Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

HW Series — 22mm IEC Style Global Pushbuttons

Key features include:

- Locking lever removable contact blocks
- Finger-safe IP20 contacts as standard, other terminal styles available
- Tamperproof construction
- All E-stops meet EN418 and are compliant with SEMI S2 standards
- Worldwide approvals
- Easy to assemble
- Choice of black plastic or metallic front bezels
- Incandescent or LED illumination
- Transformer or full voltage
- Slow make double break self cleaning contacts

HW: The Best Engineered Switch in the World

IDEC's HW switches are "The best engineered switch in the world" for a reason. Carrying the CE mark, UL, CSA, CCC (Chinese), and TUV approvals, these switches are designed for use in almost any part of the world.

Complete with finger-safe contact blocks offering IP20 protection, these 7/8" (22mm) switches include illuminated and non-illuminated pushbuttons, pilot lights, selector switches, and emergency stop switches.

All switches also incorporate mechanically keyed safety locking levers, ensuring correct installation and maintaining safety in high-vibration applications.

UL File No. E68961

CSA File No. LR92374

CE

Registration No. R9551089 (E-stops)
Registration No. R50054316 (Dual Pushbuttons)
Registration No. J9650511 (Pilot Lights)
Registration No. J9551458 (all other switches)

TÜV Rheinland
Certificate No.
2005010305145656

CCCs

Specifications

Electrical	Rated Operational Characteristics	AC-15: A600 or Ue = 250V, Ie = 3A (NO, NC, NO-EM, NC-LB) DC-13: P600 or Ue = 125V, Ie = 1.1A (NO, NC) DC-13: Q600 or Ue = 125V, Ie = 0.9A (NO-EM, NC-LB)
	Maximum Inrush Current	40 A (40 ms)
	Rated Insulation Voltage	600V
	Rated Switching Over-Voltage	Less than 4kV, conforming to IEC60947-1
	Rated Impulse Withstanding Voltage	4kV for contact circuit, 2.5kV for lamp circuit
	Rated Thermal Current	10 Amp
	Minimum Switching Capacity	5 mA at 3V AC/DC
	Electrical Reliability	MTBF < 1 fault for 10 million operation cycles (3V DC, 5mA)
	Lamp Ratings	Incandescent: 1 W LEDs: 6V/17mA max, 12V & 24V/11mA max, 120 & 240V/10mA max
Mechanical	Contact Operation	Slow break NC or NO, self-cleaning
	Positive Action Operation (Emergency Stops with NC contacts)	5.5mm to 10mm travel to latch, 45N minimum force to latch 10mm maximum travel, 1,800 operations per hour maximum for a Pushlock Turn Reset 900 operations per hour maximum for a Push-Pull
	Operating Force	Flush and extended pushbuttons—with 1NO or 1NC contact: 6.2±2N (momentary), 7.0±2N (maintained) Additional contacts—1NO or 1NC: +3.2N (momentary), + 3.3N (maintained)
	Recommended Terminal Torque	0.8 N m (7.1 in lb.)
	Applicable Wire Size	Minimum 1 x 22 AWG, max. 2 x 14 AWG or 1 x 12 AWG
	Contact Resistance	Initial contact resistance of 50mΩ or less
	Contact Gap	4mm (NO and NC), 2mm (NO-EM and NC-LB)
	Horsepower Rating	Reference Value: 1/4 HP @ 120V (1ø non-reversing), 1HP @ 240V (3ø non-reversing)
	Contact Material	Silver (gold plated contacts available - contact IDEC)
	Operating Temperature	Operation: –25 to +50°C (without freezing), Storage: –40 to +70°C (without freezing)
	Vibration Resistance	10 to 55Hz, 98m/sec^2 (10G) conforming to IEC6068-2-6
	Shock Resistance	980m/sec^2 (100G) conforming to IEC6068-2-7
	Mechanical Life	Momentary pushbuttons: 5,000,000 (900 operations per hour), All other switches: 500,000

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Standards & Approvals	Conforming to Standards	EN60947-1, EN60947-5-1, VDE0660-200, UL508, CSA C22-2 No.14					
	Approvals File No. E68961 File No. LR92374 Registration No. R9551089 (E-stops) Registration No. R50054316 (Dual Pushbuttons) Registration No. J9650511 (Pilot Lights) Registration No. J9551458 (all other switches) TÜV Rheinland Certificate No. 2005010305145656	CSA: pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V) UL: pushbuttons and selector switches: A600 pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V) TÜV: pushbuttons and selector switches: A600=P600 (NO, NC)/Q600 (NO-EM, NC-LB) pilot lights and illuminated pushbuttons, direct supply pilot lights and illuminated pushbuttons with integral transformer (100/110, 115, 120, 200/220, 230, 240, 380, 400/440, 480V)					
	Electric Shock Protection	Class 0 conforming to IEC60536					
	Degree of Protection (conforming to IEC60529) (conforming to NEMA ICS6-110)	IP65 (from front of the panel) IP20 (Type HW-F contact block) NEMA 1, 2, 3, 3R, 3S, 4, 4X, 5, 12, 13 (from front of panel)					
	Pollution Degree (conforming to IEC60947-1)	3 for switches not using a transformer, 2 for switches using a transformer					
	External Short-Circuit Protection	10A 250V fuse conforming to IEC60269-1					
	Terminal Referencing	Conforming to CENELEC EN50005					

Contact Ratings	Pushbuttons Illuminated Pushbuttons Selector Switches Illuminated Selector Switches Pushbutton Selectors	Contact Block	Type HW-C/HW-F /HW-G				
		Rated Insulation Voltage	600V				
		Rated Continuous Current	10A				
		Contact Ratings by Utilization Category IEC 60947-5-1	AC-15 (A600) DC-13 (P600)				

Characteristics	Operational Voltage			24V	48V	50V	110V	220V	440V
	Operational Current	AC 50/60 Hz	AC-12 Control of resistive loads & solid state loads	10A	—	10A	10A	6A	2A
			AC-15 Control of electromagnetic loads (> 72VA)	10A	—	7A	5A	3A	1A
		DC	DC-12 Control of resistive loads & solid state loads	8A	5A	—	2.2A	1.1A	—
			DC-13 Control of electromagnets	5A	2A	—	1.1A	0.6A	—

For dimensions, see page 551.

LED Lamp Ratings (LSTD Type)

Model No.	LSTD-6②		LSTD-1②	LSTD-2②	LSTD-H2②	LSTD-M4②
Lamp Base	BA9S/13					
Rated Voltage	6V AC/DC		12V AC/DC	24V AC/DC	120V AC	240V AC
Voltage Range	6V AC/DC ±10%		12V AC/DC ±10%	24V AC/DC ±10%	120V AC ±5%	240V AC ±5%
Current Draw	AC	A, R, W: G, S:	17mA 8mA	11mA	11mA	10mA	10mA
	DC	A, R, W: G, S:	14mA 5.5mA	10mA	10mA	–	–
Color Code	A (amber), G (green), R (red), S (blue), W (white)					
Lamp Base Color	Same as illumination color					
Voltage Marking	Die stamped on the base					
Life (reference value)	Approx. 50,000 hours (The luminance reduces to 50% the initial intensity when used on complete DC.)					
Internal Circuit	A, R, W	A, R, W				
	G, S					

In place of ②, specify the Lens/LED Color Code.

⊢ LED Chip
◄ Protection Diode
◄ Zener Diode

Non-illuminated Round Pushbuttons (Assembled)

		Round Flush		Round Extended	
Function	**Contacts**	**Plastic Bezel**	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
Momentary	*Operator Only*	*HW1B-M1-①*	*HW4B-M1-①*	*HW1B-M2-①*	*HW4B-M2-①*
	1NO	HW1B-M1F10-①	HW4B-M1F10-①	HW1B-M2F10-①	HW4B-M2F10-①
	1NC	HW1B-M1F01-①	HW4B-M1F01-①	HW1B-M2F01-①	HW4B-M2F01-①
	1NO-1NC	HW1B-M1F11-①	HW4B-M1F11-①	HW1B-M2F11-①	HW4B-M2F11-①
	2NO	HW1B-M1F20-①	HW4B-M1F20-①	HW1B-M2F20-①	HW4B-M2F20-①
	2NC	HW1B-M1F02-①	HW4B-M1F02-①	HW1B-M2F02-①	HW4B-M2F02-①
	2NO-2NC	HW1B-M1F22-①	HW4B-M1F22-①	HW1B-M2F22-①	HW4B-M2F22-①
Maintained	*Operator Only*	*HW1B-A1-①*	*HW4B-A1-①*	*HW1B-A2-①*	*HW4B-A2-①*
	1NO	HW1B-A1F10-①	HW4B-A1F10-①	HW1B-A2F10-①	HW4B-A2F10-①
	1NC	HW1B-A1F01-①	HW4B-A1F01-①	HW1B-A2F01-①	HW4B-A2F01-①
	1NO-1NC	HW1B-A1F11-①	HW4B-A1F11-①	HW1B-A2F11-①	HW4B-A2F11-①
	2NO	HW1B-A1F20-①	HW4B-A1F20-①	HW1B-A2F20-①	HW4B-A2F20-①
	2NC	HW1B-A1F02-①	HW4B-A1F02-①	HW1B-A2F02-①	HW4B-A2F02-①
	2NO-2NC	HW1B-A1F22-①	HW4B-A1F22-①	HW1B-A2F22-①	HW4B-A2F22-①

① Button Color Code

Color	Code
Black	B
Green	G
Red	R
Blue	S
White	W
Yellow	Y
Gray	N*

*Gray available for round flush only.

1. In place of ①, specify the Button Color Code from table below.
2. For nameplates and accessories, see page 546 and 549.
3. For dimensions, see page 551.
4. For contact assembly part numbers, see page 550.
5. All assembled part numbers in catalog include standard, fingersafe (HW-F…) contacts.
6. Assembled units with spring-up terminals (HW-G…) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
7. Operator only models include operator plus button.
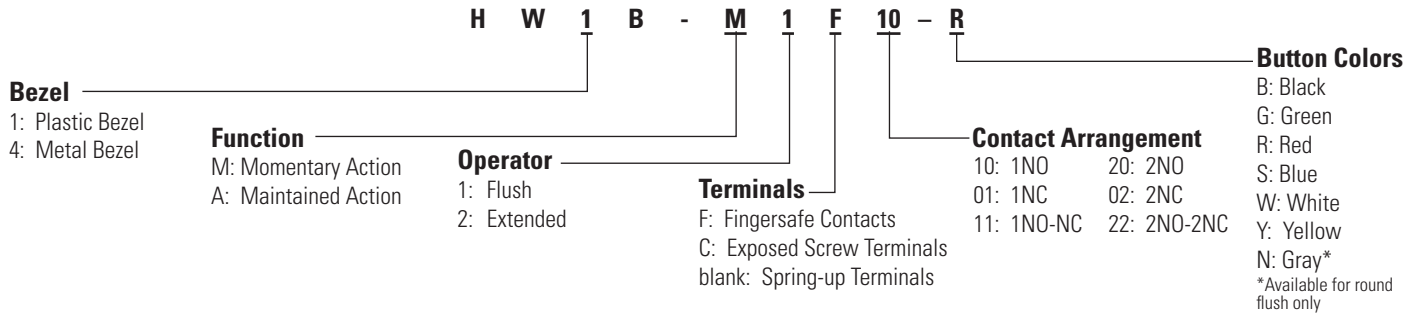8. Additional contact configurations available (up to 6 total contacts).

Part Number Structure

H W 1 B - M 1 F 10 – R

Bezel
1: Plastic Bezel
4: Metal Bezel

Function
M: Momentary Action
A: Maintained Action

Operator
1: Flush
2: Extended

Terminals
F: Fingersafe Contacts
C: Exposed Screw Terminals
blank: Spring-up Terminals

Contact Arrangement
10: 1NO   20: 2NO
01: 1NC   02: 2NC
11: 1NO-NC   22: 2NO-2NC

Button Colors
B: Black
G: Green
R: Red
S: Blue
W: White
Y: Yellow
N: Gray*
*Available for round flush only

Non-illuminated Round Pushbuttons (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	+	Button	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ️ 1. Used to mount contact blocks to operator.
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ️ Use with notched panel cutout to prevent unit rotation.

Operators

Style		Plastic Bezel	Metal Bezel
Round Flush/ Extended	Momentary	HW1B-M0	HW4B-M0
	Maintained	HW1B-A0	HW4B-A0

Buttons

Style	Part Number
Round Flush	HW1A-B1-①
Round Extended	HW1A-B2-①

ℹ️ 1. In place of ①, specify the Button Color Code from table.

① Button Color Code

Color	Code	Color	Code
Black	B	White	W
Green	G	Yellow	Y
Red	R	Gray	N*
Blue	S		

ℹ️ *Gray available for round flush only.

Non-illuminated Mushroom Head Pushbuttons (Assembled)

Function	Contacts	ø29mm Mushroom Head		ø40mm Mushroom Head	
		Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel
Momentary	Operator Only	HW1B-M3-①	HW4B-M3-①	HW1B-M4-①	HW4B-M4-①
	1NO	HW1B-M3F10-①	HW4B-M3F10-①	HW1B-M4F10-①	HW4B-M4F10-①
	1NC	HW1B-M3F01-①	HW4B-M3F01-①	HW1B-M4F01-①	HW4B-M4F01-①
	1NO-1NC	HW1B-M3F11-①	HW4B-M3F11-①	HW1B-M4F11-①	HW4B-M4F11-①
	2NO	HW1B-M3F20-①	HW4B-M3F20-①	HW1B-M4F20-①	HW4B-M4F20-①
	2NC	HW1B-M3F02-①	HW4B-M3F02-①	HW1B-M4F02-①	HW4B-M4F02-①
	2NO-2NC	HW1B-M3F22-①	HW4B-M3F22-①	HW1B-M4F22-①	HW4B-M4F22-①
Maintained	Operator Only	HW1B-A3-①	HW4B-A3-①	HW1B-A4-①	HW4B-A4-①
	1NO	HW1B-A3F10-①	HW4B-A3F10-①	HW1B-A4F10-①	HW4B-A4F10-①
	1NC	HW1B-A3F01-①	HW4B-A3F01-①	HW1B-A4F01-①	HW4B-A4F01-①
	1NO-1NC	HW1B-A3F11-①	HW4B-A3F11-①	HW1B-A4F11-①	HW4B-A4F11-①
	2NO	HW1B-A3F20-①	HW4B-A3F20-①	HW1B-A4F20-①	HW4B-A4F20-①
	2NC	HW1B-A3F02-①	HW4B-A3F02-①	HW1B-A4F02-①	HW4B-A4F02-①
	2NO-2NC	HW1B-A3F22-①	HW4B-A3F22-①	HW1B-A4F22-①	HW4B-A4F22-①

Function	Contacts	ø60mm Mushroom Head
		Plastic Bezel
Momentary	Operator Only	HW1B-M5-①*
	1NO	HW1B-M5F10-①*
	1NC	HW1B-M5F01-①*
	1NO-1NC	HW1B-M5F11-①*
	2NO	HW1B-M5F20-①*
	2NC	HW1B-M5F02-①*
	2NO-2NC	HW1B-M5F22-①*

① Button Color Code

Color	Code
Black	B
Green	G
Red	R
Blue	S
White	W
Yellow	Y

1. In place of ①, specify the Button Color Code from table.
2. *60mm mushroom available only in red, green, black, and yellow.
3. For nameplates and accessories, see page 546 and 549.
4. For dimensions, see page 551.
5. For contact assembly part numbers, see page 550.
6. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
7. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
8. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
9. Operator only models include operator plus button.
10. Additional contact configurations available (up to 6 total contacts).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 B - M 3 F 10 – R

Bezel
1: Plastic Bezel
4: Metal Bezel
(Not available for 60mm mushroom)

Function
M: Momentary Action
A: Maintained Action
(Not available for 60mm jumbo mushroom pushbutton.)

Operator
3: ø29mm Mushroom
4: ø40mm Mushroom
5: ø60mm Mushroom

Terminals
F: Fingersafe Contacts
C: Exposed Screw Terminals
blank: Spring-up Terminals

Contact Arrangement
10: 1NO 20: 2NO
01: 1NC 02: 2NC
11: 1NO-NC 22: 2NO-2NC

Button Colors
B: Black
G: Green
R: Red
S: Blue
W: White
Y: Yellow

Non-illuminated Mushroom Head Pushbuttons (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	+	Button	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ️ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ️ Use with notched panel cutout to prevent unit rotation.

Operators

Style		Plastic Bezel	Metal Bezel
ø29mm Mushroom ø40mm Mushroom	Momentary	HW1B-M0L	HW4B-M0L
	Maintained	HW1B-A0L	HW4B-A0L
Ø60mm Jumbo Mushroom	Momentary	HW1B-M5-①*	–

ℹ️ 1. *60mm mushroom operator includes non-removable button (available in red, black, green and yellow only).
2. For nameplates and accessories, see page 546 and 549.
3. For dimensions, see page 551.

Buttons

Style	Part Number
ø29mm Mushroom Cap	HW1A-B3-①
ø40mm Mushroom Cap	HW1A-B4-①

ℹ️ 1. In place of ①, specify the Button Color Code from table.

① Button Color Code

Color	Code	Color	Code
Black	B	Blue	S
Green	G	White	W
Red	R	Yellow	Y

ℹ️ HW1B-M5 available only in black, red, green and yellow.

Non-illuminated Square Pushbuttons (Assembled)

Function	Contacts	Square Flush	Square Extended
		Plastic Bezel	**Plastic Bezel**
Momentary	*Operator Only*	*HW2B-M1-①*	*HW2B-M2-①*
	1NO	HW2B-M1F10-①	HW2B-M2F10-①
	1NC	HW2B-M1F01-①	HW2B-M2F01-①
	1NO-1NC	HW2B-M1F11-①	HW2B-M2F11-①
	2NO	HW2B-M1F20-①	HW2B-M2F20-①
	2NC	HW2B-M1F02-①	HW2B-M2F02-①
	2NO-2NC	HW2B-M1F22-①	HW2B-M2F22-①
Maintained	*Operator Only*	*HW2B-A1-①*	*HW2B-A2-①*
	1NO	HW2B-A1F10-①	HW2B-A2F10-①
	1NC	HW2B-A1F01-①	HW2B-A2F01-①
	1NO-1NC	HW2B-A1F11-①	HW2B-A2F11-①
	2NO	HW2B-A1F20-①	HW2B-A2F20-①
	2NC	HW2B-A1F02-①	HW2B-A2F02-①
	2NO-2NC	HW2B-A1F22-①	HW2B-A2F22-①

① **Button Color Code**

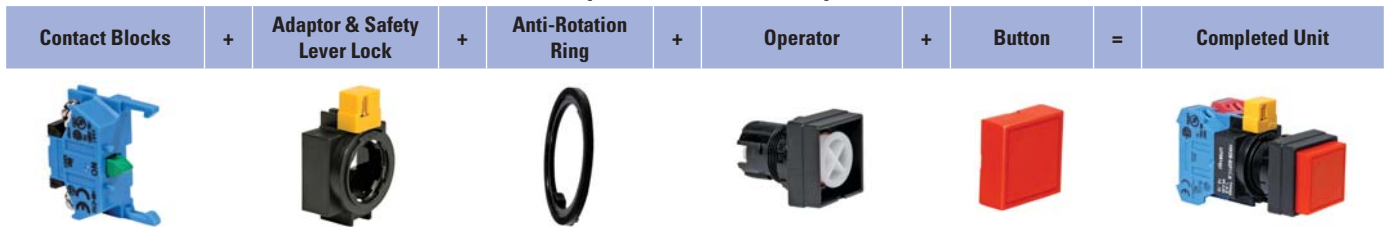| Color	Code
Black	B
Green	G
Red	R
Blue	S
White	W
Yellow	Y

1. In place of ①, specify the Button Color Code from table.
2. For nameplates and accessories, see page 546 and 549.
3. For dimensions, see page 551.
4. For contact assembly part numbers, see page 550.
5. Square pushbuttons available in plastic bezel only.
6. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
7. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW2B-M1F11-R becomes HW1B-M111-R).
8. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
9. Operator only model includes operator and button.
10. Additional contact configurations available (up to 6 total contacts).

Oiltight Switches & Pilot Devices

ø22mm - HW Series

IDEC

Switches & Pilot Lights

Part Number Structure

H W 2 B - M 1 F 10 – R

Function
M: Momentary Action
A: Maintained Action

Operator
1: Flush
2: Extended

Terminals
F: Fingersafe Contacts
C: Exposed Screw Terminals
blank: Spring-up Terminals

Contact Arrangement
10: 1NO   20: 2NO
01: 1NC   02: 2NC
11: 1NO-NC 22: 2NO-2NC

Button Colors
B: Black
G: Green
R: Red
S: Blue
W: White
Y: Yellow

Non-illuminated Square Pushbuttons (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	+	Button	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Operators

Style		Plastic Bezel
Square Flush Extended	Momentary	HW2B-M0
	Maintained	HW2B-A0

2. For nameplates and accessories, see page 546 and 549.
3. For dimensions, see page 551.

Buttons

Style	Part Number
Square Flush	HW2A-B1-①
Square Extended	HW2A-B2-①

1. In place of ①, specify the Button Color Code from table.

① Button Color Code

Color	Code	Color	Code
Black	B	Blue	S
Green	G	White	W
Red	R	Yellow	Y

Display Lights · Relays & Sockets · Timers · Terminal Blocks · Circuit Breakers

USA: 800-262-IDEC   Canada: 888-317-IDEC   507

Non-illuminated E-Stop Pushbuttons (Assembled)

Contacts	Ø29mm Head Pushlock Turn Reset		Ø40mm Head Pushlock Turn Reset	
	Plastic Bezel	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
Operator Only	*HW1B-V3①†*	*HW4B-V3①†*	*HW1B-V4①†*	*HW4B-V4①†*
1NO	HW1B-V3F10-①†	HW4B-V3F10-①†	HW1B-V4F10-①†	HW4B-V4F10-①†
1NC	HW1B-V3F01-①†	HW4B-V3F01-①†	HW1B-V4F01-①†	HW4B-V4F01-①†
1NO-1NC	HW1B-V3F11-①†	HW4B-V3F11-①†	HW1B-V4F11-①†	HW4B-V4F11-①†
2NO	HW1B-V3F20-①†	HW4B-V3F20-①†	HW1B-V4F20-①†	HW4B-V4F20-①†
2NC	HW1B-V3F02-①†	HW4B-V3F02-①†	HW1B-V4F02-①†	HW4B-V4F02-①†

Contacts	Ø40mm Head EMO Pushlock Turn Reset		Ø40mm Head Pushlock Key Reset	
	Plastic Bezel	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
Operator Only	*HW1B-V4R-EMO-2**	*HW4B-V4R-EMO-2**	*HW1B-X4R**	*HW4B-X4R**
1NO	HW1B-V4F10-R-EMO-2*	HW4B-V4F10-R-EMO-2*	HW1B-X4F10-R*	HW4B-X4F10-R*
1NC	HW1B-V4F01-R-EMO-2*	HW4B-V4F01-R-EMO-2*	HW1B-X4F01-R*	HW4B-X4F01-R*
1NO-1NC	HW1B-V4F11-R-EMO-2*	HW4B-V4F11-R-EMO-2*	HW1B-X4F11-R*	HW4B-X4F11-R*
2NO	HW1B-V4F20-R-EMO-2*	HW4B-V4F20-R-EMO-2*	HW1B-X4F20-R*	HW4B-X4F20-R*
2NC	HW1B-V4F02-R-EMO-2*	HW4B-V4F02-R-EMO-2*	HW1B-X4F02-R*	HW4B-X4F02-R*

Contacts	ø60mm Head Pushlock Turn Reset
	Plastic Bezel
Operator Only	*HW1B-V5R**
1NO	HW1B-V5F10-R*
1NC	HW1B-V5F01-R*
1NO-1NC	HW1B-V5F11-R*
2NO	HW1B-V5F20-R*
2NC	HW1B-V5F02-R*

1. * Available in Red only.
2. † Available in red or yellow. Insert color code in place of ① (R: Red, Y: Yellow).
2. For accessories, see page 549.
3. For dimensions, see page 551.
5. For nameplates and shrouds, see page 550.
4. For contact assembly part numbers, see page 550.
7. All HW series E-stops comply with EN418, the IEC "E-Stop Addendum to the Low Voltage Directive," this includes "tamper proof" operation whereby a change of contact state is not possible by "teasing" or "floating" the operator.
8. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
9. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
10. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
11. Operator only models include operator and button.
12. Additional contact configurations available (up to 6 total contacts).

Part Number Structure

H W 1 B – V 3 F 10 – R – EMO-2

Bezel
1: Plastic Bezel
4: Metal Bezel
(not available for 60mm jumbo mushroom)

Function
V: Pushlock Turn Reset
X: Pushlock Key Reset

Operator
3: ø29mm Head
4: ø40mm Head
5: ø60mm Head

Terminals
F: Fingersafe
C: Exposed Screw
blank: Springup

Contact Arrangement
10: 1NO   20: 2NO
01: 1NC   02: 2NC
11: 1NO-NC   22: 2NO-2NC

Button Colors
R: Red
Y: Yellow
Note: some switches only available in red.

Engraved Button*
EMO-2: EMO switch
*Option available for red EMO E-Stop only

Non-illuminated E-Stop Pushbuttons (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

> 1. Used to mount contact blocks to operator (first pair only).
> 2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

> Use with notched panel cutout to prevent unit rotation.

Operators

Style	Plastic		Metal
ø29mm Head Pushlock Turn Reset	red	HW1B-V3R	HW4B-V3R
	yellow	HW1B-V3Y	HW4B-V3Y
ø40mm Head Pushlock Turn Reset	red	HW1B-V4R	HW4B-V4R
	yellow	HW1B-V4Y	HW4B-V4Y
ø40mm Head EMO Pushlock Turn Reset*		HW1B-V4R-EMO-2	HW4B-V4R-EMO-2
ø40mm Head Pushlock Key Reset*		HW1B-X4R	HW4B-X4R
ø60mm Head Pushlock Turn Reset*		HW1B-V5R	–

> 1. *Available in red only.
> 2. All E-Stop buttons are not removable from the operator.

IDEC

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Push Pull & Unibody E-Stop Pushbuttons (Assembled)
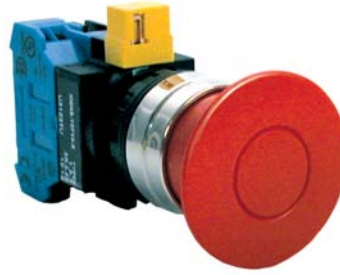
ø40mm Head Push–Pull

Contacts	Plastic Bezel	Metal Bezel
Operator Only (Red)	*HW1B-Y2R*	*HW4B-Y2R*
Operator Only (Yellow)	*HW1B-Y2Y*	*HW4B-Y2Y*
1NO	HW1B-Y2F10-①†	HW4B-Y2F10-①†
1NC	HW1B-Y2F01-①†	HW4B-Y2F01-①†
1NO-1NC	HW1B-Y2F11-①†	HW4B-Y2F11-①†
2NC	HW1B-Y2F02-①†	HW4B-Y2F02-①†
2NO	HW1B-Y2F20-①†	HW4B-Y2F20-①†

ø40mm Unibody Pushlock Turn Reset*

Contacts	Plastic Bezel
1NO-1NC	HW1E-BV4F11-R
2NC	HW1E-BV4F02-R
1NO-2NC	HW1E-BV412R-TK2093-1

Unibody Illuminated E-Stops*

Contacts	LED	Incandescent
1NO-1NC	HW1E-LV4F11QD-R-③	HW1E-LV4F11Q-R-③
2NC	HW1E-LV4F02QD-R-③	HW1E-LV4F02Q-R-③
2NC (with push-on illumination)	HW1E-TV4F02QD-R-③	HW1E-TV4F11Q-R-③
1NO-1NC (with push-on illumination)	HW1E-TV4F11QD-R-③	HW1E-TV4F02Q-R-③

③ Full Voltage Code

Voltage	Code
6VAC/DC	6V
12VAC/DC	12V
24VAC/DC	24V
120V AC*	120V
240V AC*	240V

*LED only.

Terminal Numbering
(Unibody only)

Models	Terminal Number
1NO-1NC	NO = 13/14, NC = 11/12
2NC	NC = 11/12, NC = 21/22
HW1E-L HW1E-T	Lamp + = X2, Lamp - = X1

1. * Available in Red only.
2. † Available in red or yellow. Insert color code in place of ① (R: Red, Y: Yellow).
3. In place of ③, specify Full Voltage Code.
4. With single unit construction, the positive action contacts are integrated in the body of the switch. This provides an extra degree of safety and reliability for critical emergency stop functions.
5. In the illuminated version, the light is independent of the switch action (except push-on LED model).
6. For accessories, see page 549.
7. For dimensions, see page 551.
8. For nameplates and shrouds, see page 550.
9. For contact assembly part numbers, see page 550.
10. All HW Series E-Stop operators include non-removable color caps.
11. All HW series E-Stops comply with EN418, the IEC "E-Stop Addendum to the Low Voltage Directive," this includes "tamper proof" operation whereby a change of contact state is not possible by "teasing" or "floating" the operator.
12. All HW series E-Stop switches comply with SEMI S2 standards.
13. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
14. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
15. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
16. Additional contact configurations available (up to 6 total contacts).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 E – L V 4 F 11 – Q D R - 24V

Bezel
1: Plastic Bezel
4: Metal Bezel*
(*not available for HW1E unibody)

Function
B: Push Pull
E: Pushlock Turn Reset

Illumination
BV4: Non-illuminated (unibody style)
LV4: Illuminated
TV4: Illuminated Push On
Y2: Non-illuminated Push Pull E-Stop

Contacts
11: 1NO-1NC
02: 2NC
10: 1NO
20: 1NO

Illumination Circuit
blank: 40mm Push Pull & Non-illuminated Unibody E-Stop
Q: Illuminated Unibody E-Stop

Lamp Code
D: LED
blank: Incandescent

Button Colors
R: Red
Y: Yellow*
(*only available in 40mm Push Pull E-Stop)

Full Voltage Code
(Illuminated E-Stop)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120VC AC*
240V: 240V AC*
*LED only
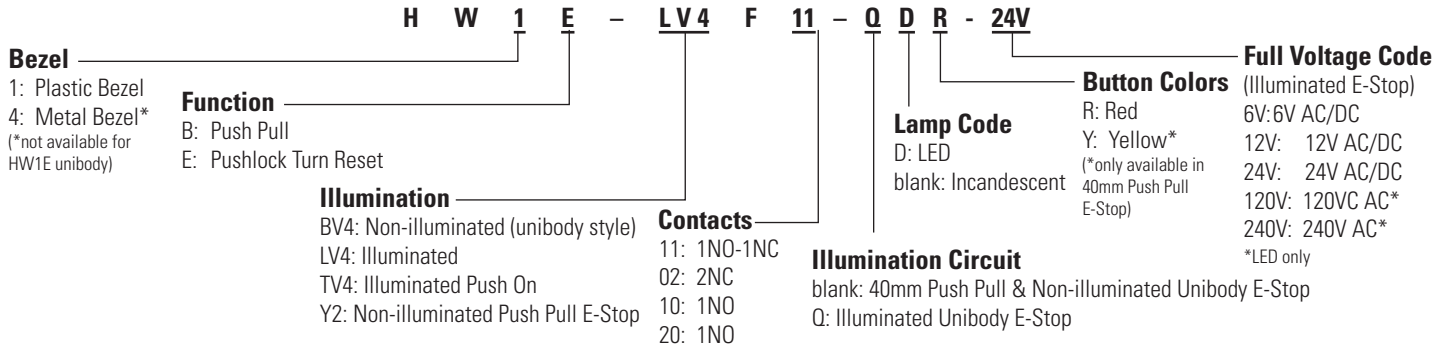
Illuminated & Non-illuminated E-Stop Pushbuttons (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ Use with notched panel cutout to prevent unit rotation.

Operators

Style			Part Number
ø40mm Head Push-Pull	Plastic	red	HW1B-Y2R
	Metal		HW4B-Y2R
	Plastic	yellow	HW1B-Y2Y
	Metal		HW4B-Y2Y

ℹ All E-Stop Buttons are not removable from the operator.

ℹ 1. There are no replacement parts for the HW1E unibody E-Stop.
2. For illuminated unibody E-Stop, see page 550 for replacement lens.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

E-Stop Stations

Contacts	29mm Pushlock Turn Reset		40mm Pushlock Turn Reset	
	Plastic Bezel	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
1NO-1NC	FB1W-HW1B-V311R	FB1W-HW4B-V311R	FB1W-HW1B-V411R	FB1W-HW4B-V411R
2NC	FB1W-HW1B-V302R	FB1W-HW4B-V302R	FB1W-HW1B-V402R	FB1W-HW4B-V402R

Contacts	40mm Push-Pull Reset		40mm Pushlock Key Reset	
	Plastic Bezel	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
1NO-1NC	FB1W-HW1B-Y211R	FB1W-HW4B-Y211R	FB1W-HW1B-X411R	FB1W-HW4B-X411R
2NC	FB1W-HW1B-Y202R	FB1W-HW4B-Y202R	FB1W-HW1B-X402R	FB1W-HW4B-X402R

Contacts	40mm EMO Pushlock Turn Reset	
	Plastic Bezel	**Metal Bezel**
1NO-1NC	FB1W-HW1B-V411R-EMO-2	FB1W-HW4B-V411R-EMO-2
2NC	FB1W-HW1B-V402R-EMO-2	FB1W-HW4B-V402R-EMO-2

1. Maximum of two contact blocks.
2. Box is supplied with yellow top and black bottom only.

Jumbo Dome Pilot Lights (Assembled)

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

			Plastic Bezel
Jumbo Dome	LED	*Operator Only*	*HW1P-5Q0*
		Full Voltage 24V AC/DC	HW1P-5Q4-②
	Incandescent	*Operator Only*	*HW1P-5Q7**
		Full Voltage 24V AC/DC	HW1P-5Q7-②

Actual Size

1. In place of ②, specify the Lens/LED Color Code.
2. *Incandescent operator comes with bulb.
3. Available with spring-up terminals and 24V only.
4. For nameplates and accessories, see page 546 and 549.
5. For dimensions, see page 551.

② Lens/LED Color Code

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

Jumbo Dome Replacement Parts

Description	Item		Part Number
Lens		Polycarbonate Lens	HW1A-P5②
LED Diffusing Lens*			HW9Z-PP5C
LED Lamps		LED Lamp	LSTDB-2②

1. In place of ②, specify the Lens/LED Color Code.
2. *Diffusing lens for LED models only.

Lamp Ratings

	Part Number	Operating Voltage	Rated Current	Power Consumption	Lamp Ratings
LED	LSTDB-2	24V AC/DC ±10%	15mA	0.36W	–
Incandescent	LSB-2		150mA	3.6W	24V, 0.15A

Jumbo Dome

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Pilot Lights (Assembled)

	Round Flush		Dome	
	Plastic Bezel	**Metal Bezel**	**Plastic Bezel**	**Metal Bezel**
Operator Only	*HW1P-1FQ0-②*	*HW4P-1FQ0-②*	*HW1P-2FQ0-②*	*HW4P-2FQ0-②*
Full Voltage	HW1P-1FQ④-②-③	HW4P-1FQ④-②-③	HW1P-2FQ④-②-③	HW4P-2FQ④-②-③
Transformer 120V AC	HW1P-1FH2④-②	HW4P-1FH2④-②	HW1P-2FH2④-②	HW4P-2FH2④-②
240V AC	HW1P-1FM4④-②	HW4P-1FM4④-②	HW1P-2FM4④-②	HW4P-2FM4④-②
480V AC	HW1P-1FT8④-②	HW4P-1FT8④-②	HW1P-2FT8④-②	HW4P-2FT8④-②
DC-DC Converter* 110V DC	HW1P-1D2D-②	–	HW1P-2D2D-②	–

		Square Flush
		Plastic Bezel
Operator Only		*HW2P-1FQ0-②*
Full Voltage		HW2P-1FQ④-②-③
Transformer	120V AC	HW2P-1FH2④-②
	240V AC	HW2P-1FM4④-②
	480V AC	HW2P-1FT8④-②
DC-DC Converter*	110V DC	HW2P-1D2D-②

② Lens/LED Color Code

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

③ Full Voltage Code

Voltage	Code
6VAC/DC	6V
12VAC/DC	12V
24VAC/DC	24V
120V AC (LED only)	120V
240V AC (LED only)	240V

④ Lamp Type Code

Lamp	Code
Incandescent	Blank
LED	D

1. In place of ②, specify the Lens/LED Color Code from table below.
2. In place of ③ specify the Full Voltage Code from table below.
3. In place of ④ specify Lamp Type Code from table below.
4. *DC-DC convertor voltage input from 90-140V DC, comes with spring-up terminals only.
5. DC-DC converter models with LED lamps only.
6. For nameplates and accessories, see page 546 and 549.
7. For dimensions, see page 551.
8. **Pilot lights do not come with anti-rotation ring.**
9. Operator models come with operator and lens.
10. **Yellow pilot light comes with white LED.**

Part Number Structure

H W 1 P – 2 F Q D – R – 12V

Bezel
1: Round Plastic
2: Square Plastic
4: Round Metal

Operator
1: Flush
2: Dome

Illumination Circuit
Q: Full Voltage
H2: 120V AC Transformer
M4: 240V AC Transformer
T8: 480V AC Transformer
D2: DC-DC Converter

Lamp Type Code
D: LED
Blank: Incandescent

Lens/LED Colors
A: Amber
G: Green
R: Red
S: Blue
W: White
Y: Yellow

Lamp Voltage
(full voltage units only)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120V AC*
240V: 240V AC*
*LED only

Pilot Lights (Replacement Parts)

Transformer*	+	Lamp	+	Operator	+	Lens	=	Completed Unit

(not applicable for full voltage units)

Transformer Units

Style	Voltage	Part Number
LED/Incandescent	120V AC	HW-FH20 HW-MH20*
	240V AC	HW-FM40 HW-MM40*
(6V secondary voltage)	480V AC	HW-FT80 HW-RT80*
	110V DC**	HW-RD0*

1. *With spring-up terminals - to use spring-up terminal type, must use transformer type operator designed for spring-up transformer.
2. ** DC-DC converter voltage input from 90-140V DC.

Lamps

Type	Voltage	Part Number
LED	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24

1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.

② LED Color Code

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

For yellow lens use white LED.

Operators

Style		Type	Plastic Bezel	Metal Bezel
Round Flush	Full Voltage	Standard	HW1P-1FQ0	HW4P-1FQ0
		Spring-up Terminals	HW1P-1Q0	HW4P-1Q0
	Transformer	Standard	HW1P-10	HW4P-10
		Spring-up Terminals	HW1P-100	–
Dome	Full Voltage	Standard	HW1P-2FQ0	HW4P-2FQ0
		Spring-up Terminals	HW1P-2Q0	HW4P-2Q0
	Transformer	Standard	HW1P-20	HW4P-20
		Spring-up Terminals	HW1P-200	–
Square Flush	Full Voltage	Standard	HW2P-1FQ0	–
		Spring-up Terminals	HW2P-1Q0	
	Transformer	Standard	HW2P-10	–
		Spring-up Terminals	HW2P-100	–

1. Transformer type requires separate transformer & lamp. Must select correct transformer bases on standard or spring up terminal type. Use 6V lamps or LEDs.
2. Full voltage type only requires lamp.

Lenses

Style		Part Number
Round/Flush		HW1A-P1-③
Dome		HW1A-P2-③
Square/Flush		HW2A-P1-③

In place of ③, specify the Lens Color Code.

③ Lens Color Code

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

For yellow lens use white LED.

IDEC

Illuminated Round Pushbuttons (Assembled)
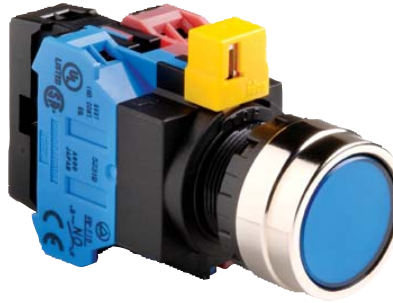
Illuminated Full Voltage Pushbuttons

Contacts		Flush		Extended		Extended w/ Full Shroud	
		Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel
Momentary	*Operator Only* 1NO 1NC 1NO-1NC 2NO	*HW1L-M1-②* HW1L-M1F10Q④-②-③ HW1L-M1F01Q④-②-③ HW1L-M1F11Q④-②-③ HW1L-M1F20Q④-②-③	*HW4L-M1-②* HW4L-M1F10Q④-②-③ HW4L-M1F01Q④-②-③ HW4L-M1F11Q④-②-③ HW4L-M1F20Q④-②-③	*HW1L-M2-②* HW1L-M2F10Q④-②-③ HW1L-M2F01Q④-②-③ HW1L-M2F11Q④-②-③ HW1L-M2F20Q④-②-③	*HW4L-M2-②* HW4L-M2F10Q④-②-③ HW4L-M2F01Q④-②-③ HW4L-M2F11Q④-②-③ HW4L-M2F20Q④-②-③	*HW1L-MF2-②* HW1L-MF2F10Q④-②-③ HW1L-MF2F01Q④-②-③ HW1L-MF2F11Q④-②-③ HW1L-MF2F20Q④-②-③	*HW4L-MF2-②* HW4L-MF2F10Q④-②-③ HW4L-MF2F01Q④-②-③ HW4L-MF2F11Q④-②-③ HW4L-MF2F20Q④-②-③
Maintained	*Operator Only* 1NO 1NC 1NO-1NC 2NO	*HW1L-A1-②* HW1L-A1F10Q④-②-③ HW1L-A1F01Q④-②-③ HW1L-A1F11Q④-②-③ HW1L-A1F20Q④-②-③	*HW4L-A1-②* HW4L-A1F10Q④-②-③ HW4L-A1F01Q④-②-③ HW4L-A1F11Q④-②-③ HW4L-A1F20Q④-②-③	*HW1L-A2-②* HW1L-A2F10Q④-②-③ HW1L-A2F01Q④-②-③ HW1L-A2F11Q④-②-③ HW1L-A2F20Q④-②-③	*HW4L-A2-②* HW4L-A2F10Q④-②-③ HW4L-A2F01Q④-②-③ HW4L-A2F11Q④-②-③ HW4L-A2F20Q④-②-③	*HW1L-AF2-②* HW1L-AF2F10Q④-②-③ HW1L-AF2F01Q④-②-③ HW1L-AF2F11Q④-②-③ HW1L-AF2F20Q④-②-③	*HW4L-AF2-②* HW4L-AF2F10Q④-②-③ HW4L-AF2F01Q④-②-③ HW4L-AF2F11Q④-②-③ HW4L-AF2F20Q④-②-③

Illuminated Transformer Pushbuttons

Contacts		Flush		Extended		Extended w/ Full Shroud	
		Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel	Plastic Bezel	Metal Bezel
Momentary	*Operator Only* 1NO-1NC 2NO	*HW1L-M1-②* HW1L-M1F11③④-② HW1L-M1F20③④-②	*HW4L-M1-②* HW4L-M1F11③④-② HW4L-M1F20③④-②	*HW1L-M2-②* HW1L-M2F11③④-② HW1L-M2F20③④-②	*HW4L-M2-②* HW4L-M2F11③④-② HW4L-M2F20③④-②	*HW1L-MF2-②* HW1L-MF2F11③④-② HW1L-MF2F20③④-②	*HW4L-MF2-②* HW4L-MF2F11③④-② HW4L-MF2F20③④-②
Maintained	*Operator Only* 1NO-1NC 2NO	*HW1L-A1-②* HW1L-A1F11③④-② HW1L-A1F20③④-②	*HW4L-A1-②* HW4L-A1F11③④-② HW4L-A1F20③④-②	*HW1L-A2-②* HW1L-A2F11③④-② HW1L-A2F20③④-②	*HW4L-A2-②* HW4L-A2F11③④-② HW4L-A2F20③④-②	*HW1L-AF2-②* HW1L-AF2F11③④-② HW1L-AF2F20③④-②	*HW4L-AF2-②* HW4L-AF2F11③④-② HW4L-AF2F20③④-②

1. In place of ②, specify Lens/LED Color Code from table.
2. In place of ③ specify Voltage Code from table.
3. In place of ④ specify Lamp Code from table.
4. Light independent of switch position.
5. For replacement part numbers, see page 517.
6. For nameplates and accessories, see page 546. and 549.
7. For dimensions, see page 551.
8. For contact assembly part numbers, see page 550.
9. Full voltage and transformer models use the same operator.
10. Additional contact configurations available (up to 6 total contacts).
11. **Yellow pushbutton comes with white LED.**

② Lens/LED Color Code

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

Yellow LED not available. Use white LED for yellow lens.

③ Voltage Code

Full Voltage Models		Transformer Models	
Voltage	Code	Voltage	Code
6V AC/DC	6V	120V AC	H2
12V AC/DC	12V	240V AC	M4
24V AC/DC	24V	480V AC	T8
120V AC (LED only)	120V		
240V AC (LED only)	240V		

④ Lamp Code

Lamp	Code
Incandescent	Blank
LED	D

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 L – M F2 F 10 Q D – G – 12V

Bezel
1: Plastic
4: Metal

Function
M: Momentary
A: Maintained

Operator
1F: Flush
2F: Extended
F2: Extended w/ shroud

Contact Arrangement
10: 1NO
01: 1NC
11: 1NO-1NC
20: 2NO

Illumination Circuit
Q: Full Voltage
H2: Transformer 120V AC
M4: Transformer 240V AC
T8: Transformer 480V AC

Lamp Code
D: LED
Blank: Incandescent

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

Lamp Voltage
(full voltage units only)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120VC AC*
240V: 240V AC*
*LED only

Illuminated Round Pushbuttons (Replacement Parts)

Trans-former*	+	Contact Blocks	+	Lead Holder	+	Adaptor†	+	Lamp	+	Anti-Rotation Ring	+	Operator	+	Lens	=	Completed Unit

1. *Transformer not needed with full voltage models.
2. †Adaptor includes safety lever lock.

Lamp Circuit Components

Style	Description	Terminals	Part Number
Lead Holder	For use with HW-CBL on all illuminated pushbutton units. One required for each deck (pair) of contacts.		HW-LH3
Dummy Block with Full Voltage Adaptor	For use with odd number of contacts.	Fingersafe	HW-DA1FB
		Exposed	HW-DA1B
		Spring Up	HW-GA1
Full Voltage Adaptor	For use with even number of contacts.	Fingersafe	TW-DA1FB
		Exposed	TW-DA1B
Transformer Unit (6V secondary voltage)	120VAC 240VAC 480VAC	Fingersafe	TW-F126B TW-F246B TW-F486B
	120V 240V 480V	Spring Up	HW-T126 HW-T246 HW-L486
	120V 240V 480V	Exposed	TW-T126B TW-T246B TW-T486B
DC-DC Converter	110VDC		HW-L16D

HW-GA1 "Dummy Block with full voltage adaptor" does not require the use of HW-LH3.

Operators

Style			Plastic Bezel	Metal Bezel
Round Flush/ Extended		Momentary	HW1L-M0	HW4L-M0
		Maintained	HW1L-A0	HW4L-A0
Extended with Full Shroud		Momentary	HW1L-MF0	HW4L-MF0
		Maintained	HW1L-AF0	HW4L-AF0

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
	Spring-Up Terminal	HW-G10 HW-G10R (early make)	HW-G01 HW-G01R (late break)
	Exposed Screw Terminal	HW-C10 HW-C10R (early make)	HW-C01 HW-C01R (late break)

1. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
2. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
3. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.

Contact Block Mounting Adaptor

Style	Part Number
	HW-CBL

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Lenses

Style	Part Number
Round Flush	HW1A-L1-②
Round Extended	HW1A-L2-②

In place of ②, specify the Lens Color Code from previous page.

Lamps

Type	Voltage	Part Number
LED	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24

1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.

Switches & Pilot Lights
Display Lights
Relays & Sockets
Timers
Terminal Blocks
Circuit Breakers

Illuminated Mushroom & Square Pushbuttons (Assembled)

		40mm Mushroom Head		Square Flush
	Contacts	**Plastic Bezel**	**Metal Bezel**	**Plastic Bezel**
Full Voltage — Momentary	*Operator Only†*	*HW1L-M4-②*	*HW4L-M4-②*	*HW2L-M1-②*
	1NO	HW1L-M4F10Q④-②-③	HW4L-M4F10Q④-②-③	HW2L-M1F10Q④-②-③
	1NC	HW1L-M4F01Q④-②-③	HW4L-M4F01Q④-②-③	HW2L-M1F01Q④-②-③
	1NO-1NC	HW1L-M4F11Q④-②-③	HW4L-M4F11Q④-②-③	HW2L-M1F11Q④-②-③
	2NO	HW1L-M4F20Q④-②-③	HW4L-M4F20Q④-②-③	HW2L-M1F20Q④-②-③
Full Voltage — Maintained	*Operator Only†*	*HW1L-A4-②*	*HW4L-A4-②*	*HW2L-A1-②*
	1NO	HW1L-A4F10Q④-②-③	HW4L-A4F10Q④-②-③	HW2L-A1F10Q④-②-③
	1NC	HW1L-A4F01Q④-②-③	HW4L-A4F01Q④-②-③	HW2L-A1F01Q④-②-③
	1NO-1NC	HW1L-A4F11Q④-②-③	HW4L-A4F11Q④-②-③	HW2L-A1F11Q④-②-③
	2NO	HW1L-A4F20Q④-②-③	HW4L-A4F20Q④-②-③	HW2L-A1F20Q④-②-③
Transformer — Momentary	1NO-1NC	HW1L-M4F11③④-②	HW4L-M4F11③④-②	HW2L-M1F11③④-②
	2NO	HW1L-M4F20③④-②	HW4L-M4F20③④-②	HW2L-M1F20③④-②
Transformer — Maintained	1NO-1NC	HW1L-A4F11③④-②	HW4L-A4F11③④-②	HW2L-A1F11③④-②
	2NO	HW1L-A4F20③④-②	HW4L-A4F20③④-②	HW2L-A1F20③④-②

1. † Full voltage and transformer units use the same operator.
2. In place of ②, specify the Lens/LED Color Code from table.
3. In place of ③ specify the Voltage Code from table.
4. In place of ④ specify Lamp Type Code from table.
5. Light independent of switch position
6. For nameplates and accessories, see page 546. and 549.
7. For dimensions, see page 551.
8. For contact assembly part numbers, see page 550.
9. Additional contact configurations available (up to 6 total contacts).
10. **Yellow pushbutton comes with white LED.**

② Lens/LED Color Code

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

1. *40mm mushroom lenses not available in yellow.
2. Yellow LED not available. Use white LED for yellow lens.

③ Voltage Code

Full Voltage Models		Transformer Models	
Voltage	**Code**	**Voltage**	**Code**
6V AC/DC	6V	120V AC	H2
12V AC/DC	12V	240V AC	M4
24V AC/DC	24V	480V AC	T8
120V AC (LED only)	120V		
240V AC (LED only)	240V		

④ Lamp Code

Lamp	Code
Incandescent	Blank
LED	D

Part Number Structure

H W 1 L – M F2 F 10 Q D – G – 12V

Bezel
1: Round Plastic
2: Square Plastic
4: Round Metal

Function
M: Momentary
A: Maintained

Operator
1: Square Flush
4: Mushroom

Contact Arrangement
10: 1NO
01: 1NC
11: 1NO-1NC
20: 2NO

Illumination Circuit
Q: Full Voltage
H2: Transformer 120V AC
M4: Transformer 240V AC
T8: Transformer 480V AC

Lamp Code
D: LED
Blank: Incandescent

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

Lamp Voltage
(full voltage units only)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120VC AC*
240V: 240V AC*
*LED only

Illuminated Mushroom & Square Pushbuttons (Replacement Parts)

Transformer*	+	Contact Blocks	+	Lead Holder	+	Adaptor†	+	Lamp	+	Anti-Rotation Ring	+	Operator	+	Lens	=	Completed Unit

1. *Transformer not needed with full voltage models.
2. †Adaptor includes safety lever lock.

Lamp Circuit Components

Style	Description	Terminals	Part Number
Lead Holder	For use with HW-CBL on all illuminated pushbutton units. One required for each deck (pair) of contacts.		HW-LH3
Dummy Block with Full Voltage Adaptor	For use with odd number of contacts.	Fingersafe	HW-DA1FB
		Exposed	HW-DA1B
		Spring Up	HW-GA1
Full Voltage Adaptor	For use with even number of contacts.	Fingersafe	TW-DA1FB
		Exposed	TW-DA1B
Transformer Unit (6V secondary voltage)	120VAC 240VAC 480VAC	Fingersafe	TW-F126B TW-F246B TW-F486B
	120V 240V 480V	Spring Up	HW-T126 HW-T246 HW-L486
	120V 240V 480V	Exposed	TW-T126B TW-T246B TW-T486B
DC-DC Converter	110VDC		HW-L16D

HW-GA1 "Dummy Block with full voltage adaptor" does not require the use of HW-LH3.

Operators

Style			Plastic Bezel	Metal Bezel
ø40mm Mushroom		Momentary	HW1L-M0L	HW4L-M0L
		Maintained	HW1L-A0L	HW4L-A0L
Square		Momentary	HW2L-M0	—
		Maintained	HW2L-A0	

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
	Spring-Up Terminal	HW-G10 HW-G10R (early make)	HW-G01 HW-G01R (late break)
	Exposed Screw Terminal	HW-C10 HW-C10R (early make)	HW-C01 HW-C01R (late break)

1. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
2. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
3. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.

Contact Block Mounting Adaptor

Style	Part Number
	HW-CBL

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Lenses

Style	Part Number
ø40mm Mushroom Lens	ALW4BLU-②*
Square Flush	HW2A-L1-②

1. In place of ②, specify the Lens Color Code.
2. *Mushroom lens not available in yellow.

Lamps

Type	Voltage	Part Number
LED	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24

1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.

Selector Switches 2-Position (Assembled)

2-Position Selector Switches

Contact	Mounting	Operator Position		Handle	Maintained	Spring Return from Right
		L ↖	**R** ↗		L ╲ R	L ╲→ R
Operator Only				*Knob Lever*	*HW⑤ S-2T* *HW⑤ S-2L*	*HW⑤ S-21T* *HW⑤ S-21L*
1NO	1	O	X	**Knob** **Lever**	HW⑤S-2TF10 HW⑤S-2LF10	HW⑤S-21TF10 HW⑤S-21LF10
1NO- **1NC**	1 2	O X	X O	**Knob** **Lever**	HW⑤S-2TF11 HW⑤S-2LF11	HW⑤S-21TF11 HW⑤S-21LF11
2NO	1 2	O O	X X	**Knob** **Lever**	HW⑤S-2TF20 HW⑤S-2LF20	HW⑤S-21TF20 HW⑤S-21LF20
2NO- **2NC**	1 2 3 4	X O X O	O X O X	**Knob** **Lever**	HW⑤S-2TF22 HW⑤S-2LF22	HW⑤S-21TF22 HW⑤S-21LF22

ℹ️
1. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
2. For nameplates, see page 546.
3. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
4. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
5. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
6. Standard color for knob and lever is black.
7. Optional colors available for lever type. Must order in components. See next page for part numbers.
8. Additional contact configurations available (up to 6 total contacts).
9. For Truth Tables see page 558.

⑤ **Bezel Type**

Type	Code
Plastic	1
Metal	4

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 S - 2 1 T F 10

Bezel
1: Plastic
4: Metal

# of Positions
2: 2-Position

Operator
blank: Maintained
1: Spring Return from Right

Handle
T: Knob
L: Lever

Contact Arrangement
10: 1NO
11: 1NO-1NC
20: 2NO

Selector Switches 2-Position (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Operators

Style	Description	Handle	Plastic Bezel	Metal Bezel
	Maintained	Knob	HW1S-2T	HW4S-2T
		Lever	HW1S-2	HW4S-2
	Spring Return from Right	Knob	HW1S-21T	HW4S-21T
		Lever	HW1S-21	HW4S-21

1. Knob operator comes with black handle.
2. To order lever type, lever and inserts must be ordered separately, along with lever operator. See part numbers below.

Levers & Inserts

Style	Part Number
Lever	ASWHHL-①
Lever Color Insert	TW-HC1-①

Standard lever color is black. Standard insert color is white.

① Handle/Insert Color Code

Color	Code
Black*	B
Blue	S
Green	G
Red	R
Yellow	Y
White†	W

1. * Lever color inserts not available in black.
2. † Lever not available in white.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Selector Switches 3-Position (Assembled)

3–Position Selector Switches

Contact	Mounting	Operator Position L	Operator Position C	Operator Position R	Handle	Maintained ↙L C ↘R	Spring Return from Right ↙L C ↘R	Spring Return from Left ↙L C ↘R	Spring Return Two-Way ↙L C ↘R
Operator Only					Knob Lever	HW⑤S-3T* HW⑤S-3L	HW⑤S-31T HW⑤S-31L	HW⑤S-32T HW⑤S-32L	HW⑤S-33T HW⑤S-33L
1NO-1NC	1 2	0 0	X 0	X X	**Knob** **Lever**	HW⑤S-3TF11 HW⑤S-3LF11	HW⑤S-31TF11 HW⑤S-31LF11	HW⑤S-32TF11 HW⑤S-32LF11	HW⑤S-33TF11 HW⑤S-33LF11
2NO	1 2	X 0	0 0	0 X	**Knob** **Lever**	HW⑤S-3TF20 HW⑤S-3LF20	HW⑤S-31TF20 HW⑤S-31LF20	HW⑤S-32TF20 HW⑤S-32LF20	HW⑤S-33TF20 HW⑤S-33LF20
2NC	1 2	0 X	X—X X	X 0	**Knob** **Lever**	HW⑤S-3TF02 HW⑤S-3LF02	HW⑤S-31TF02 HW⑤S-31LF02	HW⑤S-32TF02 HW⑤S-32LF02	HW⑤S-33TF02 HW⑤S-33LF02
2NO-1NC	1 2 3	X 0 0	0 0 X	0 X 0	**Knob**	HW⑤S-3JTF21N1	–	–	–
2NO-2NC	1 2 3 4	X 0 0 X	0 0 X—X X	0 X X 0	**Knob**	HW⑤S-3TF22	HW⑤S-31TF22	HW⑤S-32TF22	HW⑤S-33TF22
2NO-2NC	1 2 3 4	0 X X—X 0	0 0 X 0	X 0 0 X	**Knob**	HW⑤S-3STF22N9	–	–	–
4NO	1 2 3 4	X 0 X 0	0 0 0 0	0 X 0 X	**Knob**	HW⑤S-3TF40	HW⑤S-31TF40	HW⑤S-32TF40	HW⑤S-33TF40
4NO	1 2 3 4	X 0 X 0	0 X—X 0 0	0 X 0 X	**Knob**	HW⑤S-3STF40N2	–	–	–
4NC	1 2 3 4	0 X—X 0 X	X—X X—X X—X X—X	X 0 X 0	**Knob**	HW⑤S-3TF04	HW⑤S-31TF04	HW⑤S-32TF04	HW⑤S-33TF04

⑤ Bezel Type
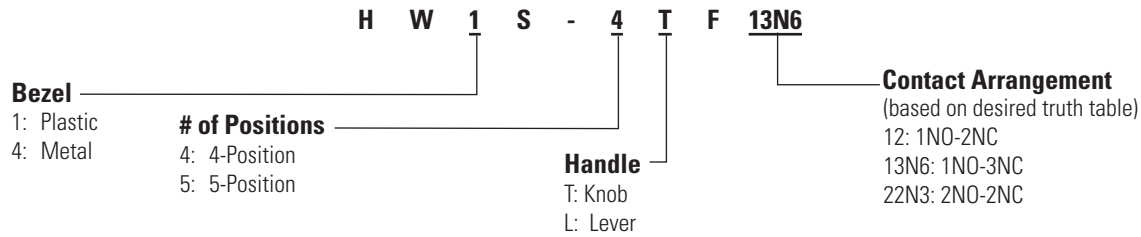
Type	Code
Plastic	1
Metal	4

1. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
2. Knob operator includes black knob/lever operator includes black lever.
3. * Three position operator is available with three different cams.
   HW⑤S-3T: Maintained (standard cam)
   HW⑤S-3ST: Maintained (S cam)
   HW⑤S-3JT: Maintained (J cam)
4. Operator cams are color coded (white=standard cam, red=S cam, black =J cam).
5. For nameplates, see page 546.
6. For contact assembly part numbers, see page 550.

7. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
8. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
9. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
10. Standard color for knob and lever is black.
11. Optional colors available for lever type. Must order in components. See next page for part numbers.
12. Additional contact configurations available (up to 6 total contacts).
13. For Truth Tables see page 558.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 S - 3 1 T F 20

Bezel
1: Plastic
4: Metal

# of Positions
3: 3-Position

Operator
blank: Maintained
1: Spring Return from Right
2: Spring Return from Left
3: Spring Return Two Way

Handle
T: Knob
L: Lever

Contact Arrangement
11: 1NO-1NC
20: 2NO
21: 2NO-1NC
22: 2NO-2NC
40: 4NO
04: 4NC

Selector Switches 3-Position (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Operators

Style	Description	Handle	Plastic Bezel	Metal Bezel
	Maintained (standard cam)	Knob	HW1S-3T	HW4S-3T
		Lever	HW1S-3	HW4S-3
	Maintained (S cam)	Knob	HW1S-3ST	HW4S-3ST
	Maintained (J cam)	Knob	HW1S-3JT	HW4S-3JT
	Spring Return from Right (standard cam)	Knob	HW1S-31T	HW4S-31T
		Lever	HW1S-31	HW4S-31
	Spring Return from Left (standard cam)	Knob	HW1S-32T	HW4S-32T
		Lever	HW1S-32	HW4S-32
	2-Way Spring Return (standard cam)	Knob	HW1S-33T	HW4S-33T
		Lever	HW1S-33	HW4S-33

1. Knob operator comes with black handle.
2. Three position knob operator is available with three different cams.
3. Operator cams are color coded (white=standard cam, red=S cam, black =J cam).
4. To order lever type, lever and inserts must be ordered separately, along with lever operator. See part numbers below.

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Levers & Inserts

Style	Part Number
Lever	ASWHHL-①
Lever Color Insert	TW-HC1-①

Standard lever color is black. Standard insert color is white.

① Handle/Insert Color Code

Color	Code
Black*	B
Blue	S
Green	G
Red	R
Yellow	Y
White†	W

1. * Lever color inserts not available in black.
2. † Lever not available in white.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Selector Switches 4- & 5-Position (Assembled)

4-Position Selector Switches

Contact	Mounting	Operator Position				Handle	Maintained
		1 ↖	2 ↑	3 ↗	4 ↗		1↖ 2↑ 3↗ 4↘
Operator Only						Knob Lever	*HW⑤S-4T* *HW⑤S-4L*
1NO-2NC	1 2 3 4	X 0 0 0	0 X 0 0	0 0 X 0	0 0 0 0	**Knob Lever**	HW⑤S-4TF12 HW⑤S-4LF12
1NO-3NC	1 2 3 4	0 0 0 0	X X 0 0	X 0 X 0	X 0 0 X	**Knob Lever**	HW⑤S-4TF13N6 HW⑤S-4LF13N6
2NO-2NC	1 2 3 4	X 0 0 0	0 X 0 0	0 0 X 0	0 0 0 X	**Knob Lever**	HW⑤S-4TF22N3 HW⑤S-4LF22N3

5-Position Selector Switch

Contact	Mounting	Operator Position					Handle	Maintained
		1 ↖	2 ↖	3 ↑	4 ↗	5 ↗		1↖ 2↖ 3↑ 4↗ 5↘
Operator Only							Knob Lever	*HW⑤ S-5T* *HW⑤ S-5L*
2NO-2NC	1 2 3 4	X 0 0 0	0 X 0 0	0 0 0 0	0 0 X 0	0 0 0 X	**Knob Lever**	HW⑤S-5TF22N3 HW⑤S-5LF22N3

ℹ️
1. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
2. Knob operator includes black knob/lever operator includes black lever.
3. For nameplates, see page 546.
4. For contact assembly part numbers, see page 550.
5. Five position circuit cannot be made to make five independent contact closures.
6. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
7. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
8. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
9. Standard color for knob and lever is black.
10. Optional colors available for lever type. Must order in components. See next page for part numbers.
11. Additional contact configurations available (up to 6 total contacts).
12. For Truth Tables see page 558.

⑤ Bezel Type

Type	Code
Plastic	1
Metal	4

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 S - 4 T F 13N6

Bezel
1: Plastic
4: Metal

# of Positions
4: 4-Position
5: 5-Position

Handle
T: Knob
L: Lever

Contact Arrangement
(based on desired truth table)
12: 1NO-2NC
13N6: 1NO-3NC
22N3: 2NO-2NC

Selector Switches 4- & 5-Position (Replacement Parts)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Operators

Style	Position	Description	Handle	Plastic Bezel	Metal Bezel
	4	Maintained	Knob	HW1S-4T	HW4S-4T
			Lever	HW1S-4	HW4S-4
	5	Maintained	Knob	HW1S-5T	HW4S-5T
			Lever	HW1S-5	HW4S-5

ℹ️ 1. Knob operator comes with black handle.
2. To order lever type, lever and inserts must be ordered separately, along with lever operator. See part numbers below.

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ️ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Levers & Inserts

Style	Part Number
Lever	ASWHHL-①
Lever Color Insert	TW-HC1-①

ℹ️ Standard lever color is black. Standard insert color is white.

① Handle/Insert Color Code

Color	Code
Black*	B
Blue	S
Green	G
Red	R
Yellow	Y
White†	W

ℹ️ 1. * Lever color inserts not available in black.
2. † Lever not available in white.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ️ Use with notched panel cutout to prevent unit rotation.

Key Switches 2-Position (Assembled)

2-Position Key Switches

Contact	Mounting	Operator Position		Maintained	Spring Return from Right
		L ↖	**R** ↗	L ╲ R	L ╲↗ R
Operator Only				*HW⑤K-2A*	*HW⑤K-21B*
1NO	1	O	X	HW⑤K-2AF10	HW⑤K-21BF10
1NO-1NC	1 2	O X	X 0	HW⑤K-2AF11	HW⑤K-21BF11
2NO	1 2	O O	X X	HW⑤K-2AF20	HW⑤K-21BF20
2NO-2NC	1 2 3 4	O X O X	X 0 X 0	HW⑤K-2AF22	HW⑤K-21BF22

ℹ️ 1. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
2. Key is removable in all maintained positions. Other key removable options available.
3. Two keys are supplied with all switches.
4. All standard operators are keyed alike.
5. Other key removable options available. See table below
6. For nameplates, see page 546.
7. For contact assembly part numbers, see page 550.
8. Key is retained in "Spring Return" position.
9. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
10. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
11. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
12. Additional contact configurations available (up to 6 total contacts).
13. For Truth Tables see page 558.

⑤ **Bezel Type**

Type	Code
Plastic	1
Metal	4

Key Removable Option Codes

Code	Description
A	Key not retained in any position (removable in all positions)
B	Key retained in right position only
C	Key retained in left position only

Oiltight Switches & Pilot Devices

ø22mm - HW Series

IDEC

Part Number Structure

H W 1 K - 2 1 B F 10

Bezel
1: Plastic
4: Metal

# of Positions
2: 2-Position

Operator
blank: Maintained
1: Spring Return from Right

Contact Arrangement
10: 1NO   20: 2NO
11: 1NO-1NC   22: 2NO-2NC

Key Retained Position
A: Key not retained in any position (removable in all positions)
B: Key retained in right position only
C: Key retained in left position only

Key Switches 2-Position (Replacement Parts)

Contact Assembly	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ Use with notched panel cutout to prevent unit rotation.

Operators

Style	Description	Plastic Bezel	Metal Bezel
	Maintained	HW1K-2A	HW4K-2A
	Maintained, key removed left only	HW1K-2B	HW4K-2B
	Spring Return from Right	HW1K-21B	HW4K-21B

ℹ 1. Operator includes two keys.
2. All standard operators are keyed alike.

Key Switches 3-Position (Assembled)

3-Position Key Switches

Contact	Mounting	Operator Position			Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two Way
		L ↖	**C** ↑	**R** ↗	L ↙ C ↓ R ↘	L ↙ C ↓ R ↘	L ↙ C ↓ R ↘	L ↙ C ↓ R ↘
Operator Only					*HW⑤K-3A**	*HW⑤K-31B*	*HW⑤K-32C*	*HW⑤K-33D*
1NO-1NC	1 2	0 0	X 0	X X	HW⑤K-3AF11	HW⑤K-31BF11	HW⑤K-32CF11	HW⑤K-33DF11
2NO	1 2	X 0	0 0	0 X	HW⑤K-3AF20	HW⑤K-31BF20	HW⑤K-32CF20	HW⑤K-33DF20
2NC	1 2	0 X	X—X X	X 0	HW⑤K-3AF02	HW⑤K-31BF02	HW⑤K-32CF02	HW⑤K-33DF02
2NO-1NC	1 2 3	X 0 0	0 0 X	0 X 0	HW⑤K-3JAF21N1	–	–	–
2NO-2NC	1 2 3 4	X 0 0 X	0 0 X—X	0 X X 0	HW⑤K-3AF22	HW⑤K-31BF22	HW⑤K-32CF22	HW⑤K-33DF22
2NO-2NC	1 2 3 4	0 X X—X 0	0 0 0	X 0 0 X	HW⑤K-3SAF22N9	–	–	–
4NO	1 2 3 4	X 0 X 0	0 0 0 0	0 X 0 X	HW⑤K-3AF40	HW⑤K-31BF40	HW⑤K-32CF40	HW⑤K-33DF40
4NO	1 2 3 4	X 0 X 0	0 X—X 0 0	0 X 0 X	HW⑤K-3SAF40N2	–	–	–
4NC	1 2 3 4	0 X 0 X	X—X X—X X—X X—X	X 0 X 0	HW⑤K-3AF04	HW⑤K-31BF04	HW⑤K-32CF04	HW⑤K-33DF04

⑤ Bezel Type

Type	Code
Plastic	1
Metal	4

ℹ️

1. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
2. Key is removable in all maintained positions. Other key removable options available.
3. Two keys are supplied with all switches.
4. All standard operators are keyed alike.
5. Other key removable options available. See table to the right.
6. * Operator is available with three different cams.
   HW⑤K-3A: Maintained (standard cam)
   HW⑤K-3SA: Maintained (Cam S)
   HW⑤K-3JA: Maintained (Cam J)
7. For nameplates, see page 546.

8. For contact assembly part numbers, see page 550.
9. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
10. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
11. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
12. Additional contact configurations available (up to 6 total contacts).
13. For Truth Tables see page 558.

Key Removable Option Codes

Code	Description
A	Key not retained in any position (removable in all positions)
B	Key retained in right position only
C	Key retained in left position only
D	Key retained in left and right (3 position only)
E	Key retained in center only (3 position only)
G	Key retained right and center (3 position only)
H	Key retained left and center (3 position only)

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W **1** K - **3** **1** **B** **F** **11**

Bezel
1: Plastic
4: Metal

# of Positions
3: 3-Position

Operator
blank: Maintained
1: Spring Return from Right
2: Spring Return from Left
3: Spring Return Two Way

Key Removable Option Code
(see chart on previous page)

Contact Arrangement
11: 1NO-1NC   40: 4NO
20: 2NO   04: 4NC
22: 2NO-2NC

Key Switches 3-Position (Replacement Parts)

Contact Assembly	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Operators

Style	Description	Plastic Bezel	Metal Bezel
	Maintained (standard cam)	HW1K-3A	HW4K-3A
	Maintained (S cam)	HW1K-3SA	HW4K-3SA
	Maintained (J cam)	HW1K-3JA	HW4K-3JA
	Spring Return from Right (standard cam)	HW1K-31B	HW4K-31B
	Spring Return from Left (standard cam)	HW1K-32C	HW4K-32C
	2-Way Spring Return (standard cam)	HW1K-33D	HW4K-33D

1. Operator includes two keys.
2. All standard operators are keyed alike.
3. Other key removable options available. See table on previous page.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Illuminated Selector Switches 2-Position (Assembled)

2-Position Illuminated Selector Switches

Style					Part Number	
Contact	**Mounting**	**Operator Position**		**Type**	**Maintained**	**Spring Return from Right**
		L ↖	**R** ↗		L ∨ R	L ↗ R
Operator Only					*HW⑤F-2②*	*HW⑤F-21②*
1NO-1NC	1 2	O X	X O	Full Voltage	HW⑤F-2F11Q④-②-③	HW⑤F-21F11Q④-②-③
				Transformer 120V 240V 480V	HW⑤F-2F11H2④-② HW⑤F-2F11M4④-② HW⑤F-2F11T8④-②	HW⑤F-21F11H2④-② HW⑤F-21F11M4④-② HW⑤F-21F11T8④-②
2NO	1 2	O O	X X	Full Voltage	HW⑤F-2F20Q④-②-③	HW⑤F-21F20Q④-②-③
				Transformer 120V 240V 480V	HW⑤F-2F20H2④-② HW⑤F-2F20M4④-② HW⑤F-2F20T8④-②	HW⑤F-21F20H2④-② HW⑤F-21F20M4④-② HW⑤F-21F20T8④-②
2NO-2NC	1 2 3 4	O X O X	X O X O	Full Voltage	HW⑤F-2F22Q④-②-③	HW⑤F-21F22Q④-②-③
				Transformer 120V 240V 480V	HW⑤F-2F22H2④-② HW⑤F-2F22M4④-② HW⑤F-2F22T8④-②	HW⑤F-21F22H2④-② HW⑤F-21F22M4④-② HW⑤F-21F22T8④-②

1. In place of ② specify Lens/LED color code.
2. In place of ③ specify Full Voltage code.
3. In place of ④ specify Lamp code.
4. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
5. For nameplates, see page 546.
6. For contact assembly part numbers, see page 550.
7. Light is independent of switch position.
8. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.
9. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
10. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
11. **Yellow selector switch comes with white LED.**
12. Additional contact configurations available (up to 6 total contacts).
13. For Truth Tables see page 558.

② Lens/LED Color Code

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

③ Full Voltage Code

Full Voltage Models	
Voltage	**Code**
6VAC/DC	6V
12VAC/DC	12V
24VAC/DC	24V
120V AC (LED only)	120V
240V AC (LED only)	240V

④ Lamp Code

Lamp	Code
Incandescent	Blank
LED	D

⑤ Bezel Code

Type	Code
Plastic	1
Metal	4

Part Number Structure

H W 1 F – 21 F 20 Q D – G – 24V

Bezel
1: Plastic
4: Metal

Position
2: Maintained
21: Spring Return from Right

Contact Arrangement
11: 1NO-1NC
20: 2NO
22: 2NO-2NC
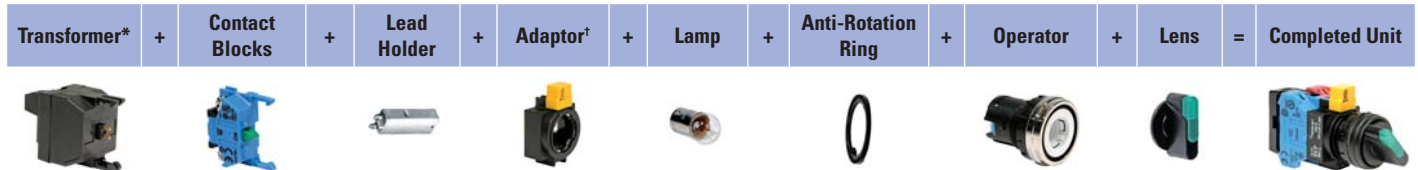
Illumination Circuit
Q: Full Voltage
H2: Transformer 120V AC
M4: Transformer 240V AC
T8: Tranformer 480V AC

Lamp Code
D: LED
Blank: Incandescent

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

Lamp Voltage
(Full voltage units only)
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120V AC*
240V: 240V AC*
*LED only

Illuminated Selector Switches 2-Position (Replacement Parts)

Transformer*	+	Contact Blocks	+	Lead Holder	+	Adaptor†	+	Lamp	+	Anti-Rotation Ring	+	Operator	+	Lens	=	Completed Unit

1. *Transformer not needed with full voltage models.
2. †Adaptor includes safety lever lock.

Lamp Circuit Components

Style	Description	Terminals	Part Number
Lead Holder	For use with HW-CBL on all illuminated pushbutton units. One required for each deck (pair) of contacts.		HW-LH3
Dummy Block with Full Voltage Adaptor	For use with odd number of contacts.	Fingersafe	HW-DA1FB
		Exposed	HW-DA1B
		Spring Up	HW-GA1
Full Voltage Adaptor	For use with even number of contacts.	Fingersafe	TW-DA1FB
		Exposed	TW-DA1B
Transformer Unit (6V secondary voltage)	120VAC 240VAC 480VAC	Fingersafe	TW-F126B TW-F246B TW-F486B
	120V 240V 480V	Spring Up	HW-T126 HW-T246 HW-L486
	120V 240V 480V	Exposed	TW-T126B TW-T246B TW-T486B
DC-DC Converter	110VDC		HW-L16D

1. HW-GA1 "Dummy Block with full voltage adaptor" does not require the use of HW-LH3.
2. DC-DC convertor features spring-up terminals.
3. DC-DC convertor applicable voltage range 90-140V DC.

Operators

Appearance	Description	Plastic Bezel	Metal Bezel
	Maintained	HW1F-2	HW4F-2
	Spring return from right	HW1F-21	HW4F-21

Illuminated knobs must be ordered separately.

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
	Spring-Up Terminal	HW-G10 HW-G10R (early make)	HW-G01 HW-G01R (late break)
	Exposed Screw Terminal	HW-C10 HW-C10R (early make)	HW-C01 HW-C01R (late break)

Contact Block Mounting Adaptor

Style	Part Number
	HW-CBL

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Illuminated Knob

Appearance	Part Number
	HW9Z-FDY-②

In place of ②, specify the Color Code.

② Lens/LED Color Code

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

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Lamps

Type	Voltage	Part Number
LED	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24

1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.
3. Use white LED for yellow lens. Yellow LED not available.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Illuminated Selector Switches 3-Position (Assembled)

3-Position Illuminated Selector Switches

Style						Part Number			
Contact	Mounting	Operator Position			Type		Maintained	Spring Return from Right	Spring Return from Left	Spring Return Two-Way
		L	C	R			L↙ C↑ R↗	L↙ C↑ R→	L← C↑ R↗	L← C↑ R→
Operator Only							HW⑤F-3②	HW⑤F-31②	HW⑤F-32②	HW⑤F-33②
1NO-1NC	1 2	0 0	X 0	X X	Full Voltage		HW⑤F-3F11Q④-②-③	HW⑤F-31F11Q④-②-③	HW⑤F-32F11Q④-②-③	HW⑤F-33F11Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F11H2④-② HW⑤F-3F11M4④-② HW⑤F-3F11T8④-②	HW⑤F-31F11H2④-② HW⑤F-31F11M4④-② HW⑤F-31F11T8④-②	HW⑤F-32F11H2④-② HW⑤F-32F11M4④-② HW⑤F-32F11T8④-②	HW⑤F-33F11H2④-② HW⑤F-33F11M4④-② HW⑤F-33F11T8④-②
2NO	1 2	0 0	X 0	0 X	Full Voltage		HW⑤F-3F20Q④-②-③	HW⑤F-31F20Q④-②-③	HW⑤F-32F20Q④-②-③	HW⑤F-33F20Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F20H2④-② HW⑤F-3F20M4④-② HW⑤F-3F20T8④-②	HW⑤F-31F20H2④-② HW⑤F-31F20M4④-② HW⑤F-31F20T8④-②	HW⑤F-32F20H2④-② HW⑤F-32F20M4④-② HW⑤F-32F20T8④-②	HW⑤F-33F20H2④-② HW⑤F-33F20M4④-② HW⑤F-33F20T8④-②
2NC	1 2	0 X	X X	X 0	Full Voltage		HW⑤F-3F02Q④-②-③	HW⑤F-31F02Q④-②-③	HW⑤F-32F02Q④-②-③	HW⑤F-33F02Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F02H2④-② HW⑤F-3F02M4④-② HW⑤F-3F02T8④-②	HW⑤F-31F02H2④-② HW⑤F-31F02M4④-② HW⑤F-31F02T8④-②	HW⑤F-32F02H2④-② HW⑤F-32F02M4④-② HW⑤F-32F02T8④-②	HW⑤F-33F02H2④-② HW⑤F-33F02M4④-② HW⑤F-33F02T8④-②
2NO-2NC	1 2 3 4	X 0 0 X	0 0 X X	0 X X 0	Full Voltage		HW⑤F-3F22Q④-②-③	HW⑤F-31F22Q④-②-③	HW⑤F-32F22Q④-②-③	HW⑤F-33F22Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F22H2④-② HW⑤F-3F22M4④-② HW⑤F-3F22T8④-②	HW⑤F-31F22H2④-② HW⑤F-31F22M4④-② HW⑤F-31F22T8④-②	HW⑤F-32F22H2④-② HW⑤F-32F22M4④-② HW⑤F-32F22T8④-②	HW⑤F-33F22H2④-② HW⑤F-33F22M4④-② HW⑤F-33F22T8④-②
4NO	1 2 3 4	X 0 X 0	0 0 0 0	0 X 0 X	Full Voltage		HW⑤F-3F40Q④-②-③	HW⑤F-31F40Q④-②-③	HW⑤F-32F40Q④-②-③	HW⑤F-33F40Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F40H2④-② HW⑤F-3F40M4④-② HW⑤F-3F40T8④-②	HW⑤F-31F40H2④-② HW⑤F-31F40M4④-② HW⑤F-31F40T8④-②	HW⑤F-32F40H2④-② HW⑤F-32F40M4④-② HW⑤F-32F40T8④-②	HW⑤F-33F40H2④-② HW⑤F-33F40M4④-② HW⑤F-33F40T8④-②
4NC	1 2 3 4	0 X 0 X	X X X X	X 0 X 0	Full Voltage		HW⑤F-3F04Q④-②-③	HW⑤F-31F04Q④-②-③	HW⑤F-32F04Q④-②-③	HW⑤F-33F04Q④-②-③
					Transformer	120V 240V 480V	HW⑤F-3F04H2④-② HW⑤F-3F04M4④-② HW⑤F-3F04T8④-②	HW⑤F-31F04H2④-② HW⑤F-31F04M4④-② HW⑤F-31F04T8④-②	HW⑤F-32F04H2④-② HW⑤F-32F04M4④-② HW⑤F-32F04T8④-②	HW⑤F-33F04H2④-② HW⑤F-33F04M4④-② HW⑤F-33F04T8④-②

i
1. In place of ② specify Lens/LED color code.
2. In place of ③ specify Full Voltage code.
3. In place of ④ specify Lamp code.
4. In place of ⑤ enter 1 for plastic bezel or 4 for metal bezel.
5. For nameplates, see page 546.
6. For contact assembly part numbers, see page 550.
7. Light is independent of switch position.
8. All assembled part numbers in catalog include standard fingersafe (HW-F...) contacts.

9. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
10. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
11. **Yellow selector switch comes with white LED.**
12. Additional contact configurations available (up to 6 total contacts).
13. For Truth Tables see page 558.

② Lens/LED Color

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

③ Full Voltage Code

Full Voltage Models	
Voltage	Code
6VAC/DC	6V
12VAC/DC	12V
24VAC/DC	24V
120V AC (LED only)	120V
240V AC (LED only)	240V

④ Lamp Code

Lamp	Code
Incandescent	Blank
LED	D

⑤ Bezel Code

Type	Code
Plastic	1
Metal	4

Part Number Structure

H W 1 F – 31 F 20 Q D – G – 24V

Bezel
1: Plastic
4: Metal

Position
3: Maintained
31: Spring Return from Right
32: Spring Return from Left
33: Spring Return 2-Way

Contact Arrangement
11: 1NO-1NC   22: 2NO-2NC
20: 2NO   40: 4NO
02: 2NC   04: 4NC

Illumination Circuit
Q: Full Voltage
H2: Transformer 120V AC
M4: Transformer 240V AC
T8: Tranformer 480V AC

Lamp Code
D: LED
Blank: Incandescent

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

Full Voltage Code
6V: 6V AC/DC
12V: 12V AC/DC
24V: 24V AC/DC
120V: 120V AC*
240V: 240V AC*
*LED only

Illuminated Selector Switches 3-Position (Replacement Parts)

Transformer*	+	Contact Blocks	+	Lead Holder	+	Adaptor†	+	Lamp	+	Anti-Rotation Ring	+	Operator	+	Lens	=	Completed Unit

1. *Transformer not needed with full voltage models.
2. †Adaptor includes safety lever lock.

Lamp Circuit Components

Style	Description	Terminals	Part Number
Lead Holder	For use with HW-CBL on all illuminated pushbutton units. One required for each deck (pair) of contacts.		HW-LH3
Dummy Block with Full Voltage Adaptor	For use with odd number of contacts.	Fingersafe	HW-DA1FB
		Exposed	HW-DA1B
		Spring Up	HW-GA1
Full Voltage Adaptor	For use with even number of contacts.	Fingersafe	TW-DA1FB
		Exposed	TW-DA1B
Transformer Unit (6V secondary voltage)	120VAC 240VAC 480VAC	Fingersafe	TW-F126B TW-F246B TW-F486B
	120V 240V 480V	Spring Up	HW-T126 HW-T246 HW-L486
	120V 240V 480V	Exposed	TW-T126B TW-T246B TW-T486B
DC-DC Converter	110VDC		HW-L16D

1. HW-GA1 "Dummy Block with full voltage adaptor" does not require the use of HW-LH3.
2. DC-DC convertor features spring-up terminals.
3. DC-DC convertor applicable voltage range 90-140V DC.

Operators

Appearance	Description	Plastic Bezel	Metal Bezel
	Maintained	HW1F-3	HW4F-3
	Spring return from right	HW1F-31	HW4F-31
	Spring return from left	HW1F-32	HW4F-32
	2-Way spring return	HW1F-33	HW4F-33

Illuminated knobs must be ordered separately.

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)
	Spring-Up Terminal	HW-G10 HW-G10R (early make)	HW-G01 HW-G01R (late break)
	Exposed Screw Terminal	HW-C10 HW-C10R (early make)	HW-C01 HW-C01R (late break)

Contact Block Mounting Adaptor

Style	Part Number
	HW-CBL

1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Illuminated Knob

Appearance	Part Number
	HW9Z-FDY-②

In place of ②, specify the Color Code.

② Lens/LED Color Code

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

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

Lamps

Type	Voltage	Part Number
LED	6V AC/DC	LSTD-6②
	12V AC/DC	LSTD-1②
	24V AC/DC	LSTD-2②
	120V AC	LSTD-H2②
	240V AC	LSTD-M4②
Incandescent	6V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24

1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.
3. Use white LED for yellow lens. Yellow LED not available.

Mono Lever Switches 2-Position (Assembled)

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

2-Position Mono Lever Switches

Description	Part Number	Description
HW1M Standard Lever	HW1M-F1010-20	Maintained up and down
	HW1M-F2020-20	Spring return up and down
	HW1M-F1010-40	Maintained up and down
	HW1M-F2020-40	Spring return up and down
	HW1M-F0101-20	Maintained right and left
	HW1M-F0202-20	Spring return right and left
	HW1M-F0101-40	Maintained right and left
	HW1M-F0202-40	Spring return right and left
HW1M-L Interlocking Lever	HW1M-LF1010-20	Maintained up and down
	HW1M-LF2020-20	Spring return up and down
	HW1M-LF1010-40	Maintained up and down
	HW1M-LF2020-40	Spring return up and down
	HW1M-LF0101-20	Maintained right and left
	HW1M-LF0202-20	Spring return right and left
	HW1M-LF0101-40	Maintained right and left
	HW1M-LF0202-40	Spring return right and left

1. All assembled part numbers in catalog include standard (HW-F...) contacts.
2. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
3. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
4. Additional contact configurations available (up to 6 total contacts).

Circuit Diagrams
2 Position Left/Right

Circuit Number	Contact Mounting		Position		
	No.		Left	Center	Right
20	1	HW-F10	X	0	0
	2	HW-F10	0	0	X
40	1	HW-F10	X	0	0
	2	HW-F10	0	0	X
	3	HW-F10	X	0	0
	4	HW-F10	0	0	X

2 Position Up/Down

Circuit Number	Contact Mounting		Position		
	No.		Down	Center	Up
20	1	HW-F10	X	0	0
	2	HW-F10	0	0	X
40	1	HW-F10	X	0	0
	2	HW-F10	0	0	X
	3	HW-F10	X	0	0
	4	HW-F10	0	0	X

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

H W 1 M - L F **0 1 0 1** 20

up   right   down   left

Type
blank: Standard
L: Interlocking

Lever Action
1: Maintained
2: Spring
0: Blocked

Circuit Number
20 or 40 (see contact arrangement on previous page)
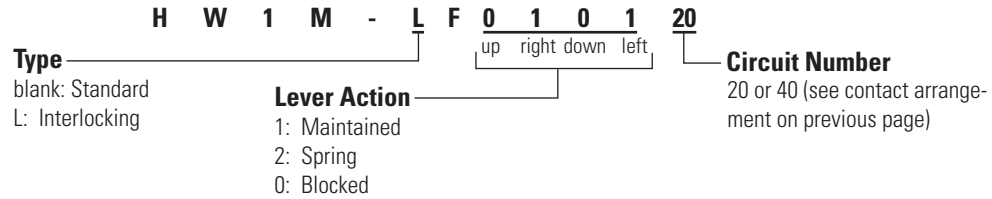
Mono Lever Switches 2-Position (Sub-assembled) Part Numbers

Contact Assembly	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ Use with notched panel cutout to prevent unit rotation.

Operators

Appearance	Description	Part Number
Standard	Maintained Up/Down	HW1M-1010
	Spring return Up/Down	HW1M-2020
	Maintained Left/Right	HW1M-0101
	Spring return Left/Right	HW1M-0202
Interlocking	Maintained Up/Down	HW1M-L1010
	Spring return Up/Down	HW1M-L2020
	Maintained Left/Right	HW1M-L0101
	Spring return Left/Right	HW1M-L0202

Replacement Parts

Item	Part Number
Black Cap	HW9Z-CPM
Boot	HW9Z-BLM (fits standard operator only)

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Mono Lever Switches 3- & 4-Position (Assembled)

3-Position

Description	Part Number	Description
HW1M Standard Lever	HW1M-F0121-30	Maintained right and left, spring return down
	HW1M-F0222-30	Spring return right, down, left
HW1M-L Interlocking Lever	HW1M-LF0121-30	Maintained right and left, spring return down
	HW1M-LF0222-30	Spring return right, down, left

Circuit Diagram

Circuit Number	Contact Mounting		Position				
	No.		Down	Left	Center	Up	Right
30	1	HW-F01	O	O	O	O	X
	2	HW-F01	X	O	O	O	O
	3	HW-F10	O	X	O	O	O

4-Position

Description	Part Number	Description
HW1M Standard Lever	HW1M-F1111-22N9	Maintained all positions
	HW1M-F1212-22N9	Maintained up and down, spring left and right
	HW1M-2121-22N9	Spring up and down, maintained left and right
	HW1M-2222-22N9	Spring return all positions
HW1M-L Interlocking Lever	HW1M-LF1111-22N9	Maintained all positions
	HW1M-LF1212-22N9	Maintained up and down, spring left and right
	HW1M-LF2121-22N9	Spring up and down, maintained left and right
	HW1M-LF2222-22N9	Spring return all positions

Circuit Diagram

Circuit Number	Contact Mounting		Position				
	No.		Down	Left	Center	Up	Right
22N9	1	HW-F01	O	O	O	O	X
	2	HW-F01	X	O	O	O	O
	3	HW-F10	O	X	O	O	O
	4	HW-F10	O	O	O	X	O

1. All assembled part numbers in catalog include standard (HW-F...) contacts.
2. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
3. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
4. Additional contact configurations available (up to 6 total contacts).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Part Number Structure

| H | W | 1 | M | - | L | F | 0 | 1 | 2 | 1 | 30 |

up right down left

Type
blank: Standard
L: Interlocking

Lever Action
1: Maintained
2: Spring
0: Blocked

Circuit Number
3 Position: 30
4 Position: 22N9

Mono Lever Switches 3 & 4-Position (Sub-assembled) Part Numbers

Contact Assembly	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Contact Block Mounting Adaptor

Style	Part Number
	HW-CB2C

ℹ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ Use with notched panel cutout to prevent unit rotation.

Operators

Appearance	Description	Part Number
Standard	Combination, 3 position	HW1M-0121
	Spring return, 3 position	HW1M-0222
	Maintained, 4 position	HW1M-1111
	Combination, 4 position	HW1M-1212
	Combination, 4 position	HW1M-2121
	Spring return, 4 position	HW1M-2222
Interlocking	Combination, 3 position	HW1M-L0121
	Spring return, 3 position	HW1M-L0222
	Maintained, 4 position	HW1M-L1111
	Combination, 4 position	HW1M-L1212
	Combination, 4 position	HW1M-L2121
	Spring return, 4 position	HW1M-L2222

Replacement Parts

Item	Part Number
Black Cap	HW9Z-CPM
Boot	HW9Z-BLM (fits standard operator only)

Pushbutton Selectors (Assembled)

2-Position Pushbutton Selectors

Cam	Contacts	Mounting		Left Normal	Left Push	Right Normal	Right Push	Part Number
	Operator Only							*HW1R-2A-①*
	1NO-1NC	1	HW-F10	0	X	0	X	HW1R-2AF11-①
		2	HW-F01	X	0	0	X	
A	2NO	1	HW-F10	0	X	0	X	HW1R-2AF20-①
		2	HW-F10	0	X	X—————X		
	2NO-2NC	1	HW-F10	0	X	0	X	HW1R-2AF22-①
		2	HW-F01	X	0	0	0	
		3	HW-F10	0	X	0	X	
		4	HW-F01	X	0	0	0	
	Operator Only							*HW1R-2D-①*
	2NO	1	HW-F10	0	X	0	0	HW1R-2DF20-①
		2	HW-F10	0	0	0	X	
D	2NO-2NC	1	HW-F10	0	X	0	0	HW1R-2DF22N1-①
		2	HW-F10	0	0	0	X	
		3	HW-F01	X	0	X—————X		
		4	HW-F01	X—————X		X	0	
	Operator Only							*HW1R-2E-①*
E	2NO-2NC	1	HW-F10	0	X	0	0	HW1R-2EF22N1-①
		2	HW-F10	0	0	0	X	
		3	HW-F01	0	0	X—————X		
		4	HW-F01	X—————X		0	0	
	Operator Only							*HW1R-2F-①*
F	2NO-2NC	1	HW-F10	0	0	0	X	HW1R-2FF22N1-①
		2	HW-F10	0	X	0	0	
		3	HW-F01	0	0	X	0	
		4	HW-F01	X	0	0	0	
	Operator Only							*HW1R-2N-①*
N	2NO-2NC	1	HW-F01	0	0	X	0	HW1R-2NF22N2-①
		2	HW-F10	0	X	0	X	
		3	HW-F01	0	0	X	0	
		4	HW-F10	0	X	0	X	
	Operator Only							*HW1R-2T-①*
T	2NO-2NC	1	HW-F10	0	X	X	Blocked	HW1R-2TF22N1-①
		2	HW-F10	0	X	X		
		3	HW-F01	X	0	0		
		4	HW-F01	X	0	0		

① Button Color Code

Color	Code	Color	Code
Black	B	White	W
Green	G	Yellow	Y
Red	R	Gray	N
Blue	S		

1. All assembled part numbers in catalog include standard (HW-F...) contacts.
2. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
3. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.
4. Operator only models come with operator and button.
5. Additional contact configurations available (up to 6 total contacts).

Part Number Structure

H W 1 R - 2 D F **22N1** – **R**

Operator
A: Cam A
D: Cam D
E: Cam E
F: Cam F
N: Cam N
T: Cam T

Contact Arrangement Code
11: 1NO-1NC
20: 2NO
(For additional contact codes see previous page)

Button Colors
B: Black
G: Green
R: Red
S: Blue
W: White
Y: Yellow
N: Gray
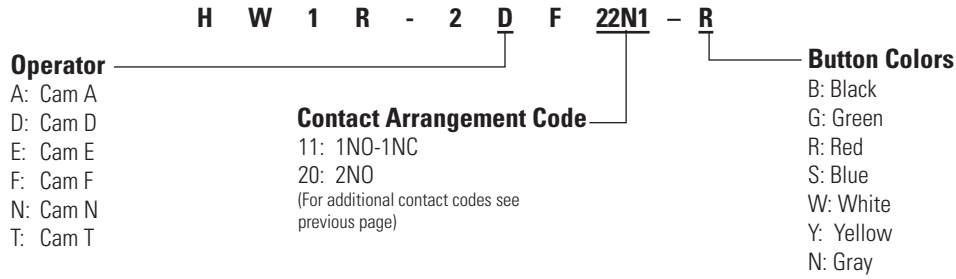
Pushbutton Selectors (Sub-assembled)

Contact Blocks	+	Adaptor & Safety Lever Lock	+	Anti-Rotation Ring	+	Operator	+	Button	=	Completed Unit

Contact Blocks

Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10	HW-F01
		HW-F10R (early make)	HW-F01R (late break)
	Spring-Up Terminal	HW-G10	HW-G01
		HW-G10R (early make)	HW-G01R (late break)
	Exposed Screw Terminal	HW-C10	HW-C01
		HW-C10R (early make)	HW-C01R (late break)
	Dummy Block	TW-DB	

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ Use with notched panel cutout to prevent unit rotation.

Operators

Appearance	Description	Part Number
	Cam A	HW1R-2A
	Cam D	HW1R-2D
	Cam E	HW1R-2E
	Cam F	HW1R-2F
	Cam N	HW1R-2N
	Cam T	HW1R-2T

Buttons

Style	Part Number
Round Flush	HW1A-B1-①

ℹ In place of ①, specify the Button Color Code from table below.

① Button Color Code

Color	Code	Color	Code
Black	B	White	W
Green	G	Yellow	Y
Red	R	Gray	N
Blue	S		

Contact Block Mounting Adaptor
(safety lever lock included)

Style	Part Number
	HW-CB2C

ℹ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Dual Pushbutton Switches

Two pushbuttons and a pilot light are integrated into one space-saving ø22 mm control unit.
- Momentary and interlock types are available for pushbuttons. Interlock type prevents both buttons from being pressed at the same time.
- Pilot lights are available in full voltage and transformer with LED or incandescent lamps.
- IP40 protection, IP65 when using silicon cover.
- UL Listed, CSA approved, and EN compliant

Applications:
- 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.

Dual Pushbutton Switches (Assembled) Part Numbers

Without Center Pilot Light

Operation Type	Button Style	Contact Arrangement		Part Number	④Button Color Code	⑤Legend Code
		Top Button	Bottom Button			
Momentary	Flush (top) Flush (bottom)	1NO	1NC	HW7D-B11F1001-④⑤	GR: Green (top) Red (bottom)	Blank: Without legend
		1NO	1NO	HW7D-B11F1010-④⑤		
		1NO-1NC	1NO-1NC	HW7D-B11F1111-④⑤		
		2NO	2NC	HW7D-B11F2002-④⑤		
		2NO	2NO	HW7D-B11F2020-④⑤		
	Flush (top) Extended (bottom)	1NO	1NC	HW7D-B12F1001-④⑤		
		1NO	1NO	HW7D-B12F1010-④⑤		
		1NO-1NC	1NO-1NC	HW7D-B12F1111-④⑤	GR: Green (top) Red (bottom)	Blank: Without legend 1: I/ON (top) O/OFF (bottom)
		2NO	2NC	HW7D-B12F2002-④⑤		
		2NO	2NO	HW7D-B12F2020-④⑤		
Interlock*	Flush (top) Flush (bottom)	1NO	1NC	HW7D-B21F1001-④⑤	WB: White (top) Black (bottom)	
		1NO	1NO	HW7D-B21F1010-④⑤		
		1NO-1NC	1NO-1NC	HW7D-B21F1111-④⑤		
		2NO	2NC	HW7D-B21F2002-④⑤		
		2NO	2NO	HW7D-B21F2020-④⑤		
	Flush (top) Extended (bottom)	1NO	1NC	HW7D-B22F1001-④⑤		
		1NO	1NO	HW7D-B22F1010-④⑤		
		1NO-1NC	1NO-1NC	HW7D-B22F1111-④⑤		
		2NO	2NC	HW7D-B22F2002-④⑤		
		2NO	2NO	HW7D-B22F2020-④⑤		

1. *Interlock type prevents both top and bottom buttons from being pressed simultaneously.
2. Clear silicon rubber cover part number HW9Z-D7D.
3. Additional contact configurations available (up to 6 total contacts).

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

With Center Pilot Light

Operation Type		Button Style	Top Button	Bottom Button	Part Number
Flush (top) Flush (bottom)	Momentary	Flush (Top) Flush (Bottom)	1NO	1NC	HW7D-L11F1001②③-④⑤
			1NO	1NO	HW7D-L11F1010②③-④⑤
			1NO-1NC	1NO-1NC	HW7D-L11F1111②③-④⑤
			2NO	2NC	HW7D-L11F2002②③-④⑤
			2NO	2NO	HW7D-L11F2020②③-④⑤
		Flush (Top) Extended (Bottom)	1NO	1NC	HW7D-L12F1001②③-④⑤
			1NO	1NO	HW7D-L12F1010②③-④⑤
			1NO-1NC	1NO-1NC	HW7D-L12F1111②③-④⑤
			2NO	2NC	HW7D-L12F2002②③-④⑤
			2NO	2NO	HW7D-L12F2020②③-④⑤
Flush (top) Extended (bottom)	Interlock*	Flush (Top) Flush (Bottom)	1NO	1NC	HW7D-L21F1001②③-④⑤
			1NO	1NO	HW7D-L21F1010②③-④⑤
			1NO-1NC	1NO-1NC	HW7D-L21F1111②③-④⑤
			2NO	2NC	HW7D-L21F2002②③-④⑤
			2NO	2NO	HW7D-L21F2020②③-④⑤
		Flush (Top) Extended (Bottom)	1NO	1NC	HW7D-L22F1001②③-④⑤
			1NO	1NO	HW7D-L22F1010②③-④⑤
			1NO-1NC	1NO-1NC	HW7D-L22F1111②③-④⑤
			2NO	2NC	HW7D-L22F2002②③-④⑤
			2NO	2NO	HW7D-L22F2020②③-④⑤

1. *Interlock type prevents both top and bottom buttons from being pressed simultaneously.
2. Clear silicon rubber cover part number HW9Z-D7D.
3. All assembled part numbers in catalog include standard (HW-F...) contacts.
4. Assembled units with spring-up terminals (HW-G...) can be ordered by removing an "F" from the part number (Ex. HW1B-M1F11-R becomes HW1B-M111-R).
5. Units with exposed screw terminals (HW-C...) must be ordered as sub-components.

②Pilot Light Illumination & Voltage Code

Full Voltage	
Voltage	**Code**
6V AC/DC, LED	Q2
12V AC/DC, LED	Q3
24V AC/DC, LED	Q4
120V AC, LED	Q8
6V AC/DC, Incandescent	Q5*
12V AC/DC, Incandescent	Q6*
24V AC/DC, Incandescent	Q7*

Step-Down Transformer (6V Secondary Lamp Voltage)	
Voltage	**Code**
120V AC, LED	H22
240V AC, LED	M42
480V AC, LED	T82
120V AC, Incandescent	H25*
240V AC, Incandescent	M45*
480V AC, Incandescent	T85*

*Only available for White Lens Pilot Lamp.

③ Pilot Lamp Color Code

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

*Only available in LED illumination.

④Pushbutton Color Code

Color		Code
Top	Green	GR
Bottom	Red	
Top	White	WB
Bottom	Black	

⑤Engraving Codes

Engraving		Code
No Engraving		Blank
I/ON	Top	1
O/OFF	Bottom	

Switches & Pilot Lights

Part Number Structure

H W 7 D – L 21 F 20 20 H22 R – GR 1

Pilot Light
B: Without Center Pilot Light
L: With Center Pilot Light

Button Arrangement
11: Momentary (Flush/Flush)
12: Momentary (Flush/Extended)
21: Interlock (Flush/Flush)
22: Interlock (Flush/Extended)

Contact Arrangement
Top Button
01: 1NC   02: 2NC
10: 1NO   20: 2NO
Bottom Button
01: 1NC   02: 2NC
10: 1NO   20: 2NO

Voltage Code
blank: without center pilot light
Full Voltage*   **Transformer***
Q2: 6V LED   H22: 120V AC
*For additional voltage codes, please see previous page

Pilot Lamp Color
A: Amber*   Y: Yellow*
G: Green*   blank: with-
R: Red*   out center
S: Blue*   pilot light
W: White
*Only available in LED illumination.

Engraving Code
blank: No Engraving
1: Top: I/ON
   Bottom: O/OFF

Pushbutton Color
GR: Top: Green
    Bottom: Red
WB: Top: White
    Bottom: Black

Dual Pushbutton Switches (Sub-assembled) Part Numbers

Contact Blocks	+	Mounting Adaptor	+	Operator	+	Lens	=	Completed Unit

Lamp Circuit Components with Fingersafe Terminals

Style		Description	Part Number
Lead Holder		For use with HW-CBL on all illuminated pushbutton units. One required for each deck (pair) of contacts.	HW-LH3
Dummy Block with Full Voltage Adaptor		For use with odd number of contacts.	HW-DA1FB
Full Voltage Adaptor		For use with even number of contacts.	TW-DA1FB
Transformer Unit (6V secondary voltage)		120VAC 240VAC 480VAC	TW-F126B TW-F246B TW-F486B

ℹ️ Exposed and spring up terminals also available.

Operators

Style		Button	Part Number
Momentary		Flush (top)	HW7D-*11④-⑤
		Flush (bottom)	
		Flush (top)	HW7D-*12④-⑤
		Extended (bottom)	
Interlock		Flush (top)	HW7D-*21④-⑤
		Flush (bottom)	
		Flush (top)	HW7D-*22④-⑤
		Extended (bottom)	

ℹ️ Instead of * insert:
B: Non-illuminated
L: Illuminated

④Pushbutton Color Code

Color		Code	Color		Code
Top	Green	GR	Top	White	WB
Bottom	Red		Bottom	Black	

Contact Blocks

Style	Contacts	1NO	1NC	Style	Contacts	1NO	1NC
	Standard Fingersafe (IP20)	HW-F10 HW-F10R (early make)	HW-F01 HW-F01R (late break)		Spring-Up Terminal	HW-G10 HW-G10R (early make)	HW-G01 HW-G01R (late break)
	Dummy Block	TW-DB			Exposed Screw Terminal	HW-C10 HW-C10R (early make)	HW-C01 HW-C01R (late break)

Contact Block Mounting Adaptor

Style		Part Number
	Non-illuminated	HW-CB2C
	Illuminated (with Pilot Light)	HW-CBL

ℹ️ 1. Used to mount contact blocks to operator (first pair only).
2. IDEC strongly recommends using the safety lever lock (included) to prevent heavy vibration or maintenance personnel from inadvertently unlocking contacts.

Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

ℹ️ Use with notched panel cutout to prevent unit rotation.

Lamps/Lens

Type		Voltage	Part Number
	LED	6V AC/DC	LSTD-6②
		12V AC/DC	LSTD-1②
		24V AC/DC	LSTD-2②
		120V AC	LSTD-H2②
		240V AC	LSTD-M4②
	Incandescent	6V AC/DC	IS-6
		12V AC/DC	IS-12
		24V AC/DC	IS-24
Non-illuminated			HW9Z-B7B
Illuminated			HW9Z-L7W

ℹ️ 1. In place of ②, specify the LED Color Code.
2. The LED contains a current-limiting resistor and reverse polarity protection diodes.

②LED Color Code

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

ℹ️ Only for LED illumination.

⑤Engraving Codes

Engraving		Code
No Engraving		Blank
I/ON	Top	1
O/OFF	Bottom	

Contact Arrangement Chart

Contact Block Mounting Position Example

Mounting Position 4
Mounting Position 2

Mounting Position 3
Mounting Position 1

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Contact Arrangement			Contact Block		Top Button		Bottom Button	
Top Button	Bottom Button	Contact Code	Mounting Position	Type	Normal	Push	Normal	Push
1NO	1NO	1010	1	NO		X		
			2	NO				X
1NO	1NC	1001	1	NO		X		
			2	NC			X	
1NC	1NO	0110	1	NC	X			
			2	NO				X
1NC	1NC	0101	1	NC	X			
			2	NC			X	
1NO	2NO	1020	1	NO		X		
			2	NO				X
			3	Dummy				
			4	NO				X
1NO	1NO-1NC	1011	1	NO		X		
			2	NO				X
			3	Dummy				
			4	NC			X	
1NO	2NC	1002	1	NO		X		
			2	NC			X	
			3	Dummy				
			4	NC			X	
1NC	2NO	0120	1	NC	X			
			2	NO				X
			3	Dummy				
			4	NO				X
1NC	1NO-1NC	0111	1	NC	X			
			2	NO				X
			3	Dummy				
			4	NC			X	
1NC	2NC	0102	1	NC	X			
			2	NC			X	
			3	Dummy				
			4	NC			X	
2NO	1NO	2010	1	NO		X		
			2	NO				X
			3	NO		X		
			4	Dummy				
2NO	1NC	2001	1	NO		X		
			2	NC			X	
			3	NO		X		
			4	Dummy				
1NO-1NC	1NO	1110	1	NO		X		
			2	NO				X
			3	NC	X			
			4	Dummy				
1NO-1NC	1NC	1101	1	NO		X		
			2	NO			X	
			3	NC	X			
			4	Dummy				
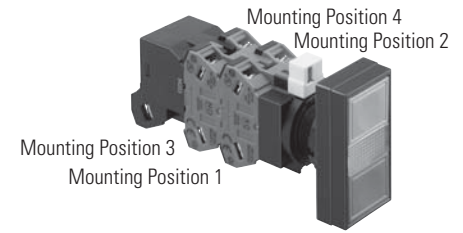
ℹ 1. Transformers can have two or four contact blocks only.
2. Contact blocks 1 and 3 are actuated by the top button. Contact blocks 2 and 4 are actuated by the bottom button.

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Contact Arrangement Chart (con't)

Contact Arrangement			Contact Block		Top Button		Bottom Button	
Top Button	Bottom Button	Contact Code	Mounting Position	Type	Normal	Push	Normal	Push
2NC	1NO	0210	1	NC	X			
			2	NO				X
			3	NC	X			
			4	Dummy				
2NC	1NC	0201	1	NC	X			
			2	NC			X	
			3	NC	X			
			4	Dummy				
2NO	2NO	2020	1	NO		X		
			2	NO				X
			3	NO		X		
			4	NO				X
2NO	1NO-1NC	2011	1	NO		X		
			2	NO				X
			3	NO		X		
			4	NC			X	
2NO	2NC	2002	1	NO		X		
			2	NC			X	
			3	NO		X		
			4	NC			X	
1NO-1NC	2NO	1120	1	NO		X		
			2	NO				X
			3	NC	X			
			4	NO				X
1NO-1NC	1NO-1NC	1111	1	NO		X		
			2	NO				X
			3	NC	X			
			4	NC			X	
1NO-1NC	2NC	1102	1	NO		X		
			2	NC			X	
			3	NC	X			
			4	NC			X	
2NC	2NO	0220	1	NC	X			
			2	NO				X
			3	NC	X			
			4	NO				X
2NC	1NO-1NC	0211	1	NC	X			
			2	NO				X
			3	NC	X			
			4	NC			X	
2NC	2NC	0202	1	NC	X			
			2	NC			X	
			3	NC	X			
			4	NC			X	

Contact Block Mounting Position Example

Mounting Position 4
Mounting Position 2
Mounting Position 3
Mounting Position 1
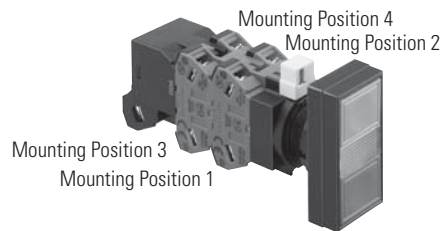
Contactor Reset Button

Reset Buttons (Assembled)

	Plastic Bezel	Metal Bezel
(Blank)	HW1B-M1RS-①T	HW4B-M1RS-①T
Engraved "R"	HW1B-M1RS-①T-ENG-R	HW4B-M1RS-①T-ENG-R

> 1. In place of ① specify Button Color Code.
> 2. 130mm (5.1") overall length.
> 3. 16mm flat base for easy alignment

① Button Color Code

Color	Code	Color	Code
Black	B	White	W
Green	G	Yellow	Y
Red	R	Gray	N
Blue	S		

Contactor Reset Button (Sub-assembled)

Rod	+	Operator	+	Button	=	Completed Unit

Rod

Appearance	Part Number
	HW9Z-RS-TK2141

Operator

Appearance	Plastic	Metal
	HW1B-M0	HW4B-M0

Button

Appearance	Part Number
	HW1A-B1-①

> In place of ①, specify the Button Color Code from table.

① Button Color Code

Color	Code	Color	Code
Black	B	White	W
Green	G	Yellow	Y
Red	R	Gray	N
Blue	S		

Switches & Pilot Lights

Display Lights

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Circuit Breakers

Nameplates - HW Series

HWAM–Black Plastic	HWAQ–Black Plastic	HWAS–Black Plastic	HWAV–Yellow Plastic

	HWAM–Black Plastic	HWAQ–Black Plastic	HWAS–Black Plastic	HWAV–Yellow Plastic
Nameplate (blank engraving plate included)	HWAM-OB	HWAQ-OB	HWAS-OB	HWAV-0 HWAV5-0†
Nameplate (engraved)	HWAM-①	HWAQ-①	HWAS-①	HWAV-27* HWAV5-27†
Additional Insert (blank)	HWNP-O	HWNP-O	HWNP Dimensions	
Additional Insert (engraved)	HWNP-①	HWNP-①		

1. In place of ①, insert either the standard legend code from table below or custom engraving delimited by " ".
2. Standard engravings are available at no charge.
3. * HWAV-27 comes engraved "Emergency Stop" as shown in drawing.
4. † HWAV5-27 and HWAV5-0 for 60mm diameter E-Stops (80mm diameter nameplate).

Standard Legend Codes

Pushbuttons				Pushbuttons/Selector Switches				Selector Switches	
Legend	Code	Legend	Code	Legend	Code	Legend	Code	Legend	Code
AUTO	101	OPEN	116	AUTO-MAN	201	REV-FOR	216	AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202	RUN-JOG	217	AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203	RUN-SAFE	218	CLOSE-OFF-OPEN	303
EMERG.STOP	104	RESET	119	FAST-SLOW	204	SAFE-RUN	219	DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	SLOW-FAST	220	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	START-STOP	221	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	STOP-START	222	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	UP-DOWN	223	LOWER-OFF-RAISE	308
IN	109	STOP	125	LEFT-RIGHT	209	OI (Int'l OFF ON)	250	OFF-MAN-AUTO	309
INCH	110	TEST	126	LOWER-RAISE	210			OFF-SLOW-FAST	310
JOG	111	UP	127	MAN-AUTO	211			OFF-1-2	311
LOW	112	I (Int'l On)	150	OFF-ON	212			OPEN-OFF-CLOSE	312
LOWER	113	O (Int'l Off)	151	ON-OFF	213			SLOW-OFF-FAST	313
OFF	114	EMO	152	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115			RAISE-LOWER	215			UP-OFF-DOWN	315
								1-OFF-2	316
								HAND-OFF-AUTO	317

1. To order engraved nameplates, add legend code to nameplate part number.
2. Character height based on the number of characters and size of nameplate. Standard character size is 3/16".
3. Nameplates with standard legends are the same list price as blank nameplates.
4. Nameplates have built-in anti-rotation feature for use with notched panel cut-outs. Additional anti-rotation ring (HW9Z-RL) is not necessary.

Nameplates Order Form — HW Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired.

To insure engraving accuracy, fax it to your IDEC representative or Distributor.

Your Company: _____ IDEC Rep/Distributor Contact: _____

Name: _____ PO number (if known): _____

Telephone: _____ IDEC Rep/Distributor Phone: _____

Fax & Email: _____ IDEC Rep/Distributor Fax & Email: _____

HWAM Nameplate
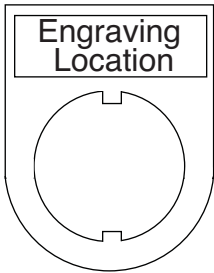
Step 1.
Choose Letter Size - 7/64" or 1/8".
Check the box for the letter size you want. Then write your lettering in box below the check boxes. Note: 1/8" size letters cannot exceed 9 characters.

7/64" Letter Size ☐ — 11 characters maximum (for 7/64" size letters)
1/8" Letter Size ☐ — 9 characters maximum (for 7/8" size letters)

Step 2.
Specify Quantity.
Enter the number of nameplates desired in the box on the right. [Qty]

Sample Letter Sizes
7/64" Letters: A B C D
1/8" Letters: A B C D

HWAQ Nameplate
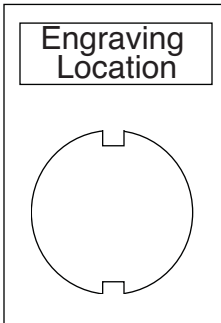
Step 1.
Choose Letter Size - 7/64" or 1/8".
Check the box for the letter size you want. Then write your lettering in box below the check boxes. Note: 1/8" size letters cannot exceed 9 characters.

7/64" Letter Size ☐ — 11 characters maximum (for 7/64" size letters)
1/8" Letter Size ☐ — 9 characters maximum (for 7/8" size letters)

Step 2.
Specify Quantity.
Enter the number of nameplates desired in the box on the right. [Qty]

Sample Letter Sizes
7/64" Letters: A B C D
1/8" Letters: A B C D

HWAS Nameplate
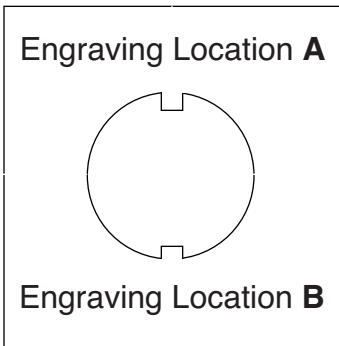
Step 1.
Choose Letter Size - 3/22" or 1/8".
Check the box for the letter size you want. Then write your lettering in box below the check boxes. Note: 1/8" size letters cannot exceed 9 characters.

3/32" Letter Size ☐ — 20 characters maximum (for 3/32" size letters)
1/8" Letter Size ☐ — 14 characters maximum (for 7/8" size letters)

Step 2.
Specify Quantity.
Enter the number of nameplates desired in the box on the right. [Qty]

Step 3.
Specify Location.
Enter the location of engraving (A or B), in box on the right. [Location]

Sample Letter Sizes
3/32" Letters: A B C D
1/8" Letters: A B C D

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Switch Engraving Order Form – HW Series

Copy this order form and use it to specify Letter Height, Maximum Number of Lines and Text to be engraved.

To insure engraving accuracy, fax it to your IDEC representative or Distributor.

Your Company: _____   Telephone: _____

Name: _____   Fax: _____

Address: _____   Email: _____

PO: _____   Part Number to be Engraved: _____

Please check one of the boxes below to indicate your choice of engraving options:

Square Switch
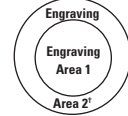
	# of Lines	Letter Height	Max. Characters Per Line
☐	1	5/32	5
☐		1/8	6
☐	2	5/32	5
☐		1/8	6
☐	3	1/8	6
☐	4	3/32	5

Round Switch

	# of Lines	Letter Height	Max. Characters Per Line
☐	1	5/32	5
☐		1/8	5
☐	2	5/32	5
☐		1/8	6
☐	3	1/8	5
☐	4	3/32	5

ø29mm, ø40mm Mushroom Head

Engraving

Engraving Area 1

Area 2†

		# of Lines	Letter Height	Max. Characters Per Line
☐	Engraving Area 1	1	5/32	5
☐			1/8	5
☐	Engraving Area 2	1	5/32	7
☐			1/8	7

1. Above mentioned specifications hold true for standard size pushbuttons (round and square).
2. †Engraving Area 2 can be engraved for 40mm mushroom Head non-Illuminated push button only.
3. Engraving is done on the button itself for non-Illuminated push buttons and on marking plate for illuminated push buttons and pilot lights.
4. Please enter text exactly how you want it engraved, take care to emphasize capital or small letters.

Enter text to be engraved:

Line 1: _____

Line 2: _____

Line 3: _____

Line 4: _____

Sample Letter Sizes

1/8 Letters: OPEN

5/32 Letters: OPEN

For IDEC Internal Use Only:

Work Order #: _____

Accessories

	Appearance	Description/Usage	Part Number	
Locking Ring Wrench		Metallic tool used to tighten the plastic locking ring when installing the HW series in a panel	MW9Z-T1	
Lamp/LED Removal Tool		Rubber tool makes lamp/LED removal easier.	OR-55	
Anti-Rotation Ring		Prevents rotation of switches in panel. (included with all assembled switches except pilot lights)	for notched panel cutout (standard)	HW9Z-RL
			for round panel cutout	LW9Z-L
Rubber Mounting Hole Plug		Black rubber plug fills unused 7/8" mounting holes in panel.	OB-31	
Metallic Mounting Hole Plug		For plugging unused 7/8" mounting holes in the panel. Tighten the attached locking ring to a torque of 12 kfg-cm maximum. Degree of protection: IP66	LW9Z-BM	
Barrier		To prevent contact between adjacent lead wires when buttons or switches are tightly mounted close together.	HW-VL1	
Pushbutton Clear Boot		Used to cover and protect pushbuttons. Operating temperature: –50 to +60°C	Flush Pushbuttons	OC-31
			Extended Pushbuttons	OC-32
Padlock Cover		Plastic hinged padlockable cover to protect pushbuttons or selector switches. (Not intended for E-Stops) Degree of protection: IP65	HW9Z-KL1	
Tab Terminal Adapter		Tab #250 (6.35 x 0.8mm): Single tab	TW-FA1	
Mounting Adaptor		Used to mount round HW series (except Jumbo Mushroom, unibody, and square units) into a larger panel cut-out. (includes both pieces)	22 to 30mm	HW9Z-A30
			22 to 25mm	HW9Z-A25
Replacement Safety Lever Lock		Used to prevent contact mounting lever from moving due to heavy vibration or panel maintenance. (included with all Contact Block Mounting Adaptors)	HW9Z-LS	
Reset Rod for Contactors Overload		5" rod used with HW1B-M0.	HW9Z-RS-TK2141	
Replacement Operator Washer		Provided with operator. Insert between bezel and locking ring.	HWM-WASHER	
Replacement Locking Ring		Plastic locking nut comes with all HW operators & assemblies.	Standard (plastic)	HW9Z-LN
			Optional (metal)	HW9Z-LNM
Switch Cover (Square)		Used only with round or square flush pushbuttons.	HW9Z-K1 (spring return) HW9Z-K11 (maintained cover)	
Replacement Keys		Pair of Keys (#231)	HW9Z-SKP	

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

	Appearance	Description/Usage	Part Number
Replacement Lens		HW Illuminated Unibody Replacement Lens	HWLV-LENSR
Replacement Jumbo Dome Lens		Polycarbonate Replacement Lens	HW1A-P5① ① = (A, G, R, S, W, Y)
Replacement Jumbo LED Diffusing Lens			HW9Z-PP5C
Replacement LED Lamps for HW Jumbo Dome		Replacement LED Lamp - applicable for jumbo pilot lights only	LSTDB-2① ① = (A, G, R, S, W, Y)
Rubber Cover for Dual Pushbuttons		Clear Silicon rubber cover	HW9Z-D7D
Barrier for Dual Pushbuttons		Plastic barrier. Used when mounting the HW7 units on 30mm horizontal centers, to prevent possible interconnections between adjoining terminals.	HW-VG1
EMO Sticker	**EMO**	Emergency stop nameplate sticker	HW9Z-EMO-NP-TK2120

E-Stop Shrouds

Style	Part Numbers	E-Stop Types	Applicable Standards	Style	Part Numbers	E-Stop Types	Applicable Standards
	HW9Z-KG1	40mm Mushroom Head	SEMI S2-0703, 12.5.1 Compliant		HW9Z-KG3	40mm Mushroom Head	SEMI S2 Compliant (Approved by TUV)
	HW9Z-KG2	40mm, and 60mm Mushroom Head	SEMI S2-0703, 12.5.1 & SEMATECH Compliant		HW9Z-KG4	40mm Mushroom Head	SEMI S2 Compliant (Approved by TUV) & SEMATECH

Contact Assemblies

Standard Contact Assemblies
For use with Non-Illuminated Pushbuttons & E-Stops

Style	Contacts	Part Number
Standard Fingersafe Contacts	1NO	HW-CBF10
	1NC	HW-CBF01
	1NO/1NC	HW-CBF11
	2NO	HW-CBF20
	2NC	HW-CBF02
	2NO/2NC	HW-CBF22
Spring Up Terminal Contacts	1NO	HW-CB10
	1NC	HW-CB01
	1NO/1NC	HW-CB11
	2NO	HW-CB20
	2NC	HW-CB02
	2NO/2NC	HW-CB22

Gold contact option is available for spring-up terminals. Add suffix "MAU" to end of part number. For example, HW-CB20 becomes HW-CB20-MAU.

Full Voltage Contact Assemblies
For use with Illuminated Pushbuttons.

Style	Contacts	Part Number
	1NO	HW-FL10Q0
	2NO	HW-FL20Q0
	1NO/1NC	HW-FL11Q0
	1NC	HW-FL01Q0
	2NC	HW-FL02Q0

Order lamp separately.

Transfomer Contact Assemblies
For use with Illuminated Pushbuttons.

Style		Contacts	Part Number
	120V AC with LED	1NO 2NO 1NC 1NO/1NC	HW-FL10H2-② HW-FL20H2-② HW-FL01H2-② HW-FL11H2-②
	240V AC with LED	1NO 2NO 1NC 1NO/1NC	HW-FL10M4-② HW-FL20M4-② HW-FL01M4-② HW-FL11M4-②
	480V AC with LED	1NO 2NO 1NC 1NO/1NC	HW-FL10T8-② HW-FL20T8-② HW-FL01T8-② HW-FL11T8-②
	120V AC with Incandescent	1NO 2NO 1NC 1NO/1NC	HW-FL10H2 HW-FL20H2 HW-FL01H2 HW-FL11H2
	240V AC with Incandescent	1NO 2NO 1NC 1NO/1NC	HW-FL10M4 HW-FL20M4 HW-FL01M4 HW-FL11M4

1. In place of ②, specify the LED Color Code.
   ② = A, G, R, S, W or Y

2. 6V LED or incandescent lamp included.

Dimensions (mm)

Non-illuminated Pushbuttons

Flush (HW1B-M1, -A1)
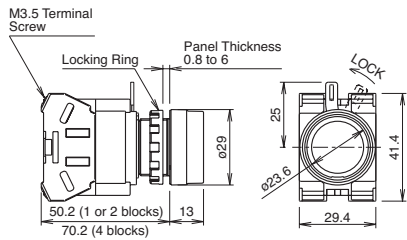
Extended (HW1B-M2, -A2)
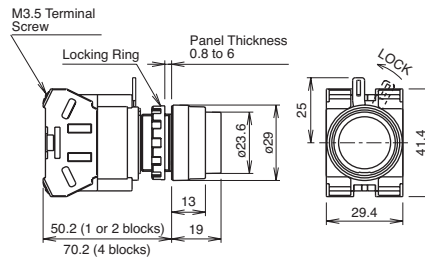
ø29mm Mushroom (HW1B-M3 -A3)
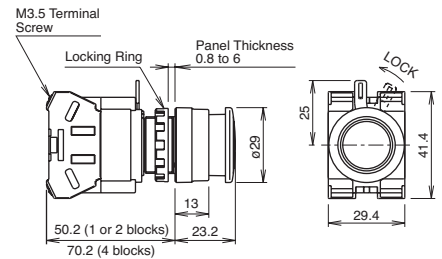
ø40mm Mushroom (HW1B-M4, -A4)
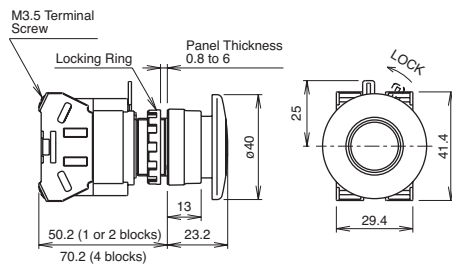
ø60mm Mushroom (HW1B-M5)
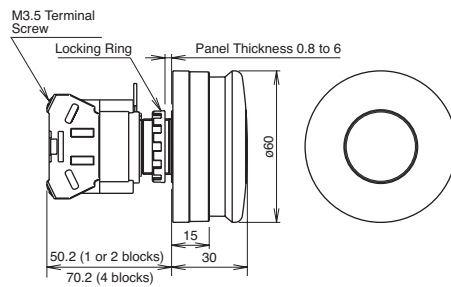
Square Flush (HW2B-M1, -A1)
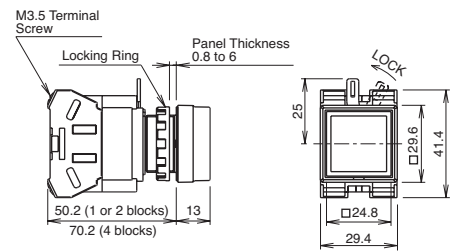
Square Extended (HW2B-M2, -A2)
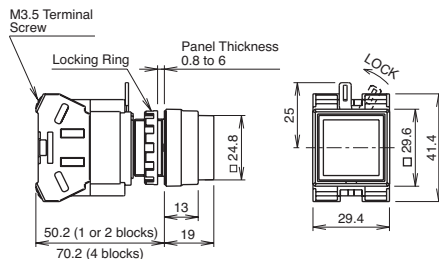
Contact Block (Bottom View)
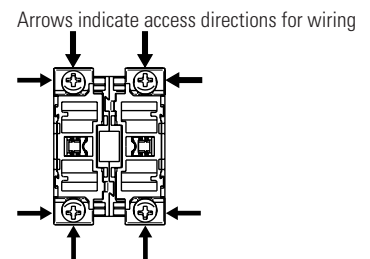
1 contact block   2 contact blocks
4 contact blocks

Terminal Wiring

Arrows indicate access directions for wiring

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Operators

Dimensions (mm)

Flush (Round & Square)

Panel Thickness 0.8 to 6

Round   Square

LOCK

25
41.4
ø23.6
25
□29.6
41.4

13
29.4
□24.8
29.4

Extended

LOCK

ø23.5
ø23.6
25
41.4

13
18.5
29.4
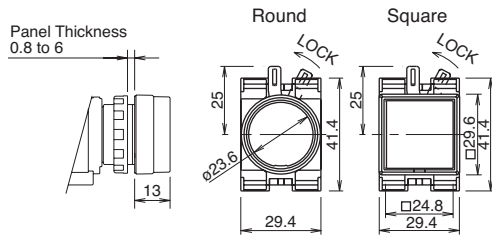
Extended

Extended with Full Shroud

LOCK

ø29.5
ø23.6
25
41.4

18.5
29.4

ø40mm Mushroom

LOCK

ø40
25
41.4

13
23.2
29.4
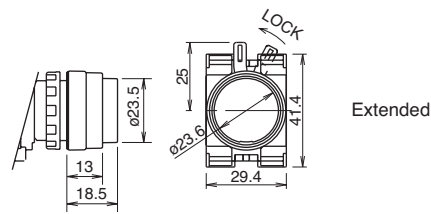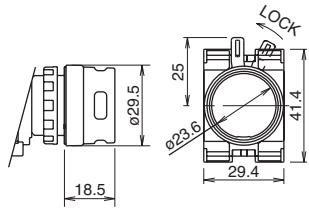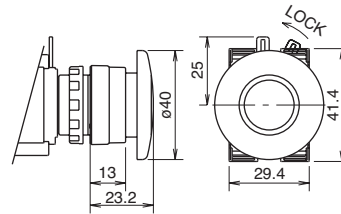
Emergency Stop Pushbuttons

Dimensions (mm)

ø29mm Head Pushlock Turn Reset (HW1B-V3)
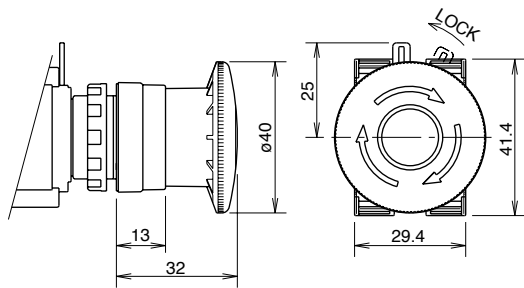
Panel Thickness 0.8 to 6
Gasket
Terminal Screw M3.5
Locking Ring

LOCK

1 contact block   2 contact blocks   4 contact blocks

ø29
25
41.4

50.2 (1 or 2 blocks)   13
70.2 (4 blocks)   32
29.4

ø40mm Head Pushlock Turn Reset (HW1B-V4)

LOCK

ø40
25
41.4

13
32
29.4

ø40mm Head EMO Pushlock Turn Reset (HW1B-V4)

Locking Ring
LOCK   Lock Lever
ø40

26.5
25
20
41.4

EMO

50.2 (1 or 2 blocks)   13
70.2 (4 blocks)   32
29.4

ø40mm Head Pushlock Key Reset (HW1B-X4)

LOCK

ø40
25
41.4

13
32
49.4
29.4

ø60mm Head Pushlock Turn Reset (HW1B-V5)

ø60

15
34.5
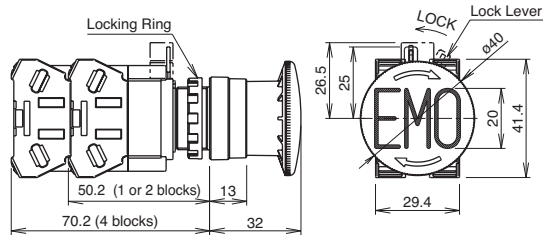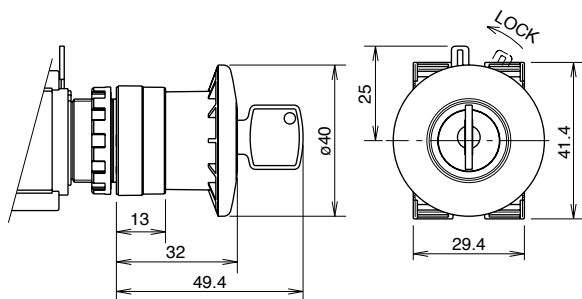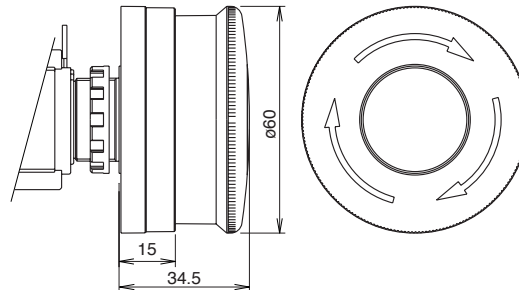
ø40mm Head Push-Pull (HW1B-Y2)

LOCK
ø40
25
41.4
13
25.5
29.4
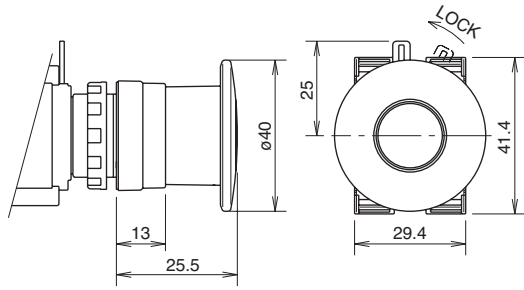
ø40mm Head Unibody Pushlock Turn Reset (HW1B-BV4)

Panel Thickness 0.8 to 6
M3.5 Terminal Screw
Gasket
Locking Ring
ø40
TOP Marking
Terminal Cover
11.5 14
46
48
32
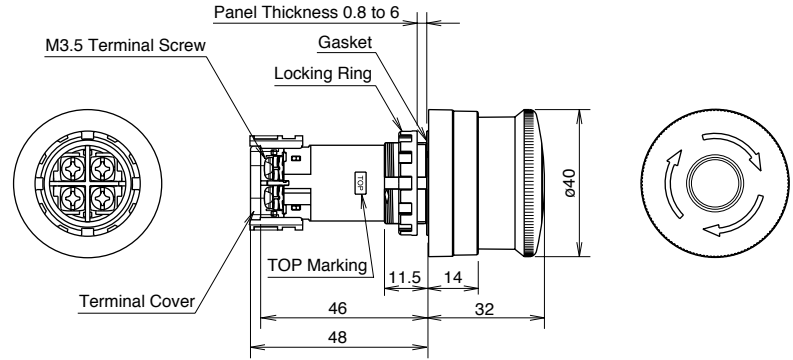
Illuminated E-Stop Pushbuttons (HW1E-LV4)

Panel Thickness 0.8 to 6
M3.5 Terminal Screw
Gasket
Locking Ring
TOP Marking
ø40
M3.5 Terminal Screw
Lamp Terminal
Terminal Cover
11.5 14
61
63
32

Mounting Hole

R0.8 max.
3.2 +0.2/0
ø22.3 +0.4/0
24.1 +0.4/0
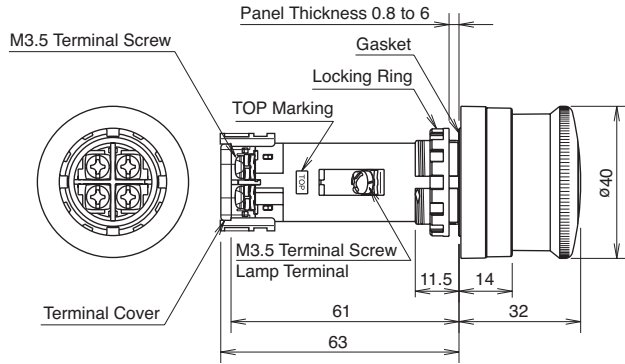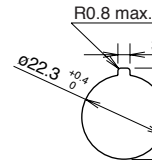
The minimum mounting centers shown below are applicable to E-Stop switches with one layer of contact blocks (two contact blocks). When two layers of contact blocks are mounted, determine the minimum mounting centers for ease of wiring.
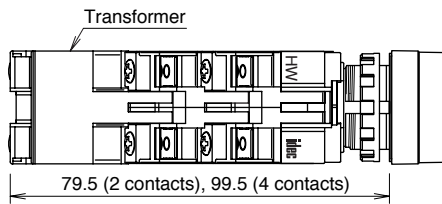
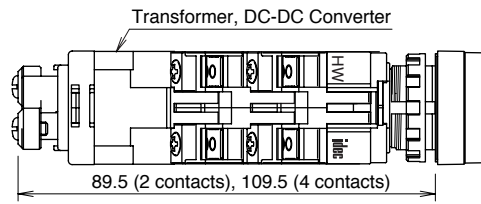| Unit	Vertical Spacing	Horizontal Spacing
HW1B-V3 HW1B-V4 HW1B-X4 HW1B-Y2	50 mm	50 mm
HW1B-V5	60 mm	60 mm

Terminal Arrangement (Bottom View)

HW1E-BV4 Side
.2 (NC) 3 (NO)
1 (NC) 4 (NO)
(1NO-1NC)

HW1E-LV4 TOP
X1
LAMP
2 (NC) 3 (NO)
1 (NC) 4 (NO)
X2
(1NO-1NC)
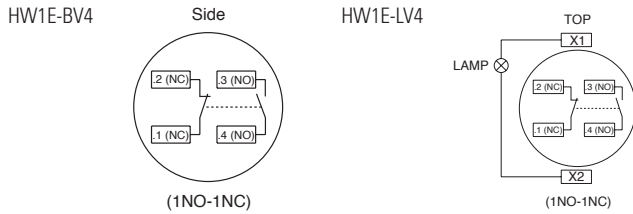
Emergency Stop Stations

Dimensions (mm)

76
□76
A 59.5
HW1B-V4R
Box Cover Mouting Screws
Box Cover Box Base
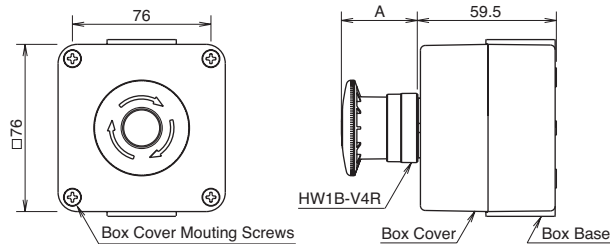
Operator	Dimension A (mm)
Pushlock Turn Reset	32
Pushlock Key Reset	32 (Key inserted: 49.4)
Push Pull	25.5

Mounting Hole Layout

4-M4 Tapped Holes for Rear Mounting (Depth: 10 mm)
2-Front Mounting Holes
ø14 Knockout
21 21 41
2-ø4.6
15.5
62

Switches & Pilot Lights | **Display Lights** | **Relays & Sockets** | **Timers** | **Terminal Blocks** | **Circuit Breakers**

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Pilot Lights

Dimensions (mm)

Full Voltage

Panel Thickness 0.8 to 6
Gasket
Locking Ring
M3.5 Terminal Screw

Flush   Dome   Round/Dome   Square Flush

ø29

0.5   17.5   □29.6
44.7   7

Transformer

M3.5 Terminal Screw

Flush   Dome   Round/Dome   Square Flush

24   29.6   72.1   7   17.5   ø29   □29.6

DC-DC Converter

M3.5 Terminal Screw

Flush   Dome   Round/Dome   Square Flush

24   29.6   76.2   7   17.5   ø29   □29.6

Mounting Hole Layout

Close mounting on 30mm centers
Degree of protection: IP65

ø22.3 +0.4/0
30 min.   30 min.
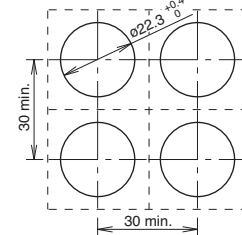
When mounting transformer or DC-DC converter type units on 30mm centers vertically and horizontally, keep the ambient temperature below 40ºC.

Jumbo Dome Pilot Lights

Panel Thickness 1 to 5
M3.5 Terminal Screw
Locking Ring
Rubber Gasket

ø66

0.5   34.4   50.5

LED Lamp LSTDB

Light blue: LSTDB
Base BA9S/13
Illumination Color
ø10.6   20.4

Incandescent Lamp LSB

Base BA9S/13
ø10+1   27±2

Mounting Hole Layout

R0.8 max.   3.2 +0.2/0
ø22.3 +0.4/0   24.1 +0.4/0
85   85
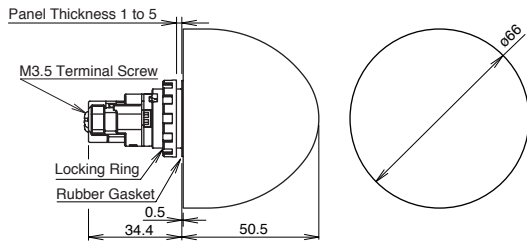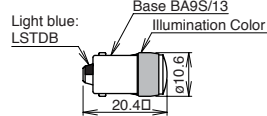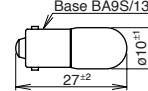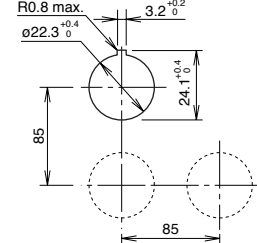
Illuminated Pushbuttons
Full Voltage Models

1 Contact Block
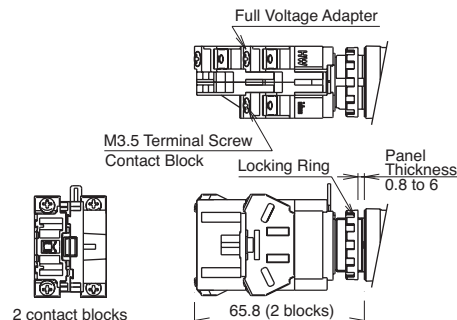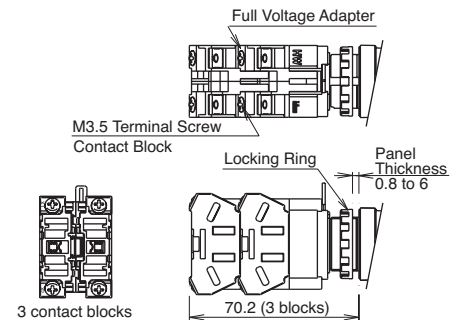
Full Voltage Adapter
M3.5 Terminal Screw
Contact Block
Locking Ring
Panel Thickness 0.8 to 6
1 contact block
50.2 (1 block)

2 Contact Blocks

Full Voltage Adapter
M3.5 Terminal Screw
Contact Block
Locking Ring
Panel Thickness 0.8 to 6
2 contact blocks
65.8 (2 blocks)

3 Contact Blocks

Full Voltage Adapter
M3.5 Terminal Screw
Contact Block
Locking Ring
Panel Thickness 0.8 to 6
3 contact blocks
70.2 (3 blocks)

Illuminated Pushbuttons con't
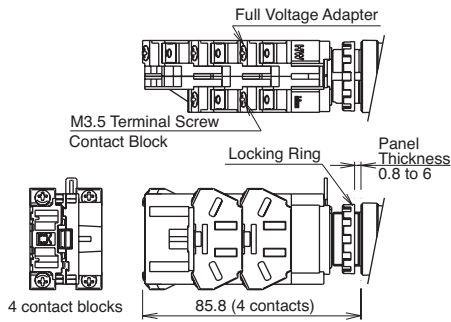
Dimensions (mm)

4 Contact Blocks

Full Voltage Adapter

M3.5 Terminal Screw
Contact Block

Locking Ring

Panel Thickness 0.8 to 6

4 contact blocks — 85.8 (4 contacts)

Terminal Wiring
Arrows indicate access directions for wiring.

**Contact Block
Full Voltage Adaptor**

Tranformer

X1 X2

Transformer Models

X1 X2

M3.5 Terminal Screws

89.7 (2 blocks)
109.5 (4 blocks)

DC-DC Converter Models

X1

X2

M3.5 Terminal Screw

Safety Lever Lock

Locking Ring
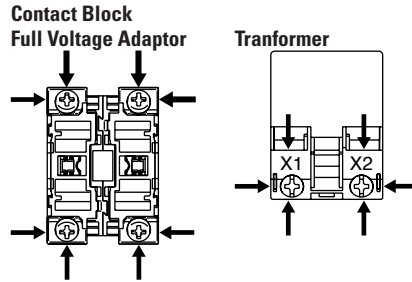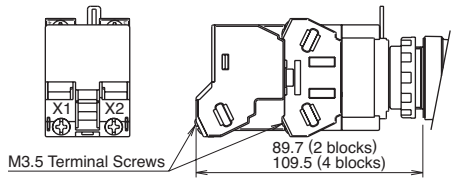
89.5 (2 blocks)
109.5 (4 blocks)
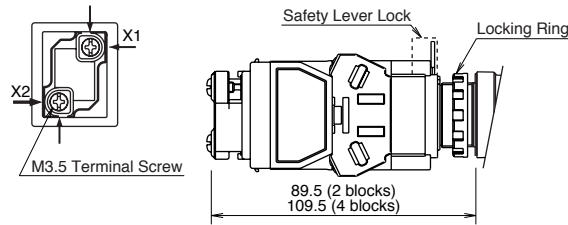
Non-illuminated Selector & Key Switches

Dimensions (mm)

Knob Operator
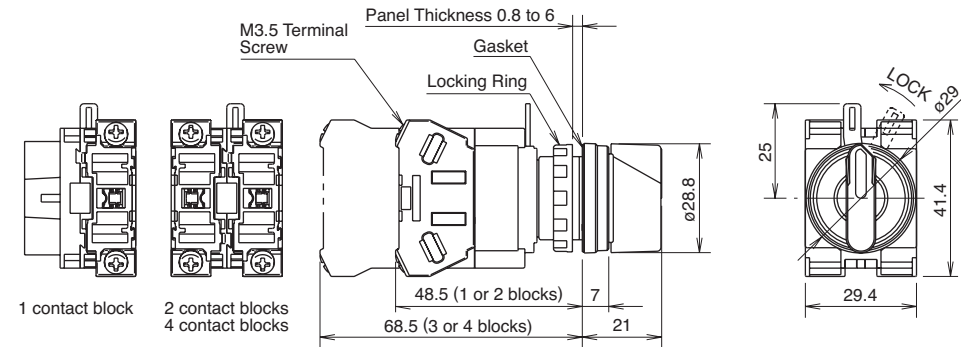
Panel Thickness 0.8 to 6

M3.5 Terminal Screw

Gasket

Locking Ring

1 contact block

2 contact blocks
4 contact blocks

48.5 (1 or 2 blocks) — 7
68.5 (3 or 4 blocks) — 21

ø28.8

LOCK ø29

25

41.4

29.4

Terminal Wiring

Arrows indicate access directions for wiring.

**Contact Block
Full Voltage Adaptor**

Key Operator

13
30.5

17

LOCK ø29.4

25

41.4

29.4

Tranformer

X1 X2
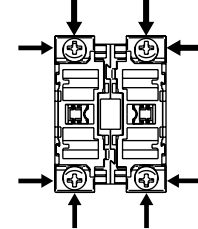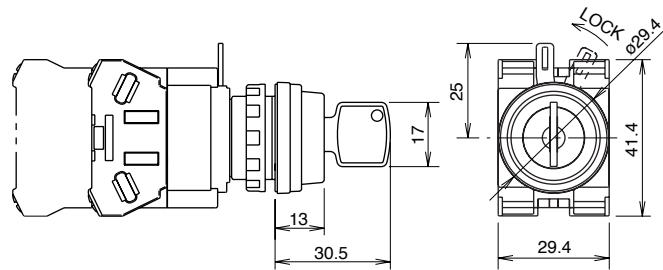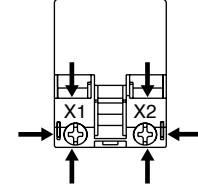
Illuminated Selector Switches

Full Voltage Model
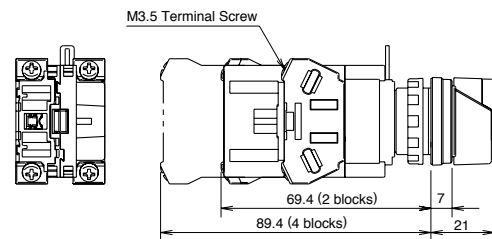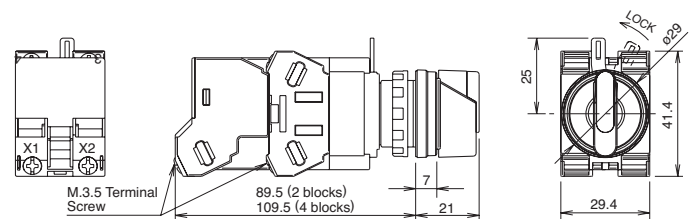
M3.5 Terminal Screw

69.4 (2 blocks) — 7
89.4 (4 blocks) — 21

25

41.4

LOCK ø29

29.4

Transformer Model

X1 X2

M3.5 Terminal Screw

89.5 (2 blocks)
109.5 (4 blocks)

7

21

25

41.4

LOCK ø29

29.4

Side tabs: Switches & Pilot Lights | Display Lights | Relays & Sockets | Timers | Terminal Blocks | Circuit Breakers

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Dual Pushbutton

Dimensions (mm)

Without Pilot Light

49.4 (2 contacts)
69.4 (3 or 4 contacts)

Panel Thickness 0.8 to 6
Safety Lever Lock
Locking Ring
HW
Rubber Gasket
41.4
0.5
14.5
20

Without Button Markings

54.8
29.8

With Button Markings (I/ON and O/OFF)

ON
OFF
54.8
29.8

Mounting Hole Layout

R0.8 max.
$*3.2^{+0.2}_{0}$
$\varnothing22.3^{+0.4}_{0}$
$24.1^{+0.4}_{0}$
55^{**}
30
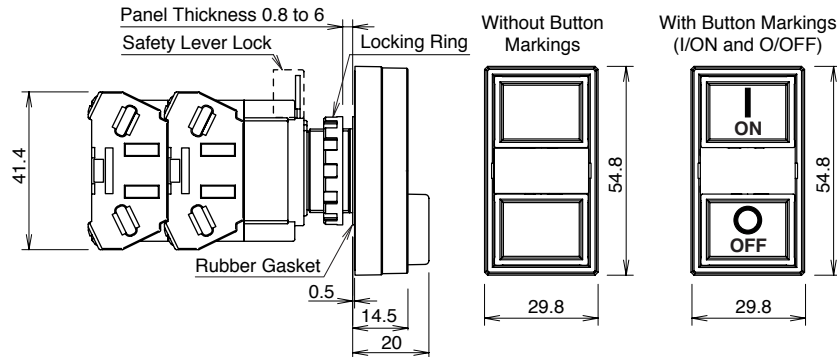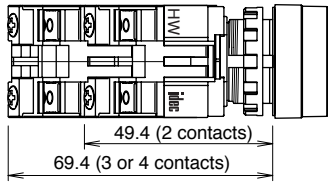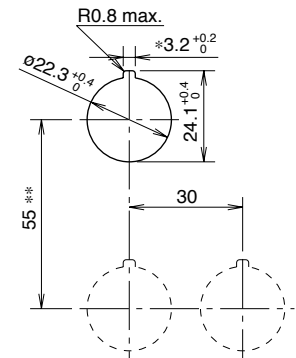
-The 3.2 mm recess is for preventing rotation and is not necessary when a nameplate or anti-rotation ring is not used.
-When using the safety lever lock, determine the vertical spacing in consideration of convenience for installing and removing the safety lever lock.
-Recommended vertical spacing: 100 mm
-The minimum mounting centers are applicable to switches with one layer of contact blocks (two contact blocks). When two layers of contact blocks are mounted, determine the minimum mounting centers for ease of wiring.

With Pilot Light

Full Voltage

Full Voltage Adapter
HW
(Bottom Button)
(Top Button)
69.4 (2 contacts), 89.4 (4 contacts)
(Note)
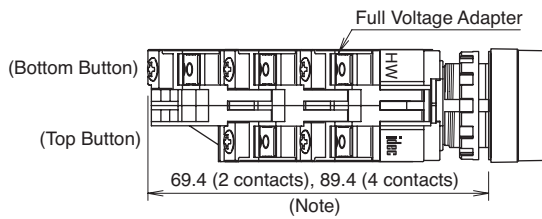
The depth of a 3-contact model depends on the combination of contact blocks at top and bottom pushbuttons.

Top Button	1 contact block	2 contact blocks
Bottom Button	2 contact blocks	1 contact block
Depth	89.4 mm	69.4 mm

Transfomer (240V minimum)

Transformer
HW
79.5 (2 contacts), 99.5 (4 contacts)

Transformer (480V)

Transformer, DC-DC Converter
HW
89.5 (2 contacts), 109.5 (4 contacts)

Monolever

Dimensions (mm)

M3.5 Terminal Screw
Locking Ring
Panel Thickness 0.8 to 6
LOCK
$\varnothing34.2$
25
41.4
49.4 (2 blocks)
8
69.4 (4 blocks)
72
29.4
24°
36 max.
24°
36 max.
45.5

Accessory Dimensions

LW9Z-BM
Metallic Mounting Hole Plug

ø25.8
3
12
Gasket
Locking Ring
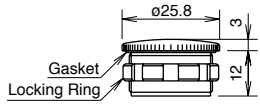
OB-31
Rubber Mounting Hole Plug

ø29
3.5
3.5
ø25
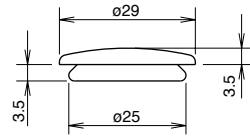
HW9Z-RL
Anti-Rotation Ring

1.5
TOP
ø29
ø22
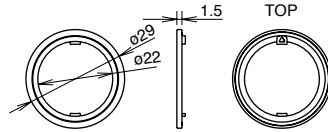
OR-55
Lamp/LED Removal Tool

ø11.6
59
ø14
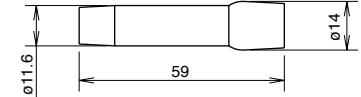
HW9Z-D7D
Dual Pushbutton Rubber Cover

33
22.5
58
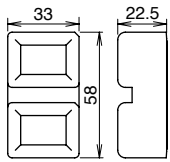
HW-VG1
Dual Pushbutton Barrier

45
20
1.5
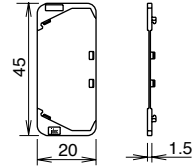
MW9Z-T1
Locking Ring Wrench

110
ø28

HW-VL1
Barrier

45
20
1.5

HW9Z-KL1
Padlock Cover

82.5
Panel Thickness 0.8 to 3.2
R66.5
93
30
70
24
ø50
ø22.2
(ID. ø44.4)
Key Hole ø8
29.5
30
Waterproof Rubber Gasket 0.5t
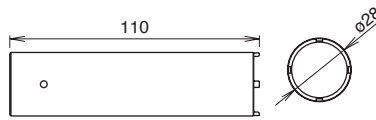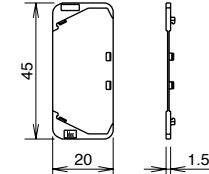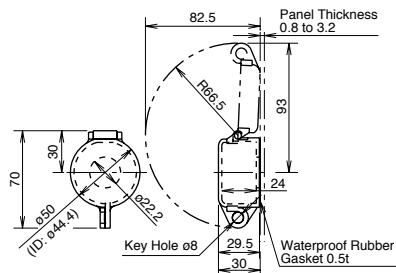
HWLS-TK1971
Safety Lever Lock
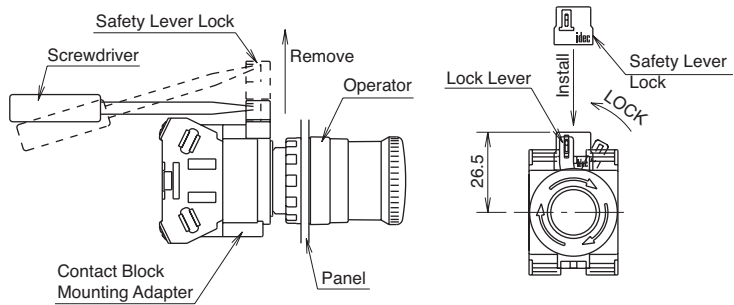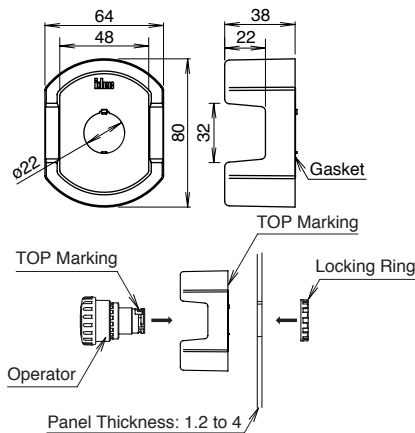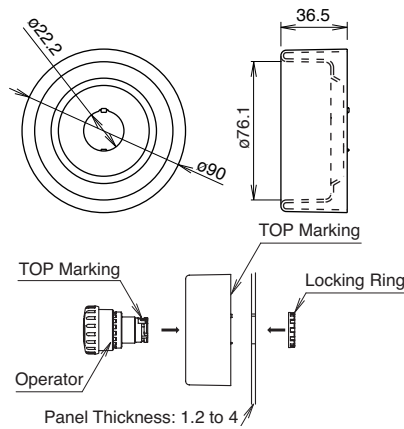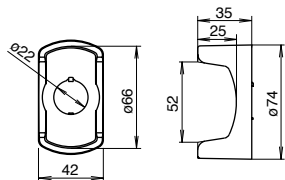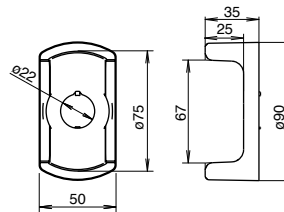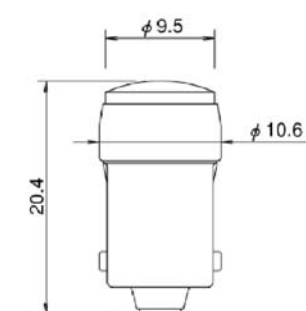
Safety Lever Lock
Screwdriver
Remove
Operator
Contact Block Mounting Adapter
Panel
Install
Lock Lever
Safety Lever Lock
LOCK
26.5

HW9Z-KG1

64
48
38
22
80
32
ø22
Gasket
TOP Marking
TOP Marking
Locking Ring
Operator
Panel Thickness: 1.2 to 4

HW9Z-KG2

ø22.2
36.5
ø76.1
ø90
TOP Marking
TOP Marking
Locking Ring
Operator
Panel Thickness: 1.2 to 4

HW9Z-KG3

35
25
ø22
ø66
52
ø74
42

HW9Z-KG4

35
25
ø22
ø75
67
ø90
50

LSTD

ø9.5
ø10.6
20.4

Switches & Pilot Lights

Display Lights

Relays & Sockets

Timers

Terminal Blocks

Circuit Breakers

Specification Charts

Inductive

DC Voltages

Voltage V	24	48	110
Current A	4	2	1.1

AC Voltages

Resistive

DC Voltages

Voltage V	24	48	110
Current A	8	4	2.2

AC Voltages
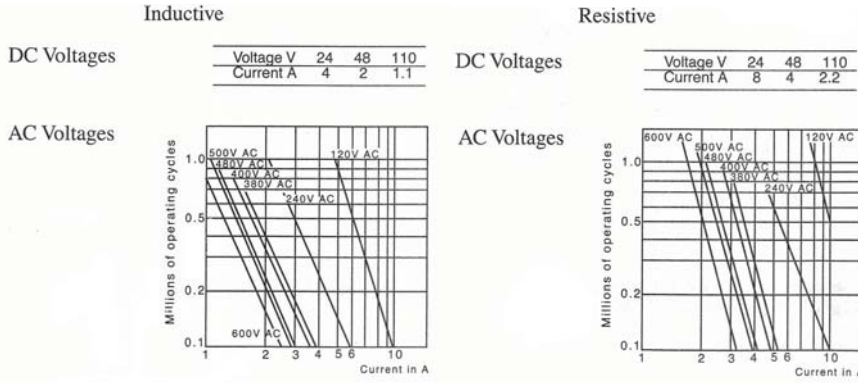
Conforming to IED 947-5-1 Appendix C.
Utilization categories AC-15 and DC-13.
Operation rate: 1,800 op. hour
Load factor:
  Inductive 0.4 ± 0.05
  Resistive 0.9 ± 0.05

Operator Truth Tables

2 Position Selector Switches

Contact	Mounting Position	Operator Position	
		Left	Right
HW-F10 (NO)	L	0	X
	R	0	X
HW-F01 (NC)	L	X	0
	R	X	0
HW-F10R (NO-EM)	L	0	—X
	R	0	—X
HW-F01R (NC-LB)	L	X—	0
	R	X—	0

HW1S-2T
HW1K-2*
HW1F-2

3 Position Selector Switches

Contact	Mounting Position	Operator Position		
		Left	Center	Right
HW-F10 (NO)	L	X	0	0
	R	0	0	X
HW-F01 (NC)	L	0	X—	—X
	R	X—	—X	0
HW-F10R (NO-EM)	L	X—	0	0
	R	0	0	—X
HW-F01R (NC-LB)	L	0	X—	—X
	R	X—	—X	0

HW1S-3T
HW1K-3*
HW1F-3

Contact	Mounting Position	Operator Position		
		Left	Center	Right
HW-F10 (NO)	L	X	0	0
	R	0	0	X
HW-F01 (NC)	L	0	0	X
	R	X	0	0
HW-F10R (NO-EM)	L	X—	—X	0
	R	0	X—	—X
HW-F01R (NC-LB)	L	0	X—	—X
	R	X—	—X	0

HW1S-3ST
HW1K-3S*

3 Position Selector Switches con't

Contact	Mounting Position	Operator Position		
		Left	Center	Right
HW-F10 (NO)	L	X	0	0
	R	0	0	X
HW-F01 (NC)	L	0	X	0
	R	0	X	0
HW-FC10R (NO-EM)	L	X	0	X
	R	X—	0	—X
HW-F01R (NC-LB)	L	0	X—	—X
	R	X—	—X	0

HW1S-3JT
HW1K-3J*

4 Position Selector Switches

Contact	Mounting Position	Operator Position			
		1	2	3	4
HW-F10 (NO)	L	X	0	0	0
	R	0	0	0	X
HW-F01 (NC)	L	0	0	X	0
	R	0	X	0	0
HW-F10R (NO-EM)	L	—X	X	0	X
	R	X	0	—X	X
HW-F01R (NC-LB)	L	0	X—	—X	X
	R	X—	—X	X	0

HW1S-4T

5 Position Selector Switches

Contact	Mounting Position	Operator Position				
		1	2	3	4	5
HW-F10 (NO)	L	X	0	0	0	0
	R	0	0	0	0	X
HW-F01 (NC)	L	0	0	0	X	0
	R	0	X	0	0	0
HW-F10R (NO-EM)	L	X—	—X	X	0	X
	R	X	0	X—	—X	X
HW-F01R (NC-LB)	L	0	X—	X—	—X	X
	R	X—	X—	X—	X	0

HW1S-5T

i

1. Mounting position indicates which side of operator each contact should be mounted (as viewed from the front of the panel).
2. *For key removable code see page 528.
3. HW1S-3T is identified by white plungers on the operator.
4. HW1S-3ST is identified by red plungers on the operator.
5. HW1S-3JT is identified by black plungers on the operator.

HW Safety Precautions

Turn off power to HW series control units before starting installation, removal, wiring, maintenance, and inspection of the products. Failure to turn power off may cause electrical shocks or fire hazard.

To avoid the possibility of burning yourself, use the lamp holder tool when replacing lamps.

For wiring, use wires of a proper size to meet voltage and current requirements. Tighten the M3.5 terminal screws to a tightening torque of 1.0 to 1.3 N·m. Failure to tighten terminal screws may cause overheating and fire.

HW General Instructions

Panel Mounting
Remove the contact block assembly from the operator (for transformer type pilot lights, remove the transformer from the illumination unit). Remove the locking ring from the operator. Insert the operator into the panel cut-out from the front, tighten the locking ring from the back, then install the contact block assembly to the operator.

Removing and Installing the Contact Block Assembly

1. To remove the operator from the contact block, turn the locking lever in the direction of the arrow shown below. The operator can now be removed.

2. To reinstall, place the TOP markings on the operator and the contact block mounting adapter in the same direction, and insert the operator into the contact block mounting adapter. Then turn the locking lever in the opposite direction.
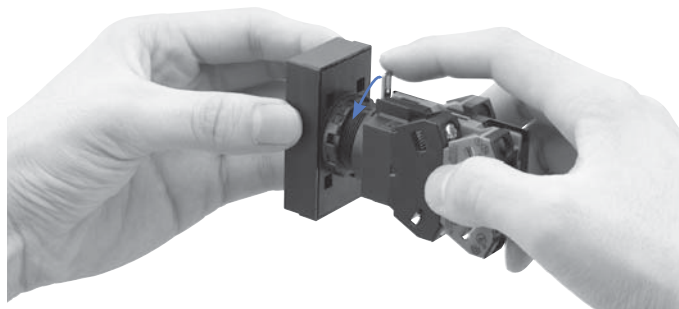
Notes for Panel Mounting

1. When mounting the operator onto a panel, use the optional locking ring wrench (MW9Z-T1) to tighten the locking ring. Tightening torque must not exceed 2.0 N·m. Do not use pliers. Excessive tightening will damage the locking ring.

2. For the contact blocks and transformers housing LED and incandescent lamps, make sure not to press the lamps too hard, otherwise the lamp socket may be damaged.

Safety Lever Lock
IDEC strongly recommends using the safety lever lock (HW9Z-LS, yellow) to prevent heavy vibration or maintenance personnel from unlocking the contact assembly.

1. HW series can be mounted vertically with a minimum spacing of 55 mm but spacing should be determined to ensure easy operation (recommended minimum spacing: 100 mm).

2. Mount the control unit onto the panel, lock the lever, and push in the safety lever lock to install.

3. When the spacing is narrower than the recommended value, with the lever unlocked, mount the safety lever lock and insert the contact unit to the operator. Then, lock the lever and strongly push in the safety lever lock to install.

4. To remove the safety lever lock, insert a flat screwdriver into the safety lever and push upwards.
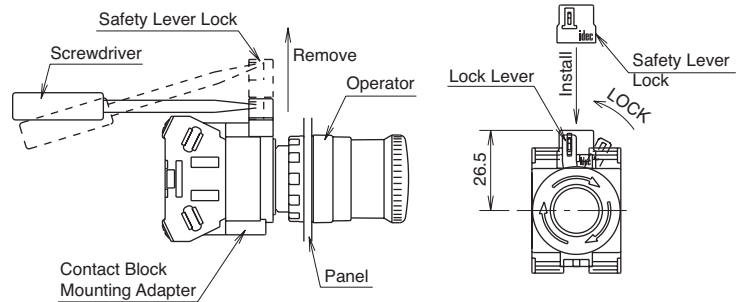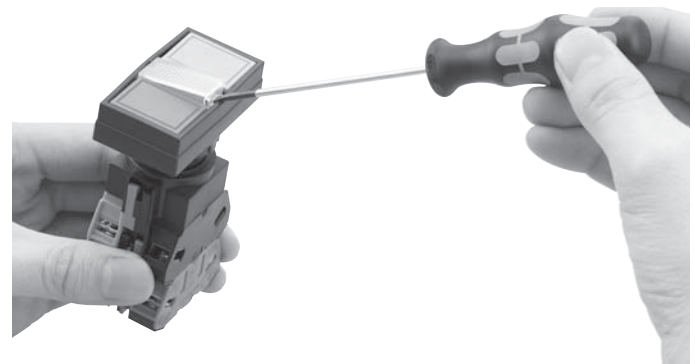

Dual Pushbutton Instructions

Replacement of Lens

Removing
Remove the lens by inserting a 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.

Switches & Pilot Lights | Display Lights | Relays & Sockets | Timers | Terminal Blocks | Circuit Breakers

Dual Pushbuttons Instructions con't

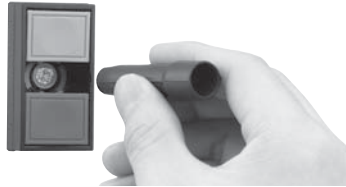## Replacement of Lamps

Lamps can be replaced by using the lamp holder tool (OR-55) from the front of the panel, or by removing the contact block assembly from the operator unit.

Removing the Lamps from the Front of the Panel

Removal

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

Installation

1. To install, insert the lamp head into the lamp holder tool, and hold the lamp as shown in the figure below.

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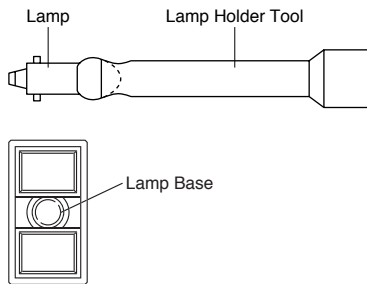
About Pushbutton Switches

The pushbuttons cannot be removed or replaced!

Do not attempt to remove using a flat screwdriver or pincers, otherwise the pushbuttons may be damaged.
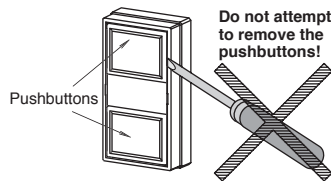
Narrow Mounting

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

When mounting transformer type illuminated units closely in a horizontal row on 30-mm centers, insert solid wires or stranded wires into inside of the terminal screw on the transformer (see figure on the right) to prevent short circuit between adjoining terminals.
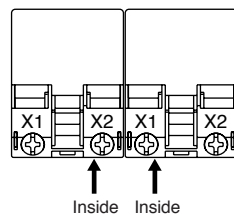
Tightening Torque for Terminal Screws

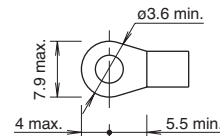Tighten the M3.5 terminal screws to a torque of 1.0 to 1.3 N·m.

Installation of LED Illuminated Units

When using full voltage type LED illuminated units, provide protection against electrical noise, if necessary.
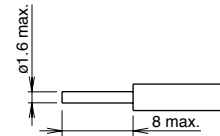
Applicable Wiring

The applicable wire size is 2 mm^2 maximum. (solid wire ø1.6mm^2 maximum) One or two wires can be connected.
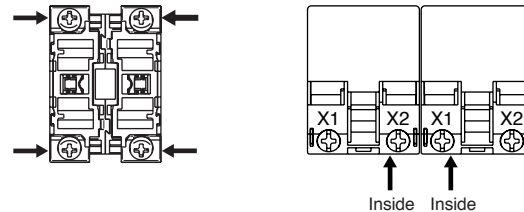
Applicable Crimping Terminal

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

Solid Wire

Note: When connecting wires to contact blocks or transformers in the direction shown below, keep the insulation stripping length 6.6 mm at the maximum.
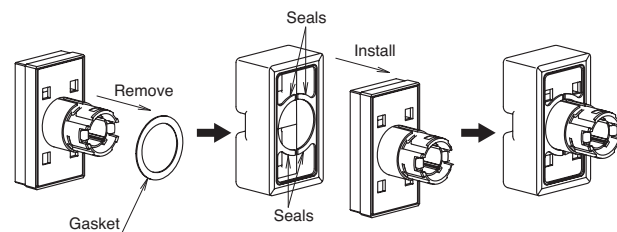
Installing the Rubber Cover

When using the HW7D pushbuttons in places where the pushbuttons are subjected to water splash or an excessive amount of dust, make sure to use the HW9Z-D7D rubber boot (IP65) which is ordered separately.

Notes for Installing the Rubber Cover

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.