В	① © 6	DPDT	AS6M-3KT2B	AS6M-3KT2PB	
		Maintained	С	Q © ®	DPDT	AS6M-3KT2C	AS6M-3KT2PC	
			D	• © @	DPDT	AS6M-3KT2D	AS6M-3KT2PD	
			Е	Ū ® ®	DPDT	AS6M-3KT2E	AS6M-3KT2PE	
			G	① 6 6	DPDT	AS6M-3KT2G	AS6M-3KT2PG	
•	45°		Н	O ⊕ ®	DPDT	AS6M-3KT2H	AS6M-3KT2PH	
	3-position		В	Û (© 6	DPDT	AS6M-31KT2B	AS6M-31KT2PB	
		Spring return from right	D	0 © 0	DPDT	AS6M-31KT2D	AS6M-31KT2PD	
			G	① 6 6	DPDT	AS6M-31KT2G	AS6M-31KT2PG	
			С	Q ® ®	DPDT	AS6M-32KT2	AS6M-32KT2PC	
		Spring return from left	D	0 © 0	DPDT	AS6M-32KT2D	AS6M-32KT2PD	
			Н	Q (B)	DPDT	AS6M-32KT2H	AS6M-32KT2PH	
		Spring return two-way	D	• © 0	DPDT	AS6M-33KT2D	AS6M-33KT2PD	

- \bullet Key is retained at \bullet positions and removable at \bigcirc positions.
- \bullet Two keys are supplied.
- The front of key cylinder is made of metal.
- Disc tumbler key. Only one key number is available.

Contact Operation

Operator Position & Contact Operation (Top View)										
		Positions		Contact		↑ Center				
90° 2-position	L R L R			SPDT	NO NC	_	NO NC			
	Maintained Spring return from right				DPDT	Left Right Contact Contact NO NC NO NC	_	Left Right Contact Contact NO NC NO NC		
45° 3-position	L C R Maintained	Spring return from right	Spring return from left	Spring return two-way	DPDT	Left Right Contact Contact NO NC NO NC CONTACT CONTACT CONTACT NO NC NO NC NO NC	Left Right Contact Contact NO NC NO NC CONTACT CONTACT NO NC	Left Right Contact Contact NO NC NO NC		

Control Boxes Emergency Stop Switches Enabling Switches Safety Products **Explosion Proof** Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator Sensors AUTO-ID Flush Silhouette ø22 ø30 Miniature

A6

Pilot Lights

Control Boxes

Emergency
Stop Switches
Enabling
Switches
Safety Products

Explosion Proof
Terminal Blocks
Relays & Sockets
Circuit
Protectors
Power Supplies

LED Illumination
Controllers
Operator

Sensors AUTO-ID

Flush Silhouette

ø22 ø30 Miniature Pilot Lights

Key Selector Switches (Square)

Quantity: 1

Shape	Position	Operation		Key Retained	Contact	Par	No.
эпаре	PUSILIUII	Operation		at ●		IP40	IP65
Square			A	Q ®	SPDT	AS6Q-2KT1A	AS6Q-2KT1PA
AS6Q					DPDT	AS6Q-2KT2A	AS6Q-2KT2PA
		Maintained	В	Q 9	SPDT	AS6Q-2KT1B	AS6Q-2KT1PB
	90°				DPDT	AS6Q-2KT2B	AS6Q-2KT2PB
	2-position		c	Q ®	SPDT	AS6Q-2KT1C	AS6Q-2KT1PC
			U		DPDT	AS6Q-2KT2C	AS6Q-2KT2PC
		Spring return from right	В	© •	SPDT	AS6Q-21KT1B	AS6Q-21KT1PB
		Spring return from right	В		DPDT	AS6Q-21KT2B	AS6Q-21KT2PB
			Α	Q ®	DPDT	AS6Q-3KT2A	AS6Q-3KT2PA
			В	© G	DPDT	AS6Q-3KT2B	AS6Q-3KT2PB
		Maintained	С	Q [©] [®]	DPDT	AS6Q-3KT2C	AS6Q-3KT2PC
			D	0 0	DPDT	AS6Q-3KT2D	AS6Q-3KT2PD
			Е		DPDT	AS6Q-3KT2E	AS6Q-3KT2PE
			G	000	DPDT	AS6Q-3KT2G	AS6Q-3KT2PG
	45°		Н	O ⊕ ®	DPDT	AS6Q-3KT2H	AS6Q-3KT2PH
	3-position		В	© © 0	DPDT	AS6Q-31KT2B	AS6Q-31KT2PB
		Spring return from right	D	• © • • • • • • • • • • • • • • • • • •	DPDT	AS6Q-31KT2D	AS6Q-31KT2PD
			G	© 6	DPDT	AS6Q-31KT2G	AS6Q-31KT2PG
			С	O ®	DPDT	AS6Q-32KT2C	AS6Q-32KT2PC
		Spring return from left	D		DPDT	AS6Q-32KT2D	AS6Q-32KT2PD
			Н	⊕ ®	DPDT	AS6Q-32KT2H	AS6Q-32KT2PH
		Spring return two-way	D	0 0	DPDT	AS6Q-33KT2D	AS6Q-33KT2PD

- \bullet Key is retained at \bullet positions and removable at \bigcirc positions.
- Two keys are supplied.
- The front of key cylinder is made of metal.
- \bullet Disc tumbler key. Only one key number is available.

Contact Operation

	Operator Position & Contact Operation (Top View)								
Positions					Contact		↑ Center		
90° 2-position	L,	_R	L, R		SPDT	NO NC	_	NO NC	
	Maintained Spring return from right				DPDT	Left Right Contact Contact NO NC NO NC CONTACT CONTACT NO NC CONTACT NO NC CONTACT NO NC CONTACT NC	_	Left Right Contact Contact NO NC NO NC C	
45° 3-position	L C R Maintained	L C R Spring return from right	Spring return from left	Spring return two-way	DPDT	Left Right Contact Contact NO NC NO NC	Left Right Contact Contact NO NC NO NC	Left Right Contact Contact NO NC NO NC NO NC	

Key Selector Switches (Rectangular)

Quantity: 1

Shape	Position	Operation		Key Retained	Contact		Part No.
Jilape	I USIMUII	υμειαιισιί		at ●		IP40	IP65
Rectangular			A	Q ®	SPDT	AS6H-2KT1A	AS6H-2KT1PA
AS6H					DPDT	AS6H-2KT2A	AS6H-2KT2PA
		Maintained	В	Q 0	SPDT	AS6H-2KT1B	AS6H-2KT1PB
	90°				DPDT	AS6H-2KT2B	AS6H-2KT2PB
	2-position		C	Q ®	SPDT	AS6H-2KT1C	AS6H-2KT1PC
					DPDT	AS6H-2KT2C	AS6H-2KT2PC
		Spring return from right	В	Ū, 🛂	SPDT	AS6H-21KT1B	AS6H-21KT1PB
		Spring return from right	В		DPDT	AS6H-21KT2B	AS6H-21KT2PB
			Α	$\mathbb{Q} \stackrel{\mathbb{G}}{\longrightarrow} \mathbb{B}$	DPDT	AS6H-3KT2A	AS6H-3KT2PA
		Maintained	В	① © 6	DPDT	AS6H-3KT2B	AS6H-3KT2PB
			С	O ®	DPDT	AS6H-3KT2C	AS6H-3KT2PC
			D	0 © 0	DPDT	AS6H-3KT2D	AS6H-3KT2PD
			Е	L G R	DPDT	AS6H-3KT2E	AS6H-3KT2PE
			G	① 6 0	DPDT	AS6H-3KT2G	AS6H-3KT2PG
•	45°		Н	O G ®	DPDT	AS6H-3KT2H	AS6H-3KT2PH
	3-position		В	0 0 0	DPDT	AS6H-31KT2B	AS6H-31KT2PB
		Spring return from right	D	0 0	DPDT	AS6H-31KT2D	AS6H-31KT2PD
			G	① 6 6	DPDT	AS6H-31KT2G	AS6H-31KT2PG
			С	Q © ®	DPDT	AS6H-32KT2C	AS6H-32KT2PC
		Spring return from left	D	0 © 6	DPDT	AS6H-32KT2D	AS6H-32KT2PD
			Н	9 ®	DPDT	AS6H-32KT2H	AS6H-32KT2PH
		Spring return two-way	D	0 0	DPDT	AS6H-33KT2D	AS6H-33KT2PD

- \bullet Key is retained at \bullet positions and removable at \bigcirc positions.
- Two keys are supplied.
- The front of key cylinder is made of metal.
- \bullet Disc tumbler key. Only one key number is available.

Contact Operation

	Operator Position & Contact Operation (Top View)							
		Positions		Contact		↑ Center		
90° 2-position	Ļ	_R	L, *R		SPDT	NO NC	_	NO NC
	Maintained Spring return from right				DPDT	Left Right Contact Contact NO NC NO NC CONTACT CONTACT NO NC	_	Left Right Contact Contact NO NC NO NC C
45° 3-position	L C R Maintained	Spring return from right	Spring return from left	Spring return two-way	DPDT	Left Right Contact Contact NO NC NO NC CONTACT CONTACT CONTACT NO NC	Left Right Contact Contact NO NC NO NC	Left Right Contact Contact NO NC NO NC

Control Boxes Emergency Stop Switches Enabling Switches Safety Products **Explosion Proof** Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator Sensors AUTO-ID Flush Silhouette ø22 ø30 Miniature

Pilot Lights

Control Boxes

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Power Supplies

Controllers

Operator
Interfaces

Circuit Protectors

Sensors

AUTO-ID

Emergency Stop Switches Enabling Switches

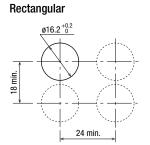
Right Contact Left Contact Rubber Gasket Panel Thickness 0.5 to 6 Terminal Width 2.8×0.5t Round Square Rectangular Anti-rotation Ring (TOP) (TOP) Locking Ring 9 8 26 ø18 □18 24

Mounting Hole Layout

Dimensions

Round/Square

ø16.2 ⁺⁰² 016.2 ⁺⁰² 81 81 81 18 min.

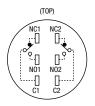


Note: Determine mounting centers to ensure easy operation.

Terminal Arrangement (bottom view)

All dimensions in mm.

(Key Selector Switch)



SPDT has NC1, NO1, and C1 only.

Spare Key

Flush Silhouette

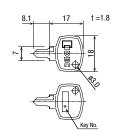
ø16 ø22

ø30

Miniature

Pilot Lights

LB



Control Boxes

Emergency
Stop Switches

Enabling
Switches

Safety Products

Explosion Proof

Relays & Sockets

Circuit
Protectors

Power Supplies

LED Illumination

Controllers

Operator
Interfaces

Sensors

AUTO-ID

Flush Silhouette

ø22ø30MiniaturePilot Lights

		Shape		Material	Part No.	Quantity	Remarks	
Locking Ring Wrench			Metal (nickel-plated brass)	MT-001	1	Used to tighten the locking ring when installing A6 control units into a panel.		
Lan	np Holder Tool ø10 <u></u>	55	1 09	Nitryl Rubber	0R-77	1	Used to install and remove the LED lamps.	
Len	s Removal Tool	60		Stainless Steel	MT-101	1	Used to install and remove lenses and buttons.	
	[Maintained] For pushbuttons, illuminated pushbuttons	For round/ square units (110°, 180°)			LB9Z-K2	1	Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.	
	Ü	For rectangular units (remains 110°, 180°)			LB9Z-K3P	1	Degree of protection: IP65 Used to protect pushbuttons from inadvertent operation.	
Guard	[Spring return] For pushbuttons, illuminated	For round/		Guard :polyacetal Cover	AL-K6S	1	Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.	
Switch Guard	pushbuttons	square units (180°)	etum	Spring Return	:polyarylate See B-161 for dimensions.	AL-K6SP	1	Degree of protection: IP65 (when used with IP65 control units) Used to protect pushbuttons from inadvertent operation.
		For			AL-KH6S	1	Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.	
	rectangular units (180°)				AL-KH6SP	1	Degree of protection: IP65 (when used with IP65 control units) Used to protect pushbuttons from inadvertent operation.	
	st Cover		①For round units	Translucent cover: elastomer	AL-D6	1	When mounting the control units with the dust	
		3	②For square units	Rear/black part: polypropylene	AL-DQ6	1	covers installed, refer to mounting hole layout on B-162.	
			③For rectangular units	See B-161 for dimensions.	AL-DH6	1	Operating temperature: -10 to +55°C	
Ter	Terminal Cover			Polyamide (white) See B-162 for dimensions.	AL-V6	10	When wiring the terminals, insert the lead wires into the terminal cover holes before soldering. Terminal cover is not attached and must be ordered separately.	
Soc	eket		①Solder Terminal	Enclosure: Polyamide (black) Terminal block:	AL-C6	1		
	②PC Board Terminal		Brass/zinc-plated See B-162 for dimensions.	AL-C6V	1	Plugs on the rear of the A series control units.		
Mounting Hole Plug Rubber		Nitryl rubber (black)	AL-B6	5	Degree of protection: IP65 Mounting Hole Section Mounting Hole Section			
Mo	Mounting Hole Plug Metal			Plug: metal (diecast) Locking ring: polyacetal Gasket: nitryl rubber	AL-BM6	1	Degree of protection: IP65 Tightening torque: 0.1 to 0.29 N·m. Mounting Hole Description of the control of t	

Control Boxes

Stop Switches

Explosion Proof
Terminal Blocks

Relays & Sockets

Power Supplies

LED Illumination

Controllers

Circuit

Protectors

Operator Interfaces

Sensors AUTO-ID

Emergency

Enabling Switches Safety Products Dimensions All dimensions in mm.

Switch Guard [Remains open]

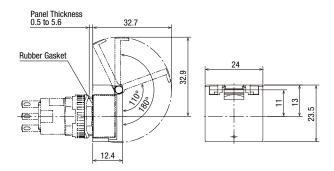
For round/square units (Degree of protection: IP40)

Panel Thickness 0.5 to 5.6

32.7

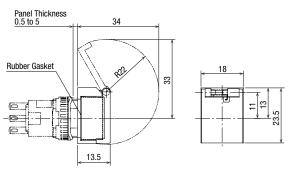
Rubber Gasket

For rectangular units (Degree of protection: IP65) LB9Z-K3P

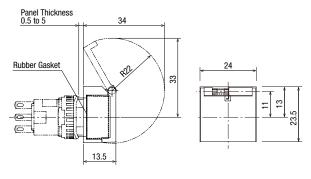


[Spring return]

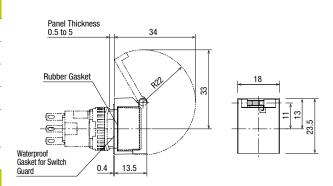
For round/square units (Degree of protection: IP40) AL-K6S



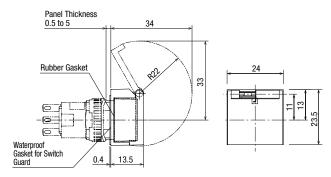
For rectangular units (Degree of protection: IP40) AL-KH6S



For round/square units (Degree of protection: IP65)



For rectangular units (Degree of protection: IP65) AL-KH6SP



Flush Silhouette

ø30

ø22

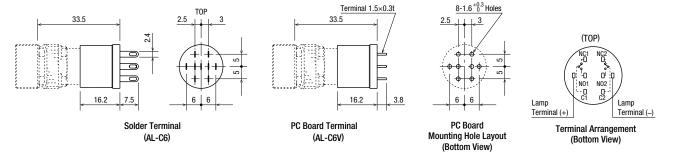
Miniature Pilot Lights

A6

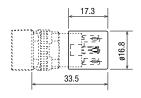
LB

Dimensions All dimensions in mm.

Socket



Terminal Cover



Note: When wiring the terminals, insert the lead wires into the terminal cover holes before soldering.

Mounting Hole Centers

Round/Square Units

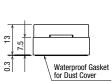
ø16.2 + 0.2

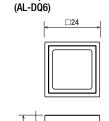
will to the state of the state

Rectangular Units

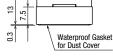
Dust Cover For Round Units

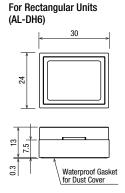




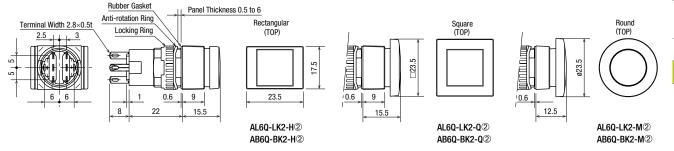


For Square Units





Large Lens and Large Button



APEM

Switches &

Control Boxes

Emergency Stop Switches Enabling Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit Protectors

Power Supplies

LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Flush Silhouette

16

ø22

ø30

Miniature

Pilot Lights

LB

. . .

Control Boxes

Emergency
Stop Switches

Enabling
Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit
Protectors

Power Supplies

LED Illumination

Controllers

Operator

Interfaces

Sensors

AUTO-ID

Grip Switch Housing

Grip Style Enabling Switch Housing

The following switches can be installed on the grip style enabling switch housing to be used as hand-held switches.

- AB6M pushbuttons (IP65, except for AB6M-V)
- AS6M selector switches (IP65)
- AS6M key selector switches (IP65)

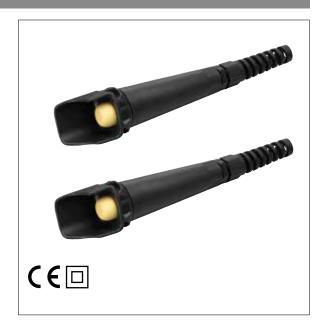
Note: Illuminated pushbuttons and pilot lights cannot be used. When using HE9Z-GSH51, be sure to used IP65 switches.

Part No.	Quantity
HE9Z-GSH51	1

Specifications

Electric Shock Protection Class Applicable Cable Class II (when using HE5B-M2P*) Outside diameter ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	-p	
Relative Humidity Storage Temperature -40 to 80°C (no freezing) Pollution Degree 3 Shock Resistance Damage limits: 500 m/s² Vibration Resistance Damage limits: 5 to 55 Hz, amplitude 0.5 mr Electric Shock Protection Class Applicable Cable Conduit Port Size Relative Humidity 45 to 85% RH (no condensation) Banach Relative Humidity Class II (when using HE5B-M2P*) Outside diameter Ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Applicable Standards	IEC/EN 60529
Storage Temperature —40 to 80°C (no freezing) Pollution Degree 3 Shock Resistance Damage limits: 500 m/s² Vibration Resistance Damage limits: 5 to 55 Hz, amplitude 0.5 mr Electric Shock Protection Class Class II (when using HE5B-M2P*) Applicable Cable Outside diameter Ø4.5 to 10 mm Conduit Port Size M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Operating Temperature	-25 to 60°C (no freezing)
Pollution Degree 3 Shock Resistance Damage limits: 500 m/s² Vibration Resistance Damage limits: 5 to 55 Hz, amplitude 0.5 mr Electric Shock Protection Class Class II (when using HE5B-M2P*) Applicable Cable Outside diameter ø4.5 to 10 mm Conduit Port Size M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Relative Humidity	45 to 85% RH (no condensation)
Shock Resistance Vibration Resistance Damage limits: 500 m/s² Damage limits: 5 to 55 Hz, amplitude 0.5 mr Electric Shock Protection Class Applicable Cable Conduit Port Size Damage limits: 5 to 55 Hz, amplitude 0.5 mr Class II (when using HE5B-M2P*) Outside diameter ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Storage Temperature	-40 to 80°C (no freezing)
Vibration Resistance Electric Shock Protection Class Applicable Cable Conduit Port Size Damage limits: 5 to 55 Hz, amplitude 0.5 mr Class II (when using HE5B-M2P*) Outside diameter ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Pollution Degree	3
Electric Shock Protection Class Applicable Cable Conduit Port Size Class II (when using HE5B-M2P*) Outside diameter ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Shock Resistance	Damage limits: 500 m/s ²
Applicable Cable Outside diameter ø4.5 to 10 mm M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Vibration Resistance	Damage limits: 5 to 55 Hz, amplitude 0.5 mm
Conduit Port Size M16 (cable gland is supplied with the grip st enabling switch housing) IP65 (with HE5B-M2P*)	Electric Shock Protection Class	Class II (when using HE5B-M2P*)
enabling switch housing) IP65 (with HE5B-M2P*)	Applicable Cable	Outside diameter ø4.5 to 10 mm
IP65 (with HE5B-M2P*)	Conduit Port Size	M16 (cable gland is supplied with the grip style enabling switch housing)
(with HE5B-M2P*)	Degree of Protection	IP65 (with HE5B-M2P*) NEMA type 4X indoor use only
Weight (approx.) 65g (grip style enabling switch housing only	Weight (approx.)	65g (grip style enabling switch housing only)

• The above specifications are for the grip style enabling switch housing only.



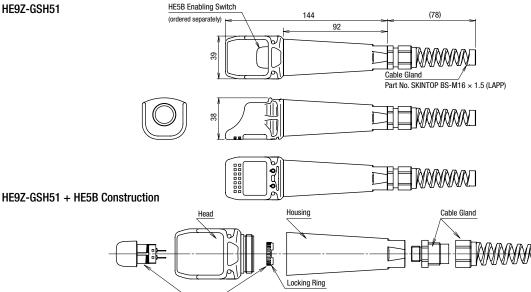
Notes

- The HE9Z-GSH51 grip style enabling switch housing does not include the HE5B enabling switch. The enabling switch must be ordered separately.
- The HE5B enabling switch must be installed and wired to the HE9Z-GSH51 grip style enabling switch housing by the user. For information on wiring, see the instruction sheet supplied with the HE9Z-GSH51.

Dimensions

Pilot Lights

LB

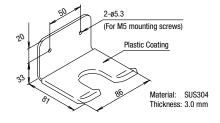


 Anti-rotation ring is not required when installing the HE5B enabling switch on the HE9Z-GSH51 grip style enabling switch housing. Use the locking ring only.

HE5B Enabling Switch (not supplied with the grip style enabling switch housing)

Mounting Bracket

Part No: HE9Z-GH1



All dimensions in mm.

A6

Shape		Specif	ication	Part No.	Quantity		Remarks	Pilot Lights
Lens	Round			AL6M-L2		Specify a color code in a	place of ② in the Part No.	hts
	Square	Polyarylate		AL6Q-L②		A (amber), C (clear), G (g R (red), S (blue), Y (yello	green) w)	APEM
	Rectangular			AL6H-L②		Use a C (clear) lens fo	Switches & Pilot Lights	
Button	Round			AB6M-B①				Emergency Stop Switches
	Square	Polyarylate		AB6Q-B①	5	Specify a color code in p B (black), G (green), R (r S (blue), W (white), Y (ye	place of ① in the Part No. red) ellow)	Enabling Switches
	Rectangular			AB6H-B①			,	Safety Products Explosion Proof
Marking Plate	Davind		White	AL6M-W	1			Terminal Blocks
	Round		Black	AL6M-B	1			Relays & Sockets
	Carrage	Asmilia	White	AL6Q-W	1			Circuit
	Square	Acrylic	Black	AL6Q-B				Protectors
	Destangular		White	AL6H-W				Power Supplies
	Rectangular		Black	AL6H-B				LED Illumination
Large Lens Unit		Translucent	t	AL6M-LK2-M2		• Chaoifu a galar anda is	n place of @ in the Dort No	Controllers
7	Round (installed on round units)	color lens		ALOM ENE M®		 Specify a color code in place of ② in the Part No. Degree of protection: IP65 		Operator Interfaces
	on round units)	Opaque button		AB6M-BK2-M2		② Color Code		Sensors
***	Square (installed	Translucent	t	AL6Q-LK2-Q2		Translucent Color Lens A (amber)	Opaque Button B (black)	AUTO-ID
	on square units)	Opaque button		AB6Q-BK2-Q2	1	G (green) G (green) R (red) R (red) S (blue) S (blue)		
***		Translucent	ţ	AL6Q-LK2-H2		W (white) Y (yellow)	W (white) Y (yellow)	Flush Silhouette
	Rectangular (installed on	color lens		ALOQ-LRZ-II@		Note: Use a white (W) trans illumination.	lucent color lens for pure white (JW)	ø16
1	square units)	Opaque button		AB6Q-BK2-H2		See B-162 for dimens	sions.	ø22
Locking Ring								ø30
		Polyacetal		HA9Z-LN		Black		Miniature
					10			Pilot Lights
Anti-rotation Ring								
		Stainless S	teel	LB9Z-LP1				
Spare key								A6
	Key selector (disc tumbler key)	Brass with nickel plati	ng	AS6-SK-132	2	• Thickness 1.8 mm		No.
Spare Key								1
						Specify a key number	in place of \square in the Part No.	
Reversible	Key selector (wave key)	Diecast zine (nickel-plat		LA9Z-SK-□	2	OH: Standard key (rever	sible)	
	(wave key)	(moker-pial	ou)			1H to 2H: Reversible key 3H to 6H: Non-reversible	y	
Non-reversible								
Gasket								
\bigcirc		Nitryl rubbe	er	AP6M-WM	10			

Control Boxes

Emergency
Stop Switches

Enabling

Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit
Protectors

Power Supplies

LED Illumination

Controllers

Operator Interfaces

> Sensors AUTO-ID

Flush Silhouette

ø22 ø30

Miniature Pilot Lights

ø16 A6 Series Miniature Switches & Pilot Lights

LED Lamps

Dimensions	Operating Voltage	Current Draw	Part No.	② Illumination Color Code	Quantity	Base	Dimensions (mm)
	5V DC ±5%		LATD-5@N	Specify a color code in place of ② in the Part No.	10		2.7 3.2
4 1111	12V AC/DC ±10%	IhmΔ	5 mA LATD-1@N	A: amber G: green JW: pure white R: red S: blue	10	Exclusive for A6 series	
	24V AC/DC ±10%		LATD-2@N		10		13.5

- \bullet Specify a color code in place of ${\it @}$ in the Part No. A (amber), G (green), JW (pure white), R (red), S (blue)
- Use a pure white (JW) LED lamp for yellow illumination.

Transformer

Quantity: 1

Transformer	Primary Voltage	Secondary Voltage	Part No.	Applicable LED
For 24V	100/110V AC	±10%	TWR512	
	200/220V AC	±10%	TWR522	LATD-2@N
-	400/440V AC	±10%	TWR542	

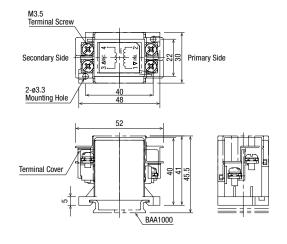
- Terminal cover is supplied as standard.
- Connect only one LATD to a transformer.

Specifications

•	
Operating Voltage	100/110V AC, 200/220V AC, 400/440V AC (50/60Hz)
Current Draw	2.4VA
Rated Insulation Voltage	600V
Insulation Resistance	100 MΩ minimum (500V DC megger)
Operating Temperature	-30 to +60°C (no freezing)
Storage Temperature	-40 to +80°C (no freezing)
Operating Humidity	35 to 85% RH (no condensation)
Vibration Resistance	Damage limits: 30Hz, amplitude 1.5 mm Operating extremes: 5 to 55Hz, amplitude 0.5 mm
Shock Resistance	Damage limits: 1,000 m/s ² Operating extremes: 100 m/s ²
Dielectric Strength	2,500V AC, 1 minute
Terminal Screw	M3.5
Applicable Wire	2 mm² maximum, 2 wires maximum
Weight (approx.)	87g

Dimensions

All dimensions in mm.



Accessories

r		

Shape	Material	Part No.	Quantity
DIN 35 mm Rail Weight: 200g approx	Aluminum Length: 1000 mm	BAA1000	10
End Clip Weight: 15g approx	Metal (zinc-plated steel) Applicable rail: BAA1000	BNL6	10

• See H-071 for DIN rail products.

Safety Precautions

- Turn off the power to A series control units before starting installation, removal, wiring, maintenance, and inspection of the control units. Failure to turn power off may cause electrical shocks or fire hazard.
- To avoid a burn on your hand, use the lamp holder tool when replacing lamps.
- For wiring, use wires of a proper size to meet the voltage and current requirements. Failure to tighten terminal screws may cause overheating and create a fire hazard.

Operating Instructions

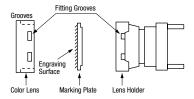
Replacement of Lens and Marking Plate

Removal

Remove the lens assembly (color lens, marking plate, lens holder, and spring) by holding the color lens recesses with the Lens Removal Tool (MT-101) and pulling it out. Remove the marking plate by disengaging the latches between the color lens and lens holder.

The marking plate must be engraved on the front side as shown at riaht.

When using a color film, insert it between the color lens and marking plate.



Installation

Place the marking plate on the lens holder in the correct direction, and press the color lens onto the lens holder to engage the latches. Put the spring on the lens holder and insert the lens holder into the housing in the correct direction.

Marking

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

Marking Plate & Engraving Area

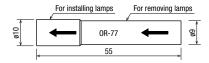
	Round	Square	Rectangular			
Built-in Marking Plate and Engraving Area	0 0	120				
Applicable Marking Film (not supplied)	• Thickness = 0.1 mm • Recommended film r		98			

Replacing the LED Lamp

Removal

Use the lamp holder tool (OR-77) to remove lamps. Do not use pliers. Installation

Use the lamp holder tool (OR-77) to install lamps. Note the correct side of the tool for removal or installation.



Panel Mounting

When mounting the control units into a panel, use the optional locking ring wrench (MT-001) to tighten the locking ring. Do not use pliers. Tightening torque must not exceed 0.88 N·m. Excessive tightening will damage the locking ring.

Wiring

Solder the terminal at 350°C within 3 seconds using a 60W soldering iron. Sn-Ag-Cu is recommended when using lead-free solder. When soldering, do not touch the control unit 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. Use a non-corrosive rosin flux.

Installing the Socket

Install the socket on the control unit with the TOP markings on the control unit and the socket placed in the same direction.

Switch Guard

IP65 (IEC 60529) switch guards must be used with IP65 (IEC 60529) control units only. Even if IP65 type switch guards are installed, enclosed type (IP40) control units are not made waterproof.

Item		Switch Guard	
		IP65 (IEC 60529)	IP40 (IEC 60529)
Control Unit	IP65	IP65	IP40
	IP40	IP40	IP40

APEM

Control Boxes

Emergency Stop Switches

Enabling Switches

Safety Products

Explosion Proof Terminal Blocks

Relays & Sockets

Circuit Protectors

Power Supplies LED Illumination

Controllers

Operator Interfaces

Sensors

AUTO-ID

Flush Silhouette

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Miniature

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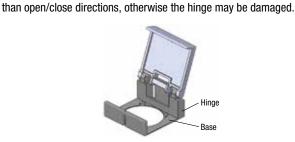
AUTO-ID

ø22

Operating Instructions

Opening/closing the Switch Guard (LB9Z-K2, LB9Z-K3P)

When opening/closing the switch guard while the switch guard is not installed on a panel, make sure to hold the hinge. Holding the base might result in damage. Also do not apply force on the guard in other



Operating Voltage of LED Lamps

The operating voltage of 5V DC is measured at complete DC.

Other Notes

Close Proximity Mounting

When mounting pilot lights or illuminated pushbuttons collectively or lighting them continuously, heat may cause the ambient temperature to rise above the rated operating temperature. When the mounting panel is not made of metal or when the control units are mounted in an enclosed panel, provide for ventilation or lower the operating voltage.

Replacement of Buttons (Illuminated/Non-illuminated)

Do not replace buttons of maintained action units while the button is in the locked position. Replacing the button in the locked position may damage the internal mechanism. Be sure to release the button before replacing.

Operating and Storage Environment

- 1. Make sure that the operating/storage temperature and humidity are within the ratings.
- Do not use enclosed type units in an environment subject to oil, water or dust accumulation. In such an area, use the waterproof/ oiltight units (IP65).

Microswitch Contacts

Do not connect NO and NC contacts of a microswitch to different voltages or different power sources to prevent a dead short-circuit.

IP65 Units

IP65 units are evaluated by conventional cutting and cooling oils, and can not be used with some special oils. Contact IDEC for resistance against specific oils.

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.
- 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.

ø30 Miniature

Pilot Lights

Flush Silhouette

LR



Ordering Terms and Conditions

Thank you for using IDEC Products.

By purchasing products listed in our catalogs, datasheets, and the like (hereinafter referred to as "Catalogs") you agree to be bound by these terms and conditions. Please read and agree to the terms and conditions before placing your order.

1. Notes on contents of Catalogs

- (1) Rated values, performance values, and specification values of IDEC products listed in this Catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined
 - Also, durability varies depending on the usage environment and usage
- (2) Reference data and reference values listed in Catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.
- (3) The specifications / appearance and accessories of IDEC products listed in Catalogs are subject to change or termination of sales without notice, for improvement or other reasons.
- (4) The content of Catalogs is subject to change without notice.

2. Note on applications

- (1) If using IDEC products in combination with other products, confirm the applicable laws / regulations and standards.
 - Also, confirm that IDEC products are compatible with your systems, machines, devices, and the like by using under the actual conditions. IDEC shall bear no liability whatsoever regarding the compatibility with IDEC products.
- (2) The usage examples and application examples listed in Catalogs are for reference purposes only. Therefore, when introducing a product, confirm the performance and safety of the instruments, devices, and the like before use. Furthermore, regarding these examples, IDEC does not grant license to use IDEC products to you, and IDEC offers no warranties regarding the ownership of intellectual property rights or non-infringement upon the intellectual property rights of third parties.
- (3) When using IDEC products, be cautious when implementing the following.
 - Use of IDEC products with sufficient allowance for rating and performance
 - Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that an IDEC product fails
 - Wiring and installation that ensures the IDEC product used in your system, machine, device, or the like can perform and function according to its specifications
- (4) Continuing to use an IDEC product even after the performance has deteriorated can result in abnormal heat, smoke, fires, and the like due to insulation deterioration or the like. Perform periodic maintenance for IDEC products and the systems, machines, devices, and the like in which they are used.
- (5) IDEC products are developed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use an IDEC product for these applications, unless otherwise agreed upon between you and IDEC, IDEC shall provide no guarantees whatsoever regarding IDEC products.
 - Use in applications that require a high degree of safety, including nuclear power control equipment, transportation equipment (railroads / airplanes / ships / vehicles / vehicle instruments, etc.), equipment for use in outer space, elevating equipment, medical instruments, safety devices, or any other equipment, instruments, or the like that could endanger life or human health
 - ii. Use in applications that require a high degree of reliability, such as provision systems for gas / waterworks / electricity, etc., systems that operate continuously for 24 hours, and settlement systems
 - Use in applications where the product may be handled or used deviating from the specifications or conditions / environment listed in the Catalogs. such as equipment used outdoors or applications in environments subject to chemical pollution or electromagnetic interference If you would like to use IDEC products in the above applications, be sure to consult with an IDEC sales representative.

3. Inspections

We ask that you implement inspections for IDEC products you purchase without delay, as well as thoroughly keep in mind management/maintenance regarding handling of the product before and during the inspection.

4. Warranty

(1) Warranty period

The warranty period for IDEC products shall be one (1) year after purchase or delivery to the specified location. However, this shall not apply in cases where there is a different specification in the Catalogs or there is another agreement in place between you and IDEC.

(2) Warranty scope

Should a failure occur in an IDEC product during the above warranty period for reasons attributable to IDEC, then IDEC shall replace or repair that product, free of charge, at the purchase location / delivery location of the product, or an IDEC service base. However, failures caused by the following reasons shall be deemed outside the scope of this warranty.

- The product was handled or used deviating from the conditions / environment listed in the Catalogs
- The failure was caused by reasons other than an IDEC product
- Modification or repair was performed by a party other than IDEC
- The failure was caused by a software program of a party other than IDFC
- The product was used outside of its original purpose
- Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and
- vii. The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from
- viii. The failure was due to other causes not attributable to IDEC (including cases of force majeure such as natural disasters and other disasters) Furthermore, the warranty described here refers to a warranty on the IDEC product as a unit, and damages induced by the failure of an IDEC product are excluded from this warranty.

5. Limitation of liability

The warranty listed in this Agreement is the full and complete warranty for IDEC products, and IDEC shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to an IDEC product.

6. Service scope

The prices of IDEC products do not include the cost of services, such as dispatching technicians. Therefore, separate fees are required in the following cases.

- (1) Instructions for installation / adjustment and accompaniment at test operation (including creating application software and testing operation, etc.)
- (2) Maintenance inspections, adjustments, and repairs
- (3) Technical instructions and technical training
- (4) Product tests or inspections specified by you

The above content assumes transactions and usage within your region. Please consult with an IDEC sales representative regarding transactions and usage outside of your region. Also, IDEC provides no guarantees whatsoever regarding IDEC products sold outside your region.

IDEC CORPORATION

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