

HW Series



Complete with finger-safe contact blocks. Ensure safety and save wiring time.













- DC-DC converter types are not approved by standards.
 See website for details on approvals and standards.



HW Series Illuminated Pushbuttons



HW1Z Illuminated Buzzer



HW Series Pilot Lights (short body)











TRIMADA

Control Boxes

Emergency Stop Switches Enabling Switches

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit Protectors Power Supplies

LED Illumination

Controllers Operator Interfaces

AUTO-ID

Flush Silhouette

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YW

HW Series Selection Guide

Function	Pushbutton				
Cetagoni Flush Extended		Extended	ø29mm Mushroom	ø40mm Mushroom	ø60mm Mushroom
Category	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary
Shape					
Model	HW1B-M1 HW1B-A1	HW1B-M2 HW1B-A2	HW1B-M3 HW1B-A3	HW1B-M4 HW1B-A4	HW1B-M5
Page	B-187	B-187	B-187	B-187	B-187

Function	Pushbutton				
Category	Square Flush	Square Extended	Round Flush w/Square Bezel	Round Extended w/Square Bezel	ø29mm Mushroom w/Square Bezel
	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained
Shape					
Model	HW2B-M1 HW2B-A1	HW2B-M2 HW2B-A2	HW3B-M1 HW3B-A1	HW3B-M2 HW3B-A2	HW3B-M3 HW3B-A3
Page	B-188	B-188	B-189	B-189	B-189

Function	Pilot Light				
Category	Flush (Marking)	Extended (Dome)	Square Flush (Marking)	Jumbo Dome	
Shape	*	•			
Model	HW1P-1	HW1P-2	HW2P-1	HW1P-5	
Page	B-190	B-190	B-190	B-190	

Function					
Catagory	Flush	Extended	Extended w/Full Shroud	Square Flush	Flush w/Square Bezel
Category	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained
Shape					
Model	HW1L-M1 HW1L-A1	HW1L-M2 HW1L-A2	HW1L-MF2 HW1L-AF2	HW2L-M1 HW2L-A1	HW3L-M1 HW3L-A1
Page	B-192	B-192	B-193	B-194	B-194

Function	Illuminated Pushbutton			
Category	Flush	Extended	Extended w/Full Shroud	
Calegory	Momentary/Maintained	Momentary/Maintained	Momentary/Maintained	
Shape				
Model	HW1L-M3 HW1L-A3	HW3L-M3 HW3L-A3	HW1L-M4 HW1L-A4	
Page	B-195	B-195	B-196	

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Function	Dual Pushbutton				
FULLCHOLL	w/o Pil	ot Light	w/ Pilot Light		
Category	Flush (top) Flush (bottom)	Flush (top) Extended (bottom)	Flush (top) Flush (bottom)	Flush (top) Flush (bottom)	
	Momentary/Interlocking	Momentary/Interlocking	Momentary/Interlocking	Momentary/Interlocking	
Shape				0	
Model	HW7D-B11 HW7D-B21	HW7D-B12 HW7D-B22	HW7D-L11 HW7D-L21	HW7D-L12 HW7D-L22	
Page	B-199	B-199	B-200	B-200	

Function	Selector Switch		Illuminated Selector		Pushbutton Selector	
Category	Selector	Pin Tumbler Key	Disc Tumbler Key	Knob Operator	Lever Operator	Pushbullon Selector
Shape						
Model	HW1S	HW1K-□P	HW1K	HW1F	HW1F-□L	HW1R
Page	B-203	B-204	B-206	B-208	B-209	B-214

Function	Mono-Lever Switch	
Category	Standard	Interlocking
Shape		
Model	HW1M	HW1M-L
Page	B-215	B-215

Ø22 HW Series Switches & Pilot Lights

Complete with finger-safe contact blocks Ensure safety and save wiring time

- Finger-safe terminal blocks
- Self-cleaning rolling action contacts.
- Degree of protection: IP65 (except dual pushbutton: IP40)
- Dual pushbutton switches available with two pushbuttons and a pilot light integrated into one space-saving unit.
- A wide range of operating voltages for worldwide application.



Application for dual pushbuttons:

Ideal for use as power switches and start/stop switches (available with I/ON and O/OFF markings on the buttons and a pilot light in the center).

Interlock type prevents two pushbuttons from being pressed at the same time, providing the best solution for up/down switches.

50V

10A

7A

Switches & Pilot Lights

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Specifications and Ratings

Contact Ratings by Utilization Category

HW-U10 (NO contact), HW-U01 (NC contact)

AC 50/60 Hz

Contact Ratings

Operating Voltage

Operating Current

Pushbuttons	Rated insulation voltage	600V
Illuminated Pushbuttons Dual Pushbuttons	Rated continuous current	10A
Selector Switches Illuminated Selector Switches Selector Pushbuttons	Contact ratings by utilization category IEC60947-5-1	AC-15 (A600) DC-13

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Pilot Lights

HW	
TW	

1.1A

110V

10A

5A

2.2A

220V

6A

ЗА

1.1A

0.6A

440V

2A

1A

HW-U10R (EM contact/NO contact), HW-U01R (LB contact/NC contact)

Operating Voltag	e	24V	48V	50V	110V	220V	440V	
	AC	AC-12 Control of resistive loads and solid state loads	5A	_	5A	5A	3A	1A
Operating 50/60 Hz	AC-15 Control of electromagnetic loads (> 72 VA)	5A	_	3.5A	2.5A	1.5A	0.5A	
Current	DC	DC-12 Control of resistive loads and solid state loads	5A	2.5A	_	1.1A	0.55A	_
	DC	DC-13 Control of electromagnets	2.5A	1A	_	0.55A	0.3A	_

24V

10A

10A

10A

48V

5A

2A

• The operating current represents the classification by making and breaking currents (IEC 60947-5-1).

DC-13 Control of electromagnets

- Contact materials: Silver contacts
- Minimum applicable load: 3V AC/DC, 5 mA (applicable range may vary with operating conditions and load types)

AC-12 Control of resistive loads and solid state loads

DC-12 Control of resistive loads and solid state loads

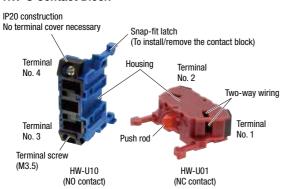
AC-15 Control of electromagnetic loads (> 72 VA)

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ø22 HW Series Switches & Pilot Lights

HW-U Contact Block



Part No.	HW-U10	HW-U01	HW-U10R	HW-U01R			
Contact	_/_	7	_/_	7			
Contact	1NO	1NC	EM (NO) (early make)	LB (NC) (late break)			
Contact No.	3-4	1-2	3-4	1-2			
Housing	Blue	Purple red	Blue	Purple red			
Push Rod	Green Red		Black	White			
Weight	Approx. 11g						

- Up to 2 layers (4 blocks) can be attached.
- Gold contacts available (gold-plated silver)

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Control Boxes Emergency Stop Switches Enabling Switches

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Terminal Blocks

Relays & Sockets Circuit Protectors

Power Supplies

LED Illumination Controllers

Operator

Sensors AUTO-ID **LED Specifications**

Unit						LED	lamp
UIIIL	Color	Rated Vol	tage	Operating Voltage		Lamp Base	Part No.
		6V AC/DC		6V AC/DC			LSTD-6*
		12V AC/DC	12V AC/DC		1		LSTD-1*
		24V AC/DC	24V AC/DC				LSTD-2*
Illuminated pushbutton Illuminated selector switch	R (red) G (green)	100/110V AC		100/110V AC		BA9S/13	LSTD-6*
		115/120V AC		115/120V AC (*1)	±10%		
Pilot light	Y (yellow) A (amber)	200/220V AC		200/220V AC	±10%		
Dual pushbutton	S (blue)	230/240V AC	50/60 Hz	230/240V AC (*1)			
(with pilot light)	PW (pure white)	380V AC		380V AC			L31D-0*
		400/440V AC		400/440V AC			
		480V AC		480V AC			
		110V DC	110V DC		90 to 140V DC		

- See B-182. for details on LED lamp ratings.
- For the LED lamp used in jumbo dome pilot lights, see B-182.
- Yellow (Y) cannot be used with dual pushbuttons.
- Flush Silhouette · Color codes for units without LED lamps: ø16
 - R (red), G (green), A (amber), Y (yellow), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

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Miniature

Pilot Lights



Power Unit Terminal

		Illuminated Unit	P	Pilot Light			
Power Unit	Full voltage adapter	Transforme	er	DC-DC converter	Full voltage adapter	Transformer	DC-DC converter
Rated Voltage	6, 12, 24V AC/DC	100 to 240V AC	380V AC min.	110V DC	6, 12, 24V AC/DC	100 to 480V AC	110V DC
Polarity	None	None	None	X1 (+) X2 (-)	None	None	X1 (+) X2 (–)
Shape/Terminal	X1	X1 X2		X1 X2	X1 X2	F	X1 X2



LED Lamp Ratings

LSTD (Except Jumbo Dome Pilot Lights)

Part No.	Part No. LSTD-6*			L	.STD-1*		LSTD-2*			
Lamp Base		BA9S/13	BA9S/13							
Rated Volta	ge	6V AC/DC			12V AC/DC		24V AC/DC			
Voltage Ran	ge	6V AC/DC ±1	0%		12V AC/DC ±10%		24V AC/DC ±10%	%		
	Color	R, A	G, PW	S	R, G, A, PW	S	R, G, A, PW	S		
Current Draw	DC	7mA	5.5mA	4.5mA	10mA	8mA	10mA	8mA		
DIAW	AC	8mA	8mA	7mA	11mA	9mA	11mA	9mA		
Lamp Base	Color	Same as illur	mination color (PW: gray)	•		•			
Voltage Mai	king	Die stamped	on the base							
Life (referer	nce value)	Approx. 50,0 (The luminar		o 50% the ini	tial intensity when use	d on complete DC a	at 25°C.)			
Internal Circuit		Symbols Example: LSTD-2PW LED chip Rectifier diode Zener diode Resistor Resistor								
Weight		Approx. 2g								

- Specify a color code in place of *. R (red), G (green), A (amber), S (blue), PW (pure white)
- Use a pure white (PW) LED for yellow (Y) illumination.

LSTDB (For Jumbo Dome Pilot Lights HW1P-5Q4 Only)

Part No.	LSTD)B-2*							
Lamp Base	BA9S/13								
Voltage Range	24V AC/DC±10%								
Current Draw	15mA	15mA							
Rated Voltage	24V AC/DC								
Life (reference value)	Approx. 20,000 hours (The luminance is reduced to 50% the initial intensity when used on complete DC at 25°C.)								
Internal Circuit	R, A X1 G, S, PW X2 X2	LED chip Rectifier diode Zener diode Resistor							

- Specify a color code in place of *. R (red), G (green), A (amber), S (blue), PW (pure white)
- Use a pure white (PW) LED for yellow (Y) illumination.

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ø22 HW Series Switches and Pilot Lights

Specifications

Operating Temperature	Non-illuminated: -25 to +60°C (no freezing) Illuminated: -25 to +50°C (no freezing) Jumbo dome pilot lights: -25 to +55°C (no freezing)
Operating Humidi	ty 45 to 85% RH (no condensation)
Storage Tempera	ture -40 to +80°C (no freezing)
Contact Resistano	ce 50 mΩ maximum (initial value)
Insulation Resista	ince 100 MΩ minimum (500V DC megger)
Dielectric Strengt	h Between live and dead metal parts: 2,500V AC, 1 minute (Full voltage and illuminated units: 2,000V AC, 1 minute) (*1)
Vibration Resistar	Damage limits: 30 Hz, amplitude 1.5 mm
VIDIALIOII NESISIAI	Operating extremes: 5 to 55 Hz, amplitude 0.5 mm
Charle Desistance	Damage limits: 1,000m/s ²
Shock Resistance	Operating extremes: 100m/s ²
Mechanical Life (minimum operations)	Pushbutton, Illuminated pushbutton 5,000,000 Momentary 5,000,000 Maintained 500,000 Dual pushbutton 500,000 Selector switch 500,000 Key selector switch (Disc tumbler) 500,000 Key selector switch (Pin tumbler) 100,000 Illuminated selector switch 500,000 Pushbutton selector 250,000 Mono-lever switches 250,000
Electrical Life (*5	Pushbutton, Illuminated pushbutton Momentary
Weight (Apporox.	66g (HW1B-M122) 20g (HW1P-1Q4) 84g (HW1L-M122Q4) 66g (HW1S-2T22) 94g (HW1K-2A22) 72g (HW1K-2JPC11) 84g (HW1F-222Q4) 71g (HW1R-2A22) 82g (HW1M-222-22N9) 72g (HW7D-B111111) 90g (HW7D-L111111Q4)

*1) Dielectric strength for dual pushbuttons are as follows:

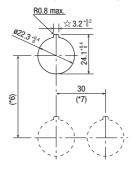
Full voltage type: 1,000V AC, 1 minute (between live and dead metal parts)
Transformer and DC-DC converter types: 2,000V AC, 1 minute (between live and dead metal parts)

- *2) Switching frequency 1,800 operations/h, duty ratio 40%
- *3) Switching frequency 1,200 operations/h, duty ratio 40%
- *4) Switching frequency 900 operations/h, duty ratio 40%
- *5) Load condition 220V AC, 3A (AC-15)

Mounting Hole Layout

II dimensions in mm

Panel Cut (IEC60947-5-1)



- The minimum mounting centers are applicable to switches with one layer of contact blocks (one to two contact blocks). When two layers of contact blocks are mounted, determine the minimum mounting centers in consideration of convenience for wiring.
- When high temperature is expected, take necessary measures such as securing sufficient mounting centers or using a cooling fan.

Minimum Mounting Centers

(Dimensions in mm)

Unit	A (*6)	B (*7)
ø40mm mushroom button	50	40
Pushbutton selector	50	50
Mono-lever switch	72	72
Pilot light	30	30
Jumbo dome pilot light	85	85
Dual pushbutton switch	55	30
Illuminated selector switch	50	50

- When using the safety lever lock, determine the vertical spacing (*6) in consideration of convenience for installing and removing the safety lever lock. (Recommended vertical spacing: 100 mm)
- The minimum length of vertical spacing (*6) is 45 mm when safety lever lock is not used.
- The 3.2 mm recess is for preventing rotation and is not necessary when the nameplate or anti-rotation ring is not used.

Degree of Protection

Unit	IEC 60529
All units except dual pushbutton switches	IP65 (*8)
Dual pushbutton switches	IP40 (*9)

- *8) When using a nameplate with the HW series, IP65 protection degree is achieved only when nameplates shown on B-216 are used. (IP40 when other Ø22 namplates such as NWA are used)
- *9) IP65 protection degree when HW9Z-D7D button cover is used.

Ordering Information

Standard models

- Specify Ordering No. when ordering.
- Specify a button or lens color code in place of *.
- Pilot lights, illuminated pushbuttons, and illuminated selector switches have an LED lamp installed unless otherwise specified.
- Nameplates and accessories for mono-lever switch are ordered separately. See B-216 to B-218.
- Color codes for units without LED lamps:

R (red), G (green), A (amber), Y (yellow), S (blue)

When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

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Control Boxes

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ø22 HW Series Ordering / Part No. Development

Ordering Information

Pushbuttons (B-187 to B-189)

When specifying gold-plated silver contact and contact configuration:

HW1B-M1 11 R -MAU Optional contact MAU: Gold contact Contact configuration 10: 1N0 1NC 11: 1N01NC 20: 2N0 02: 2NC 2N02NC 22 40: 4N0 04: 4NC 13: 31: 1NO3NO 3N01NC 3N0 03: 3NC 12: 21: 1NO2NO

Pilot Lights (B-190)

When specifying LED operating voltage:

HW1P-1 H2 R Operating voltage 00: Without LED lamp 6V AC/DC 02. Q3: 12V AC/DC 24V AC/DC H2: 100/110V AC H22 115/120V AC 200/220V AC M2: M42: 230/240V AC 380V AC T2: 400/440V AC T82: 480V AC

Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), W (white), S (blue) Note: When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

D2:

110V DC

2N01NC

Illuminated Pushbuttons (B-192 to B-196)

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:

HW1L-M1 <u>11 H2</u> R - <u>MAU</u> Optional contact MAU Gold contact Operating Voltage Q0: Without LED lamp 02. 6V AC/DC Q3: 12V AC/DC Q4: 24V AC/DC H2: 100/110V AC H22: 115/120V AC 200/220V AC M2: 230/240V AC M42: S2: 380V AC T2: 400/440V AC T82 480V AC D2· 110V DC Contact configuration 10: 1N0 1NC 11: 1N01NC 20: 02: 2N0 2NC 22: 2N02NC 40: 4N0 04 4NC

13: 31: 1N03N0

3N01NC 30: 3N0 03: 3NC 12: 1N02NC

2N01N0

Note:

- Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), S (blue) When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.
- Odd number of contact blocks, such as 1NO, 1NC, 3NO, 2NO-1NC, 1NO-2NC, and 3NC, is not available for transformer type or DC-DC converter type.

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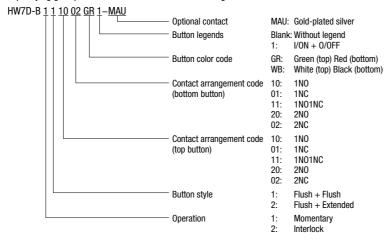
Enabling

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Ordering Information

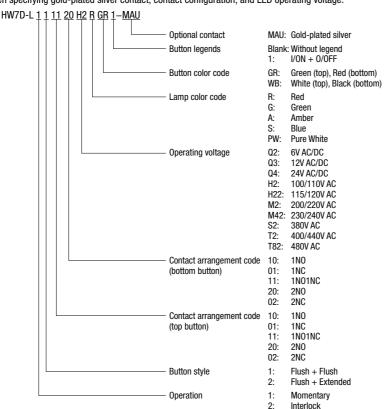
Dual Pushbutton Switches [without pilot light] (B-199)

When specifying gold-plated silver contact and contact configuration:



Dual Pushbutton Switches [with pilot light] (B-200)

When specifying gold-plated silver contact, contact configuration, and LED operating voltage:



Note: Transformer type cannot have a contact arrangement of 3 contact blocks for the total of top and bottom

For more information, visit http://eu.idec.com

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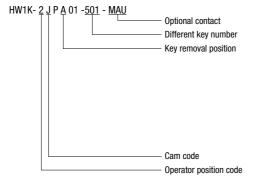
Enabling

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Ordering Information

Key Selector Switches (Pin Tumbler Key) (B-204 to B-205)

When specifying gold-plated silver contact, key removal position, and key number:



MAU: Gold-plated silver

-501 - 515

2-position A: Removable in all positions

B. Removable in the left only C: Removable in the right only

3-position A: Removable in all positions

B: Removable in the left and center

C: Removable in the right and center D: Removable in center only

E: Removable in right and left

G: Removable in left only

H: Removable in right only

Blank, J. or S

2-position, maintained

2-position, spring return from right

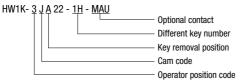
3-position, maintained 31. 3-position, spring return from right

32: 3-position, spring return from left 3-position, spring return two way

- . The key cannot be removed in a spring return position.
- The key number is engraved on the key cylinder. (default key is not engraved with a number)

Key Selector Switches (Disc Tumbler Key) (B-206 to B-207)

When specifying gold-plated silver contact, key removal position, and key number:



Gold-plated silver

-1H, -2H, -3H

MAU:

(same as pin tumbler key shown above) (same as pin tumbler key shown above)

(same as pin tumbler key shown above)

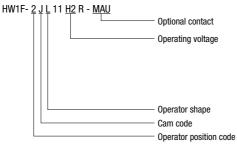
Note:

Note:

- The key cannot be removed in a spring return position.
- The key number is engraved on the key cylinder. (default key is not engraved with a number)

Illuminated Selector Switches (B-208 to B-209)

When specifying gold-plated silver contact and LED operating voltage:



MAU: Gold-plated silver

Q0: Without LED lamp M2 200/220V AC 02. 6V AC/DC M42: 230/240V AC 12V AC/DC Q3: S2: 380V AC Q4: 24V AC/DC T2: 400/440V AC H2 100/110V AC 480V AC

H22: 115/120V AC

Blank (Knob), L (Lever)

Blank, J. or S

2-position, maintained

21: 2-position, spring return from right

3. 3-position, maintained

31: 3-position, spring return from right

32 3-position, spring return from left

33: 3-position, spring return two way

Note: Color codes for units without LED lamps: R (red), G (green), A (amber), Y (yellow), S (blue) When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of HW series cannot be guaranteed when a commercially available lamp is used.

Selector Switches (B-203)

When specifying gold-plated silver contact

HW1S- 2T11 - MAU Optional contact MAU: Gold-plated silver

• See B-203 for operator position.

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ø22 HW Series Pushbuttons

Shape

Flush / Extended / Mushroom Pushbuttons

Operation Contact Part No.

Color Code

Package Quantity: 1

Dimensions (mm)

	Shape	Operation	Contact	raitivo.	COIOI COUE	Difficusions (fiffi)
ights	Flush		1NO	HW1B-M110*		
S	HW1B-M1 HW1B-A1		1NC	HW1B-M101*		
		Momentary	1NO-1NC	HW1B-M111*		Locking Ring
		omena.y	2N0	HW1B-M120*	В	Safety Lever Lock Panel Thickness 0.8 to 6
APEM			2NC	HW1B-M102*	G	
Switches & Pilot Lights			2NO-2NC	HW1B-M122*	R	
Control Boxes			1NO	HW1B-A110*	Y S	
			1NC	HW1B-A101*	W	
Emergency Stop Switches		Maintained	1NO-1NC	HW1B-A111*		49.4 (1 or 2 blocks) 69.4 (3 or 4 blocks) 13
Enabling			2N0	HW1B-A120*		
Switches			2NC	HW1B-A102*		
Safety Products			2NO-2NC	HW1B-A122*		
Explosion Proof	Extended		1NO 1NC	HW1B-M210*		
	HW1B-M2 HW1B-A2			HW1B-M201*		
Terminal Blocks		Momentary	1NO-1NC 2NO	HW1B-M211* HW1B-M220*		Locking Ring Safety Lever Lock Panel Thickness 0.8 to 6
Relays & Sockets			2NC	HW1B-M202*	В	
Circuit			2NO-2NC	HW1B-M222*	. G R	
Protectors			1NO	HW1B-A210*	Y	
Power Supplies			1NC	HW1B-A201*	S	
LED Illumination			1NO-1NC	HW1B-A211*	W	49.4 (1 or 2 blocks) 13 @23.6
LED Illumination		Maintained	2N0	HW1B-A220*		69.4 (3 or 4 blocks) 19
Controllers			2NC	HW1B-A202*		
Operator			2NO-2NC	HW1B-A222*		
Interfaces	ø29mm Mushroom	m Mushroom 1N	1NO	HW1B-M310*		
Sensors	HW1B-M3		1NC	HW1B-M301*	B G R	
AUTO-ID	HW1B-A3	Momentary	1NO-1NC	HW1B-M311*		Locking Ring_
	_		2N0	HW1B-M320*		Safety Lever Lock Panel Thickness 0.8 to 6
			2NC	HW1B-M302*		
			2NO-2NC	HW1B-M322*		
Flush Silhouette			1NO	HW1B-A310*	Y	
-10			1NC	HW1B-A301*	S W	
ø16		Maintained	1NO-1NC	HW1B-A311*		49.4 (1 or 2 blocks) 13 29.4 69.4 (3 or 4 blocks) 23.2
ø22			2N0	HW1B-A320*		
ø30			2NC	HW1B-A302*		
			2NO-2NC	HW1B-A322*		
Miniature	ø40mm Mushroom HW1B-M4		1NO 1NC	HW1B-M410* HW1B-M401*		
Pilot Lights	HW1B-A4		1NO-1NC	HW1B-M411*		
		Momentary	2N0	HW1B-M420*		Locking Ring Safety Lever Lock Panel Thickness 0.8 to 6
			2NC	HW1B-M402*	В	
			2NO-2NC	HW1B-M422*	. G R	
HW			1NO	HW1B-A410*	Y	│ ╡ 【 ╸── 】 ╸── } ─ │ │
TW			1NC	HW1B-A401*	S	
			1NO-1NC	HW1B-A411*	W	49.4 (1 or 2 blocks) 13
YW		Maintained	2N0	HW1B-A420*		69.4 (3 or 4 blocks) 23.2
			2NC	HW1B-A402*		
			2NO-2NC	HW1B-A422*		
	ø60mm Mushroom		1NO	HW1B-M510*		Locking Ring Safety Lever Lock Safety Lever Lock
	HW1B-M5					Safety Lever Lock
			1NC	HW1B-M501*		
			1NO-1NC	HW1B-M511*	В	
		Momentary			G	

 $\bullet \ Specify \ a \ color \ code \ in \ place \ of * in \ Part \ No. \ B \ (black), \ G \ (green), \ R \ (red), \ Y \ (yellow), \ S \ (blue), \ W \ (white)$

2N0

2NC

2NO-2NC

- Pushbuttons with 1 or 3 contact blocks have a dummy block.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Pushbuttons: M3.5 Terminal screws integrated terminal cover

B-187

For more information, visit http://eu.idec.com

HW1B-M520*

HW1B-M502*

HW1B-M522*



ø22 HW Series Pushbuttons

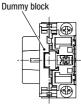
Square Flush / Square Flush Pushbuttons

Package Quantity: 1

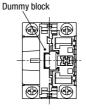
Shape	Operation	Contact	Part No.	Color Code	Dimensions (mm)
Square Flush		1NO	HW2B-M110*		
HW2B-M1		1NC	HW2B-M101*		
HW2B-A1	Momentary	1NO-1NC	HW2B-M111*		Locking Ring
_	Wildinemary	2N0	HW2B-M120*	D	Safety Lever Lock Panel Thickness 0.8 to 6
		2NC	HW2B-M102*	B G	
		2NO-2NC	HW2B-M122*	Ř	
		1NO	HW2B-A110*	Y	
		1NC	HW2B-A101*	S W	
	Maintained	1NO-1NC	HW2B-A111*] VV	49.4 (1 or 2 blocks) 69.4 (3 or 4 blocks) 13
	Mannameu	2N0	HW2B-A120*		29.4
		2NC	HW2B-A102*		
		2NO-2NC	HW2B-A122*		
Square Extended		1NO	HW2B-M210*		
HW2B-M2		1NC	HW2B-M201*		
HW2B-A2	Momentary	1NO-1NC	HW2B-M211*		Locking Ring
	Wiomentary	2N0	HW2B-M220*	В	Safety Lever Lock Panel Thickness 0.8 to 6
E L		2NC	HW2B-M202*	G	
		2NO-2NC	HW2B-M222*	R	
		1NO	HW2B-A210*	Y	
1 2		1NC	HW2B-A201*	S W	
	Maintained	1NO-1NC	HW2B-A211*	J **	49.4 (1 or 2 blocks) 13
	ivialillalileu	2N0	HW2B-A220*		+ 13 4 + 29.4 4
		2NC	HW2B-A202*		
		2NO-2NC	HW2B-A222*		

- $\bullet \ Specify \ a \ color \ code \ in \ place \ of * in \ Part \ No. \ B \ (black), \ G \ (green), \ R \ (red), \ Y \ (yellow), \ S \ (blue), \ W \ (white)$
- Pushbuttons with 1 or 3 contact blocks have a dummy block.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Pushbuttons: M3.5 Terminal screws

Bottom View



1NO contact block



3 contact blocks



2/4 contact blocks

- For 1NC contact, the contact block will mount on the opposite side.
- See B-227 for wiring.
- Integrated terminal cover

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

AUTO-ID

Flush Silhouette

ø16

ø30

Miniature

Pilot Lights

YW



APEM

Control Boxes Emergency Stop Switches Enabling Switches Safety Products **Explosion Proof** Terminal Blocks Relays & Sockets Circuit Protectors Power Supplies LED Illumination Controllers Operator

ø22 HW Series Pushbuttons

Round Flush / Round Extended / Mushroom with Square Bezel

Package Quantity: 1

No	Shape	Operation	Contact	Part No.	Color Code	Dimensions (mm)
Nomerator Nome		Operation			Coloi Code	Difficisions (fiffi)
HW3B-A11						
Momentary						
Amaintained 200-2NC HW3B-M102+ NO HW3B-M101+ NO HW3B-M101+ NO HW3B-M101+ NO HW3B-M101+ NO HW3B-M102+ NO HW3B-M201+ NO HW3B-M301+ NO HW3B	TWOD AT	Momentary				Locking Ring Safaty Lever Lock Panel Thickness 0.9 to 6
Amintained 200-2NC Hw3B-M10+ Y Y Y W W W W W W W	_			-	В	Salety Level Lock
TNO						
TINC				-		
Maintained 1 NO-1NC HW3B-A111* 2 NO HW3B-A120* 2 NO-2NC HW3B-M210* 1 NO-1NC HW3B-M210* 2 NO-2NC HW3B-M20* 2 NO-2NC HW3B-M310* 1 NO-1NC HW3B-M310* 2 NO-2NC HW3B-M302* 2 NO-2NC H						
Amaintained 2NO						
2NC		Maintained				49.4 (1 or 2 blocks) 69.4 (3 or 4 blocks) 13
Round Extended With Square Bezel HW3B-M21 1NO						
No						
No				_		
HW3B-M2						
HW3B-A2						
### Access of the control of the con		Momentary				Locking Ring
Maintained Mai	TWOD AZ	,			G R	Safety Lever Lock Panel Thickness 0.8 to 6
No						
Maintained						
Maintained Mainta				HW3B-A210*		
Maintained 1NO-1NC HW3B-A211* 2NO HW3B-A202* 2NC HW3B-A202* 2NO-2NC HW3B-M301* 1NO-1NC HW3B-M310* 1NO-1NC HW3B-M310* 2NO HW3B-M320* 2NO HW3B-M302* 2						
2N0 HW3B-A220* 2NC HW3B-A202* 2N0-2NC HW3B-M310* with Square Bezel HW3B-M3 HW3B-M3 HW3B-M3 HW3B-M3 HW3B-M3 HW3B-M310* 2N0 HW3B-M320* 2NC HW3B-M302*		Maintained	1NO-1NC	HW3B-A211*	. "	
2N0-2NC		Wantanea	2N0	HW3B-A220*		
### Panel Trickness 0.8 to 6 ### Pa			2NC	HW3B-A202*		
No			2NO-2NC	HW3B-A222*		
HW3B-M3 HW3B-A3 Momentary 1N0-1NC	ø29mm Mushroom		1NO	HW3B-M310*		
HW3B-A3 Momentary 2NO HW3B-M320* 2NC HW3B-M322* 2NO-2NC HW3B-M322* 1NO HW3B-A310* 1NC HW3B-A310* 1NO-1NC HW3B-A311* 2NO HW3B-A320* 2NC HW3B-A320* 2NC HW3B-A320* 2NC HW3B-A320*			1NC	HW3B-M301*		
2NO HW3B-M320* 2NC HW3B-M302* 2NO-2NC HW3B-M322* 1NO HW3B-A310* 1NC HW3B-A301* 1NC HW3B-A311* 2NO HW3B-A311* 2NO HW3B-A320* 2NC HW3B-A320* 2NC HW3B-A320*		Momenton	1NO-1NC	HW3B-M311*		Locking Ring
2NC HW3B-M302* 2NO-2NC HW3B-M322* 1NO HW3B-A310* 1NC HW3B-A301* 1NO-1NC HW3B-A311* 2NO HW3B-A320* 2NC HW3B-A320* 2NC HW3B-A302*	HW3B-A3	Williemary	2N0	HW3B-M320*] _B	Safety Lever Lock Panel Thickness 0.8 to 6
2NO-2NC HW3B-M322* 1NO HW3B-A310* 1NC HW3B-A301* 1NO-1NC HW3B-A311* 2NO HW3B-A320* 2NC HW3B-A302*	_		2NC	HW3B-M302*		
Maintained 1NC HW3B-A301* S W 49.4 (1 of 2 blocks) 13 29.4 (2 of 4 blocks) 23.2 29.4 29.4 (3 of 4 blocks) 23.2 29.4 29.4 (3 of 4 blocks) 23.2 29.4 29.4 29.4 29.4 29.4 29.4 29.4 29	1		2NO-2NC	HW3B-M322*		
Maintained			1N0	HW3B-A310*		
Maintained 1N0-1NC HW3B-A311* 2N0 HW3B-A320* 2NC HW3B-A302*			1NC	HW3B-A301*		
2N0 HW3B-A320* 2NC HW3B-A302*		Maintained	1NO-1NC	HW3B-A311*	1 W	
		iviaintained	2N0	HW3B-A320*	1	09.4 (3 Of 4 DIOCKS) 23.2
2NO-2NC HW3B-A322*			2NC	HW3B-A302*]	
			2NO-2NC	HW3B-A322*	1	

Flush Silhouette ø16

AUTO-ID

ø30

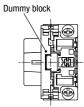
Miniature

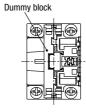
- Pilot Lights
- Specify a color code in place of * in Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)
- Pushbuttons with 1 or 3 contact blocks have a dummy block.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Pushbuttons: M3.5 Terminal screws

TW

YW

Bottom View







- 1NO contact block
- 2/4 contact blocks
- For 1NC contact, the contact block will mount on the opposite side.
- See B-227 for wiring.
- Integrated terminal cover

B-189

Round Flush / Dome / Square Flush / Jumbo Dome Pilot Lights

Package Quantity: 1

Shape	Lamp	Operating Voltage	Part No.	Package Quantity: 1 Color Code	을
Round Flush (marking type)	Lailly	Operating voltage	i ait ivo.	Outor Code	ilot Lights
HW1P-1		24V AC/DC	HW1P-1Q4*		APEM
24V AC/DC	LED	100/110V AC	HW1P-1H2*	R G Y A S PW	Switches & Pilot Lights Control Boxes Emergency
With transformer (100/110V AC)		200/220V AC	HW1P-1M2*	PW	Stop Switches Enabling Switches Safety Products Explosion Proof
Dome					Terminal Blocks
HW1P-2		24V AC/DC	HW1P-2Q4*		Relays & Sockets
					Circuit Protectors
(24V AC/DC)				R G	Power Supplies
(24V AG/DC)	LED	100/110V AC	HW1P-2H2*	Y A S	LED Illumination Controllers
				PW	Operator Interfaces
		200/220V AC	HW1P-2M2*		Sensors
With transformer (100/110V AC)		200/2201/10			AUTO-ID
Square Flush (marking type) HW2P-1					
nwzr-1		24V AC/DC	HW2P-1Q4*		Flush Silhouette
				- R	ø16
(24V AC/DC)	LED	100/110/10	UWOD 4110	G Y	ø22 ø30
ESS.	LED	100/110V AC	HW2P-1H2*	A S	Miniature
				_ PW	Pilot Lights
		200/220V AC	HW2P-1M2*		
With transformer (100/110V AC)					HW
Jumbo Dome Pilot Light (*1) HW1P-5					TW
	LED	24V AC/DC	HW1P-5Q4*	R G Y A S PW	YW

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- \bullet Pilot lights have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltages.
- See B-191 for bottom view.
- See B-191 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

 Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.
- *1) Jumbo dome pilot lights contain an exclusive LED. See B-182 and B-221.

■ Download catalogs and CAD from http://eu.idec.com/downloads



ø22 HW Series Pilot Lights

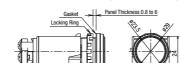
Dimensions

Pilot Lights

Locking Ring

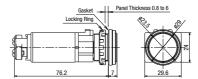
Round Flush Terminal screws: M3.5, integrated terminal cover

6, 12, 24V AC/DC, Without LED lamp



100/110V AC, 200/220V AC (240V AC maximum)

110V DC, 380V AC minumum



APEM

Control Boxes

Emergency Stop Switches Enabling Switches

Safety Products

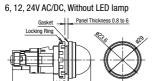
Explosion Proof Terminal Blocks

Relays & Sockets Circuit Protectors

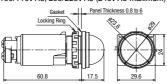
Power Supplies LED Illumination

Controllers Operator

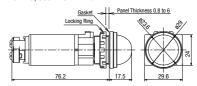
AUTO-ID



Extended Terminal screws: M3.5, integrated terminal cover 100/110V AC, 200/220V AC (240V AC maximum)

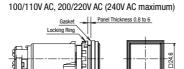


110V DC, 380V AC minimum



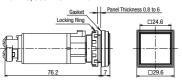
Square Flush Terminal screws: M3.5, integrated terminal cover





60.8

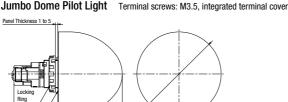
110V DC, 380V AC minimum



Flush Silhouette

ø16 ø30 Miniature

. 0.5



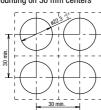
TW

Pilot Lights

Panel Cut-Out

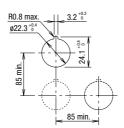
Mounting Centers (Except jumbo dome)

Close mounting on 30 mm centers



When mounting 100/110V AC, 200/220V AC, 110V DC units on 30mm centers vertically and horizontally, keep the ambient temperature below 40°C.

Mounting Centers (Jumbo dome)



Determine the minimum mounting centers in consideration of convenience for wiring.

Pilot Light Bottom View

6, 12, 24V AC/DC Without LFD lamp

100/110V AC, 200/220V, 110V DC





- For DC-DC Converter types, terminal X1 is \oplus , X2 is \ominus .
- . See B-228 for wiring.

B-191

ø22 HW Series Illluminated Pushbuttons

Round Flush / Round Extended (Marking Type)

Package Quantity: 1

	T T					Package Quantity: 1	ᅙ
Shape	Illumination	Operation	Rated Voltage	Contact Configuration	Part No.	Color Code	llot Lights
Round Flush (Marking type)				1N0	HW1L-M110Q4*		쭚
HW1L-M1				1NC	HW1L-M101Q4*		
HW1L-A1			0.014.0700	1NO-1NC	HW1L-M111Q4*		
			24V AC/DC	2N0	HW1L-M120Q4*		APEM
				2NC	HW1L-M102Q4*		
				2NO-2NC	HW1L-M122Q4*	R G	Switches & Pilot Lights
De L				1NO-1NC	HW1L-M111H2*	— u	
		Momentary		2N0	HW1L-M120H2*	Ä	Control Boxes
(180)			100/110V AC	2NC	HW1L-M102H2*	S	Emergency
				2NO-2NC	HW1L-M122H2*	PW	Stop Switches
				1NO-1NC	HW1L-M111M2*	_	Enabling Switches
(0.4)(A.O.(D.O.)				2N0	HW1L-M120M2*	=	
(24V AC/DC)			200/220V AC	2NC	HW1L-M102M2*	-	Safety Products
				2NO-2NC	HW1L-M122M2*	-	Explosion Proof
	LED			1NO	HW1L-A110Q4*		Explosion 1 1001
				1NC		_	Terminal Blocks
				1NO-1NC	HW1L-A101Q4*	⊣ !	
A STATE OF THE PARTY OF THE PAR			24V AC/DC		HW1L-A111Q4*	⊣	Relays & Sockets
A STATE OF THE PARTY OF THE PAR				2N0	HW1L-A120Q4*	_	Circuit
				2NC	HW1L-A102Q4*	R	Protectors
				2NO-2NC	HW1L-A122Q4*	G	Power Supplies
		Maintained		1NO-1NC	HW1L-A111H2*	Y	
The same of the sa			100/110V AC	2N0	HW1L-A120H2*	A S	LED Illumination
				2NC	HW1L-A102H2*	- PW	Controllers
With transformer			200/220V AC	2NO-2NC	HW1L-A122H2*	_ ·"	
(100/110V AC)				1NO-1NC	HW1L-A111M2*		Operator Interfaces
				2N0	HW1L-A120M2*		
				2NC	HW1L-A102M2*		Sensors
				2NO-2NC	HW1L-A122M2*		AUTO-ID
Round Extended (Marking type)				1NO	HW1L-M210Q4*		AUTU-ID
HW1L-M2				1NC	HW1L-M201Q4*		
HW1L-A2			24V AC/DC	1NO-1NC	HW1L-M211Q4*		
			24170/00	2N0	HW1L-M220Q4*		
_				2NC	HW1L-M202Q4*	R	Flush Silhouette
				2NO-2NC	HW1L-M222Q4*	G	ø16
		Momentary		1NO-1NC	HW1L-M211H2*	Y	910
		ivioinientai y	100/110V AC	2N0	HW1L-M220H2*	Α	ø22
			100/1100 AC	2NC	HW1L-M202H2*	S	
				2NO-2NC	HW1L-M222H2*	PW	ø30
and the same of th				1NO-1NC	HW1L-M211M2*		Miniature
(24V AC/DC)			200/220V AC	2N0	HW1L-M220M2*		miliature
(= ,			200/220V AC	2NC	HW1L-M202M2*		Pilot Lights
	ורה			2NO-2NC	HW1L-M222M2*	i	
	LED			1NO	HW1L-A210Q4*		
				1NC	HW1L-A201Q4*	i	
			041/40/00	1NO-1NC	HW1L-A211Q4*	┐ i	HW
			24V AC/DC	2N0	HW1L-A220Q4*	¬	
				2NC	HW1L-A202Q4*		TW
				2NO-2NC	HW1L-A222Q4*	R G	
		Maria I - 1		1NO-1NC	HW1L-A211H2*	—	YW
		Maintained	400/::-:	2N0	HW1L-A220H2*	Ä	
			100/110V AC	2NC	HW1L-A202H2*	S	
With transformer				2NO-2NC	HW1L-A222H2*	PW	
With transformer (100/110V AC)				1NO-1NC	HW1L-A211M2*	-	
(100/110V AO)				2N0	HW1L-A220M2*	┥	
			200/220VAC	2NC	HW1L-A202M2*	┥ !	
				2NO-2NC	HW1L-A222M2*	⊣	
	1			2110-2110	THE TELEVISION		

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-198 for bottom view.
- See B-184 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

■ Download catalogs and CAD from http://eu.idec.com/downloads



APEM

Control Boxes

Emergency
Stop Switches
Enabling
Switches
Safety Products
Explosion Proof
Terminal Blocks
Relays & Sockets
Circuit
Protectors
Power Supplies
LED Illumination
Controllers
Operator

ø22 HW Series Illluminated Pushbuttons

LED Round Extended with Full Shroud (Marking Type)

Package Quantity: 1

Shape	Illumination	Operation	Rated Voltage	Contact	Part No.	Color Code	
Round Extended with Full Shroud				1NO	HW1L-MF210Q4*		
(Marking type)				1NC	HW1L-MF201Q4*		
HW1L-MF2			24V AC/DC	1NO-1NC	HW1L-MF211Q4*		
HW1L-AF2			24V AG/DG	2N0	HW1L-MF220Q4*		
				2NC	HW1L-MF202Q4*		
				2NO-2NC	HW1L-MF222Q4*	R G	
		Momentoni		1NO-1NC	HW1L-MF211H2*	Ϋ́	
		Momentary	100/110V AC	2N0	HW1L-MF220H2*	A	
			100/110V AC	2NC	HW1L-MF202H2*	S PW	
				2NO-2NC	HW1L-MF222H2*	PW	
				1NO-1NC	HW1L-MF211M2*		
(24V AC/DC)			200/2201/ 40	2N0	HW1L-MF220M2*		
(24V A0/D0)			200/220V AC	2NC	HW1L-MF202M2*	7	
	LED -			2NO-2NC	HW1L-MF222M2*	7	
	LED			1NO	HW1L-AF210Q4*		
					1NC	HW1L-AF201Q4*	7
			24V AC/DC	1NO-1NC	HW1L-AF211Q4*		
A STATE OF THE STA			24V AC/DC	2N0	HW1L-AF220Q4*		
				2NC	HW1L-AF202Q4*		
				2NO-2NC	HW1L-AF222Q4*	R G	
		Maintained		1NO-1NC	HW1L-AF211H2*	Ϋ́Υ	
		Mamameu	100/110// 40	2N0	HW1L-AF220H2*	A	
			100/110V AC	2NC	HW1L-AF202H2*	S PW	
With transformer				2NO-2NC	HW1L-AF222H2*	PW	
(100/110V AC)				1NO-1NC	HW1L-AF211M2*		
			200/220V AC	2N0	HW1L-AF220M2*	7	
			200/220V AC	2NC	HW1L-AF202M2*		
				2NO-2NC	HW1L-AF222M2*	7	

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- \bullet Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- Flush Silhouette See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
 - See B-184 for other contact configurations and gold-plated silver contacts.
 - Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
 - See B-198 for bottom view.
 - See B-184 for how to specify units without LED lamps.
 - When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

 Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

НW

Miniature Pilot Lights

TW

AUTO-ID

For more information, visit http://eu.idec.com



ø22 HW Series Illluminated Pushbuttons

LED Square Flush / Round Flush with Square Bezel (Marking Type)

Package Quantity: 1

-:	1		I			Package Quantity: 1	루
Shape	Illumination	Operation	Illumination	Contact	Part No.	Color Code	ilot Lights
Square Flush (Marking type)				1NO	HW2L-M110Q4*		ght
HW2L-M1				1NC	HW2L-M101Q4*		S)
HW2L-A1			24V AC/DC	1NO-1NC	HW2L-M111Q4*		
			24V A0/D0	2N0	HW2L-M120Q4*		
_				2NC	HW2L-M102Q4*	R	APEM
				2NO-2NC	HW2L-M122Q4*	G	Switches &
		Momenton		1NO-1NC	HW2L-M111H2*	Y	Pilot Lights
		Momentary	100/110/110	2N0	HW2L-M120H2*	A	Control Boxes
13 12			100/110V AC	2NC	HW2L-M102H2*	S	
				2NO-2NC	HW2L-M122H2*	PW	Emergency Stop Switches
				1NO-1NC	HW2L-M111M2*	7	Enabling
				2N0	HW2L-M120M2*		Switches
(24V AC/DC)			200/220V AC	2NC	HW2L-M102M2*		Safety Products
				2NO-2NC	HW2L-M122M2*		
	LED			1NO	HW2L-A110Q4*		Explosion Proof
				1NC	HW2L-A101Q4*	-	
				1NO-1NC	HW2L-A111Q4*	\dashv	Terminal Blocks
Depart of the last			24V AC/DC	2N0	HW2L-A111Q4*	\dashv	Relays & Sockets
				2NC	HW2L-A102Q4*	R	-
						⊢ G	Circuit Protectors
				2NO-2NC	HW2L-A122Q4*	Ϋ́	
0.75		Maintained		1NO-1NC	HW2L-A111H2*	A	Power Supplies
			100/110V AC	2N0	HW2L-A120H2*	S	LED Illumination
				2NC	HW2L-A102H2*	PW	
With transformer				2NO-2NC	HW2L-A122H2*	_	Controllers
(100/110V AC)			200/220V AC	1NO-1NC	HW2L-A111M2*		Operator
				2N0	HW2L-A120M2*		Interfaces
				2NC	HW2L-A102M2*		Sensors
				2NO-2NC	HW2L-A122M2*		
Round Flush with Square Bezel				1NO	HW3L-M110Q4*	_	AUTO-ID
(Marking type)				1NC	HW3L-M101Q4*		
HW3L-M1			24V AC/DC	1NO-1NC	HW3L-M111Q4*	R	
HW3L-A1			217710750	2N0	HW3L-M120Q4*		
				2NC	HW3L-M102Q4*		Flush Silhouette
				2NO-2NC	HW3L-M122Q4*	G	
A COLON		Momentary		1NO-1NC	HW3L-M111H2*	Y	ø16
		Williemary	100/1107/40	2N0	HW3L-M120H2*	A S	-00
			100/110V AC	2NC	HW3L-M102H2*	☐ PW	ø22
				2NO-2NC	HW3L-M122H2*		ø30
				1NO-1NC	HW3L-M111M2*		
			000/000// 10	2N0	HW3L-M120M2*		Miniature
(0.4) (0.7)			200/220V AC	2NC	HW3L-M102M2*		Dilot Lights
(24V AC/DC)				2NO-2NC	HW3L-M122M2*		Pilot Lights
	LED			1NO	HW3L-A110Q4*		
				1NC	HW3L-A101Q4*	7	
				1NO-1NC	HW3L-A111Q4*	\dashv	
			24V AC/DC	2N0	HW3L-A120Q4*	\dashv	HW
Name of the same o				2NC	HW3L-A120Q4*	\dashv	
				2NO-2NC		⊢ R	TW
					HW3L-A122Q4*	G	YW
77		Maintained		1NO-1NC	HW3L-A111H2*	Y A	
			100/110V AC	2NO	HW3L-A120H2*	– Š	
				2NC	HW3L-A102H2*	- PW	
With transformer				2NO-2NC	HW3L-A122H2*	_	
(100/110V AC)				1NO-1NC	HW3L-A111M2*	_	
·			200/220V AC	2N0	HW3L-A120M2*	\dashv	
				2NC	HW3L-A102M2*	_	
				2NO-2NC	HW3L-A122M2*		

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
- \bullet See B-184 for other contact configurations and gold-plated silver contacts.
- Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-198 for bottom view.
- \bullet See B-184 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

 Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

■ Download catalogs and CAD from http://eu.idec.com/downloads



ø22 HW Series Illluminated Pushbuttons

Shape

Illumination

LED Mushroom (ø29mm) / Mushroom (ø29mm) with Square Bezel (Marking Type)

Operation

Illumination

Contact

Part No.

HW3L-A320M2*

HW3I -A302M2*

HW3L-A322M2*

2N0

2NC

2NO-2NC

Package Quantity: 1

Color Code

<u> </u>	οπαρο	mannadon	oporation	illullillullullull	Contact	i dit ito.	00101 0000	
ights	ø29mm Mushroom				1NO	HW1L-M310Q4*		
S	(Marking type)				1NC	HW1L-M301Q4*		
	HW1L-M3			24V AC/DC	1NO-1NC	HW1L-M311Q4*		
	HW1L-A3				2NO	HW1L-M320Q4*		
APEM					2NC	HW1L-M302Q4*	R	
Switches &					2NO-2NC	HW1L-M322Q4*	G	
Pilot Lights			Momentary		1NO-1NC	HW1L-M311H2*	Y	
Control Boxes			,	100/110V AC	2N0	HW1L-M320H2*	– A S	
Emergency					2NC	HW1L-M302H2*	⊢ PW	
Stop Switches					2NO-2NC	HW1L-M322H2*		
Enabling					1NO-1NC	HW1L-M311M2*	_	
Switches	(0.4)/ A.O.(D.O.)			200/220V AC	2NO	HW1L-M320M2*		
Safety Products	(24V AC/DC)				2NC	HW1L-M302M2*		
Explosion Proof		LED			2NO-2NC	HW1L-M322M2*		
					1NO	HW1L-A310Q4*		
Terminal Blocks					1NC	HW1L-A301Q4*		
				24V AC/DC	1NO-1NC	HW1L-A311Q4*		
Relays & Sockets	A CONTRACTOR OF THE PARTY OF TH				2N0	HW1L-A320Q4*		
Circuit					2NC	HW1L-A302Q4*	R	
Protectors					2NO-2NC	HW1L-A322Q4*	G	
Power Supplies			Maintained		1NO-1NC	HW1L-A311H2*	Y	
LED Illumination			aaou	100/110V AC	2NO	HW1L-A320H2*	A S	
					2NC	HW1L-A302H2*	– PW	
Controllers	With transformer				2NO-2NC	HW1L-A322H2*		
Operator	(100/110V AC)				1NO-1NC	HW1L-A311M2*		
Interfaces				200/220V AC	2N0	HW1L-A320M2*	_	
Sensors					2NC	HW1L-A302M2*	_	
					2NO-2NC	HW1L-A322M2*		
AUTO-ID	ø29mm Mushroom with Square				1NO	HW3L-M310Q4*	_	
	Bezel (Marking type)				1NC	HW3L-M301Q4*	_	
	HW3L-M3 HW3L-A3			24V AC/DC	1NO-1NC 2NO	HW3L-M311Q4*		
	1110270				2NC	HW3L-M320Q4* HW3L-M302Q4*		
Flush Silhouette				-	2NO-2NC	HW3L-M322Q4*	R	
ø16					1NO-1NC	HW3L-M311H2*	G	
010			Momentary		2NO	HW3L-M320H2*	Y_A	
ø22				100/110V AC	2NC	HW3L-M302H2*	– ŝ	
					2NO-2NC	HW3L-M322H2*	PW	
ø30					1NO-1NC	HW3L-M311M2*	_	
Miniature					2N0	HW3L-M320M2*	-	
	(24V AC/DC)			200/220V AC	2NC	HW3L-M302M2*	_	
Pilot Lights	(24V AO/DO)				2NO-2NC	HW3L-M322M2*	_	
		LED			1NO	HW3L-A310Q4*		
					1NC	HW3L-A301Q4*		
					1NO-1NC	HW3L-A311Q4*	_	
HW	The state of the s			24V AC/DC	2N0	HW3L-A320Q4*	_	
					2NC	HW3L-A302Q4*	_	
TW					2NO-2NC	HW3L-A322Q4*	— R	
YW	UNIA				1NO-1NC	HW3L-A311H2*	G Y	
			Maintained		2N0	HW3L-A320H2*	A S PW	
				100/110V AC	2NC	HW3L-A302H2*		
					2NO-2NC	HW3L-A322H2*		
	With transformer				1NO-1NC	HW3L-A311M2*		
	(100/110V AC)				2NO	HW3I -A320M2*	\dashv	

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)
- Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
- \bullet See B-184 for other contact configurations and gold-plated silver contacts.
- Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-198 for bottom view.
- See B-184 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

 Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

200/220V AC

B-195

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

Mushroom (ø40mm) (Marking Type)

Package Quantity: 1

Shape	Illumination	Operation	Illumination	Contact	Part No.	Color Code	
ø40mm Mushroom				1NO	HW1L-M410Q4*		
(Marking type) HW1L-M4 HW1L-A4				1NC	HW1L-M401Q4*		
			24V AC/DC	1NO-1NC	HW1L-M411Q4*		
			24V AU/DU	2N0	HW1L-M420Q4*		
				2NC	HW1L-M402Q4*	R	
				2NO-2NC	HW1L-M422Q4*	G R	
		Momentary		1NO-1NC	HW1L-M411H2*	Y	
		Wolfieritary	100/110V AC	2N0	HW1L-M420H2*	A	
			100/1107 AC	2NC	HW1L-M402H2*	S PW	
				2NO-2NC	HW1L-M422H2*		
				1NO-1NC	HW1L-M411M2*		
			200/220V AC	2N0	HW1L-M420M2*		
(24V AC/DC)			200/2201 A0	2NC	HW1L-M402M2*		
	LED			2NO-2NC	HW1L-M422M2*		
	LLD				1NO	HW1L-A410Q4*	
				1NC	HW1L-A401Q4*		
			24V AC/DC	1NO-1NC	HW1L-A411Q4*		
And the second			24V AO/DO	2N0	HW1L-A420Q4*		
				2NC	HW1L-A402Q4*	R	
				2NO-2NC	HW1L-A422Q4*	G	
With transformer (100/110V AC)		Maintained		1NO-1NC	HW1L-A411H2*	Y	
		Waintainea	100/110V AC	2N0	HW1L-A420H2*	A	
			100/1107 A0	2NC	HW1L-A402H2*	S PW	
				2NO-2NC	HW1L-A422H2*		
				1NO-1NC	HW1L-A411M2*		
			200/220V AC	2N0	HW1L-A420M2*		
			200/220170	2NC	HW1L-A402M2*		
				2NO-2NC	HW1L-A422M2*		

- Specify a color code in place of * in Part No. R (red), G (green), Y (yellow), A (Amber), S (blue), PW (pure white)
- Illuminated pushbuttons have an LED lamp installed unless otherwise specified.
- See B-184 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.
- See B-184 for other contact configurations and gold-plated silver contacts.
- Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-198 for bottom view.
- See B-184 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

Flush Silhouette

ø16

AUTO-ID

ø30

Miniature

Pilot Lights

■ Download catalogs and CAD from http://eu.idec.com/downloads



ø22 HW Series Illluminated Pushbuttons

Dimensions

Illuminated Pushbuttons (Momentary / Maintained)

Round Flush Terminal screws: M3.5, integrated terminal cover

6, 12, 24V AC/DC, Without LED lamp

100/110V AC, 200/220V AC (240V maximum)

110V DC, 380V AC minimum



Control Boxes Emergency Stop Switches Enabling

Switches Safety Products

Explosion Proof Terminal Blocks

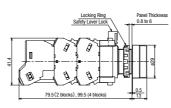
Relays & Sockets Circuit

Protectors Power Supplies

LED Illumination

Controllers Operator Sensors

AUTO-ID

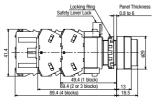


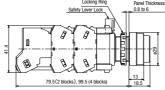
Round Extended Terminal screws: M3.5, integrated terminal cover

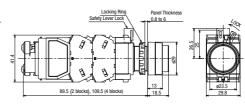
6, 12, 24V AC/DC, Without LED lamp

100/110V AC, 200/220V AC (240V maximum)

110V DC, 380V AC minimum



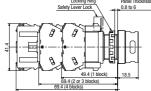


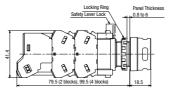


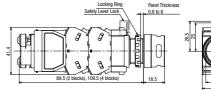
Round Extended with Full Shroud Terminal screws: M3.5, integrated terminal cover 6, 12, 24V AC/DC, Without LED lamp

100/110V AC, 200/220V AC (240V maximum)

110V DC, 380V AC minimum









Flush Silhouette ø16

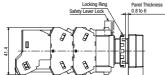
ø30

Miniature

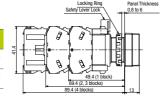
TW

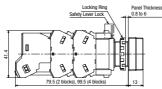
Square Flush Terminal screws: M3.5, integrated terminal cover 100/110V AC, 200/220V AC (240V maximum)

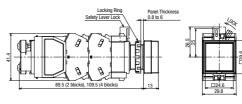
6, 12, 24V AC/DC, Without LED lamp Pilot Lights









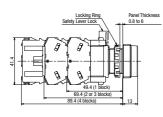


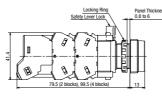
Flush with Square Bezel Terminal screws: M3.5, integrated terminal cover

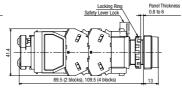
6, 12, 24V AC/DC, Without LED lamp

100/110V AC, 200/220V AC (240V maximum)

110V DC, 380V AC minimum









B-197



ø22 HW Series Illluminated Pushbuttons

Dimensions

Illuminated Pushbuttons (Momentary / Maintained)

Ø29mm Mushroom Terminal screws: M3.5, integrated terminal cover

6, 12, 24V AC/DC, Without LED lamp 100/110V AC, 200/220V AC (240V maximum)

ø29mm Mushroom with Square Bezel Terminal screws: M3.5, integrated terminal cover

Ø40mm Mushroom with Square Bezel Terminal screws: M3.5, integrated terminal cover

100/110V AC, 200/220V AC (240V maximum)

100/110V AC, 200/220V AC (240V maximum)

110V DC, 380V AC minimum

110V DC, 380V AC minimum

110V DC, 380V AC minimum

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

AUTO-ID

Flush Silhouette

ø16

ø30

Miniature

Pilot Lights

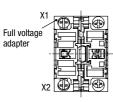
YW

Bottom View

6, 12, 24V AC/DC, Without LED lamp

6, 12, 24V AC/DC, Without LED lamp

6, 12, 24V AC/DC, Without LED lamp

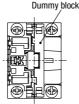


1 contact block

• See B-227 to B-228 for wiring.



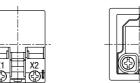
3 contact blocks



2/4 contact blocks



100/110V AC, 200/220V AC



110V DC, 380V AC minimum

ullet For DC-DC Converter types, terminal X1 is \oplus , X2 is \ominus .

Download catalogs and CAD from http://eu.idec.com/downloads



ø22 HW Series Dual Pushbuttons

Dual Pushbuttons (without Pilot Light)

Specify a button color code in place of 2 and legend code in place of 3 in the Part No.

Package Quantity: 1

ghts		IIW/D					
<i>"</i>							
APEM	Shape				ON	ON	
Switches & Pilot Lights				w M			
Control Boxes				Ų	OFF	OFF	
Emergency Stop Switches							
Enabling Switches	Operation	Button Style		ntact	Part No.	2 Button Color Code	3 Legend Code
Safety Products			Top Button	Bottom Button	UW7D D444004 [0]		
Salety Products			1NO 1NO	1NC 1NO	HW7D-B111001 2 3	-	
Explosion Proof		Flush (top)	1NO-1NC	-	HW7D-B111010 2 3		
Terminal Blocks	_	Flush (bottom)	2NO	1NO-1NC 2NC	HW7D-B111111 2 3 HW7D-B112002 2 3	-	
				_		-	
Relays & Sockets	Momentary		2N0	2N0	HW7D-B112020 2 3	1	
Circuit			1NO	1NC	HW7D-B121001 2 3	4	
Protectors		Flush (top)	1N0	1NO	HW7D-B121010 2 3	-	
Power Supplies		Extended (bottom)	1NO-1NC	1NO-1NC	HW7D-B121111 2 3	CD. Croop (top)	Blank: Without legend
LED Illumination			2N0	2NC	HW7D-B122002 2 3	GR: Green (top) Red (bottom)	biank: without legend
LED IIIUMINATION			2N0	2N0	HW7D-B122020 2 3	- Tiou (Bottom)	1: I / ON (top)
Controllers			1NO	1NC	HW7D-B211001 2 3	WB: White (top)	0 / OFF (bottom)
Operator		Flush (top)	1NO	1NO	HW7D-B211010 2 3	Black (bottom)	
Interfaces	3_	Flush (bottom)	1NO-1NC	1NO-1NC	HW7D-B211111 2 3		
Sensors			2N0	2NC	HW7D-B212002 2 3		
	Interlock (*1)		2N0	2N0	HW7D-B212020 2 3		
AUTO-ID	Flush (top)		1NO	1NC	HW7D-B221001 2 3		
			1NO 1NO-1NC	1NO	HW7D-B221010 2 3		
		Flush (top) Extended (bottom)		1NO-1NC	HW7D-B221111 2 3	1	
			2N0	2NC	HW7D-B222002 2 3		
Flush Silhouette	1	1	2N0	2NO	HW7D-B222020 2 3		

- Omnodette

Miniature Pilot Lights

- For other contact arrangements, see Ordering Information on B-185 and Contact Arrangement Chart on B-202.
 - Dual pushbuttons with 3 contact blocks have a dummy block.
 - See B-202 for top and bottom button contact mounting positions.
- ø30 *1) Interlock: Momentary operation. When one of the buttons is pressed, the other button cannot be operated.
 Do not operate top and bottom buttons at the same time. Operating the buttons at the same time may lead to malfunctions.

HW TW



ø22 HW Series Dual Pushbuttons

LED

Dual Pushbuttons (with Pilot Light)

Specify a LED color code in place of 1, button color code in place of 2, and legend code in place of 3 in the Part No.

Package Quantity: 1

HW7D LED: LSTD-2* (24V AC/DC)

Shape





			Con	ntact					1
Operation	Button Style	Illumination	Top Button	Bottom Button	Part No.	LED	2 Button Color Code	3 Legend Code	
			1NO	1NC	HW7D-L111001Q4 1 2 3				1
	Flush (hea)		1NO	1NO	HW7D-L111010Q4 1 2 3				
	Flush (top) Flush (bottom)	24V AC/DC	1NO-1NC	1NO-1NC	HW7D-L111111Q4 1 2 3				
	Tidon (bottom)		2N0	2NC	HW7D-L112002Q4 1 2 3				
Momentary			2N0	2N0	HW7D-L112020Q4 1 2 3				
Womentary			1N0	1NC	HW7D-L121001Q4 1 2 3				l
	Flush (top)		1NO	1NO	HW7D-L121010Q4 1 2 3				
	Extended (bottom)	24V AC/DC	1NO-1NC	1NO-1NC	HW7D-L121111Q4 1 2 3	_			ļ
	, ,		2N0	2NC	HW7D-L122002Q4 1 2 3	R G	GR: Green (top) Red (bottom)	Blank: Without legend	l
			2N0	2N0	HW7D-L122020Q4 1 2 3	A	neu (bottoiii)	legenu	
			1NO	1NC	HW7D-L211001Q4 1 2 3	S	WB: White (top)	1: I / ON (top)	l
	Flush (top)		1NO	1NO	HW7D-L211010Q4 1 2 3	PW	Black (bottom)	0 / OFF (bottom)	l
	Flush (bottom)	24V AC/DC	1NO-1NC	1NO-1NC	HW7D-L211111Q4 1 2 3				
	, ,		2N0	2NC	HW7D-L212002Q4 1 2 3				
Interlock (*1)			2N0	2N0	HW7D-L212020Q4 1 2 3				l
			1NO	1NC	HW7D-L221001Q4 1 2 3				1
	Flush (top)		1NO	1NO	HW7D-L221010Q4 1 2 3				l
	Extended (bottom)	24V AC/DC	1NO-1NC	1NO-1NC	HW7D-L221111Q4 1 2 3				ļ
	' '		2N0	2NC	HW7D-L222002Q4 1 2 3				l
			2N0	2N0	HW7D-L222020Q4 1 2 3				1

- LED lamp code: R (red), G (green), A (amber), S (blue), PW (pure white)
- Only W (white) lens is available.
- See B-185 for other operating voltage such as 100/110V AC and 200/220V AC.
- See B-202 for other contact configurations
- See B-185 for gold-plated silver contacts.
- Illuminated pushbutttons of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-202 for top and bottom button contact mounting positions.
- *1) Interlock: Momentary operation. When one of the buttons is pressed, the other button cannot be operated. Do not operate top and bottom buttons at the same time. Operating the buttons at the same time may lead to malfunctions.

APEM

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AUTO-ID

Flush Silhouette

ø16

ø30

Miniature

Pilot Lights

YW

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Control Boxes Emergency Stop Switches Enabling Switches Safety Products

Explosion Proof

Terminal Blocks Relays & Sockets Circuit

Power Supplies LED Illumination Controllers

Operator

AUTO-ID

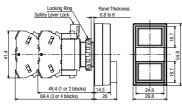
ø22 HW Series Dual Pushbuttons

Dimensions

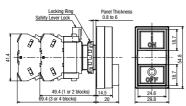
Dual Pushbuttons

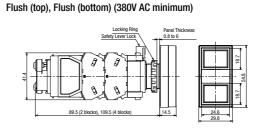
Without Pilot Light Terminal screws: M3.5, integrated terminal cover Flush (top), Flush (bottom)

Flush (top), Extended (bottom)



Flush (top), Extended (bottom) (with legend)

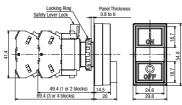




With Pilot Light Terminal screws: M3.5, integrated terminal cover

Flush (top), Flush (bottom) (24V AC/DC)

Flush (top), Flush (bottom) (240V AC maximum)



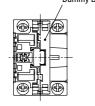


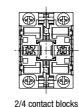
Flush Silhouette ø16

> Miniature Pilot Lights

TW YW

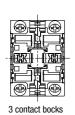


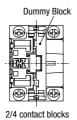


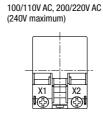


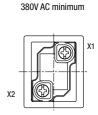
3 contact bocks











- See B-227 to B-228 for wiring.
- Mounting position of the dummy block may change according to the contact configuration of the top and bottom buttons.

B-201



Control Boxes

Explosion Proof

Terminal Blocks

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Operator Interfaces

AUTO-ID

Flush Silhouette

ø16

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Miniature

Pilot Lights

YW

ø22 HW Series Dual Pushbuttons

Contact Arrangement Chart

	Contact		Contac	t Block	Top B	utton	Bottom	Button
Top Button	Bottom Button	Contact Code	Mounting Position	Contact	Normal	Push	Normal	Push
1NO	1NO	1010	1	NO		•		
TNO	IIVO	1010	2	NO				•
1NO	1NC	1001	1	NO		•		
1110	TINO	1001	2	NC			•	
1NC	1NO	0110	1	NC	•			
1110	1140	0110	2	NO				•
			1	NO		•		
1NO	1NO-1NC	1011	2	NO				•
1110	INO-INO	1011	3	_		Dumm	y Block	
			4	NC			•	
			1	NO		•		
2N0	2N0	2020	2	NO				•
2110	2110		3	NO		•		
			4	NO				•
			1	NO		•		
2N0	1NO-1NC	2011	2	NO				•
2110	INO-INO	2011	3	NO		•		
			4	NC			•	
			1	NO		•		
2N0	2NC	2002	2	NC			•	
2110	2110	2002	3	NO		•		
			4	NC			•	
			1	NO		•		
1NO-1NC	1NO-1NC	1111	2	NO				•
1110-1110	INO-INO		3	NC	•			
			4	NC			•	
			1	NO		•		
1NO-1NC	2NC	1102	2	NC			•	
I INO-INC	2110	1102	3	NC	•			
			4	NC			•	

- Transformer types cannot mount 3 contact blocks.
- \bullet Contact blocks ${}^{\scriptsize \textcircled{1}}$ and ${}^{\scriptsize \textcircled{3}}$ are actuated by the top button. Contact blocks ${}^{\scriptsize \textcircled{2}}$ and ${}^{\scriptsize \textcircled{4}}$ are actuated by the bottom button.

Contac	Contact Block		Top Button		Button	← Button Position
Mounting Position	Contact	Normal	Push	Normal	Push	← Pushbutton Operation
1)	NO		•			
2	NO				•	
3	NC	•				
4	NC			•		

Contact Block Mounting Position



With Pilot Light (Full Voltage Type)



With Pilot Light (Transformer Type)

Part No. Example HW7D-B12<u>1111</u>GR

Contact Code

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ø22 HW Series Selector Switches

Selector Switches (Knob Operator) Package Quantity: 1 Knob Operator HW1S Shape APEM Spring Return from Maintained (90°) Control Boxes Operator Position Contact Block Right (60°) Emergency Contact Stop Switches Mounting 2 Contact 1 Enabling Position Switches NO • 1N0 (1) HW1S-2T10 HW1S-21T10 Safety Products (10)**Dummy Block** 2 qno 2-position/ 60° NO 1 **Explosion Proof** 1NO-1NC • HW1S-2T11 HW1S-21T11 (11) 2 NC 2-position Terminal Blocks 2N0 1 NO • HW1S-2T20 HW1S-21T20 (20)2 N0 Relays & Sockets 1 NO • Circuit Protectors 2NO-2NC 2 NC • HW1S-2T22 HW1S-21T22 Power Supplies (22)3 N0 • 4 NC • LED Illumination Maintained Spring Return Spring Return Spring Return Operator Position Contact Block from Right from Left Two-way Controllers Contact Operator Mounting 0 Contact 2 1 1 NO. • HW1S-3T20 HW1S-31T20 HW1S-32T20 HW1S-33T20 (20)2 N0 AUTO-ID 2NC 1 NC HW1S-31T02 HW1S-32T02 HW1S-3T02 HW1S-33T02 (02)2 NC 1 NO • 2NO-2NC 2 NO • Flush Silhouette HW1S-3T22N1 HW1S-31T22N1 HW1S-32T22N1 HW1S-33T22N1 (22N1)3 NC ø16 45° 4 NC 3-position 1 NO • 2 N0 4N0 • HW1S-3T40 HW1S-31T40 HW1S-32T40 HW1S-33T40 ø30 (40)3 NO • 4 N0 Miniature 1 NC Pilot Lights 2 NC 4NC HW1S-3T04 HW1S-31T04 HW1S-32T04 HW1S-33T04 (04)3 NC

. Knob operator: white indicator on black body

2NO-1NC

(21N1)

• On the contact arrangement marked with ★ in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

HW1S-3JT21N1

• For models with $\stackrel{\scriptstyle }{
ightharpoonup}$, contacts may overlap when the operator position is changed.

NC

NO

NO

NC

•

Dummy Block

ullet

• Other contact arrangements are also available. See B-211 to B-213

4

1

(2)

3

4

- Selector switches with one or three contact blocks contain a dummy block.
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately.

Contact Block Mounting Position



B-203

TW

ø22 HW Series Key Selector Switches

Key Selector Switches (Pin Tumbler Key)

Package Quantity: 1

	No. of		Contact	Block	Opera	ator Po	sition		Maintained	
Shape	Positions	Contact	Mounting Position	Contact	1	2		Cam Code	1 2	
Pin Tumbler Key		1NC	0	NC	•				HW1K-2PA01	
HW1K		(01)	2	_	Dur	nmy Bl	ock	_	NWIK-ZFAUI	
		1NO-1NC	0	NO		•			HW1K-2PA11	
		(11)	2	NC	•			_	HWIK-ZFAII	
		2NC	0	NC	•				HWAY SDAGS	
	(02)	(02)	2	NC	•			_	HW1K-2PA02	
			0	NO		•				
		2NO-1NC	2	NO		•		_	HW1K-2PA21	
	90°	(21)	3	NC	•				FIWIR-2FAZI	
	2-position	osition	4	_	Dummy Block		ock			
			0	NC	•					
		3NC	2	NC	•				HW1K-2PA03	
		(03)	3	NC	•			_	HWIK-ZPAUS	
			4	_	Dur	nmy Bl	ock			
			0	NO		•				
		2NO-2NC	2	NC	•				HW1K-2PA22	
(NC contact only)	(22)	3	NO		•		_	HWTK-2PA22		
(NO CONTRACT ONLY)			4	NC	•					

- Each selector key switch is supplied with two keys.
- 15 types of key numbers are available in addition to standard (500) key. See below for details.

2-position, maintained 21: 2-position, spring return from right

- Spring-return type is also available. See below for details.
- Key retained position can be selected. See below for details.

Ordering Information

Example: HW1K - 2 J P A 01 - 501 Not specified: 500 (default key) 501-515: The key number is engraved on the key cylinder. Key removable/retained positions Cam code: Blank or J A: Removable/retained in all positions B: Removable in left theft only Operator position code: C: Removable in right only

Maintained (9	Spring Return (60° 2-position)	
1 2	2 1	Spring return from right
Cam code: blank	Cam code: J	Cam code: blank

- For more contact arrangement, see B-211 to B-213.
- Key selector switches with one or three contact blocks contain a dummy block.
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately

Contact Block Mounting Position



Key Retained Position A (removable in B (removable in C (removable in all positions) right only) left only)

	Cam code: blank												
ŀ	Key Retained Position	<u> </u>											
A (removable in B (removable in all positions) left only) right only)													
2 0	2	0 0											
Cam code: J													

①②: Key removal position ● ②: Key retained position

Note: The key cannot be removed in a spring return position.

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B-204

APEM

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AUTO-ID

Flush Silhouette

ø16

ø30

Miniature

Pilot Lights

YW



APEM

Control Boxes Stop Switches Enabling Safety Products Explosion Proof Terminal Blocks Relays & Sockets Circuit Protectors Power Supplies LED Illumination

ø22 HW Series Key Selector Switches

Key Selector Switches (Pin Tumbler Key)

Package Quantity: 1

	No. of	Conta	act Configuratio	n	Оре	rator Pos	ition	Cam	Maintained	
Shape	Positions	Contact Code	Mounting Position	Contact	1	0	2	Code	1 0 2	
Pin Tumbler Key		2NC	1	NC					HW1K-3PA02	
HW1K		(02)	2	NC					TIWTK-SFAUZ	
			①	NO	•					
		2NO-2NC	2	NO			•		HW1K-3PA22N1	
		(22N1)	3	NC				_	HWTK-3PAZZNT	
			4	NC						
			0	NC						
		4NC (04)	2	NC				_	HW1K-3PA04	
	45°		3	NC					HWIK-SPAU4	
	3-position		4	NC						
			1	NO	•					
		2NO-1NC (21N1)	2	NO			•	J	HW1K-3JPA21N1	
		(ZINI) ★☆	3	NC		•		J	IIWIK-JJFAZIWI	
		^^	4	_	Du	ımmy Blo	ck			
			1	NC			•			
		4NC (04)	2	NC	•			S	HW1K-3SPA04	
(NC contact only)		(04) ★	3	NC			•	٥	HWTK-33FAU4	
(i.e doi.iadt dilly)		^	4	NC	•	, and the second				

- On the contact arrangement marked with 🛨 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.
- For models with ☆, contacts may overlap when the operator is changed.
- For contact block mounting position, see the figure on the right.
- Each key selector switch is supplied with two keys.
- 15 types of key numbers are available in addition to standard (500) key. See below for details.
- AUTO-ID Spring-return type is also available. See below for details.
 - · Key retained position can be selected. See table below details.

Contact Block Mounting Position



Flush Silhouette

Controllers

Operator

ø16

ø30

Miniature

Pilot Lights

TW

Ordering Information

Example: HW1K - 3SPA04 - 501 Not specified: 500 (default key) 501-515: The key number is engraved on the key cylinder.

- Cam code: Blank, J. or S

Operator position code:

- 3: 3-position, maintained 31: 3-position, spring return from right
- 32: 3-position, spring return from left
- 33: 3-position, spring return two way

Maintained (45° 3-position)	Spring Return (45° 3-position)											
Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-way									
1 0 2	1 0 2	1_0_2	1 0 2									
Cam code:	Cam code: blank											

- For more contact arrangement, see B-211 to B-213.
- Key selector switches with one or three contact blocks contain a dummy block
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately.

Key removal/retained positions

- A: Removable in all positions
- B: Removable in left and center
- C: Removable in right and center
- D: Removable in center only
- E: Removable in right and left G: Removable in left only
- H: Removable in right only

Note: The key cannot be removed in a spring return position.

	Key Retained Positi	ion (45° 3-position)	
A (removable in all positions)	D (removable in center only)		
0 0 2	0 0 0	0 0 2	0 0 0
E (removable in right and left only)	G (removable in left only)	H (removable in right only)	
0 0 2	0 0 0	0 0 2	

@@2: Key removal position

⊙ • ②: Key retained position

Note: The key cannot be removed in a spring return position.

B-205

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

ø22 HW Series Key Selector Switches

Key Selector Switches (Disc Tumbler Key)

Package Quantity: 1

Disc Tumbler Key HW1K No. of **Positions** (NC contact only)

	(NC com	act only)							
	Conta	ct Configurati	ion	Operator	r Position		Maintained (90°)	Spring Return from Right (60°)	
	Contact Code	Mounting Position	Contact	1	2	Cam Code	1 2	12	
	1N0	0	NO		•		HW1K-2A10	HW1K-21B10	
	(10)	2	_	Dumm	y Block	_	HWIK-ZAIU	HWIK-ZIDIU	
	1NC	0	NC	•			HW1K-2A01	HW1K-21B01	
	(01)	2	_	Dummy Block		_	TWTK-ZAUT	HWIK-ZIDUI	
	1NO-1NC	0	NO		•		HW1K-2A11	HW1K-21B11	
	(11)	2	NC	•		_	TWIK-ZAII	HWIK-ZIDII	
	2N0	0	NO		•		HW1K-2A20	HW1K-21B20	
	(20)	2	NO		•	_	TWTK-ZAZU	TWIK-ZIDZU	
	2NC	0	NC	•			HW1K-2A02	HW1K-21B02	
90°	(02)	2	NC	•		_	TWTK-ZAUZ	TWIK-ZIDUZ	
2-position/		0	NO		•				
60°	2NO-1NC	2	NO		•		HW1K-2A21	HW1K-21B21	
2-position	(21)	3	NC	•		_	TWIK-ZAZI	TWIK-ZIDZI	
		4	_	Dumm	y Block				
		0	NC	•					
	3NC	2	NC	•			HW1K-2A03	HW1K-21B03	
	(03)	3	NC	•		_	HWTK-ZAU3	TWIK-21003	
		4	_	Dumm	y Block				
		0	NO		•				
	2NO-2NC	2	NC	•]	HW1K-2A22	HW1K-21B22	
	(22)	3	NO		•	_	TWIN-ZAZZ		
		4	NC	•		1			

• Each key selector switch is supplied with two keys.

• 3 types of key numbers are available in addition to standard key.

• Key retained position can be selected. See table below for key retained positions.

Contact Block Mounting Position

ø30

AUTO-ID

Flush Silhouette ø16

Miniature

YW

Pilot Lights

Ordering Information

Example: HW1K-2JA01- $\frac{1H}{|\cdot|}$ Not specified: 231 (default key) The key number is engraved on the key cylinder. 2H ЗН

A: Removable in all positions
B: Removable in left only
C: Removable in right only

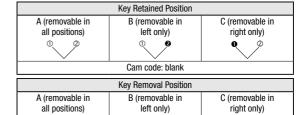
Key removal/retained positions Cam code: Blank or J

21: 2-position, spring return from right

Maintained (9	0° 2-position)	Spring Return (60° 2-position)
1 2	2 1	Spring Return from Right
Cam code: blank	Cam code: J	Cam code: blank

Operator position code: 2: 2-position, maintained

- For more contact arrangement, see B-211 to B-213.
- Key selector switches with one or three contact blocks contain a dummy block.
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately.



Cam code: J

 $\ensuremath{\mathbb{O}}$ $\ensuremath{\mathbb{O}}$: Key removal position

● ②: Key retained position Note: The key cannot be removed in a spring return position.

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ø22 HW Series Key Selector Switches

Key Selector Switches (Disc Tumbler Key)

Package Quantity: 1

No. of Positions												Package Quantity:				
Positions		Disc Tumbler HW1K	ншк													
Contact Code Mounting Contact 1 0 2 Code 1 0 2 C		(NC cor	ntact only)													
Contact Code Mounting Contact 1 0 2 Code 1 0 2		Contac	t Configurat	ion	Position			Cam	Maintained							
(20)		Contact Code	Mounting Position	Contact	1	0	2		1 0 2	1 0 2	1 0 2	1 0 2				
2NC (02) 02 NC					•				HW4K-3V3U	HW1K-21B20	HW4K-33C3U	HM4K-33D30				
(02)							•		TIWTK-JAZU	TIW IK-3 IDZU	11W1K-32020	TIWTK-33DZ0				
A5° 3-position C NC NC NO NO NO NO NO								l _	HW1K-3A02	HW1K-31B02	HW1K-32C02	HW1K-33D02				
2N0-2NC (22N1)		(02)							THE ONE	THE THE OTBOL	HWTH OLOOL	THE THE GODOL				
45° 3-position (22N1)					•	_										
45° 3-position 4NO (40)							•	- 1	HW1K-3A22N1	HW1K-31B22N1	HW1K-32C22N1	HW1K-33D22N1				
4NO (40)								1								
4NO (40)					_		-					-				
45° 3-position (40) 3 NO		4110			•			-	— HW1K-3A40							
45° 3-position 4NC							•	 		HW1K-31B40	HW1K-32C40	HW1K-33D40				
3-position	450	(40)			•			-								
4NC (04) 3 NC		-					Ľ									
(04) 3 NC	3-position	ANC			_	=		1								
ANC O					_	Ε.		 	HW1K-3A04	HW1K-31B04	HW1K-32C04	HW1K-33D04				
4NC (04)		(04)			_	-		1								
4NC (04) 3 NC		-			_											
(04) 3 NC 5 HW1K-3SA04 — — — — — — — — — — — — — — — — — — —					•		-	1 .								
★ ④ NC ● 2N0-1NC (21N1) ① NO ● 3 NC ● J HW1K-3JA21N1 — —		1 ' '			<u> </u>		•	S	HW1K-3SA04	_	_	_				
2NO-1NC		★			•		+	1								
2NO-1NC ② NO □ ■ J HW1K-3JA21N1 — — —																
③ NC ● J HWIK-3JAZINI — —					Ť		•	1.								
		` ′				•		- J	J HW1K-3JA21N1	-	_	_				
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	*	★ ☆	4	_	Dur	nmy E	Block	1								

Flush Silhouette

ø16

ø30

AUTO-ID

- On the contact arrangement marked with * in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.
- For models with ★, contacts may overlap when the operator is changed. Each key selector switch is supplied with two keys.
- 3 types of key numbers are available in addition to standard key.
- Key retained position can be selected. See table below for key retained positions.

Contact Block Mounting Position



Miniature

Pilot Lights

Ordering Information

Example: HW1K-35A04-1H Not specified: 231 (default key) The key number is engraved on the key cylinder. 1H 2H ЗН Key removal/retained positions Cam code: Blank, J, or S A: Removable in all positions

TW

Operator position code:

3: 3-position, maintained 31: 3-position, spring return from right

32: 3-position, spring return from left

33: 3-position, spring return two way

Maintained Spring Return (45° 3-position) (45° 3-position) Spring Return Spring Return Spring Return Maintained from Right from Left Two-way Cam code Cam code: blank blank, J, or S

- For more contact arrangement, see B-211 to B-213.
- · Key selector switches with one or three contact blocks contain a dummy block
- See B-186 for gold-plated silver contacts.
- Turn the operator to each position accurately

E: Removable in right and left B: Removable in left and center G: Removable in left only

C: Removable in right and center H: Removable in right only

D: Removable in center only

Note: The key cannot be removed in a spring return position.

	Key Retain	ed Position	
A (removable in all positions)	B (removable in left and center)	C (removable in right and center)	D (removable in center only)
0 0 2	0 0 2	0 0 2	0 0 0
E (removable in right and left only)	G (removable in left only)	H (removable in right only)	
0 2	0 0	0 0 2	

⊕⊕②: Key removal position

⊙ • ②: Key retained position

Note: The key cannot be removed in a spring return position.

B-207



ø22 HW Series Illuminated Selector Switches

Selector Switches (Knob Operator)

Knob Operator HW1F

Package Quantity: 1

No. of Position	HWIF											
	Conta	ct Configur	ation		perat ositio		Operating	Maintained (90°)	Spring return from right (60°)			Color
	Contact Code	Mounting Position	Contact	1	2		Voltage	1 2	1 >2	_	_	Code
	4110 4110	0	NO		•		24V AC/DC	HW1F-211Q4*	HW1F-2111Q4*			
90°	1NO-1NC (11)	2	NC	•			100/110V AC	HW1F-211H2*	HW1F-2111H2*			
	2-position/						200/220V AC	HW1F-211M2*	HW1F-2111M2*			_
60°		0	NO		•		24V AC/DC	HW1F-220Q4*	HW1F-2120Q4*			R G
2-positio	2-position 2NO (20)		NO		•		100/110V AC	HW1F-220H2*	HW1F-2120H2*			Y
(20)							200/220V AC	HW1F-220M2*	HW1F-2120M2*			Α
		0	NO		•		24V AC/DC	HW1F-222Q4*	HW1F-2122Q4*			S
	2NO-2NC	2	NC	•			100/110V AC	HW1F-222H2*	HW1F-2122H2*			PW
	(22)	3	NO		•		200/220V AC	HW1F-222M2*	HW1F-2122M2*			
		4	NC	•								
	Conta	ct Configur	ation		perat ositic		Operating	Maintained	Spring return from right	Spring return from left	Spring Return Two-way	Color
	Contact Code	Mounting Position	Contact	1	0	2	Voltage	1 0 2	1 0 2	1 2	1_0_2	Code
	ONO	①	NO	•			24V AC/DC	HW1F-320Q4*	10011E 010001	HW1F-3220Q4*	HW1F-3320Q4*	
	2N0 (20)	2	NO.				24V A0/D0	ΠW1F-320Q4*	HW1F-3120Q4*	11W11-3220Q4**		
	(20)		INU			•	100/110V AC	HW1F-320H2*	HW1F-3120Q4* HW1F-3120H2*	HW1F-3220H2*	HW1F-3320H2*	
			NU			•						
	0110	0	NC			•	100/110V AC	HW1F-320H2*	HW1F-3120H2*	HW1F-3220H2*	HW1F-3320H2*	
	2NC	0 2				•	100/110V AC 200/220V AC	HW1F-320H2* HW1F-320M2*	HW1F-3120H2* HW1F-3120M2*	HW1F-3220H2* HW1F-3220M2*	HW1F-3320H2* HW1F-3320M2*	
	2NC (02)		NC			•	100/110V AC 200/220V AC 24V AC/DC	HW1F-320H2* HW1F-320M2* HW1F-302Q4*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4*	
45°	(02)		NC	•		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2*	D
45° 3-positio	(02)	2	NC NC	•		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2*	R
	(02)	0	NC NC	•		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2* HW1F-322N1Q4*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2* HW1F-3122N1Q4*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2* HW1F-3222N1Q4*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2* HW1F-3322N1Q4*	R G Y
	(02) 2NO-2NC	0 0 2	NC NC NO	•		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC 100/110V AC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2* HW1F-322N1Q4* HW1F-322N1H2*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2* HW1F-3122N1Q4* HW1F-3122N1H2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2* HW1F-3222N1Q4* HW1F-3222N1H2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2* HW1F-3322N1Q4* HW1F-3322N1H2*	G Y A
	(02) 2NO-2NC	② ① ② ③	NC NC NO NO NC	•		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC 100/110V AC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2* HW1F-322N1Q4* HW1F-322N1H2*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2* HW1F-3122N1Q4* HW1F-3122N1H2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2* HW1F-3222N1Q4* HW1F-3222N1H2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2* HW1F-3322N1Q4* HW1F-3322N1H2*	G Y A S
	(02) 2NO-2NC	② ① ② ③ ④	NC NC NO NO NC	_		•	100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2* HW1F-322N1Q4* HW1F-322N1H2* HW1F-322N1M2*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2* HW1F-3122N1Q4* HW1F-3122N1H2* HW1F-3122N1M2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2* HW1F-3222N1Q4* HW1F-3222N1H2* HW1F-3222N1M2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2* HW1F-3322N1Q4* HW1F-3322N1H2* HW1F-3322N1M2*	G Y A
	2NO-2NC (22N1)	② ① ② ③ ④ ①	NC NC NO NO NC NC NC	_			100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC 100/110V AC 200/220V AC 24V AC/DC	HW1F-320H2* HW1F-320M2* HW1F-302Q4* HW1F-302H2* HW1F-302M2* HW1F-322N1Q4* HW1F-322N1H2* HW1F-322N1M2* HW1F-340Q4*	HW1F-3120H2* HW1F-3120M2* HW1F-3102Q4* HW1F-3102H2* HW1F-3102M2* HW1F-3122N1Q4* HW1F-3122N1H2* HW1F-3122N1M2*	HW1F-3220H2* HW1F-3220M2* HW1F-3202Q4* HW1F-3202H2* HW1F-3202M2* HW1F-3222N1Q4* HW1F-3222N1H2* HW1F-3222N1M2*	HW1F-3320H2* HW1F-3320M2* HW1F-3302Q4* HW1F-3302H2* HW1F-3302M2* HW1F-3322N1Q4* HW1F-3322N1H2* HW1F-3340Q4*	G Y A S

• Specify a color code in place of * in the Part No. R (red), G (green), Y (yellow), A (amber), S (blue), PW (pure white)

24V AC/DC

100/110V AC

200/220V AC

• See B-186 for other operating voltage such as 6V AC/DC and 12V AC/DC.

NO

NC

NC

NC

NC

- Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-211 to B-213 for other contact arrangements.

4

1

2

3

• See B-186 for gold-plated silver contacts.

(04)

- Turn the operator to each position accurately
- See B-186 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

HW1F-304Q4*

HW1F-304H2*

HW1F-304M2*

HW1F-3104Q4*

HW1F-3104H2*

HW1F-3104M2*

Contact Block Mounting Position

HW1F-3204Q4*

HW1F-3204H2*

HW1F-3204M2*



Illuminated (full voltage)

HW1F-3304Q4*

HW1F-3304H2*

HW1F-3304M2*

Illuminated (transformer)

Download catalogs and CAD from http://eu.idec.com/downloads

B-208

Trimada AG | CH-5610 Wohlen | Tel. +41 56 618 77 00 | info@trimada.ch | www.trimada.ch

Switches & Pilot Lights

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

AUTO-ID

Flush Silhouette ø16

ø30

Miniature

Pilot Lights

TW

YW



ø22 HW Series Illuminated Selector Switches

Selector Switches (Lever Operator) Package Quantity: 1 Lever Operator HW1F□L No. of Positions APEM Operator Maintained (90°) Spring Return from Contact Block Control Boxes Position Right (60°) Operating Contact Color Emergency Code Mounting Voltage Code Stop Switches Contact 1 2 Position Enabling Switches NO • 24V AC/DC HW1F-2L11Q4* HW1F-21L11Q4* 1NO-1NC 2 NC • 100/110V AC HW1F-2L11H2* HW1F-21L11H2 Safety Products 909 (11)2-position/ 200/220V AC HW1F-2L11M2* HW1F-21L11M2* Explosion Proof 1 N0 • 24V AC/DC HW1F-2L20Q4* HW1F-21L20Q4* G 2N0 2-position Terminal Blocks 2 NO • 100/110V AC HW1F-2L20H2* HW1F-21L20H2* (20)200/220V AC HW1F-2L20M2* HW1F-21L20M2* Relays & Sockets S 1 NO • 24V AC/DC HW1F-2L22Q4* HW1F-21L22Q4* PW Circuit NC • 100/110V AC (2) HW1F-2L22H2* HW1F-21L22H2 2NO-2NO Protectors (22)3 NO 200/220V AC HW1F-2L22M2 HW1F-21L22M2 Power Supplies 4 • NC LED Illumination Maintained Spring Return Spring Return Spring Return Contact Operator from Right from Left Two-way Position Block Contact Operating Color Controllers Code Voltage Code Mounting Operator Contact 1 0 2 Position NO • 24V AC/DC HW1F-3L20Q4* HW1F-31L20Q4* HW1F-32L20Q4* HW1F-33L20Q4* 2N0 2 NO . 100/110V AC HW1F-3I 20H2* HW1F-31L20H2* HW1F-32I 20H2* HW1F-33L20H2* AUTO-ID (20)200/220V AC HW1F-3L20M2* HW1F-31L20M2* HW1F-32L20M2* HW1F-33L20M2* 1 NC 24V AC/DC HW1F-3L02Q4* HW1F-31L02Q4* HW1F-32L02Q4* HW1F-33L02Q4* 2NC 2 NC 100/110V AC HW1F-3L02H2* HW1F-31L02H2* HW1F-32L02H2* HW1F-33L02H2* (02)200/220V AC HW1F-3L02M2* HW1F-31L02M2* HW1F-32L02M2* HW1F-33L02M2* Flush Silhouette 45° 1 NO 24V AC/DC HW1F-3L22N1Q4* HW1F-31L22N1Q4* HW1F-32L22N1Q4* HW1F-33L22N1Q4* 3-position ø16 2NO-2NC 2 NO 100/110V AC HW1F-3I 22N1H2* HW1F-31L22N1H2* HW1F-32I 22N1H2* HW1F-33I 22N1H2* (22N1)3 NC 200/220V AC HW1F-3L22N1M2* HW1F-31L22N1M2 HW1F-32L22N1M2* HW1F-33L22N1M2* 4 NC ø30 NO 1 24V AC/DC HW1F-3L40Q4* HW1F-31L40Q4* HW1F-32L40Q4* HW1F-33L40Q4* PW 2 N0 100/110V AC HW1F-3L40H2* HW1F-31L40H2* HW1F-32L40H2* HW1F-33L40H2* 4N0 Miniature (40)3 • 200/220V AC HW1F-3L40M2* HW1F-31L40M2* HW1F-32L40M2* HW1F-33L40M2* N0 Pilot Lights 4 NO HW1F-3L04Q4* HW1F-31L04Q4* HW1F-32L04Q4* HW1F-33L04Q4* (1) NC 24V AC/DC HW1F-32L04H2 4NC 2 NC 100/110V AC HW1F-3L04H2* HW1F-31L04H2³ HW1F-33L04H2* (04)NC 200/220V AC HW1F-3L04M2* HW1F-31L04M2* HW1F-32L04M2* HW1F-33L04M2* (3)

- Specify a color code in place of * in the Part No. R (red), G (green), Y (vellow), A (amber), S (blue), PW (pure white)
- See B-186 for other operating voltage such as 6V AC/DC, 12V AC/DC, and 110V DC.

NC

- Illuminated selector switches of 24V AC/DC or below with 2 or 4 contact blocks have a dummy block.
- See B-211 to B-213 for other contact arrangements.

4

- See B-186 for gold-plated silver contacts
- Turn the operator to each position accurately
- See B-186 for how to specify units without LED lamps.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape. Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

Contact Block Mounting Position





Illuminated (full voltage)

Illuminated (transformer)

B-209

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

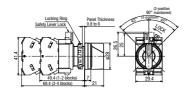


ø22 HW Series Key/Illuminated Selector Switches



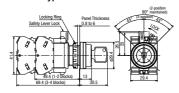
Selector Switch (Knob Operator)

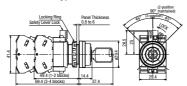
Terminal Screws M3.5 Integrated Terminal Cover



Key Selector Switch (Knob Operator) Disc Tumbler Type

Terminal Screws M3.5 Integrated Terminal Cover Pin Tumbler Type

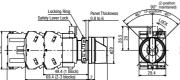


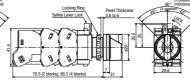


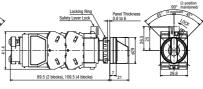
Illuminated Selector Switch (Knob Operator) 6, 12, 24V AC/DC, Without LED lamp

Terminal Screws M3.5 Integrated Terminal Cover 100/110V AC, 200/220V AC (240V AC maximum)

110V DC, 380V AC minimum





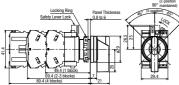




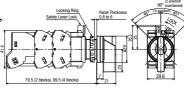
Illuminated Selector Switch (Lever Operator) 6, 12, 24V AC/DC, Without LED lamp

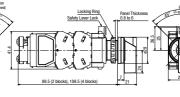
Terminal Screws M3.5 Integrated Terminal Cover 100/110V AC, 200/220V AC (240V AC maximum)

110V DC, 380V AC minimum









Flush Silhouette ø16

AUTO-ID

ø30

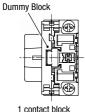
YW

Miniature

Pilot Lights

Bottom View

Non-illuminated



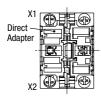


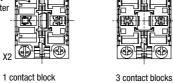


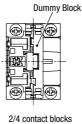
2/4 contact blocks

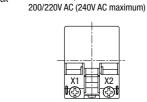
Illuminated

6, 12, 24V AC/DC, Without LED lamp

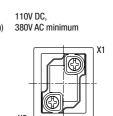








100/110V AC.



ullet For DC-DC Converter types, terminal X1 is \oplus , X2 is \ominus .

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ø22 HW Series Selector Switch Contact Arrangement Chart

Selector Switch Contact Arrangement

90° 2-position (Spring Return 60° 2-position) <Maintained/Spring Return from Right>

₽				Op	erator	Operation a									
t Lights					Mainta	ined	Spring	Return	from Right				Onor	ator Availability	
nt's					1	2		\ '	²				Opera	ator Availability	
		Contact	Block					\searrow							
	Contact			Knob/			Knob/			Cam					
APEM	Code			Lever	Key	Illuminated	Lever	Key	Illuminated	Code			Illuminated		
Switches & Pilot Lights		Mounting			Opera Positi			Opera Posit			Knob/ Lever		Disc Tumbler		
Control Boxes		Position	Contact	1		2	1		2	1				6, 12, 24V AC/DC	100, 200V AC
Emergency				®		\mathscr{D}			\mathscr{D}						
Stop Switches	1NO	1	NO	- 3		$\overline{\bullet}$			$\overline{\bullet}$						
Enabling	(10)	2	_	D	ummy	Block	D	ummy	Block	-	×	×	×	×	_
Switches	1NC	1	NC	•			•								
Safety Products	(01)	2	_	D	ummy	Block	D	ummy	Block	1 - 1	×	×	×	×	_
Explosion Proof	1NO-1NC	1	NO			•			•		×	×	×	×	×
Explosion Proof	(11)	2	NC	•			•				^	_ ^	_^_	^	^
Terminal Blocks	2N0	1	NO			•			•	_	×	×	×	×	×
	(20)	2	NO			•			•						
Relays & Sockets	2NC	1	NC	•			•			_	×	×	×	×	×
Circuit	(02)	2	NC	•	_		•								
Protectors	ONO ONO	① ②	NO NC	-	-	•	•		•	-					
Power Supplies	2NO-2NC (22)	3	NO NO	_		•	_		•	_	×	×	×	×	×
LED Illumination	(22)	(4)	NC	•	-	_	•		_	-					
LED IIIUMINAUON		(1)	NC		+		•	+							
Controllers	3NO-1NC	2	NO NO			•			•	1					
Operator	(31N1)	3	NO			•			•	-	×	×	×	×	×
Interfaces	` ′	4	NO			•			•	1 1					
Sensors		1	NO			•	İ		•						
	4N0	2	NO			•			•]	×	×	×	×	×
AUTO-ID	(40)	3	NO			•			•] -	^	^	^	^	^
		4	NO			•			•						
	1NO-1NC ★	1	EM		_			_		l _ l	×	×	×	×	×
	(7S)	2	LB					=							
Flush Silhouette		1	NC	•			•								
	3NC	2	NC	•			•			_	×	×	×	×	_
ø16	(03)	3	NC	•		Dia al-	•		Disal	-					
*00		4		L D	ummy		μυ	ummy		\vdash					
ø22	2010 1010	① ②	NO NC	•		•	•		•	-					
ø30	2NO-1NC (21)	3	NO NO		-	•	_		•	×	_ × ×	×	× ×	_	
	(21)	(4)	NU —	n	ummy		<u> </u>	ummy			-				
Miniature		•			uiiiiiy	DIUCK		uillilly	DIUCK						

90° 2-position Cam Reversed (Maintained)

					nd Circuit Availability cained								
		Contact	Block	Wallit	lained		Operator Availability						
<u> </u>	Contact			1/2 a la 1/2	Cam		1	Illuminated					
-	Code			•	Illuminated	Code				IIIumii	nated		
-		Mounting Position Contact		Operator	Position		Knob/	Pin	Disc Tumbler	6, 12, 24V AC/DC			
_				2	1		Lever	Tumbler			100, 200V AC		
		PUSILIUII											
[2NC	1	NC		•	_	×	×	×	×	×		
	(02)	2	NC		•	اا	^	^	^	^	^		
ſ		1	NC		•								
	3NC	2	NC		•		×	×	×	×			
- 1	(03)	③ NC			•	ااا	^	^	^	^	_		
Į		4		Dumm	y Block								

[•] On the contact arrangement marked with \star in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

B-211



ø22 HW Series Selector Switch Contact Arrangement Chart

45° 3-position

<Maintained>

	Con Blo		Operator Position			Circuit Availability				Operator Availability				
Contact Code	Mounting Position	Contact	1	0	2	Knob/ Lever	Key	Illuminated	Cam Code	Knob/ Lever	Pin Tumbler	Disc Tumbler	Illumi 6, 12, 24V AC/DC	100, 200V AC
1NO-1NC ★ (11N1)	① ②	NC NO		•	•	×	×	×	J	×	×	×	×	×
★ 4NC (04)	① ② ③ ④	NC NC NC	•		•	×	×	×	S	×	×	×	×	×
2NO-1NC ☆ (21N1)	① ② ③ ④	NO NO NC	Dur	• nmy Bl	ock	×	×	×	J	×	×	×	×	_

Control Boxes Emergency Stop Switches Enabling Switches

APEM

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets Circuit Protectors Power Supplies

LED Illumination

Controllers Operator Interfaces

AUTO-ID

Flush Silhouette ø16

ø30

Miniature Pilot Lights

YW

45° 3-position

<Maintained/Spring Return from Right/Spring Return from Left/Spring Return Two-way>

Contact Code	Contact Block		Operator Position			Circuit Availability				Operator Availability				
	Mounting Position	Contact	1	0	2	Knob/ Lever	Key	Illuminated	Cam Code	Knob/ Lever	Pin Tumbler	Disc Tumbler	6, 12, 24V AC/DC	100, 200V AC
1NO-1NC (11)	1 2	NO NC	•			×	×	×	_	×	×	×	×	×
1NO-1NC (11N1)	1 2	NC NO			•	×	×	×	_	×	×	×	×	×
2N0 (20)	1 2	NO NO	•		•	×	×	×	_	×	×	×	×	×
2NC (02)	1 2	NC NC				×	×	×	_	×	×	×	×	×
2NO-2NC (22N1)	① ② ③ ④	NO NO NC	•		•	×	×	×	_	×	×	×	×	×
2NO-2NC (22N2)	① ② ③ ④	NC NO NC			•	×	×	×	_	×	×	×	×	×
4NO (40)	① ② ③ ④	NO NO NO	•		•	×	×	×	_	×	×	×	×	×
4NC (04)	① ② ③ ④	NC NC NC				×	×	×	_	×	×	×	×	×

- On the contact arrangement marked with * in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.
- ullet For models with \dot{x} , contacts may overlap when the operator is changed.



APEM

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

ø22 HW Series Selector Switch Contact Arrangement Chart

45° 4-position

				Operator	Position		Maintained	
Contact Code	Contact Block		1	2	3	4	1 3	Cam Code
	Mounting Position	Contact	(9)		Ø		Knob Operator	
*	1	NO	•					
1NO-2NC ☆	2	NC		•			×	_
(12)	3	NC			•		^	
	4	ı		Dumm				
	1	LB						
1NO-3NC	2	NC		•			×	
(13N6)	3	NC			•		^	_
	4	NO				•		
★	1	NO	•					
2NO-2NC	2	NC		•			×	
(22N3)	3	NC			•		_ ^	_
	4	NO				•		

Terminal Blocks 30° 5-position

Relays & Sockets	30 3-hosition									
		Contact Block			Ор		Maintained			
Circuit Protectors	Contact			1	2	3	4	5	2 3 4	Cam
Power Supplies	Code				®	®	Ø	3	15	Code
LED Illumination		Mounting Position	Contact		(A)	W		S	Knob Operator	
Controllers	*	1	NO	•						
Operator	_ ☆	2	NC		•				×	
Interfaces	(22N3)	3	NC				•		^	_
Sensors	` ′	4	NO					•		

- On the contact arrangement marked with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.
- For models with \$\sigma\$, contacts may overlap when the operator is changed.

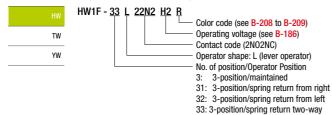
Flush Silhouette

AUTO-ID

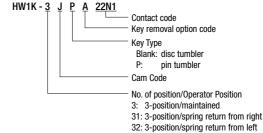
Part No. Development

Example 1: Knob Operator 2-position ø16 HW1S - 2 Contact code "T" for knob operator ø30 No. of position/Operator Position Miniature 2-position/maintained 21: 2-position/spring return from right Pilot Lights 22: 2-position/spring return from left

Example 3: Illuminated Selector 3-position



Example 2: Key Selector 3-position



33: 3-position/spring return two-way

Contact Block Mounting Position



Illuminated Selector (Full Voltage)



Illuminated Selector (Transformer)



Non-illuminated Selector

Switches & Pilo

ø22 HW Series Pushbutton Selectors

Pushbutton Selectors

Package Quantity: 1

Shape	Circuit	Contact	Contact	Contact Block			()	Ring Operator	Button	ot Lights
·	Category	Code	Mounting Position	Contact	Normal	Depressed	Normal	Depressed	Part No.	Color Code	S
HW1R		1NO-1NC (11)	1	NO NC	•	•		•	HW1R-2A11*		
			② ①	NO NO	_	•		•		-	APEM
		2N0 (20)	2	NO NO		•			HW1R-2A20*		Switches & Pilot Lights
	A	, ,	1	NO		•	,	•			Control Boxes
		2NO-2NC	2	NC	•				HW1R-2A22*		Emergency
		(22)	3	NO		•		•	IIWIII-ZAZZ*		Stop Switches
			4	NC	•						Enabling Switches
		2N0 (20)	①	NO NO		•			HW1R-2D20*		Safety Products
		(20)	② ①	NO NO		•		•			Explosion Proof
	D	2NO-2NC (22N1)	2	NO				•			Explosion Floor
			3	NC	•				HW1R-2D22N1*	_	Terminal Blocks
			4	NC			•			B G	Relays & Sockets
	E	★ 2NO-2NC (22N1)	1	NO		•			- HW1R-2E22N1*	R Y S W	Circuit
			2	NO				•			Protectors
	-		3	NC							Power Supplies
			4	NC	_						LED Illumination
		*	1	NO				•			
	F	2NO-2NC	2	NO		•			HW1R-2F22N1*		Controllers
		(22N1)	<u>3</u>	NC NC	•		•				Operator Interfaces
		*	•	NC	•		•			-	
		2NO-2NC	2	NO NO		•		•			Sensors
	N	(22N2)	3	NC			•		HW1R-2N22N2*		AUTO-ID
		, ,	4	NO		•	_	•			
			1	NO		•	•			1	
	Т Т	2NO-2NC	2	NO		•	•	Blocked	HW1R-2T22N1*		Fl b. 0'll ''
	'	(22N1)	3	NC	•			DIUCKEG	ПVV IN-∠1∠ZN I*		Flush Silhouette
			4	NC	•						ø16

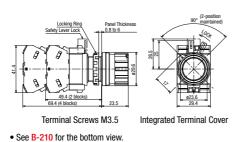
- Specify a button color code in place of * in the Part No. B (black), G (green), R (red), Y (yellow), S (blue), W (white)
- When operating the pushbutton selector, do not turn the operator ring or the lock lever while the button is depressed. Otherwise the pushbutton selector may be damaged.
- On the contact arrangement marked page with 🖈 in the table above, the rated current (load switching current) is reduced to a half of the related current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

All dimensions in mm.

For models with ☆, contacts may overlap when the operator is changed.

Dimensions

Contact Block Mounting Position



Left Right ← Ring Position Mounting Push Contact Normal Normal Push ← Button Position NO 1 2 NO • NC • 3 4

Download catalogs and CAD from http://eu.idec.com/downloads

B-214

ø30

YW

Miniature

Pilot Lights



APEM

Circuit

Protectors Power Supplies

LED Illumination

Controllers Operator

AUTO-ID

ø16

Control Boxes Stop Switches Enabling Safety Products **Explosion Proof** Terminal Blocks Relays & Sockets

ø22 HW Series Mono-Lever Switches

Mono-Lever Switches

Package Quantity: 1

	Shape	Positions	Part No. (Ordering No.)
	HW1M		HW1M-1010-20
	Standard Lever		HW1M-2020-20
		2-position	HW1M-0101-20
-		2-position	HW1M-0202-20
			HW1M-0101-40
			HW1M-0202-40
-		4-position	HW1M-1111-22N9
		4-position	HW1M-2222-22N9
-	HW1M-L		HW1M-L1010-20
-	Interlocking Lever		HW1M-L2020-20
		2-position	HW1M-L0101-20
-		2-рознон	HW1M-L0202-20
-			HW1M-L0101-40
			HW1M-L0202-40
-		4 position	HW1M-L1111-22N9
-		4-position	HW1M-L2222-22N9

• On all mono-lever switches, the rated current (load switching current) is reduced to a half of the rated current of the contact block. The rated insulation voltage and the rated thermal current remain unchanged.

Contact Arrangement Chart

2-position (Right/Left)

Contact	Cont Bloo		Lever Operator Position			
Code	Mounting Position	Contact	Left	Center	Right	
20	1	NO	•			
20	2	NO			•	
	1	NO	•			
40	2	NO			•	
40	3	NO	•			
	4	NO			•	

2-position (Up/Down)

Contact Code	Cont Blo		Lever Operator Position			
	Mounting Position	Contact	Left	Center	Right	
20	1	NO	•			
	2	NO			•	
	1	① NO				
40	2	NO			•	
40	3	NO	•			
	4	NO			•	

4-position

Contact Code	Cont Blo		Lever Operator Position						
	Mounting Position	Contact	Down	Left	Center	Up	Right		
	1	NC					•		
22N9	2	NC	•						
22119	3	NO		•					
	4	NO				•			

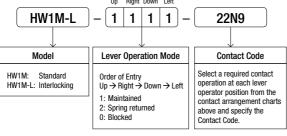
ø30 Miniature

Flush Silhouette

Pilot Lights

TW

Part No. Development



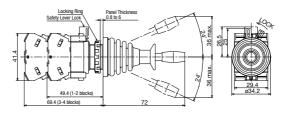
• The lever operator of the interlocking type HW1M-L is locked only in the center position. Pull on the interlocking lever before operating the lever up/down/right/left.

Contact Block Mounting Position and Lever Operation Position



Dimensions All dimensions in mm. Standard Lever Interlocking Lever

49.4 (1-2 blocks



Terminal Screws M3.5 Integrated Terminal Cover • See B-210 for the bottom view.

For more information, visit http://eu.idec.com

B-215

Nameplates

Package Quantity: 1

Description	Legend	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)
HWAM	Order marking plate	Plastic (black)	HWAM	HWAM	1	HWNP-□ marking plate (sold separately) is necessary. 29 (Marking Plate) 2.7 2.7
HWAW	(round) separately.			HWAMPN10	10	R14.9 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5
HWAQ	Order marking plate (square) separately.	Plastic (black)	HWAQ	HWAQ	1	HWNP-□ marking plate (sold separately) is necessary. 29 (Marking Plate) 27 27 27 27 27
HWAQ				HWAQPN10	10	R14.9 14.5 1.9 1.1
HWAS	Blank	Plastic (black)	HWAS-0	HWAS-0	1	1.6 0.9
HWAS				HWAS-0PN10	10	

• Nameplates cannot be used on HW series control stations (HW1X).

Marking Plates for HWAM/HWAQ

marking ratios for review marking											
Description	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)						
HWNP	Aluminum (black)	HWNP-□	HWNP-□	1	White legend on black background. Engraving area: W25×H7						
	Thickness = 1.0mm		HWNP-□PN10	10	<u>≥27</u>						

 \bullet Specify a legend code in place of \square in the Ordering No.

Legends

Code	Legend
0	(blank)
1	ON
2	0FF
3	START
4	STOP STOP
31	OFF-ON
35	HAND-AUTO
53	HAND-OFF-AUTO

• See B-226 for how to install nameplates/marking plates, and how to remove marking plates.

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

> Flush Silhouette ø16

ø30

AUTO-ID

Miniature

Pilot Lights

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APEM

Control Boxes

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Circuit

Power Supplies

LED Illumination

Controllers

Operator
Interfaces

AUTO-ID

Flush Silhouette ø16

> ø30 Miniature Pilot Lights

> > TW

ø22 HW Series Accessories

Accessories All dimensions in mm. When ordering, specify the Ordering No.

	Shape	Material	Part No.	Ordering No.	Package	Dimensions (mm)
	Locking Ring Wrench				Quantity	Used to tighten the locking ring when installing the
	Locality Hills William	Metal (brass) (weight: approx. 150g)	MW9Z-T1	MW9Z-T1	1	HW switch onto a panel.
	Lamp Holder Tool (A) (B)	Nitrile rubber (black)	OR-55	0R-55	1	Used to install and remove the LED lamps. See B-223 to B-224 for how to install. (a): BA9S OR-55 59 See B-223 to B-224 for how to install. (a): BA9S
	Contact Block Removal Tool	Zinc-plated metal Nitril rubber	TW-KC1	TW-KC1	1	Used to remove the contact block and transformer, and also to install/remove the pilot light and illuminated pushbutton lens. See B-224. 130
A	nti-rotation Ring	Ring: polyamide Gasket: nitril rubber	HW9Z-RL	HW9Z-RLPN10	10	Used to prevent the operator from turning. Generally used when using no nameplates on selector switches and pushbutton selectors. TOP 1.5 TOP 2.2 1.5 TOP 2.2 TOP 3.3 TOP 3.3 TOP 3.3 TOP 3.4 TOP 3.5 TOP 4.5 TOP
R	ubber Mounting Hole Plug	Nitril rubber (black)	0B-31	OB-31PN05	5	Used to plug the unused ø22.2 mm mounting holes. Degree of protection: IP65 (round hole) IP40 (with anti-rotation function) ©29 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©25 ©35 ©35 ©35 ©35 ©35 ©35 ©35 ©36 ©36 ©37
R	ubber Mounting Hole Plug	Plug: chrome-plated zinc diecast Locking ring: polyamide Gasket: nitril rubber	LW9Z-BM	LW9Z-BM	1	Used to plug the unused ø22.2 mm mounting holes. Degree of protection: IP66 (round hole) IP40 (with anti-rotation function) Tightening torque: 1.2 N·m Gasket Locking Ring M22 P-1 Panel Thickness 0.8 to 6
N	letallic Mounting Hole Plug	Polyamide	LW9Z-BP1	LW9Z-BP1	1	Used to plug the unused ø22.2 mm mounting holes. Degree of protection: IP65 Tightening torque: 2.0 N·m Panel Thickness 0.8 to 6 Rubber Gasket Locking Ring M22.P.1 Locking Ring
В	arrier	Polyamide	HW-VU1	HW-VU1PN10	10	Used to prevent contact between adjacent lead wires when units are mounted closely (see B-227 for details). Barriers should always be used in close mounting.

B-217



ø22 HW Series Accessories

All dimensions in mm. Accessories

When ordering, specify the Ordering No.

					5 .	When ordering, specify the Ordering No.	et e
Shape		Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)	ilot Lights
Switch Guard	Spring Return	Guard: polyacetal Cover:	HW9Z-K1	HW9Z-K1	1	Used to prevent inadvertent operation for flush pushbuttons and illuminated pushbuttons. IP65 Maintained type stops at 90° and 180°. 31 min. Panel Thickness	APEM Switches & Pilot Lights
	Maintained	polyarylate Gasket: nitril rubber	HW9Z-K11	HW9Z-K11	1	0.8 to 5	Control Boxes Emergency Stop Switches Enabling Switches Safety Products Explosion Proof
Button Clear Boot	For flush pushbuttons	Rubber	OC-31	OC-31	1	Used to cover and protect pushbuttons where units are subject to watersplash. Not suitable for outdoor use or where the units are	Terminal Blocks Relays & Sockets
	For extended pushbuttons	(EPDM)	0C-32	OC-32	1	subject to oil splash. • Cannot be used with nameplates HWAM, HWAQ, HWAS, or HWAV. 18 (0C-31) 22 (0C-32)	Circuit Protectors Power Supplies
Padlock Cover		Polyarylate (gasket: nitryl rubber)	HW9Z-KL1	HW9Z-KL1	1	Used to protect pushbuttons, illuminated pushbuttons, selector switches, and key selector switches. Rey hole 68 Waterproof Rubber Gasket 0.5t Water Gasket 0.5t Note of the control of the cont	Controllers Operator Interfaces Sensors AUTO-ID
Rubber Boot for Dual Pust Switches	nbutton	Clear Silicon Rubber	HW9Z-D7D	HW9Z-D7D	1	• IP65 33 22.5	ø30 Miniature Pilot Lights
Ring Adapter		Nitryl rubber	HW9Z-A25	HW9Z-A25PN05	5	Used to install the HW series units into ø25 mm mounting holes. IP65 Cannot be used with anti-rotation, nameplate, and rubber boot for dual pushbutton switches. Mounting panel thickness: 1.2 to 6.0 mm See B-225 for details.	HW TW YW
Ring Adapter		Gasket: polyamide Washer: metal (brass)	HW9Z-A30	HW9Z-A30PN02	2	Used to install the HW series units (round type) into ø30 mm mounting holes (except for HW1E, HW1B-M5/V5, and HW7D). IP65 Cannot be used with anti-rotation ring, nameplate, full-shroud illuminated pushbuttons, pushbutton selectors, and mono-lever switches. Mounting panel thickness: 1.6 to 4.0 mm	
Ring Adapter		Gasket: rubber Washer: metal	HW9Z-A30E	HW9Z-A30EPN02	2	Used to install jumbo dome pilot light HW1P-5Q units into ø30 mm mounting holes. IP65	

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AUTO-ID

Flush Silhouette ø16

> ø30 Miniature Pilot Lights

> > TW

ø22 HW Series Maintenance Parts

Maintenance Parts

When ordering, specify the Ordering No.

						- · · · · · · · · · · · · · · · · · · ·		
ot Lights	Shape	Material	Part No.	Ordering No.	Package Quantity	Remarks		
ङ	Contact Block	NO contact HW-U10		HW-U10	1	Housing color: blue/Push rod color: green		
	HW-U	NO COILLACT	HW-U10-MAU	HW-U10-MAU	'	MAU has gold contacts		
APEM		NC contact	HW-U01	HW-U01	1	Housing color: reddish purple/Push rod color: red		
Switches &		NO COITIAGE	HW-U01-MAU	HW-U01-MAU	ı	MAU has gold contacts		
Pilot Lights		EM (early make)	HW-U10R	HW-U10R	1	Housing color: blue/Push rod color: black		
Control Boxes		contact	HW-U10R-MAU	HW-U10R-MAU	ı	MAU has gold contacts		
Emergency		LB (late break)	HW-U01R	HW-U01R	1	Housing color: reddish purple/Push rod color: white		
Stop Switches Enabling	Weight: 11g (approx.)	contact	HW-U01R-MAU	HW-U01R-MAU	'	MAU has gold contacts		
Switches	Dummy Block					For HW-U contact blocks		
Safety Products		Polyamide HW-DB	HW-DB	HW-DBPN10	10	Used when the number of contact blocks and full		
Explosion Proof	Weight: 3.5g (approx.)	rolyamac	1111 00	TIW DDI NIO	10	voltage adapters is odd number.		
Terminal Blocks	Full Voltage Adapter					Applicable model:		
Relays & Sockets	for Illuminated (*1)			HW-GA1NPN02		Illuminated pushbuttons		
Circuit	100	Polyamide	HW-GA1N		2	Illuminated selector switches • Applicable load (LED lamp)		
Protectors						LSTD-6 (6V AC/DC)/LSTD-1 (12V AC/DC)		
Power Supplies	Weight: 12g (approx.)					LSTD-2 (24V AC/DC)		
LED Illumination	Transformer Unit (*1)	100/110V AC	HW-T16	HW-T16	1	Applicable model:		
Controllers		HW-I16		11W-110	'	Illuminated pushbuttons Illuminated selector switches		
		200/220V AC	HW-T26	HW-T26	1	Applicable load (LED lamp)		
Operator Interfaces	Weight: 12g (approx.)	200/220V AC	ПW-120	ПVV-1∠0	'	LSTD-6 (6V AC/DC)		
Sensors	**1) Maintenance parts are used for maintenance parts only. Do not use these parts for expansion or remodeling purpose.							

^{*1)} Maintenance parts are used for maintenance parts only. Do not use these parts for expansion or remodeling purpose.

When ordering, specify the Ordering No.

Sh	Shape		Part No.	Ordering No.	Package Quantity	Color Code *
Lens ②	①Round flush	Polyarylate ø23.5 H4.2	HW9Z-L11*	HW9Z-L11*PN05	5	
	②Square flush	Polyarylate ø24.6 H4	HW9Z-L21*	HW9Z-L21*PN05	5	R (red), G (green), Y (yellow), A (amber), C (clear), S (blue) (*2)
3 (4)	③Round extended	Polyarylate ø23.3 H10	HW9Z-L12*	HW9Z-L12*PN05	5	
5	€ø29 mushroom	AS, marking type	ALW31L-*	ALW31L-*PN02	2	R (red), G (green), S (blue), C (clear) (*2)
	- 9023 mushioom	ø29 H12.7	ALW31LD-*	ALW31LD-*PN02	2	Y (yellow), A (amber)
6	⑤ø40 mushroom	AS, marking type	ALW41L-*	ALW41L-*	1	R (red), G (green), S (blue), C (clear) (*2)
	SOTO MUSINOOM	ø40 H12.7	ALW41LD-*	ALW41LD-*	1	Y (yellow), A (amber)
0	©Jumbo dome	Polycarbonate ø66 H50	HW1A-P5*	HW1A-P5*	1	R (red), G (green), Y (yellow), A (amber), W (white), S (blue)
	⑦Dome for pilot light	AS ø23.5 H15.1	HW1A-P2*	HW1A-P2*PN05	5	R (red), G (green), Y (yellow), A (amber), W (white), S (blue) (*3)
Button ① ②	①Round flush with round or square bezel	Polyacetal ø23.6 H3	HW1A-B1*	HW1A-B1*PN05	5	
	②Round extended with round or square bezel	Polyacetal ø23.6 H9.2	HW1A-B2*	HW1A-B2*PN05	5	
3	3Square flush	Polyacetal □24.8 H3	HW2A-B1*	HW2A-B1*PN05	5	Use ① for pushbutton selectors.
5	Square extended	Polyacetal □24.5 H9.2	HW2A-B2*	HW2A-B2*PN05	5	B (black), G (green), R (red), Y (yellow), S (blue), W (white)
6	⑤ø29 mushroom	Polyacetal ø29 H12.7(M18P1.0)	HW1A-B3*	HW1A-B3*PN02	2	
	©ø40 mushroom	Polyacetal ø40 H12.7(M18P1.0)	HW1A-B4*	HW1A-B4*PN02	2	

^{*2)} Use C (clear) lens for PW (pure white) illumination.
*3) Use W (white) lens for PW (pure white) illumination.

B-219



ø22 HW Series Maintenance Parts

All dimensions in mm. Maintenance Parts

			When ordering, specify the Ordering N				
Shape		Material/Dimensions	Part No.	Ordering No.	Package Quantity	Remarks	k Pilot Lights
Round flush		Acrylic ø21.5 Thickness = 1	HW9Z-P11	HW9Z-P11PN05	5	White See B-225 for dimensions and engraving area.	ts
Round extended		Acrylic ø21.3 Thickness = 6.5	HW9Z-P12	HW9Z-P12PN05	5	engraving area.	APEM Switches &
Square flush		Acrylic 22.7 Thickness = 1	HW9Z-P21	HW9Z-P21PN05	5		Pilot Lights Control Box
ø29/40 mm mushroom		Acrylic ø15.7 H3.4	ALW3B	ALW3BPN05	5		Stop Switch Enabling Switches
Operator Knob for Illuminated Selector Switch		AC rooin	HW9Z-FDY*	HW9Z-FDY*	1	Specify a color code in place of *. R (red), G (green), Y (yellow), A (amber), W (white), S (blue) Use W (white) knob/lever for pure white illumination.	Safety Prod Explosion P
ator Lever for Illumin ctor Switch	nated	As resili	HW9Z-FDL*	HW9Z-FDL*	1		Relays & So Circuit Protectors Power Supp
e Key Tumber Key)	0	Metal (nickel-plated brass)	HW9Z-SK-231	HW9Z-SK-231PN02	2		Controllers Operator Interfaces
e Key Tumber Key)			LW9Z-SK-500	LW9Z-SK-500PN02		Standard key number	Sensors
(B) (B)	3	Metal (nickel-plated brass)	LW9Z-SK-	LW9Z-SKPN02	2	• Key number: 501 to 503	AUTO-ID
			LW9Z-SK-	LW9Z-SK-PN02		• Key number : 504 to 515	Flush Silho
ig Ring		Polyamide (black) ø28.4 H5 M22P1	HW9Z-LN	HW9Z-LNPN05	5		ø16 ø22 ø30
for Mono-lever ch	Standard	Nitryl rubber ø10 L20	HW9Z-CPM	HW9Z-CPM	1		Miniature Pilot Lights
for p-lever ch	Standard	Nitryl rubber ø29.2 L34.4	HW9Z-BLM	HW9Z-BLM	1		HW TW
sing Lens	A	Polycarbonate ø22.2 H21	HW9Z-PP5C	HW9Z-PP5C	1	Used for LED type jumbo dome pilot lights only. Do not use for incandescent lamp illumination.	YW
ty Lever Lock		Polyacetal (yellow)	HW9Z-LS	HW9Z-LSPN10	10	A safety lever lock is supplied with a standard HW series switch/pilot light.	
ret	>	Nitryl rubber (black)	HW9Z-WM	HW9Z-WMPN10	10	Thickness = 0.5 0.16 0.16 0.28 0.20 15	
	Round flush Round extended Square flush ø29/40 mm mushroom ator Knob for Illumin tor Switch ator Lever for Illumin tor Switch ator Lever for Illumin tor Switch g Ring g Ring or Mono-lever th for or lever th sing Lens y Lever Lock	Round flush Round extended Square flush ø29/40 mm mushroom ator Knob for Illuminated tor Switch ator Lever for Illuminated tor Switch e Key Tumber Key) g Ring or Mono-lever th for -lever th Standard sing Lens y Lever Lock	Round extended Round extended Round extended Acrylic e21.3 Thickness = 1 Acrylic e21.3 Thickness = 6.5 Square flush Acrylic e22.7 Thickness = 1 Acrylic e15.7 H3.4 Acrylic e21.5 Thickness = 1 Acrylic e21.7 Thickness = 1 Acrylic e15.7 H3.4 Acrylic e15.7 H3.4 Acrylic e21.7 Thickness = 1 Acrylic e15.7 Thickness = 1 Acrylic	Round flush	Round Acrylic 21.5 Thickness = 1 HW9Z-P11 HW9Z-P12PN05	Acrylic Acry	Note Note

Polyamide

Contact Block Plug

▼ Download catalogs and CAD from http://eu.idec.com/downloads

HW9Z-CBPLPN10

HW9Z-CBPL

• Used to plug the hole in the center of

contact block.

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ø22 HW Series Maintenance Parts

Maintenance Parts

HW Series LED Lamps (except for HW Jumbo Dome Pilot Lights)

When ordering, specify the Ordering No.

Shape/Dimensions	Operating Voltage	Curren DC	t Draw AC	Part No.	Ordering No.	Illumination Color Code	Package Quantity	Base	
	6V AC/DC	7mA (R, A, W)	8mA (except S)	LSTD-6*	LSTD-6*		1		
	6V AC/DC 5.5mA (G, PW) 4.5mA (S) 7mA (S)		7m/ (C)	LSTD-6*PN10		10			
(20.8)	12V AC/DC	10mA (except S) 11mA (except S)	LSTD-1*	LSTD-1*	R, G , A, W, S, PW	1	BA9S/13		
2.4 18.4	12V AC/DC	8mA (S)	9mA (S)	9mA (S)	L31D-1*	LSTD-1*PN10	n, u , A, W, 3, FW	10	DA33/13
Eyelet (X1)	24V AC/DC	10mA (except S)	(except S) 11mA (except S)	LSTD-2*	LSTD-2*		1		
BA9S/13 Voltage	24V A0/D0	8mA (S)	9mA (S)	L31D-2*	LSTD-2*PN10		10		

- Specify a color code in place of *. R (red), G (green), A (amber), W (white), S (blue), PW (pure white)
- Use a PW (pure white) LED lamp for Y (yellow) illumination.

Explosion Proof Terminal Blocks Relays & Sockets

AUTO-ID

HW Series LED Lamps (used for HW Jumbo Dome Pilot Lights)

Package Quantity: 1

					J ,	-	
Circuit	Shape/Operating Voltage	Current	Draw	Ordering No.	Illumination Color Code	Dimensions	
Protectors	Shape/Operating voltage	DC	AC	Ordering No.	illullillation color code		
Power Supplies	24V AC/DC					Light blue: Base BA9S/13 LSTDB Illumination color	
LED Illumination	0	15mA	15mA 15mA	LSTDB-2*	R, G , A, W, S, PW	<u> </u>	
Controllers		IJIIIA	IJIIA	L3100-2*	n, a , A, w, 3, rw	900	
Operator Interfaces						20.4	

- Specify a color code in place of *. R (red), G (green), A (amber), W (white), S (blue), PW (pure white)
- Use a PW (pure white) LED lamp for Y (yellow) illumination.

LED Lamps (LED Lamps for replacing incandescent lamps)

Flush Silhouette

ø16

ø30 Miniature Pilot Lights

TW

- Use the following replacement LED lamps to replace incandescent lamps.
- See HW series LED lamps shown above for ordering.
- LED lamps may have different brightness/color hue compared with incandescent lamps.

Incandescent Lamp						
Model (dimensions in mm)	Part No.	Rated Voltage	Lamp Ratings	Base		
LS	LS-6	6V AC/DC	1W(6V)			
	LS-8	12V AC/DC	1W(18V)	DAOC/12		
	LS-2	AC/DC18V	1W(24V)	BA9S/13		
Glass bulb: ø11 Length: 23	LS-3	24V AC/DC	1W(30V)			
LSB (For Jumbo Dome Pilot Lights)						
	LSB-2	24V AC/DC	28V/0.17A	BA9S/13		
Glass bulb: ø10 Length: 27						
Specify a color code in place of	* D (rod) G	(groon) A (amb	or) C (blue) DW	(nuro whito)		

	Replacement LED Lamp						
Ordering No.	Illumination Color Code	Rated Voltage	Base				
LSTD-6*		6V AC/DC					
LSTD-1*	D C A C DW	12V AC/DC	BA9S/13				
LSTD-2*	R, G , A, S, PW	24V AC/DC					
LSTD-2*		24V AC/DC					
LSTDB-2*	R, G , A, S, PW	24V AC/DC	BA9S/13				

- Specify a color code in place of *. R (red), G (green), A (amber), S (blue), PW (pure white)
- Use a PW (pure white) LED lamp for Y (yellow) illumination.

For more information, visit http://eu.idec.com

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ø22 HW Series Maintenance Parts

Transformer

Package Quantity: 1

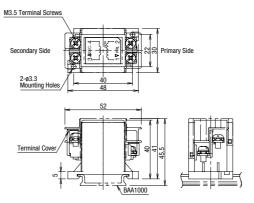
Shape	Operating Voltage	Operating Voltage Range	Ordering No.	Applicable Load	
6V	100/110V AC	100/110V AC ±10%	TWR516	- LSTD-6* (6V AC/DC, LED lamp)	
200/220V AC		200/220V AC ±10%	TWR526	Specify a color code in place of * in Part No.	
-12	400/440V AC	400/440V AC ±10%	TWR546	R (red), G (green), A (amber), S (blue), PW (pure white)	
24V	100/110V AC	100/110V AC ±10%	TWR512	LSTD-2* (24V AC/DC, LED lamp) or	
	200/220V AC	200/220V AC ±10% TWR52		LSTDB-2* (24V AC/DC, LED lamp) Specify a color code in place of * in Part No.	
West	400/440V AC	400/440V AC ±10%	TWR542	R (red), G (green), A (amber), S (blue), PW (pure white)	

- Terminal cover (TWR-VL3) is installed on transformers as standard.
- Transformer is installed to one HW series unit.

Specifications

Part No.	TWR5□6 TWR5□2			
Operating Voltage	100/110V AC, 200/220V AC 400/440V AC (50/60Hz)			
Current Draw	2.4VA			
Rated Insulation Voltage	600V			
Insulation Resistance 100MΩ minimum (500V DC megger)				
Operating Temperature	-30 to +60°C (no freezing)			
Operating Humidity	35 to 85% RH (no condensation)			
Storage Temperature	-40 to +80°C (no freezing)			
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/s² Operating extremes: 100 m/s²				
Dielectric Strength	2500V AC, 1 minute			
Terminal Screw	M3.5			
Applicable Wire	2mm² maximum, 2 wires	maximum		
Weight (approx.)	87g			

Dimensions



Flush Silhouette

ø30 Miniature Pilot Lights

AUTO-ID

ø16 All dimensions in mm.

Accessories

When ordering, specify the Ordering No.

Shape	Material	Part No.	Ordering No.	Package Quantity	Dimensions (mm)
DIN 35 mm Rail Weight: 200g approx.	Aluminum Length: 1000 mm	BAA1000	BAA1000PN10	10	12.5 1.7
DIN 35 mm Rail Weight: 320g approx.	Steel Length: 1000 mm	BAP1000	BAP1000PN10	10	12.5 1.0
End Clip Weight: 15g approx.	Metal (zinc-plated steel) Applicable rail: AA1000 BAP1000	BNL6	BNL6PN10	10	M4 Screws

• See H-071 for DIN rail products.

■ Download catalogs and CAD from http://eu.idec.com/downloads

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ø22 HW Series Instructions

↑ Safety Precautions

Operating Instructions

install the contact block to the operator.

Panel Mounting

- Turn off the power to the HW series switches & pilot lights before starting installation, removal, wiring, maintenance, and starting installation, removing, wiring, maintenance, and inspection of the products. 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.

• Remove the contact block from the operator (for transformer type

Remove the locking ring from the operator (for pilot lights, remove

the locking ring from the illuminated unit). Insert the operator into the

panel cut-out from the front. Tighten the locking ring from the back to

Panel Thickness 0.8 to 6mi

HW9Z-WM (Thickness = 0.5) Locking Ring

pilot lights, remove the transformer from the illumination unit).

- For wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the terminal screws to the recommended tightening torque (see B-228). Failure to tighten terminal screws may cause overheat and fire.
- When using a commercially available lamp, choose a lamp with rated voltage 5 to 30V AC/DC and 1W maximum, and with the same base and shape.

Make sure of correct operation before installation. The operation of illuminated pushbutton switches cannot be guaranteed when a commercially available lamp is used.

APEM witches & lilot Lights

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Flush Silhouette

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ø30

TW

Miniature

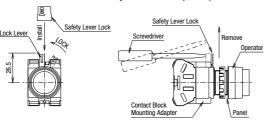
Pilot Lights

Removing the Contact Block

nameplate.

 Remove the safety lever lock (yellow) from the lock lever by inserting a flat screwdriver into the safety lever lock and push upwards.

Mounting panel thickness is reduced by 1.5 mm when using a



 Remove the operator from the contact block by turning the locking lever in the direction of the arrow shown below. Then the operator can be pulled out.



- To reinstall, place the TOP marking on the operator and the lock lever in the same direction, and insert the operator into the contact block mounting adapter. Then turn the locking lever in the opposite direction.
- Install the safety lever lock (yellow) on the lock lever. The safety lever lock cannot be installed when the lock lever is not upright.

Safety Lever Lock

IDEC strongly recommends using the safety lever lock (HW9Z-LS, yellow) to ensure that lock lever is locked, or to prevent maintenance personnel from unlocking contacts during wiring.



How to instal

 Mount the HW series onto the panel, lock the lever, and push in the safety lever lock.

Spacing in Vertical Direction

• HW series can be installed with a minimum of 50 mm spacing in vertical direction (mono-lever switch: 70 mm minimum). Be sure to take the space required for installing/removing the safety lever lock into consideration. When the spacing is narrower than the recommended value, install the HW series units in the order of low to high. When removing, do so in the opposite direction.

Notes for Panel Mounting

Locking ring wrench recommended torque
Tighten the bezel to a tightening torque of 2.0 N·m.

Locking ring wrench

Locking ring wrench (MW9Z-T1) can be used to tighten the bezel. Do not use pliers. Excessive tightening will damage the locking ring.



Locking ring wrench (MW9Z-T1)

Panel Thickness

HW series can be mounted on a panel with thickness of 0.8 to 6.0 mm. Take the thickness of nameplate and/or switch guard into consideration.

Replacement of LED Lamps

LED lamps can be replaced by using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block from the operator unit. (See B-217 for lamp holder tool.)

How to Remove

To remove, slip the lamp holder tool onto the lamp head lightly. Then push slightly, and turn the lamp holder tool counterclockwise.



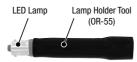
Photo: Extended pilot light

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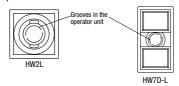
Operating Instructions

How to Install

Insert the lamp head into the lamp holder tool.



Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it clockwise



Installing/Removing the Buttons and Lenses

<To install>

<To remove>

Pushbutton Button

Flush/Extended

Push in the button to install.



Insert a flat screwdriver between the button and the bezel to remove the button.



• Mushroom/Jumbo Mushroom

Button has threads. Turn clockwise to install the button.



Turn the button counterclockwise to remove.

Note: Jumbo mushroom button cannot be removed



Illuminated Pushbutton Lens

Flush/Extended

Push in the lens holder into the operator unit.



Insert a flat screwdriver between the button and the bezel to remove the lens holder



• Mushroom/Jumbo Mushroom

Lens has threads Turn clockwise to install the lens



Lens has threads. Turn counterclockwise to remove the lens



• Round Flush/Square Flush

Push in the lens holder into the operator unit.



Insert a flat screwdriver between the lens and the bezel to



Removing the Contact Blocks/Full Voltage Adapters

Insert a flat screwdriver (4 to 6 mm) into the snap-fit latches of the contact block or full voltage adapter and lift to remove.

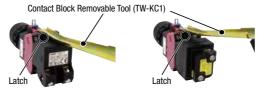


- . Make sure to lift both latches. Contact blocks cannot be removed by lifting one latch only.
- Do not apply excessive force to the latches, otherwise damage maybe caused.

Transformer Units and DC-DC Converters

Insert the end of the contact block removal tool (TW-KC1) into the snap-fit latch of the transformer units or DC-DC converter and pull the tool forward.

The contact block removable tool cannot be used to remove the HW-U contact blocks (HW-U), full voltage adapters (HW-GA1N), or dummy blocks (HW-DB).



Transformer Units and DC-DC Converters for Pilot Lights

Insert a flat screwdriver into the snap-fit latch on the contact block and lift to remove.



Mhen replacing parts (contact block, dummy block, full voltage adapter, transformer) for maintenance, make sure to install the parts to the original position. Otherwise proper operation cannot be guaranteed.

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Pilot Lights

YW

Pilot Light Lens

• Extended/Mushroom

Lens has threads. Turn clockwise to install the lens



Turn the lens counterclockwise to remove.





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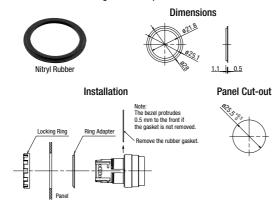
ø22 HW Series Instructions

Operating Instructions

Using a Ring Adapter

HW9Z-A25

Install the ring adapter between the HW series unit and panel. Make sure that the side with ridges face the panel.



HW9Z-A30

The ring adapter HW9Z-A30 consists of a washer and adapter. Install adapter between the HW series unit and panel. Install washer between the locking ring and panel.







Miniature Pilot Lights

Washer Panel Adapter Operator (example)

Replacement of Lens and Marking Plate Removing the Lens Unit

Installation

Remove the lens unit (color lens, marking plate, and lens holder) by inserting a small flat screwdriver into the recess of the lens through the bezel. Knob on illuminated selector switches can be removed by tilting sideways. No tool is required.



Removing the Lens

Remove the lens by pushing the lens from the rear to disengage the latches between the lens and the lens holder, using a flat screwdriver as shown below. Marking plate can be removed after the lens is removed from the lens holder.





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

Installing

[For Round Lens]

Lens Marking Plate Lens Holder

- Place the marking plate on the lens holder with the anti-rotation projection engaged and press the lens onto the lens holder to engage the latches.
- 2. Place the marking plate in the correct orientation.

Lens Marking Plate Lens Holde

[For Square Lens]

Lens Marking Plate Lens Holder

- Place the marking plate on the lens holder and press the lens onto the lens holder to engage the latches.
- Place the marking plate in the correct orientation (note the directionality of marking plate).



Marking

Panel Cut-out

For HW series illuminated pushbuttons and pilot lights, legends and symbols can be engraved on the built-in marking plates, or printed film can be inserted under the lens for labeling purposes. Films are not supplied with illuminated pushbuttons, and may be provided by the user.

	supplied with illuminated pushbuttons, and may be provided by the user.					
Lens Style	Round Lens (Round Flush/Round Flush with Square Bezel)	Square Lens (Square Flush)				
Built-in Marking Plate	Outside diameter ø21.5 • Engraving must be made on the ø • The marking plate is made of w	Outside diameter □22.7 engraving area within 0.5 mm deep. white acrylic resin.				
Applicable Marking Film	• Two 0.1 mm-thick films or one installed in the lens (marking fil provided by the user). • Recommended marking film: pr	m is not supplied and must be				

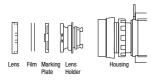


ø22 HW Series Instructions

Operating Instructions

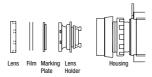
Insertion Order of Marking Plate and Film

[Round Lens]



Note: Films are not supplied

[Square Lens]



Note: Films are not supplied. When inserting a film, make sure that the marking plate is installed with its uneven side facing the lens holder.

Nameplate

Mounting panel thickness is reduced by 1.5 mm when using a nameplate.

Installing a Marking Plate

Insert a marking plate tin the direction of the arrow ①, and press in as shown $\ensuremath{@}$.



Removing a Marking Plate

Insert a flat screwdriver into the upper middle part of the marking plate and remove. When anti-rotation is not required, remove the projection from the nameplate using pliers.



Replacing the Lens of Dual Pushbuttons

Removing

Remove the lens by inserting a small flat screwdriver into the recess of the lens through the bezel.



Installing

Install the lens in the recess between the buttons by pressing against the bezel.

Selector Switches

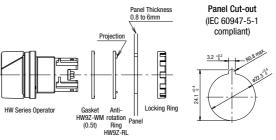
Turn the operator such as knob, lever, and key to each position accurately. Releasing halfway may cause the operator to return to the former position, or to get stuck between. On spring return two-way types, the center of operators may be misaligned slightly.

Key Selector Switches

Insert the key completely before turning. Failure to do so may cause failures.

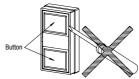
Anti-rotation Ring and Panel Cut-out

Align the TOP marking on the operator, TOP marking on the antirotation ring with the recess in the mounting panel.



Dual Pushbutton Switches

The pushbuttons cannot be removed or replaced. Do not attempt to remove using a flat screwdriver or pincers, otherwise the pushbuttons may be damaged.

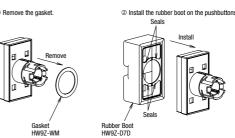


Installing the Rubber Boot for Dual Pushbuttons

When using the HW7D pushbuttons in places where the pushbuttons are subject to water splash or an excessive amount of dust, make sure to use the HW9Z-D7D rubber boot (IP65) which is ordered separately. Recombs the rubber gasket pre-installed on the operator, and install the rubber boot from the front of buttons.

Notes for Installing the Rubber Boot

Remove the gasket from the operator, and install the rubber boot on the operator. Pull out the seals of the rubber boot and place them around the operator sleeve as shown. Make sure that the seals are not twisted or tucked inside and that the gasket does not remain, otherwise the normal waterproof and dustproof characteristics are not ensured.



Rubber Boot Installed



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Controllers

Operator

AUTO-ID

Circuit

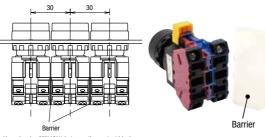
Protectors

ø22 HW Series Instructions

Operating Instructions

Close Mounting

When mounting the units closely in a horizontal row on 30 mm centers, use optional barriers to prevent interconnection between adjoining terminals, and to increase the creepage distance. The barriers can be attached simply by pressing them onto the sides of contact blocks.

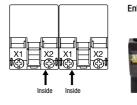


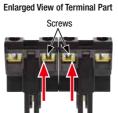
Use a barrier (HW-VU1) between the contact blocks

Note: Sufficient insulation distance cannot be obtained if barriers are not installed, or when other barriers such as HW-VG1 is used

When using transformer type illuminated HW series of 240V AC maximum closely in a horizontal row on 30 mm centers, insert straight the solid wires or stranded wires into inside of the terminal screw on the transformer (see figure below) to prevent short circuit between adjoining terminals.

When using transformer type pilot lights closely mounted in horizontal and vertical rows on 30 mm centers, keep the ambient temperature





Flush Silhouette ø16

ø30

Miniature

Pilot Lights

TW

Applicable Wiring

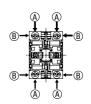
(1) Contact Block 0.3 to 3.5 mm² (solid wire Ø0.5 to 2.0 mm)

Pushbutton/illuminated pushbutton/dual pushbuttons (without pilot light), selector switch, illuminated selector switch, pushbutton selector, mono-lever switch

(A) and (B) show the wiring direction to the terminals.

<Contact Block>

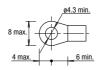
Terminal screws M3.5 (spring-up)



Applicable Crimping Terminal

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.

Crimping terminal for (A)





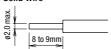
IP20 crimping terminal



Crimping terminal for ® (IP20)



Solid wire



- Strip the wire insulation 8 to 9 mm from the end.
- Insert the wire until the insulation comes into contact with the terminal metal part.

(1)-1 IP20 Degree of Protection

The terminal of HW-U contact block has IP20 degree of protection. When IP20 is required for wiring, observe the followings. Make sure to insert the crimping terminal or wire to the terminal straight and fully.

When using a crimping terminal

Use IP20 crimping terminals.

When using a solid wire

Strip the wire insulation 8 to 9 mm from the end and insert the wire to the terminal fully.

When using a stranded wire

Strip the wire insulation 8 to 9 mm from the end and insert the wire to the terminal fully. Make sure that the wires are not loosened.

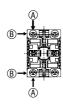
ø22 HW Series Instructions

Operating Instructions

(2) Power Unit 0.3 to 2 mm² (solid wire Ø0.5 to 1.6 mm) Illuminated pushbutton/illuminated selector switch (A) and (B) show the wiring direction to the terminals.

<Full Voltage Adapter>

Terminal screws M3.5 (spring-up)



<Transformer Unit> 100/110V AC, 200/220V AC

Terminal screws M3.5 (spring-up)



<DC-DC Convertor Unit/Transformer Unit>

110V DC, 380V AC minimum Terminal screws M3.5 (spring-up)

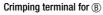


Applicable Crimping Terminal

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks

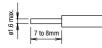
Crimping terminal for (A)







Solid wire



- Strip the wire insulation 7 to 8 mm from the end.
- Insert the wire until the insulation comes into contact with the terminal metal part.

Terminal cover is integrated in the full voltage adapter and transformer unit. Note that the connection terminal is not IP20.

(2) Pilot Light 0.3 to 2 mm² (solid wire Ø0.5 to 1.6 mm) (Arrows show the wiring direction)

<Full Voltage Adapter>

6, 12, 24V AC/DC

Terminal screws M3.5 (spring-up)



<Transformer, DC-DC Converter> 100/110V AC, 200/220V AC 110V DC, 380V AC minimum Terminal screws M3.5 (spring-up)



Applicable Crimping Terminal

Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.



Solid Wire

- . Strip the wire insulation 8 to 9 mm from the end.
- Inset the wire until the insulation comes into contact with the terminal metal part.
- Terminal cover is integrated but not IP20.
- . When selecting mounting centers and crimping terminals, take sufficient

insulation distance into consideration.

Cautions for Wiring

About DC-DC Converter Unit

1. Note the polarity for wiring when connecting to the DC-DC converter.

Terminal No.	Polarity
X1	Positive
X2	Negative

- 2. Incandescent lamps cannot be used in DC-DC converter unit.
- 3. DC-DC converters are equipped with an electric circuit and noise may be heard inside the unit, which does not affect the performance of DC-DC converters.

APEM

Control Boxes

Emergency Stop Switches Enabling

Safety Products

Explosion Proof

Terminal Blocks

Relays & Sockets

Circuit

Protectors

Power Supplies

LED Illumination

Controllers

Operator Interfaces

AUTO-ID

Recommended Tightening Torque Number of Wires

Unit	Wire		Number of Wires	Recommended Tightening Torque	Terminal Screw
HW-U Contact Block	Crimping Terminal		2	1.0 to 1.3	
	Solid Wire	ø0.5 to 1.6 mm (AWG14 to 22)	2	1.0 to 1.3	M3.5
		ø1.7 to 2.0 mm (AWG12)	1	1.2 to 1.3	
	Stranded Wire	0.3 to 2.0 mm ² (AWG14 to 22)	2	1.0 to 1.3	
		2.1 to 3.5 mm ² (AWG12)	1	1.2 to 1.3	
Illuminated Unit (*1)	Crimping Terminal				
	Solid Wire	Ø0.5 to 1.6 mm (AWG14 to 22)	2	1.0 to 1.3	M3.5
	Stranded Wire	0.3 to 2.0 mm ² (AWG14 to 22)			
Pilot Light	Crimping Terminal				
	Solid Wire	Ø0.5 to 1.6 mm (AWG14 to 22)	2	1.0 to 1.3 (M3.5)	M3.5
	Stranded Wire	0.3 to 2.0 mm ² (AWG14 to 22)			

^{*1)} Lamp terminal of illuminated pushbuttons, illuminated selector switches, dual pushbuttons with pilot lights

Flush Silhouette ø16 ø30 Miniature

Pilot Lights

Download catalogs and CAD from http://eu.idec.com/downloads