

ø16 H6 Series Miniature Control Units

Designed to ensure ease of operation and safety
Ideal for heavy duty applications such as machine tools

- Separate contact block makes installation and removal easy.
- Large operators; bezel size (ø24 mm, 24×24 mm)
- High operating force and long stroke prevent inadvertent operation.
- Contact blocks can be removed when units are mounted collectively.
- Shock- and vibration-resistant rugged design
- IP65
- UL recognized, CSA certified
- EN compliant (EN 60947-1, EN 60947-5-1, TÜV approved)

 Emergency stop switches are DEMKO-approved.



Contact Ratings

Except for emergency stop switches (see page 27).

• Gold Contact

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


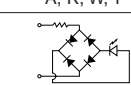
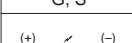
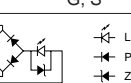
Minimum applicable load (reference value): 5V AC/DC, 1 mA
(Applicable range is subject to the operating condition and load.)

• Silver Contact

Rated Insulation Voltage	250V				
Rated Thermal Current	5A				
Rated Operating Voltage	30V	125V	250V		
Rated Operating Current	AC 50/60 Hz	Resistive Load	—	3A	2A
		Inductive Load	—	2A	1.5A
	DC	Resistive Load	2A	0.4A	—
		Inductive Load	1A	0.2A	—
Contact Material	Silver				

AC inductive load: PF = 0.6 to 0.7, DC inductive load: L/R = 7 ms maximum

Built-in LED Lamp Ratings




Type No.	LFTD-5②	LFTD-1①	LFTD-2②
Lamp Base	SX6S/8×5.4		
Operating Voltage	5V DC±5%	12V AC/DC ±10%	24V AC/DC ±10%
Rated Voltage	5V DC	12V AC/DC	24V AC/DC
Current Draw	AC	—	9 mA
	DC	8 mA	8 mA
Color Code ②	Specify a color code in place of ② in the Type No. A (amber), G (green), R (red), S (blue), W (white), Y (yellow)		
Lamp Base Color	Same as illumination color		
Voltage Marking	Die stamped on the lamp base.		
Life (reference value)	Approx. 50,000 hours (When used on complete DC, luminance reduces to 50% of the initial intensity.)		
Internal Circuit	A, R, W, Y	A, R, W, Y	
			
	G, S	G, S	
			

 LED Chip
 Protection Diode
 Zener Diode


Specifications

Operating Temperature	-25 to +55°C (no freezing)	
Storage Temperature	-30 to +80°C	
Operating Humidity	45 to 85% RH (no condensation)	
Contact Resistance	50 mΩ maximum (initial value)	
Insulation Resistance	100 MΩ minimum (500V DC megger)	
Dielectric Strength	Switch Unit	Between live part and ground: 2,500V, 1 minute Between terminals of different poles: 2,500V, 1 minute Between terminals of the same pole: 1,000V, 1 minute
	Illumination Unit	Between live part and ground: 2,500V, 1 minute
Vibration Resistance	Operating extremes: 5 to 55 Hz, amplitude 0.5 mm	
Shock Resistance	Operating extremes: 100 m/s ² (10G) Damage limits: 1,000 m/s ² (100G)	
Mechanical Durability (minimum operations)	Momentary:	1,000,000
	Maintained:	200,000
	Selector switch:	250,000
	Key selector switch:	250,000
	Illuminated selector switch:	250,000
Selector pushbutton:	250,000	
Electrical Durability (minimum operations)	Momentary:	100,000 (at 1,800 operations/hour)
	Maintained:	100,000 (at 1,200 operations/hour)
	Selector switch:	100,000
Degree of Protection	IP65 (IEC 60529)	
Terminal Style	Solder/tab terminal #110 PC board terminal	
Weight (approx.)	HA1L-M1C24: 18g HA1P-1C04: 17g HA1P-14: 13g HA1B-M1C2: 16g HA1S-2C2: 18g HA1K-2C2A: 33g HA1F-2C24: 20g	

LED Lamps

Operating Voltage	Current Draw		Type No.	Ordering Type No.	② Illumination Color Code	Package Quantity	Base
	AC	DC					
5V DC ±5% 	—	8 mA	LFTD-5②	LFTD-5②	Specify a color code in place of ② in the Ordering Type No.	1	SX6S/8x5.4
				LFTD-5②PN10		10	
12V AC/DC ±10% 	9 mA	8 mA	LFTD-1②	LFTD-1②	A: amber G: green R: red S: blue W: white Y: yellow	1	
				LFTD-1②PN10		10	
24V AC/DC ±10% 	9 mA	8 mA	LFTD-2②	LFTD-2②		1	
				LFTD-2②PN10		10	

Transformer

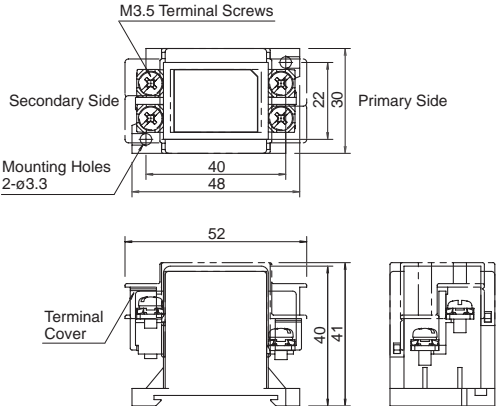
Shape	Primary Voltage	Secondary Voltage	Type No.	Applicable LED Lamp
Separate Mounting Type for 24V 	100/110V AC	24V AC, 0.5W	TWR512	LFTD-2②
	200/220V AC		TWR522	
	400/440V AC		TWR542	

- Terminal covers are supplied with separate mounting type transformers.
- Connect only one LFTD LED to separate mounting type transformers.
- Use plastic mounting clip BC9Z-E/NS35N when using 400/440V primary voltage.

Specifications


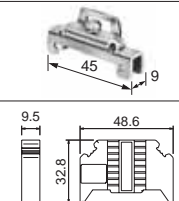
Operating Voltage	100/110V AC, 200/220V AC, 400/440V AC (50/60 Hz)	
Power Consumption	2.4VA	
Rated Insulation Voltage	600V	
Insulation Resistance	100 MΩ minimum (500V DC megger)	
Dielectric Strength	2500V AC, 1 minute	
Standard Operating Condition	Operating Temperature	-30 to +60°C (no freezing)
	Relative Humidity	35 to 85% (no condensation)
Vibration Resistance	Operating Extremes	5 to 55 Hz, amplitude 0.5 mm
Shock Resistance	Damage Limits	1,000 m/s ² (100G)
Terminal Screw	M3.5	
Applicable Wire	2 mm ² maximum, 2 wires maximum	

Dimensions



All dimensions in mm.

Accessories

Description	Appearance	Description	Type No.	Ordering Type No.	Package Quantity
DIN Rail		Aluminum Weight: Approx. 200g	BAA1000	BAA1000PN10	10
		Steel Weight: Approx. 320g	BAP1000	BAP1000PN10	
Mounting Clip		Steel Weight: Approx. 15g	BNL6	BNL6PN10	
		Plastic Weight: Approx. 15g	BC9Z-E/NS35N	BC9Z-E/NS35NPN10	

- Use plastic mounting clip BC9Z-E/NS35N when using 400/440V primary voltage.

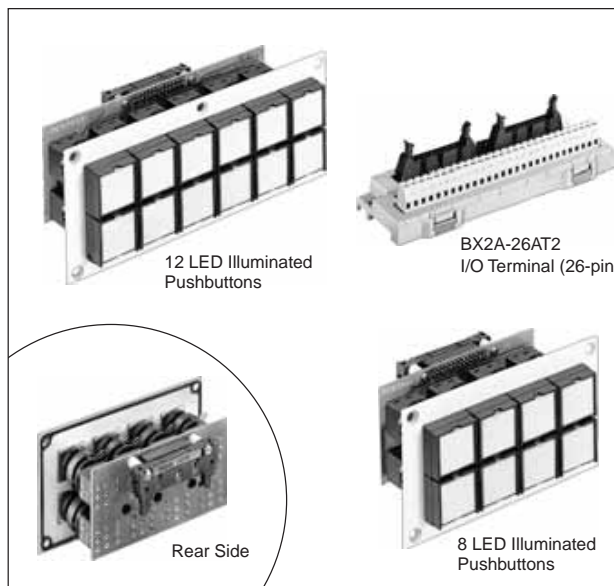
ø16

HA5W Series Oneboard Control Units

Reduces wiring and installation space. Achieves standard panel design.

Reduce time and space by using a PC board and flat cable solution. Standard panels can be designed with flexibility.

- The separate structure of operator and contact/board makes maintenance easy.
- IDEC's unique lock lever structure requires no studs on the board.
- H6 series control units can be used without modification.
- Available with I/O terminals for parallel wiring.



Types

No. of Control Units	Illumination Type	Operating Voltage	Type No.	Notes
8	LED	24V AC/DC ±10%	HA5W-84	Panel color: Munsell 5Y7/1
12		24V AC/DC ±10%	HA5W-24	

Contact Ratings

Rated Operating Voltage	24V DC
Rated Operating Current	30 mA (resistive load)
Contact Material	Gold-clad silver

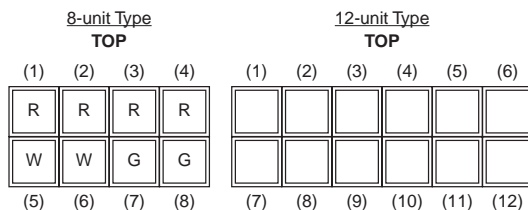
Ordering Information

1. Specify a button or lens color code in the Type No. [Example]

HA5W-84 RRRR WW GG

Type No. Specify color codes for the control units in order of (1) to (8) (see below).

2. All units are supplied with an LED lamp.
3. Illuminated pushbuttons HA2L-M1C14V[Ⓢ] (momentary, SPDT) are provided.



Built-in LED Lamp Ratings

Type No.	LFTD-2 [Ⓢ]
Base	SX6S/8x5.4
Operating Voltage	24V AC/DC ±10%
Rated Voltage	24V AC/DC
Current Draw	AC 9 mA
	DC 8 mA
Color Code [Ⓢ]	Specify a color code in place of [Ⓢ] . A (amber), G (green), R (red), S (blue), W (white), Y (yellow)
Lamp Base Color	Same as illumination color
Voltage Marking	Die stamped on the lamp base
Life (reference value)	Approx. 50,000 hours (When used on complete DC, luminance reduces to 50% of the initial intensity.)
Internal Circuit	A, R, W, Y
	G, S
	<ul style="list-style-type: none"> LED Chip Protection Diode Zener Diode