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.









• See website for details on approvals and standards.

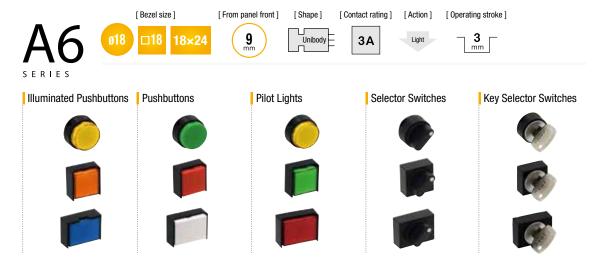
Suitable for a wide variety of office and factory aplications.

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

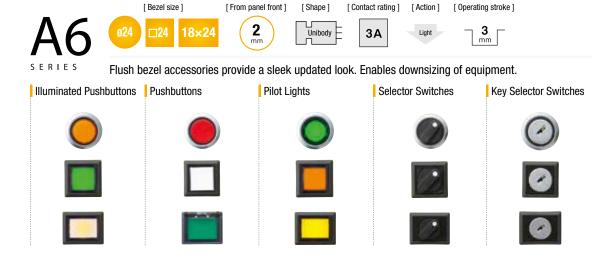
The LED lamp contains a current-limiting resistor and a diode for protection against reverse connection.

Degree of protection: IP40 and IP65 (IEC 60529)

Standard Bezel



Flush Bezel



Control Boxes Emergency Stop Switches Enabling Switches Safety Products **Explosion Proof**

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 30/60 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 Materia	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)						
Storag	je 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	riddings (EATD)								
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 2 N	LATD-2@N					
	Lamp Base	Exclusive for A series control units	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 pro	current circuit otection circuit circuit orotection 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		20 to 100 0 (no nocenig)					
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)					
Insula	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					
Vibration 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					
Mechanical Durability (minimum operations)		Momentary: 1,000,000 operations Maintained: 100,000 operations Selector Switch: 250,000 operations Key Selector Switch: 250,000 operations					
Electrical Durability (minimum 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

		Operating			Part No.	Quantity:
Shape	Operation	Operating Voltage	Contact	IP40	IP65	Color Code
Round		romage	SPDT	AL6M-M112	AL6M-M11P2	00.01 0000
AL6M		5V DC	DPDT	AL6M-M21②	AL6M-M21P2	
			SPDT	AL6M-M13②	AL6M-M13P2	
	Momentary	12V AC/DC	DPDT	AL6M-M23②	AL6M-M23P2	_
			SPDT	AL6M-M142	AL6M-M14P2	
		24V AC/DC	DPDT	AL6M-M24②	AL6M-M24P2	
			SPDT	AL6M-A112	AL6M-A11P2	
		5V DC	DPDT	AL6M-A212	AL6M-A21P2	
			SPDT	AL6M-A13②	AL6M-A13P2	
	Maintained	12V AC/DC	DPDT	AL6M-A23②	AL6M-A23P2	
			SPDT	AL6M-A142	AL6M-A14P2	_
		24V AC/DC	DPDT	AL6M-A242	AL6M-A24P2	
Square			SPDT	AL6Q-M112	AL6Q-M11P2	
AL6Q		5V DC	DPDT	AL6Q-M212	AL6Q-M21P2	
			SPDT	AL6Q-M13②	AL6Q-M13P2	
	Momentary	12V AC/DC	DPDT	AL6Q-M23②	AL6Q-M23P2	
			SPDT	AL60-M142	AL6Q-M14P2	
		24V AC/DC	DPDT	AL6Q-M242	AL6Q-M24P2	
			SPDT	AL6Q-A11@	AL6Q-A11P2	
		5V DC	DPDT	AL6Q-A21@	AL6Q-A21P2	
•		12V AC/DC	SPDT	AL6Q-A13②	AL6Q-A13P2	
	Maintained		DPDT	AL6Q-A23@	AL6Q-A23P2	Specify a color code in
		24V AC/DC	SPDT	AL6Q-A142	AL6Q-A14P2	place of ② in the Part No.
			DPDT	AL6Q-A242	AL6Q-A24P2	A: amber
Rectangular			SPDT	AL6H-M112	AL6H-M11P2	G: green JW: pure white
AL6H		5V DC	DPDT	AL6H-M21@	AL6H-M21P2	R: red
			SPDT	AL6H-M13@	AL6H-M13P2	S: blue
	Momentary	12V AC/DC	DPDT	AL6H-M232	AL6H-M23P2	Y: yellow
			SPDT	AL6H-M142	AL6H-M14P2	
		24V AC/DC	DPDT	AL6H-M242	AL6H-M24P2	
			SPDT	AL6H-A112	AL6H-A11P2	
		5V DC	DPDT	AL6H-A21②	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			SPDT	AL6G-M112	AL6G-M11P2	
w/three-sided barrier		5V DC	DPDT	AL6G-M21@	AL6G-M21P2	
AL6G			SPDT	AL6G-M13@	AL6G-M13P2	
	Momentary	12V AC/DC	DPDT	AL6G-M23②	AL6G-M23P2	
			SPDT	AL6G-M142	AL6G-M14P2	
		24V AC/DC	DPDT	AL6G-M24②	AL6G-M24P2	
			SPDT	AL6G-A11@	AL6G-A11P2	
		5V DC	DPDT	AL6G-A21②	AL6G-A21P2	-
			SPDT	AL6G-A13②	AL6G-A13P2	
•	Maintained	12V AC/DC	DPDT	AL6G-A23②	AL6G-A23P②	-
			SPDT	AL6G-A142	AL6G-A14P2	
		24V AC/DC	DPDT	AL6G-A24②	AL6G-A24P2	-

- 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

				Quantity: 1	을
Shape	Operating Voltage		rt No.	② Illumination Color Code	Lig
Round		IP40	IP65	Coloi Code	ilot Lights
AL6M-P	5V DC	AL6M-P1②	AL6M-P1P2		
		ALUM 119	ALOW THE		APEM
	12V AC/DC	ALCM DO	ALCM DOD®		Switches & Pilot Lights
	12V AC/DC	AL6M-P3②	AL6M-P3P②		Control Boxes
					Emergency Stop Switches
	24V AC/DC	AL6M-P42	AL6M-P4P2		Enabling Switches
Square					Safety Products
AL6Q-P	5V DC	AL6Q-P1©	AL6Q-P1P2		Explosion Proof
					Terminal Blocks
					Relays & Sockets
	12V AC/DC	AL6Q-P3②	AL6Q-P3P2		Circuit Protectors
	24V AC/DC	AL6Q-P4②		Specify a color code in place of ② in the Part No.	Power Supplies
			AL6Q-P4P2		LED Illumination
				A: amber G: green	Controllers
Rectangular AL6H-P	EV DC	ALCII D4®	ALOU DADO	JW: pure white R: red S: blue Y: yellow	Operator Interfaces
	5V DC	AL6H-P1②	AL6H-P1P2		Sensors
					AUTO-ID
	12V AC/DC	AL6H-P3②	AL6H-P3P2		
					Flush Silhouette
	24V AC/DC	AL6H-P42	AL6H-P4P2		ø16
Rectangular w/three-sided barrier					ø22
AL6G-P	5V DC	AL6G-P1②	AL6G-P1P2		ø30
					Miniature
					Pilot Lights
	12V AC/DC	AL6G-P3②	AL6G-P3P2		
					LB
	24V AC/DC	AL6G-P4②	AL6G-P4P ²		A6
					AU

- 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.

Control Boxes

Emergency
Stop Switches

Enabling
Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

LED Illumination

Controllers

Operator Interfaces

> Sensors AUTO-ID

Flush Silhouette

Circuit

Protectors
Power Supplies

Dimensions (Illuminated Pushbuttons & Pilot Lights)

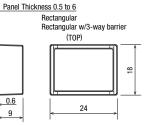
All dimensions in mm.

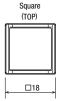


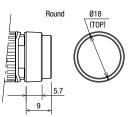
Terminal Width 2.8×0.5t

Anti-rotation Ring

Locking Ring







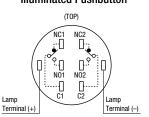
Pilot Light

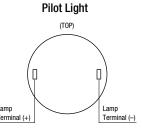
Illuminated Pushbutton



Terminal Arrangement (bottom view)

Illuminated Pushbutton

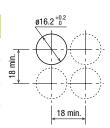




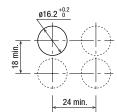
1NO: NC1, NO1, C1 terminal only

Mounting Hole Layout

Round/Square



Rectangular Rectangular w/3-way barrier



Note: Determine mounting centers to ensure easy operation.

LB

ø22

ø30 Miniature

Pilot Lights

Δ6

Pushbuttons

Quantity: 1

		Operation	_		Part No.	Quantity: 1	lot Lights
Shape	Button Style		Contact	IP40	IP65	Color Code ①②	-ig
Round			SPDT	AB6M-M1①	AB6M-M1P①	B black	र्ड
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 &
		M	SPDT	AB6M-M1L2	AB6M-M1PL2	A: amber	Pilot Lights
	Long	Momentary -	DPDT	AB6M-M2L2	AB6M-M2PL②	G: green R: red	Control Boxes
	Lens	Maintainad	SPDT	AB6M-A1L②	AB6M-A1PL2	S: blue W: white	Emergency Stop Switches
		Maintained -	DPDT	AB6M-A2L2	AB6M-A2PL2	Y: yellow	Enabling Switches
Square		Mamantany	SPDT	AB6Q-M1①	AB6Q-M1P①	B black	Safety Products
AB6Q	Button	Momentary	DPDT	AB6Q-M2①	AB6Q-M2P①	G: green R: red	Explosion Proof
	Dutton	Maintained	SPDT	AB6Q-A1①	AB6Q-A1P①	S: blue W: white	
		Maintained -	DPDT	AB6Q-A2①	AB6Q-A2P①	Y: yellow	Terminal Blocks
		Momentary	SPDT	AB6Q-M1L ²	AB6Q-M1PL@	A: amber	Relays & Sockets
	Lens	Womentary	DPDT	AB6Q-M2L ²	AB6Q-M2PL2	G: green R: red	Circuit Protectors
	Lens	Maintained -	SPDT	AB6Q-A1L@	AB6Q-A1PL2	S: blue W: white	Power Supplies
			DPDT	AB6Q-A2L@	AB6Q-A2PL2	Y: yellow	LED Illumination
Rectangular		Momentary -	SPDT	AB6H-M1①	AB6H-M1P®	B black	
AB6H	Button	Womentary	DPDT	AB6H-M2①	AB6H-M2P①	G: green R: red	Controllers
. 6	Dutton	Maintained -	SPDT	AB6H-A1①	AB6H-A1P①	S: blue W: white	Operator Interfaces
			DPDT	AB6H-A2①	AB6H-A2P①	Y: yellow	Sensors
		Momentary	SPDT	AB6H-M1L2	AB6H-M1PL@	A: amber G: green	AUTO-ID
a little	Lens	Womentary	DPDT	AB6H-M2L2	AB6H-M2PL ²	R: red	
	Long	Maintained -	SPDT	AB6H-A1L ²	AB6H-A1PL@	S: blue W: white	
		Waintainea	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
		iviaintained	DPDT	AB6G-A2①	AB6G-A2P①	Y: yellow	ø30
		Momentary	SPDT	AB6G-M1L2	AB6G-M1PL@	A: amber G: green	Miniature
	Lens	wiomentary	DPDT	AB6G-M2L@	AB6G-M2PL@	R: red	Pilot Lights
	Lens	Maintained -	SPDT	AB6G-A1L@	AB6G-A1PL@	S: blue W: white	
		- Wantanio	DPDT	AB6G-A2L2	AB6G-A2PL ²	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

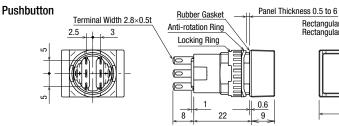
ø22

ø30

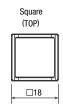
Miniature

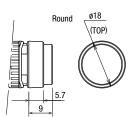
Pilot Lights

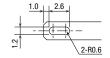
LB



Rectangular Rectangular w/3-way barrier (TOP) 8 24



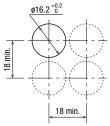




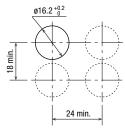
- * Solder/Tab Terminal
- See B-164 for lens and button maintenance parts.

Mounting Hole Layout

Round/Square



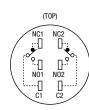
Rectangular w/3-way barrier



Note: Determine mounting centers to ensure easy operation.

Terminal Arrangement (bottom view)

Pushbutton



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

Control Boxes
Emergency
Stop Switches

Enabling Switches Safety Products

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

				Quantity. 1	
Position		Contact	Part No.		
	1 OSILIOI1	Contact	IP40	IP65	
_	Maintained	SPDT	AS6M-2Y1	AS6M-2Y1P	
sition)	Maintaineu	DPDT	AS6M-2Y2	AS6M-2Y2P	
6 g	Coring roturn 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	
sition	Spring return from right to center	DPDT	AS6M-31Y2	AS6M-31Y2P	
4 6 F	Spring return from left to center	DPDT	AS6M-32Y2	AS6M-32Y2P	
	Spring return two-way	DPDT	AS6M-33Y2	AS6M-33Y2P	
_	Maintained	SPDT	AS6Q-2Y1	AS6Q-2Y1P	
), sition	Mamameu	DPDT	AS6Q-2Y2	AS6Q-2Y2P	
	Caring roturn from right to left	SPDT	AS6Q-21Y1	AS6Q-21Y1P	
	Spring return from right to left	DPDT	AS6Q-21Y2	AS6Q-21Y2P	
	Maintained	DPDT	AS6Q-3Y2	AS6Q-3Y2P	
	Spring return from right to center	DPDT	AS6Q-31Y2	AS6Q-31Y2P	
3-pg-8	Spring return from left to center	DPDT	AS6Q-32Y2	AS6Q-32Y2P	
(,)	Spring return two-way	DPDT	AS6Q-33Y2	AS6Q-33Y2P	
_	Maintained	SPDT	AS6H-2Y1	AS6H-2Y1P	
) Eig.	Mamameu	DPDT	AS6H-2Y2	AS6H-2Y2P	
6 6d-	Caring ratura 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	
Sitior	Spring return from right to center	DPDT	AS6H-31Y2	AS6H-31Y2P	
75 A	Spring return from left to center	DPDT	AS6H-32Y2	AS6H-32Y2P	
"	Spring return two-way	DPDT	AS6H-33Y2	AS6H-33Y2P	
	45° 90° 45° 90° 45° 90° 3-position 2-position 2-position 2-position 2-position	Maintained Spring return from right to center Spring return from right to center Spring return from left to center Spring return from right to left Maintained Spring return from right to left Maintained Spring return from right to center Spring return from right to center Spring return from left to center Spring return from right to left Maintained Spring return from right to left Maintained Spring return from right to center Spring return from right to left Maintained Spring return from right to center Spring return from right to center Spring return from right to center	Maintained SPDT DPDT Spring return from right to left OPDT Spring return from right to center Spring return from right to left Maintained SPDT DPDT Spring return from right to center DPDT Spring return from right to center Spring return from right to center Spring return from left to center DPDT Spring return from right to center Spring return from right to center DPDT Spring return from right to left DPDT Spring return from right to center DPDT	Position Page Position Page Page	

Po	osition	Operation	► Left	↑ Center	
				SPDT	
	90° 2-position	L R Maintained	NO NC	_	0 0 0 NC •
	2-po			DPDT	
	90°2	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 12			
	45° 3-position	Maintained L C R Spring return from right L C R Spring return from left Two-way return	Left Right Contact NO NC NO NC C	Left Right Contact Contact NO NC NO NC	Left Right Contact Contact NO NC NO NC NO NC O

Contact Operation

Bezel: black

• Knob: black

Explosion Proof
Terminal Blocks
Relays & Sockets
Circuit
Protectors

Controllers
Operator Interfaces
Sensors

AUTO-ID

Power Supplies

Flush Silhouette

ø22

ø30

Miniature

Pilot Lights

ΙR

Δ6

Dimensions (Selector Switches)

All dimensions in mm.

Dimensions

All dimensions in mm.



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

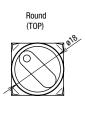
Pilot Lights

LB

Panel Thickness 0.5 to 6 Terminal Width 2.8×0.5t Rubber Gasket Anti-rotation Ring 3 Locking Ring 8 8 15.5

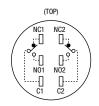
Rectangular (TOP) 9 24

Square (TOP) □18



Terminal Arrangement (bottom view)

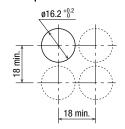
(Selector Switch)

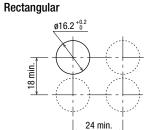


SPDT has NC1, NO1, and C1 only.

Mounting Hole Layout

Round/Square





Note: Determine mounting centers to ensure easy operation.

Key Selector Switches (Round)

Quantity: 1

Chana	Desition Operation			Key Retained	Contact	Part No.		
Shape	Position	Operation		at ●	Contact	IP40	IP65	
Round			Α	Q ®	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	
<u> </u>			D	O © O	DPDT	AS6M-3KT2D	AS6M-3KT2PD	
			Е	Ū Ø ®	DPDT	AS6M-3KT2E	AS6M-3KT2PE	
			G	0 0	DPDT	AS6M-3KT2G	AS6M-3KT2PG	
▼	45°		Н	O O R	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	O (B)	DPDT	AS6M-32KT2H	AS6M-32KT2PH	
		Spring return two-way	D	• © 0	DPDT	AS6M-33KT2D	AS6M-33KT2PD	

- Key is retained at positions and removable at 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 TR				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 CONTACT CONTACT 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	Left Right Contact Contact NO NC NO NC CONTACT CONTACT NO NC	Left Right Contact Contact NO NC NO NC CO 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

LB

Pilot Lights

A6

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

Chana	Position	Onevation	H	Key Retained	Contact	Parl	t No.
Shape	Position	Operation		at ●	Contact	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°	Walitaliea	, D		DPDT	AS6Q-2KT2B	AS6Q-2KT2PB
	2-position		c	O ®	SPDT	AS6Q-2KT1C	AS6Q-2KT1PC
					DPDT	AS6Q-2KT2C	AS6Q-2KT2PC
		Spring return from right	В	Ū, 🕦	SPDT	AS6Q-21KT1B	AS6Q-21KT1PB
		Spring return from right	6		DPDT	AS6Q-21KT2B	AS6Q-21KT2PB
			А	$\mathbb{Q} \stackrel{\mathbb{O}}{\longrightarrow} \mathbb{R}$	DPDT	AS6Q-3KT2A	AS6Q-3KT2PA
			В		DPDT	AS6Q-3KT2B	AS6Q-3KT2PB
		Maintained	С	O ® ®	DPDT	AS6Q-3KT2C	AS6Q-3KT2PC
			D	0 0	DPDT	AS6Q-3KT2D	AS6Q-3KT2PD
			Е		DPDT	AS6Q-3KT2E	AS6Q-3KT2PE
			G	© 6	DPDT	AS6Q-3KT2G	AS6Q-3KT2PG
	45°		Н	O O R	DPDT	AS6Q-3KT2H	AS6Q-3KT2PH
	3-position		В	0 0 0	DPDT	AS6Q-31KT2B	AS6Q-31KT2PB
		Spring return from right	D	0 0	DPDT	AS6Q-31KT2D	AS6Q-31KT2PD
			G	⊕ 0	DPDT	AS6Q-31KT2G	AS6Q-31KT2PG
			С	O ®	DPDT	AS6Q-32KT2C	AS6Q-32KT2PC
		Spring return from left	D	0 0	DPDT	AS6Q-32KT2D	AS6Q-32KT2PD
			Н	O (R)	DPDT	AS6Q-32KT2H	AS6Q-32KT2PH
		Spring return two-way	D		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			
	L, R L, *\R			SPDT	NO NC	_	NO NC		
90° 2-position	N	Maintained	Spring return from ri	ght	DPDT	Left Right Contact Contact NO NC NO NC C	_	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 C	Left Right Contact Contact NO NC NO NC C1 C1	Left Right Contact Contact NO NC NO NC	

Key Selector Switches (Rectangular)

Quantity: 1

Shape	Position	Operation		Key Retained	Contact		Part No.
Jilape	า บอเนบท	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, J	SPDT	AS6H-21KT1B	AS6H-21KT1PB
		opining return monitrigint	В		DPDT	AS6H-21KT2B	AS6H-21KT2PB
			A	$\mathbb{Q} \stackrel{\mathbb{C}}{\longrightarrow} \mathbb{B}$	DPDT	AS6H-3KT2A	AS6H-3KT2PA
			В	© G	DPDT	AS6H-3KT2B	AS6H-3KT2PB
c &		Maintained	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			
	L R L R			SPDT	NO NC	_	NO NC		
90° 2-position	N	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 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	Left Right Contact Contact NO NC NO NC CONTACT CONTACT NO NC	Left Right Contact Contact NO NC NO NC CO 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

IDEC

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

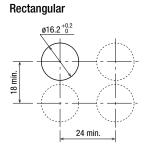
Right Contact Left Contact Rubber Gasket Panel Thickness 0.5 to 6 Terminal Width 2.8×0.5t Round Square Rectangular Anti-rotation Ring (TOP) (TOP) Locking Ring 9 8 26 ø18 □18 24

Mounting Hole Layout

Dimensions

Round/Square

ø16.2 ⁺⁰² ∞16.2 ⁺⁰² 80 18 min.

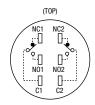


Note: Determine mounting centers to ensure easy operation.

Terminal Arrangement (bottom view)

All dimensions in mm.

(Key Selector Switch)



SPDT has NC1, NO1, and C1 only.

Spare Key

Flush Silhouette

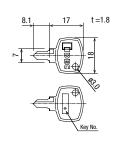
ø16 ø22

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

							Packago		
		Shape		Material	Part No.	Ordering No.	Package Quantity	Remarks	
Loc	king Ring Wrench	60	- ø18 -	Metal (nickel-plated brass)	MT-001	MT-001	1	Used to tighten the locking ring when installing A6 control units into a panel.	
Lamp Holder Tool			Nitryl Rubber	OR-77	OR-77	1	Used to install and remove the LED lamps.		
Len	s Removal Tool	60		Stainless Steel	MT-101	MT-101	1	Used to install and remove lenses and buttons.	
	[Maintained] For pushbuttons, illuminated pushbuttons	For round/ square units (110°, 180°)			LB9Z-K2	LB9Z-K2	1	Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.	
	Ü	For rectangular units (remains 110°, 180°)			LB9Z-K3P	LB9Z-K3P	1	Degree of protection: IP65 Used to protect pushbuttons from inadvertent operation.	
Guard	[Spring return] For pushbuttons, illuminated pushbuttons	For round/		Guard :polyacetal Cover	AL-K6S	AL-K6S	1	Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.	
Switch Guard	pusiisuttolis	square units (180°)	Spring Return	:polyarylate See B-161 for dimensions.	AL-K6SP	AL-K6SP	1	Degree of protection: IP65 (when used with IP65 control units) Used to protect pushbuttons from inadvertent operation.	
		For rectangular		Spring		AL-KH6S	AL-KH6S	1	 Degree of protection: IP40 Used to protect pushbuttons from inadvertent operation.
		units (180°)			AL-KH6SP	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	AL-D6	1	When mounting the control units with the	
			②For square units	Rear/black part: polypropylene	AL-DQ6	AL-DQ6	1	dust covers installed, refer to mounting hole layout on B-162.	
			③For rectangular units	See B-161 for dimensions.	AL-DH6	AL-DH6	1	Operating temperature: -10 to +55°C	
Teri	See		Polyamide (white) See B-162 for dimensions.	AL-V6	AL-V6PN10	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	ket		①Solder Terminal	Enclosure: Polyamide (black) Terminal block:	AL-C6	AL-C6	1	Plugs on the rear of the A series control	
		2	②PC Board Terminal	Brass/zinc-plated See B-162 for dimensions.	AL-C6V	AL-C6V	1	units.	
Moi	unting Hole Plug		Rubber	Nitryl rubber (black)	AL-B6	AL-B6PN05	5	• Degree of protection: IP65 Mounting Hole	
Moi	unting Hole Plug		Metal	Plug: metal (diecast) Locking ring: polyacetal Gasket:	AL-BM6	AL-BM6	1	Degree of protection: IP65 Tightening torque: 0.1 to 0.29 N·m. Mounting Hole	

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

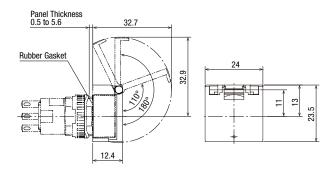
Dimensions All dimensions in mm.

Switch Guard [Remains open]

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

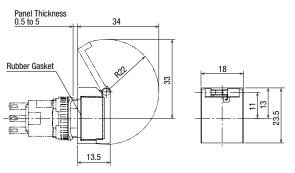
Panel Thickness 0.5 to 5.6 32.7 Rubber Gasket 32.9 ŝ 13 12.4

For rectangular units (Degree of protection: IP65)

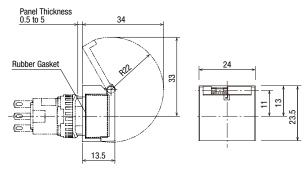


[Spring return]

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



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



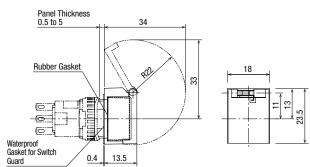
Flush Silhouette

ø22 ø30 Miniature

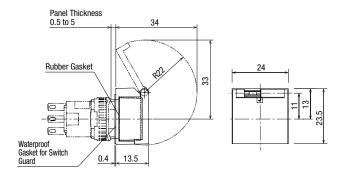
Pilot Lights

LB

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

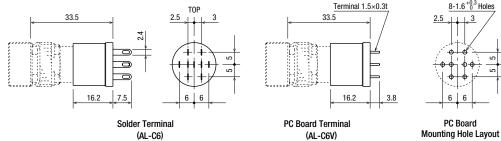


For rectangular units (Degree of protection: IP65) AL-KH6SP



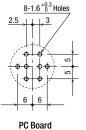
Socket

Dimensions

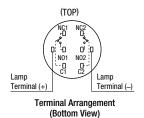


For Square Units

(AL-DQ6)



(Bottom View)

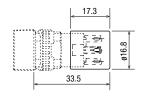


Terminal Cover

Dust Cover

(AL-D6)

For Round Units

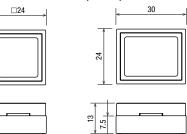


When wiring the terminals, insert the lead wires into the terminal cover holes before soldering.

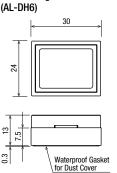
Mounting Hole Centers

Round/Square Units

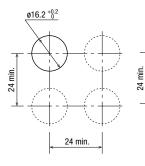
Rectangular Units

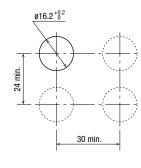


Waterproof Gasket for Dust Cover



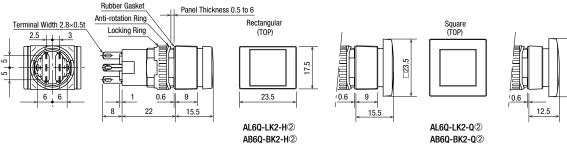
For Rectangular Units

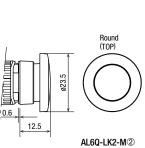




Large Lens and Large Button

Waterproof Gasket for Dust Cover





AB6Q-BK2-M2

APEM

Control Boxes

Emergency Stop Switches Enabling

Switches Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit Protectors

Power Supplies

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Miniature

Pilot Lights

LB

Control Boxes

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ø22

ø30

Miniature Pilot Lights

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.	Ordering No.	Quantity
HE9Z-GSH51	HE9Z-GSH51	1

Specifications

Applicable Standards	IEC/EN 60529
Operating Temperature	-25 to 60°C (no freezing)
Relative Humidity	45 to 85% RH (no condensation)
Storage Temperature	-40 to 80°C (no freezing)
Pollution Degree	3
Shock Resistance	Damage limits: 500 m/s ²
Vibration Resistance	Damage limits: 5 to 55 Hz, amplitude 0.5 mm
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 style enabling switch housing)
Degree of Protection	IP65 (with HE5B-M2P*) NEMA type 4X indoor use only (with HE5B-M2P*)
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

HE9Z-GSH51

HE5B Enabling Switch
(ordered separately)

92

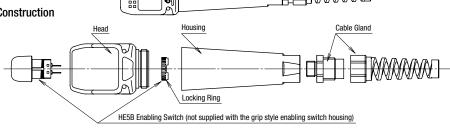
Cable Gland
Part No. SKINTOP BS-M16 × 1.5 (LAPP)

Beginning Cable Gland
Part No. SKINTOP BS-M16 × 1.5 (LAPP)

HE9Z-GSH51 + HE5B Construction

LB HE

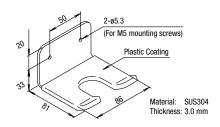
A6



 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.

Mounting Bracket

Part No: HE9Z-GH1



All dimensions in mm.

Dimensions All dimensions in mm.

DITTICTISTOTIS				P.				
Shape		Specifi	cation	Part No.	Ordering No.	Package Quantity	Remarks	& Pilot Lights
Lens	Round			AL6M-L2	AL6M-L@PN05		Specify a color code in place of ② in the	hts
	Square	Polyarylat	е	AL6Q-L2	AL6Q-L@PN05	-	Part No. A (amber), C (clear), G (green) R (red), S (blue), Y (yellow)	APEM
	Rectangular	-		AL6H-L②	AL6H-L@PN05	-	Use a C (clear) lens for JW (pure white) illumination.	Switches & Pilot Lights
Button	Round			AB6M-B①	AB6M-B①PN05			Control Boxes Emergency Stop Switches
	Square	Polyarylat	е	AB6Q-B①	AB6Q-B①PN05	5	Specify a color code in place of ① in the Part No. B (black), G (green), R (red)	Enabling Switches
	Rectangular			АВ6Н-В①	AB6H-B①PN05	-	S (blue), W (white), Y (yellow)	Safety Products Explosion Proof
Marking Plate			White	AL6M-W	AL6M-WPN05			Terminal Blocks
	Round		Black	AL6M-B	AL6M-BPN05	-		Relays & Sockets
	_	1	White	AL6Q-W	AL6Q-WPN05			Circuit
1	Square	Acrylic	Black	AL6Q-B	AL6Q-BPN05			Protectors
		-	White	AL6H-W	AL6H-WPN05			Power Supplies
-	Rectangular		Black	AL6H-B	AL6H-BPN05			LED Illumination
Large Lens Unit	Round (installed	Transluce color lens		AL6M-LK2-M②	AL6M-LK2-M②		Specify a color code in place of ② in the Part No.	Controllers Operator
	on round units)	Opaque button		AB6M-BK2-M②	AB6M-BK2-M②		Degree of protection: IP65 Color Code	Interfaces Sensors
	Square (installed	Transluce color lens		AL6Q-LK2-Q②	AL6Q-LK2-Q2	1	Translucent Color Lens Opaque Button A (amber) B (black)	AUTO-ID
	on square units)	Opaque button		AB6Q-BK2-Q2	AB6Q-BK2-Q2	'	G (green) R (red) S (blue) C (green) R (red) S (blue)	
	Rectangular (installed on	Transluce color lens		AL6Q-LK2-H②	AL6Q-LK2-H②	-	W (white) Y (yellow) W (white) Y (yellow) Note: Use a white (W) translucent color lens for	Flush Silhouette ø16
	square units)	Opaque button		AB6Q-BK2-H2	AB6Q-BK2-H2		pure white (JW) illumination. • See B-162 for dimensions.	ø22
Locking Ring								ø30
		Polyacetal	I	HA9Z-LN	HA9Z-LNPN10		• Black	Miniature
						10		Pilot Lights
Anti-rotation Ring		Stainless	Steel	LB9Z-LP1	LB9Z-LP1PN10			
Chara kov								
Spare key	Key selector (disc tumbler key)	Brass with nickel plat		AS6-SK-132	AS6-SK-132PN02	2	• Thickness 1.8 mm	A6
Spare Key Reversible Non-reversible	Key selector (wave key)	Diecast zi (nickel-pla		LA9Z-SK-□	LA9Z-SK-□PN02	2	Specify a key number in place of □ in the Part No. OH: Standard key (reversible) 1H to 2H: Reversible key 3H to 6H: Non-reversible key	
Gasket		Nitryl rubt	oer	AP6M-WM	AP6M-WMPN10	10		



ø16 A6 Series Miniature Switches & Pilot Lights

LED Lamps

Dimensions	Operating Voltage	Current Draw	Part No.	Ordering No.	② Illumination Color Code	Package Quantity	Base	Dimensions (mm)
	5V DC		LATD-5@N	LATD-5@N	Specify a color code	1		
	±5%		LAID-5@N	LATD-5@NPN10 in place of @ in the 0rdering No.	N10 in place of ② in the 10	2.7 3.2 <-> <->		
THE LOWER CO.	12V AC/DC	DC 5 mA LATD-1@N	LATD-1@N	LATD-1@N	A: amber	1	Exclusive for A6 series	
4	±10%	JIIIA	LAID-I@N	LATD-1@NPN10	G: green JW: pure white R: red	10		
	24V AC/DC		LATD-22N	LATD-2@N		1		13.5
	±10%		LAID-Z@N	LATD-2@NPN10	S: blue	10		

- 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.

Transformer

Quantity: 1

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

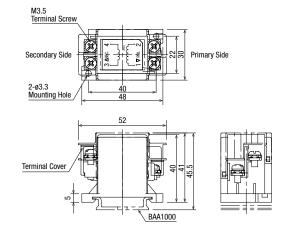
- Terminal cover is supplied as standard.
- Connect only one LATD to a transformer.

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

When ordering, specify the Ordering No.

Shape	Material	Part No.	Ordering No.	Quantity
DIN 35 mm Rail Weight: 200g approx	Aluminum Length: 1000 mm	BAA1000	BAA1000PN10	10
End Clip Weight: 15g approx	Metal (zinc-plated steel) Applicable rail: BAA1000	BNL6	BNL6PN10	10

• See H-071 for DIN rail products.

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

ø22 ø30

Miniature

Pilot Lights

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

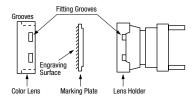
Replacement of Lens and Marking Plate

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

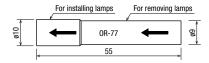
Marking Flate & Englaving Area						
	Round	Square	Rectangular			
Built-in Marking Plate and Engraving Area		Engraving: Area 112.0 nade on the engraving ar made of white acrylic re	•			
Applicable Marking Film (not supplied)	• Thickness = 0.1 mm • Recommended film r		19.6			

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	
	iteiii	IP65 (IEC 60529)	IP40 (IEC 60529)
Control Unit	IP65	IP65	IP40
Control Offic	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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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 than open/close directions, otherwise the hinge may be damaged.



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

- 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.



Flush Silhouette

ø22

Miniature

ø30

Pilot Lights

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IDEC

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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USA **EMEA**

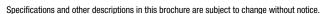
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