Emergency Stop Pushbuttons (Sub-Assembled)

Contact Blocks + Adaptor & Safety Lever Lo + Anti-Rotation Ring + Operator = Complete Part

Part Numbers: Emergency Stop Operators

Style		Plastic	Metal
Ø 29mm Head Pushlock Turn Reset		HW1B-V3R*	HW4B-V3R*
Ø 40mm Head Pushlock Turn Reset	red	HW1B-V4R	HW4B-V4R
	yellow	HW1B-V4Y	HW4B-V4Y
Ø 40mm Head EMO Pushlock Turn Reset		HW1B-V4R-EMO-2*	HW4B-V4R-EMO-2*
Ø 40mm Head Push-Pull	red	HW1B-Y2R	HW4B-Y2R
	yellow	HW1B-Y2Y	HW4B-Y2Y
Ø 40mm Head Pushlock Key Reset		HW1B-X4R*	HW4B-X4R*
Ø 60mm Head Pushlock Turn Reset		HW1B-V5R*	–

1. *Available in red only.
2. All Emergency Stop Buttons are non-removable from the operator.

Part Number: Contact Block Mounting Adaptor
(safety lever lock included)

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 unlocking contacts.

Part Numbers: Contact Blocks

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

1. All assembled part numbers in catalog include standard (HW-F...) contacts. (except unibody)
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. All contacts (including exposed screw) are UL, CSA, and IEC compliant and carry the CE mark.

Part Numbers: Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cutout to prevent unit rotation.

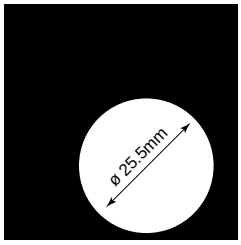
Emergency Stop Stations

Part Numbers: Emergency Stop Stations

Description	Contacts	Plastic Bezel	Metal Bezel
Ø 40mm Pushlock Turn Reset	1NO-1NC	HW1X-BV411-R*	HW4X-BV411-R*
	2NC	HW1X-BV402-R*	HW4X-BV402-R*
Ø 29mm Pushlock Turn Reset	1NO-1NC	HW1X-BV311-R*	HW4X-BV311-R*
	2NC	HW1X-BV302-R*	HW4X-BV302-R*
Ø 40mm Push-Pull Reset	1NO-1NC	HW1X-BY411-R*	HW4X-BY411-R*
	2NC	HW1X-BY402-R*	HW4X-BY402-R*
Ø 40mm Pushlock Key Reset	1NO-1NC	HW1X-BX411-R*	HW4X-BX411-R*
	2NC	HW1X-BX402-R*	HW4X-BX402-R*

*1. * Available in Red only.*
2. Maximum of two contact blocks.
3. Available as completed unit only.
4. Box is supplied with yellow top and black bottom only.

Part Numbers: Nameplates for Emergency Stop Stations

NSA-Aluminum	Color	Part Number	
		Blank	Engraved
	Black Red	NSA-0 NSA-0R	NSA-* NSA-*R

*1. In place of * please insert the word, letters, or numbers you would like engraved. For standard engravings, see page A3-96.*
2. For specifications on engravings, please consult factory.

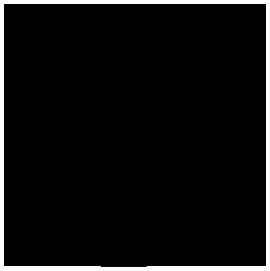
Part Numbers: Base Mount Contact Blocks

Configuration	Part Number
1NO	HW-S10
1NC	HW-S01

Part Numbers: Plug Adaptors

Type	Part Number
G1/2	HW9Z-G
PG16	HW9Z-PG

Panel Mount Dimensions



Pilot Lights (Assembled)

Part Numbers: Pilot Lights

Style			Plastic Bezel	Metal Bezel
Round Flush (Full Voltage type shown)	Full Voltage		HW1P-1FQ④-②-③	HW4P-1FQ④-②-③
	Transformer	120V AC 240V AC 480V AC	HW1P-1FH2④-② HW1P-1FM4④-② HW1P-1FT8④-②	HW4P-1FH2④-② HW4P-1FM4④-② HW4P-1FT8④-②
	DC-DC Converter*	110V DC	HW1P-1D2④-②	–
Dome (Full Voltage type shown)	Full Voltage		HW1P-2FQ④-②-③	HW4P-2FQ④-②-③
	Transformer	120V AC 240V AC 480V AC	HW1P-2FH2④-② HW1P-2FM4④-② HW1P-2FT8④-②	HW4P-2FH2④-② HW4P-2FM4④-② HW4P-2FT8④-②
	DC-DC Converter*	110V DC	HW1P-2D2④-②	–
Square Flush (Transformer type shown)	Full Voltage		HW2P-1FQ④-②-③	–
	Transformer	120V AC 240V AC 480V AC	HW2P-1FH2④-② HW2P-1FM4④-② HW2P-1FT8④-②	–
	DC-DC Converter*	110V DC	HW2P-1D2④-②	–
Jumbo Dome	Full Voltage** 24V AC/DC	LED	HW1P-5Q4-②	–
		Incandescent	HW1P-5Q7-②	

1. In place of ②, specify the Lens/LED Color Code.
2. In place of ③specify the Full Voltage Code from table below.
3. In place of ④ specify Lamp Type Code.
*4. *DC-DC convertor voltage input from 90-140V DC, comes with spring up terminals only.*
*5. **Available with spring up terminals and 24V only.*
6. For nameplates and accessories, see page A3-96.
7 For dimensions, see page A3-100.

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

④ Lamp Type Code

Lamp	Code
Incandescent	Blank
LED	D

Pilot Lights (Partial-Assemblies)

Full Voltage Models

Operator/Lens	+	Lamp	=	Complete Pilot Light

Part Numbers: Operator/Lens

Style	Plastic Bezel	Metal Bezel
Round Flush	HW1P-1FQ0-②	HW4P-1FQ0-②
Dome	HW1P-2FQ0-②	HW4P-2FQ0-②
Square Flush	HW2P-1FQ0-②	–

1. *In place of ②, specify the Lens Color Code from table on previous page.*
2. *Operator/Lens assembly for use with standard transformers only6, not spring up terminal type.*

Part Numbers: 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	6.3V AC/DC	IS-6
	12V AC/DC	IS-12
	24V AC/DC	IS-24
	30V AC/DC	IS-30

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

Transformer Models

Transformer/Lamp	+	Operator/Lens	=	Complete

Part Numbers: Operator/Lens

Style	Plastic Bezel	Metal Bezel
Round Flush	HW1P-1F0-②	HW4P-1F0-②
Dome	HW1P-2F0-②	HW4P-2F0-②
Square Flush	HW2P-1F0-②	–

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

Part Numbers: Transformer/Lamp

Item	Voltage	Part Number
	120V AC with LED	HW-FH2-②
	240V AC with LED	HW-FM4-②
	480V AC with LED	HW-FT8-②
	120V AC with Incandescent	HW-FH2
	240V AC with Incandescent	HW-FM4
	480V AC with Incandescent	HW-FT8

1. *In place of ②, specify the LED Color Code from table on previous page.*
2. *All transformers have a 6V AC secondary voltage.*
3. *LED/Lamp supplied with transformer partial assembly.*

Operator Truth Tables

Use the following tables to build custom selector switches.

2 Position Selector Switches

HW1S-2T
HW1K-2*
HW1F-2

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

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 A3-73).*

3 Position Selector Switches

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	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

1. *HW1S-3T is identified by white plungers on the operator.*
2. *Mounting position indicates which side of operator each contact should be mounted (as viewed from the front of the panel).*
3. ** for key removable code (see page A3-73).*

HW1S-3ST
HW1K-3S*

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

1. *HW1S-3ST is identified by red plungers on the operator.*
2. *Mounting position indicates which side of operator each contact should be mounted (as viewed from the front of the panel).*
3. ** for key removable code (see page A3-73).*

HW1S-3JT
HW1K-3J*

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-F10R NO-(EM)	L	X	0	X
	R	X	0	X
HW-F01R NC-(LB)	L	0	X	X
	R	X	X	0

1. *HW1S-3JT is identified by black plungers on the operator.*
2. *Mounting position indicates which side of operator each contact should be mounted (as viewed from the front of the panel).*
3. ** for key removable code (see page A3-73).*

Operator Truth Tables con't

4 Position Selector Switches

HW1S-4T

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

5 Position Selector Switches

HW1S-5T

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

Mounting position indicates which side of operator each contact should be mounted (as viewed from the front of the panel).

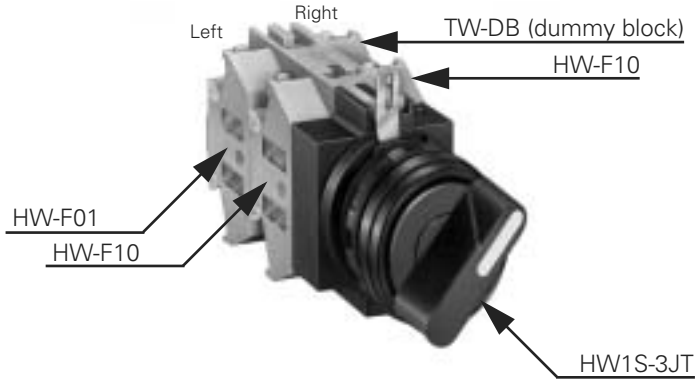
Custom Selector Switch Building Examples

Example 1: 3 Position, Maintained Selector Switch with 3 Contacts

Determine which operator is capable of producing all the desired contact actions.

	Knob Position			Operator		
	Left	Center	Right	HW1S-3T	HW1S-3ST	HW1S-3JT
Contact 1	0	0	X	Possible with HW-F10 mounted on right	Possible with HW-F10 mounted on right	Possible with HW-F10 mounted on right
Contact 2	0	X	0	Not possible	Not possible	Possible with HW-F01 mounted on left or right
Contact 3	X	0	0	Possible with HW-F10 mounted on left	Possible with HW-F10 mounted on left	Possible with HW-F10 mounted on left

The only operator in this example that will produce all the desired contact actions is HW1S-3JT. Assemble as follows:

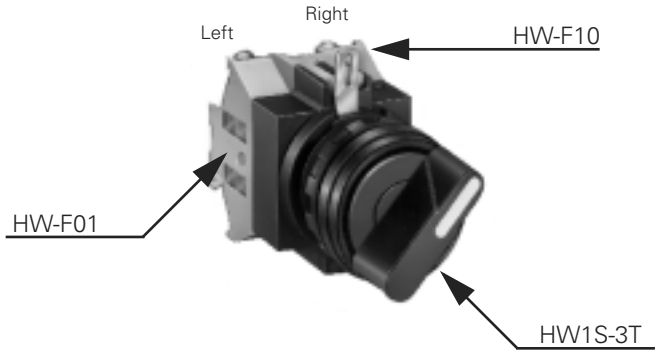


Example 2: 3 Position, Maintained Selector Switch with 2 Contacts

Determine which operator is capable of producing all the desired contact actions.

	Knob Position			Operator		
	Left	Center	Right	HW1S-3T	HW1S-3ST	HW1S-3JT
Contact 1	0	0	X	Possible with HW-F10 mounted on right	Possible with HW-F10 mounted on right	Possible with HW-F10 mounted on right
Contact 2	0	X	X	Possible with HW-F01 mounted on left	Possible with HW-F10R mounted on right or HW-F01R mounted on left	Not possible

This arrangement is possible with either the HW1S-3T or HW1S-3ST operator. It is preferred to use the HW1S-3T as this requires only the standard contacts (HW-F10 and HW-F01 and not the early make (HW-F10R) or late break (HW-F01R) contacts. Assemble as follows:

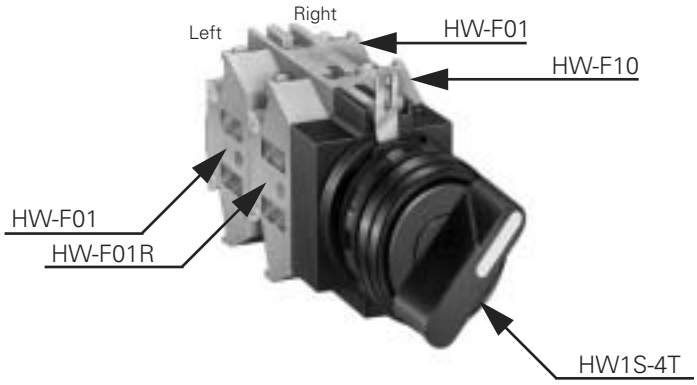


Example 3: 4 Position Selector Switch with 4 Contacts

Determine where the contact will be mounted.

	Knob Position				Operator
	1	2	3	4	HW1S-4T
Contact 1	0	X	0	0	HW-F01 mounted on right
Contact 2	0	0	X	0	HW-F01 mounted on left
Contact 3	0	0	0	X	HW-F10 mounted on right
Contact 4	0	~~X~~	~~X~~	~~X~~	HW-F01R mounted on left

Assemble as follows:

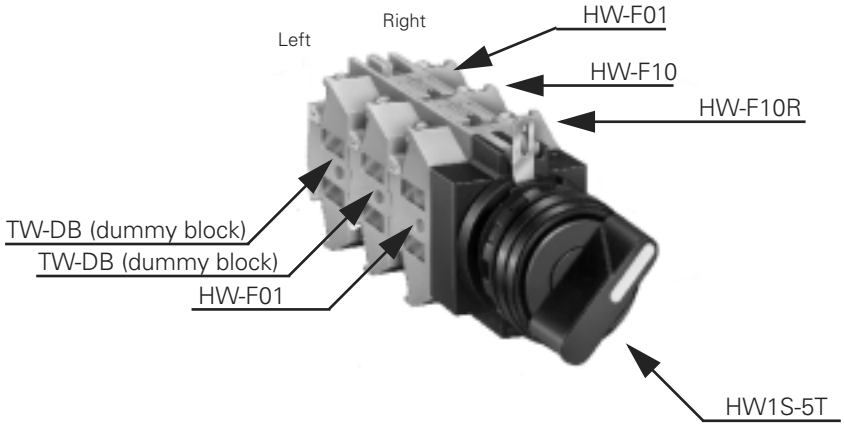


Example 4: 5 Position Selector Switch with 4 Contacts

Determine where the contact will be mounted.

	Knob Position					Operator
	1	2	3	4	5	HW1S-5T
Contact 1	0	X	0	0	0	HW-F01 mounted on right
Contact 2	0	0	0	X	0	HW-F01 mounted on left
Contact 3	0	0	0	0	X	HW-F10 mounted on right
Contact 4	X	0	~~X~~	~~X~~	~~X~~	HW-F10R mounted on right

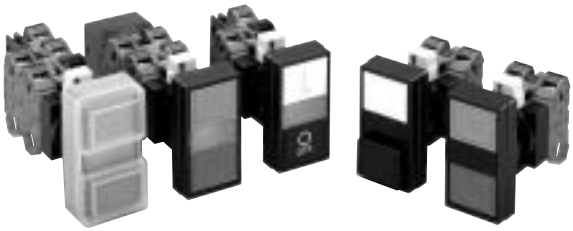
Assembled as follows:



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 types illuminated with LED or incandescent lamps.
- IP40 protection, IP65 when using silicon cover.
- UL Listed, CSA approved, and EN compliant

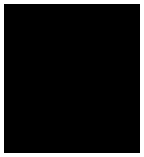
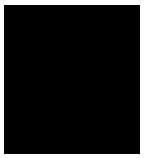


Applications:

- 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:

Operation Type	Button Style		Contact Arrangement		Part Number	④ Button Color Code	⑤ Legend Code
			Top Button	Bottom Button			
Momentary	Flush (top) Flush (bottom)		1NO	1NC	HW7D-B11F1001-④⑤	GR: Green (top) Red (bottom) WB: White (top) Black (bottom)	Blank:Without legend 1:I/ON (top) O/OFF (bottom)
			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		
			2NO	2NC	HW7D-B12F2002-④⑤		
			2NO	2NO	HW7D-B12F2020-④⑤		
Interlock*	Flush (top) Flush (bottom)		1NO	1NC	HW7D-B21F1001-④⑤		
			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.

Part Numbers, con't

Part Numbers: With Center Pilot Light

Operation Type		Button Style	Pilot Light Type	Top Button	Bottom Button	Part Number
Flush (top) Flush (bottom)	Momentary	Flush (Top) Flush (Bottom)	Full Voltage	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
			Transformer	1NO	1NC	HW7D-L11F1001②③-④⑤
				1NO	1NO	HW7D-L11F1010②③④⑤
				1NO-1NC	1NO-1NC	HW7D-L11F1111②③-④⑤
				2NO	2NC	HW7D-L11F2002②③-④⑤
				2NO	2NO	HW7D-L11F2020②③-④⑤
		Flush (Top) Extended (Bottom)	Full Voltage	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
			Transformer	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)	Full Voltage	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
			Transformer	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)	Full Voltage	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
			Transformer	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.

②Pilot Light Illumination Type and 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.*

③Pilot Lamp Color Code

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

** Only available for LED Type 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	

Contact Arrangement Chart

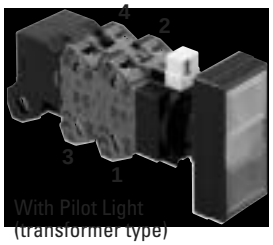
Contact Arrangement			Contact Block		Top Button		Bottom Button	
Top Button	Bottom Button	Contact Code	Mounting Position	Type	Normal	Push	Normal	Push
1NO	1NO	1010	1	NO		X		
			2	NO				X
1NO	1NC	1001	1	NO		X		
			2	NC			X	
1NC	1NO	0110	1	NC	X			
			2	NO				X
1NC	1NC	0101	1	NC	X			
			2	NC			X	
1NO	2NO	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				
2NC	1NO	0210	1	NC	X			
			2	NO				X
			3	NC	X			
			4	Dummy				

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.

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	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



With Pilot Light
(transformer type)

Dual Pushbutton Switches (Sub-Assembled)

Contact Blocks + Mounting Adaptor + Operator + Lens = Complete Part

Part Numbers: Operators

Style		Type	Button Style	Part Number
Flush Flush		Momentary	Flush (top) Flush (bottom)	HW7D-011④-⑤
			Flush (top) Extended (bottom)	HW7D-012④-⑤
Flush Extended		Interlock	Flush (top) Flush (bottom)	HW7D-021④-⑤
			Flush (top) Extended (bottom)	HW7D-022④-⑤

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	

Part Numbers: Contact Block Mounting Adaptor
(safety lever lock included)

Appearance	Part Number
Non-Illuminated	HW-CB2C
Illuminated (with Pilot Light)	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 unlocking contacts.

Part Numbers: Lamps/Lens

	Type	Voltage	Part Number
Lamps	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	6.3V AC/DC	IS-6
		12V AC/DC	IS-12
		24V AC/DC	IS-24
		30V AC/DC	IS-30
Lens	Non-Illuminated		HW9Z-B7B
	Illuminated		HW9Z-L7W

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

Part Numbers: Contact Blocks

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

1. All assembled part numbers in catalog include standard (HW-F...) contacts. (except unibody)
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-component
4. All contacts (including exposed screw) are UL, CSA, and IEC compliant and carry the CE mark.

Part Numbers: 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.

Part Numbers: Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

Use with notched panel cut-out to prevent unit rotation.

LED Color Code

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

Mono Lever Switches (Assembled)

Part Number Guide

HW1M-	①	F	②				–	③
	L		0	1	0	1		20
			up	right	down	left		
	Type		Lever Action					Circuit Number

Description		Code	Remarks
① Type	Standard	(blank)	Interlocking mechanism prevents inadvertent activation
	Interlocking	L	
② Lever Action	Maintained	1	Fill in desired action for each position: Up/Right/Down/Left
	Spring	2	
	Blocked	0	
③ Circuit Number		20	See Circuit Diagrams below
		40	
		22N9	

Part Numbers: Mono Lever Switches

Description	No. of Positions	Part Number
HW1M Standard Lever	2	HW1M-F1010-20
		HW1M-F2020-20
		HW1M-F0101-20
		HW1M-F0202-20
		HW1M-F0101-40
		HW1M-F0202-40
	4	HW1M-F1111-22N9
		HW1M-F2222-22N9
HW1M-L Interlocking Lever	2	HW1M-LF1010-20
		HW1M-LF2020-20
		HW1M-LF0101-20
		HW1M-LF0202-20
		HW1M-LF0101-40
		HW1M-LF0202-40
	4	HW1M-LF1111-22N9
		HW1M-LF2222-22N9

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

3 Position

Circuit Number	Contact Mounting		Position				
	No.		Down	Left	Center	Up	Right
30	1	HW-F01	0	O	0	0	X
	2	HW-F01	X	0	0	O	0
	3	HW-F10	0	X	0	0	O

4 Position

Circuit Number	Contact Mounting		Position				
	No.		Down	Left	Center	Up	Right
22N9	1	HW-F01	0	O	0	0	X
	2	HW-F01	X	0	0	O	0
	3	HW-F10	0	X	0	0	O
	4	HW-F10	O	0	0	X	0

Other circuit arrangements available, contact IDEC for details.

Mono Lever Switches (Sub- Assembled)

Contact Blocks	+	Mounting Adaptor	+	Anti-Rotation Ring	+	Operator	=	Complete Part

Part Numbers: Operators

Appearance	# of Positions	Description	Part Number
Standard	2	Maintained Up/Down	HW1M-1010
		Spring return Up/Down	HW1M-2020
		Maintained Left/Right	HW1M-0101
		Spring return Left/Right	HW1M-0202
	4	Maintained, 4 position	HW1M-1111
		Spring return, 4 position	HW1M-2222
Interlocking	2	Maintained Up/Down	HW1M-L1010
		Spring return Up/Down	HW1M-L2020
		Maintained Left/Right	HW1M-L0101
		Spring return Left/Right	HW1M-L0202
	4	Maintained, 4 position	HW1M-L1111
		Spring return, 4 position	HW1M-L2222

Part Numbers: Contact Block Mounting Adaptor
(safety lever lock included)

Appearance	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 unlocking contacts.*

Part Numbers: Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

1. *Use with notched panel cutout to prevent unit rotation.*
2. *Not required when using HW series nameplates See page A3-96.*

Part Numbers: Replacement Parts

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

Part Numbers: Contact Blocks

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

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.*

Pushbutton Selectors (Assembled)

Part Numbers: 2–Position Pushbutton Selectors

Contacts	Mounting		Operator Position: Left Normal	Left Depressed	Right Normal	Right Depressed	Part Number
2NO	1	HW-F10	0	X	0	0	HW1R-2**D**F20-①
	2	HW-F10	0	0	0	X	
2NO-2NC	1	HW-F10	0	X	0	0	HW1R-2**D**F22N1-①
	2	HW-F10	0	0	0	X	
	3	HW-F01	X	0	~~X~~	~~X~~	
	4	HW-F01	~~X~~	~~X~~	X	0	
2NO-2NC	1	HW-F10	0	X	0	0	HW1R-2**E**F22N1-①
	2	HW-F10	0	0	0	X	
	3	HW-F01	0	0	~~X~~	~~X~~	
	4	HW-F01	~~X~~	~~X~~	0	0	
2NO-2NC	1	HW-F10	0	0	0	X	HW1R-2**F**F22N1-①
	2	HW-F10	0	X	0	0	
	3	HW-F01	0	0	X	0	
	4	HW-F01	X	0	0	0	

1. Available only with momentary pushbutton and maintained selector.
2. In place of ①, specify the button color code from table below
3. Other contact arrangements available. Contact IDEC for details.
4. All assembled parts use flush buttons.
*5. **Normal** position refers to the button flush with the selector ring.*
*6. **Depressed** position refers to the button being pushed in.*

① Button Color Code

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

Pushbutton Selectors (Partial-Assemblies)

Contact Assembly	+	Operator/Button	=	Complete Part

Part Numbers: Operators

Appearance	Description	Part Number
	Cam D	HW1R-2D-①
	Cam E	HW1R-2E-①
	Cam F	HW1R-2F-①

In place of ① specify Button Color Code.

Part Numbers: Contact Assemblies

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

① Button Color Code

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

Pushbutton Selectors (Sub-Assembled)

Contact Blocks + Contact Mounting Adaptor + Anti-Rotation Ring + Operator + Button = Complete Part

Part Numbers: Operators

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

Part Numbers: Buttons

Description	Part Number
Round Flush	HW1A-B1-①

In place of ① specify Button Color Code.

Part Numbers: Anti-Rotation Ring

Appearance	Part Number
	HW9Z-RL

1. *Use with notched panel cutout to prevent unit rotation.*
2. *Not required when using HW series name-plates See page A3-96.*

Part Numbers: Contact Block Mounting Adaptor
(safety lever lock included)

Appearance	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 unlocking contacts.*

Part Numbers: Contact Blocks

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

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.*

① Button Color Code

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

Operator Truth Tables

HW Pushbutton Selector Switches - Cam D

Contact	Mounting Position	Operator Position: Left ↖ Button Free	Left ↖ Button Pressed	Right ↗ Button Free	Right ↗ Button Pressed
HW-F10 (NO)	Left	0	X	0	0
	Right	0	0	0	X
HW-F01 (NC)	Left	X	0	X	X
	Right	X	X	X	0
HW-F10R (NO-EM)	Left	0	X	0	0
	Right	0	0	0	X
HW-F01R (NC-LB)	Left	X	0	X	X
	Right	X	X	X	0

HW Pushbutton Selector Switches - Cam E

Contact	Mounting Position	Operator Position: Left ↖ Button Free	Left ↖ Button Pressed	Right ↗ Button Free	Right ↗ Button Pressed
HW-F10 (NO)	Left	0	X	0	0
	Right	0	0	0	X
HW-F01 (NC)	Left	0	0	X	X
	Right	X	X	0	0
HW-F10R (NO-EM)	Left	X	X	0	0
	Right	0	0	X	X
HW-F01R (NC-LB)	Left	X	0	X	X
	Right	X	X	X	0

HW Pushbutton Selector Switches - Cam F

Contact	Mounting Position	Operator Position: Left ↖ Button Free	Left ↖ Button Pressed	Right ↗ Button Free	Right ↗ Button Pressed
HW-F10 (NO)	Left	0	0	0	X
	Right	0	X	0	0
HW-F01 (NC)	Left	0	0	X	0
	Right	X	0	0	0
HW-F10R (NO-EM)	Left	X	X	0	X
	Right	0	X	X	X
HW-F01R (NC-LB)	Left	X	X	X	0
	Right	X	0	X	X

HW Pushbutton Selector Switches - Cam N

Contact	Mounting Position	Operator Position: Left ↖ Button Free	Left ↖ Button Pressed	Right ↗ Button Free	Right ↗ Button Pressed
HW-F10 (NO)	Left	0	X	0	X
	Right	0	X	0	X
HW-F01 (NC)	Left	0	0	X	0
	Right	X	0	0	0
HW-F10R (NO-EM)	Left	X	X	0	X
	Right	0	X	X	X
HW-F01R (NC-LB)	Left	X	0	X	0
	Right	X	0	X	0

Contactor Reset Button

Part Numbers: Reset Buttons (Assembled)

Appearance		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. 5.1" (130mm) overall length.
3. 16mm flat base for easy alignment

① Button Color Code

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

Sub-Assemblies

Rod	+	Operator	+	Button	=	Complete Part

Part Numbers: Button

Appearance	Part Number
	HW1A-B1-①

In place of ① specify Button Color Code from table.

Part Numbers: Operator

Appearance	Plastic	Metal
	HW1B-M0	HW4B-M0

Part Numbers: Rod

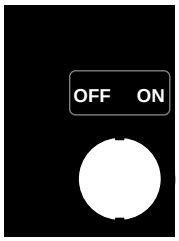
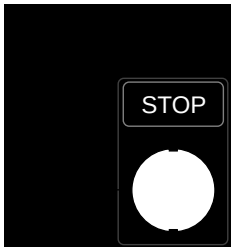
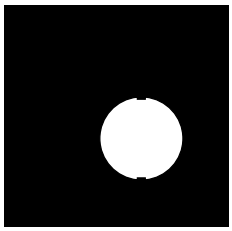
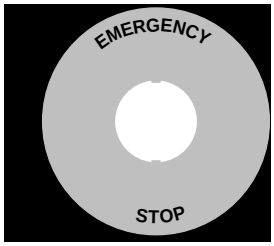
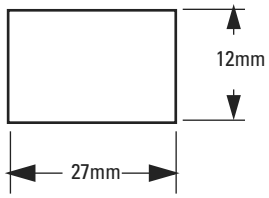
Appearance	Part Number
	HW9Z-RS-TK2141

① Button Color Code

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

Nameplates — HW Series

Part Numbers: Nameplates

	HWAM–Black Plastic	HWAQ–Black Plastic	HWAS–Black Plastic	HWAV–Yellow Plastic
				
	Part Number	**Part Number**	**Part Number**	**Part Number**
Nameplate (blank engraving plate included)	HWAM-0B	HWAQ-0B	HWAS-0B	HWAV-0
Nameplate (engraved)	HWAM-①	HWAQ-①	HWAS-①	HWAV-27* HWAV5-27†
Additional Insert (blank)	HWNP-0	HWNP-0	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 for 80mm diameter jumbo mushroom comes engraved "Emergency Stop" as shown in drawing.

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			AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202			AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203			CLOSE-OFF-OPEN	303
EMERG.STOP	104	RESET	119	FAST-SLOW	204	REV-FOR	216	DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	RUN-JOG	217	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	RUN-SAFE	218	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	SAFE-RUN	219	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	SLOW-FAST	220	LOWER-OFF-RAISE	308
IN	109	STOP	125	LEFT-RIGHT	209	START-STOP	221	OFF-MAN-AUTO	309
INCH	110	TEST	126	LOWER-RAISE	210	STOP-START	222	OFF-SLOW-FAST	310
JOG	111	UP	127	MAN-AUTO	211	UP-DOWN	223	OFF-1-2	311
LOW	112	I (Int'l On)	150	OFF-ON	212	OI (Int'l OFF ON)	250	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

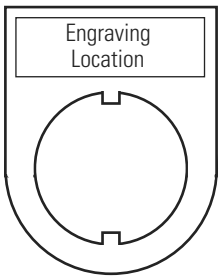
1. To order engraved nameplates, add legend code to nameplate part number.
2. Character height based on the number of characters and size of nameplate. Standard character size is 3/16".
3. Nameplates with standard legends are the same list price as blank nameplates.
4. Nameplates have built-in anti-rotation 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 checkboxes. Note: 1/8" size letters cannot exceed 9 characters.

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

Qty

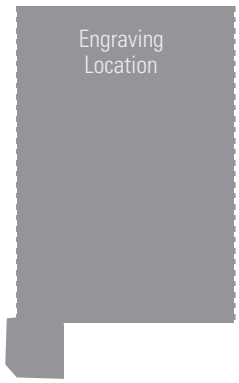
7/64" Letter Size ☐ 11 characters max (for 7/64" size letters)

1/8" Letter Size ☐ 9 characters max (for 1/8" size letters)

1 2 3 4 5 6 7 8 9 10 11

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 checkboxes. Note: 1/8" size letters cannot exceed 9 characters.

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

Qty

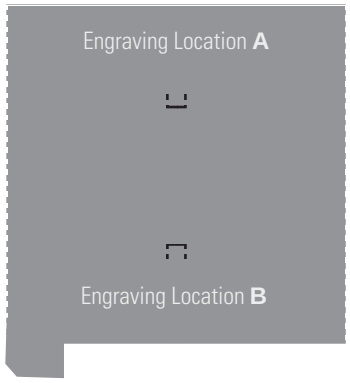
7/64" Letter Size ☐ 11 characters max (for 7/64" size letters)

1/8" Letter Size ☐ 9 characters max (for 1/8" size letters)

1 2 3 4 5 6 7 8 9 10 11

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

HWAS Nameplate



Step 1.
Choose Letter Size - 1/8" or 3/32".
Check the box for the letter size you want. Then write your lettering in box below checkboxes. Note: 1/8" size letters cannot exceed 14 characters.

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

Qty

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

Location

3/32" Letter Size ☐ 20 characters maximum (for 3/32" size letters)

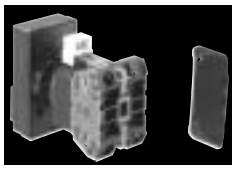
1/8" Letter Size ☐ 14 characters maximum (for 1/8" size letters)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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

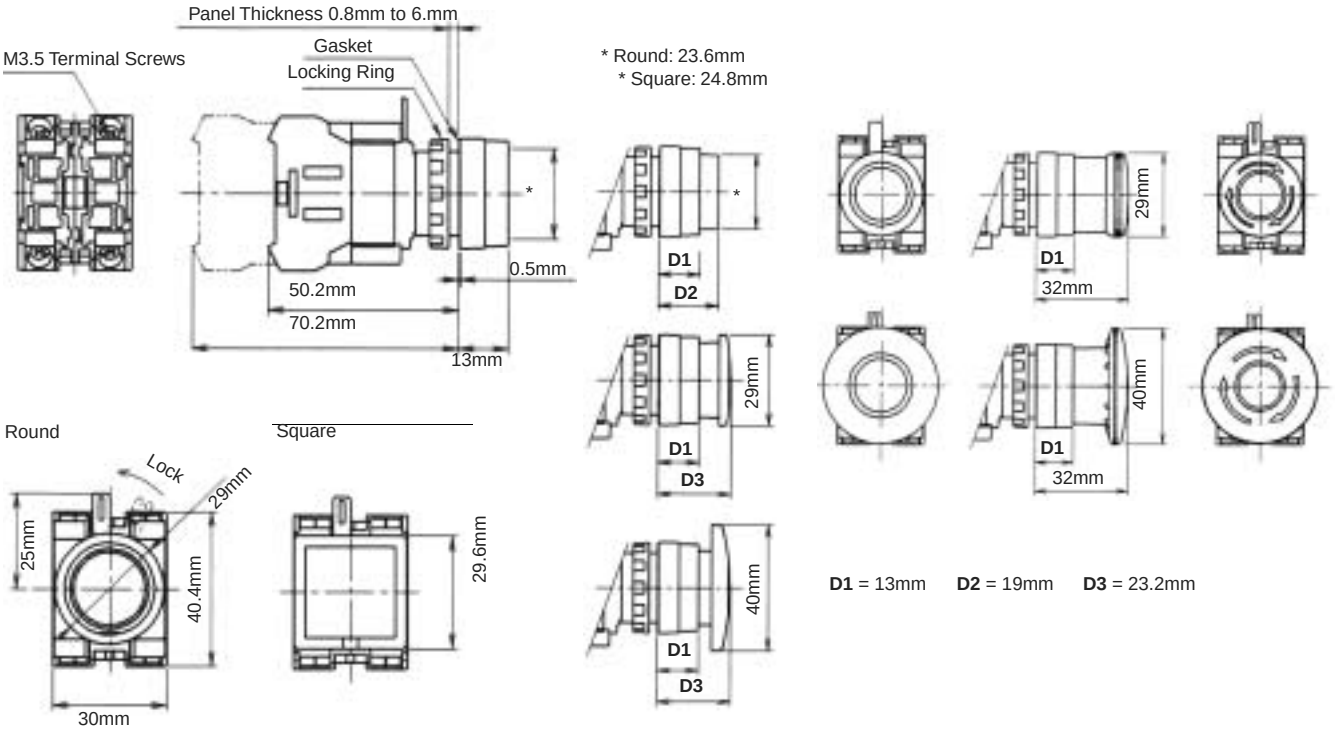
Accessories — HW Series

	Appearance	Description/Usage	Part Number	
Locking Ring Wrench		Metallic tool used to tighten the plastic locking ring when installing the HW series unit 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)	for notched panel cutout (standard)	HW9Z-RL
			for round panel cutout	LW9Z-L
Rubber Mounting Hole Plug		Black rubber plug fills unused mounting holes in panel.	OB-31	
Metallic Mounting Hole Plug		For plugging unused 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 control units are tightly mounted	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 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	
Adaptor (22mm to 30mm)		Used to mount round HW series control unit (except Jumbo Mushroom, unibody, and square units) into a 30mm panel cut-out. (includes both pieces)	HW9Z-A30	
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)	HWLS-TK1971	
Reset Rod for Contactors Overload		5" rod used with HW1B-M0. See Contactors Section D for more information.	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	

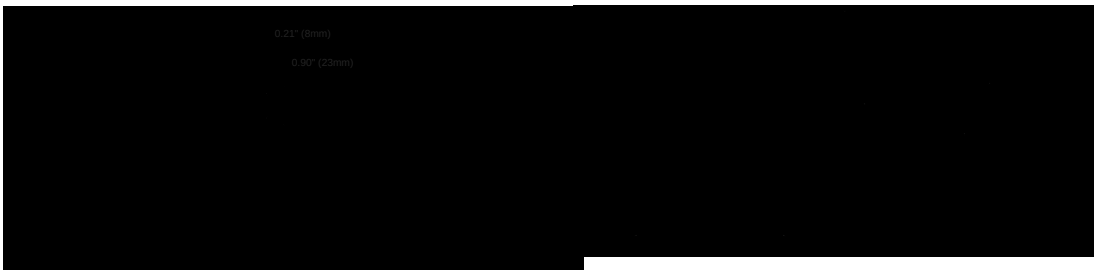
	Appearance	Description/Usage	Part Number
Replacement Lens		HW Illuminated Unibody Replacement Lens	HWLV-LENSR
Replacement Jumbo Dome Lens		Polycarbonate Replacement Lens	HW1A-P5① ① = (A, G, R, S, W, Y)
Replacement Jumbo Diffusing Lens			HW9Z-PP5C
Replacement LED Lamps for HW Jumbo Dome		Replacement LED Lamp	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

Dimensions — HW Series

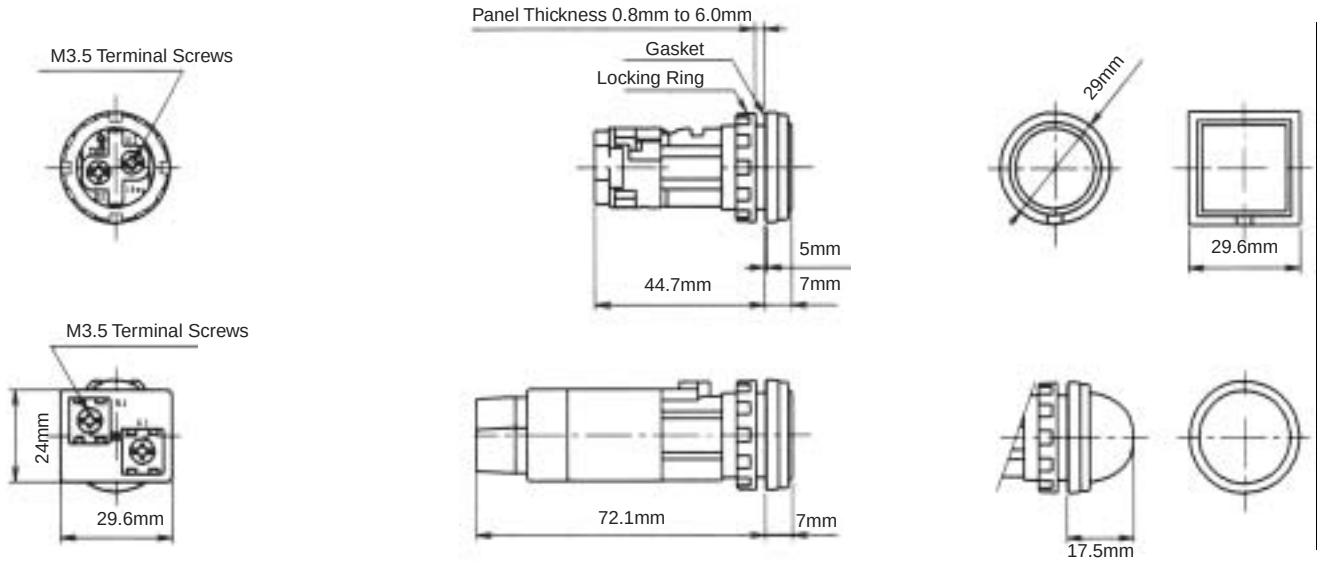
Non-Illuminated Pushbuttons



Monolever

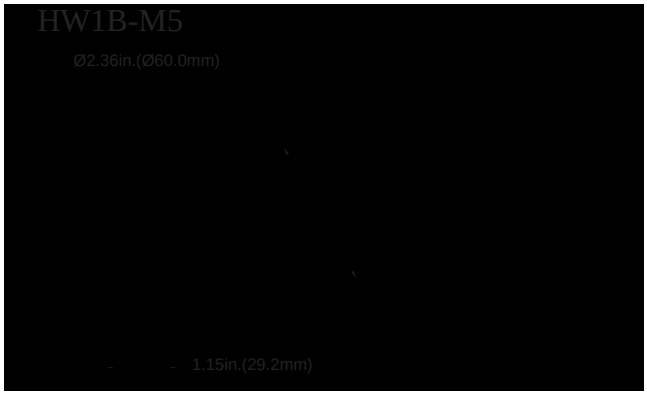


Pilot Lights



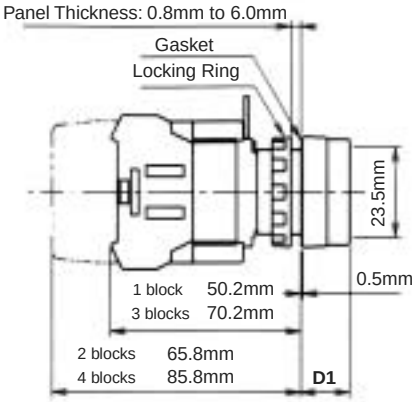
Dimensions con't

Jumbo Mushroom Pushbutton

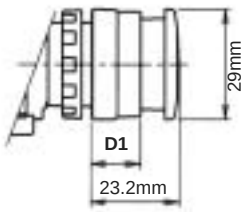


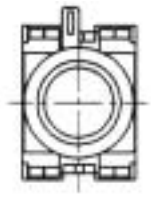
HW1B-V5

Illuminated Pushbuttons



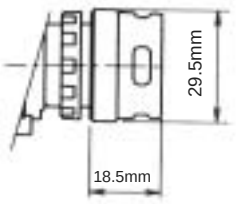
Mushroom



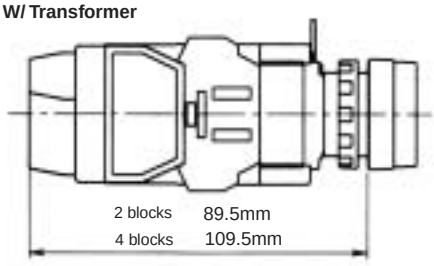


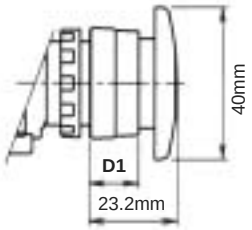
Mushroom 29mm

Extended with Full Shroud



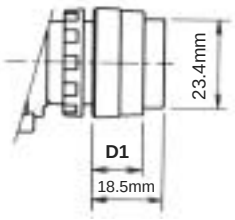
W/ Transformer



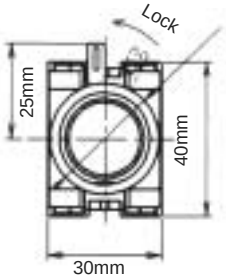


Mushroom 40mm

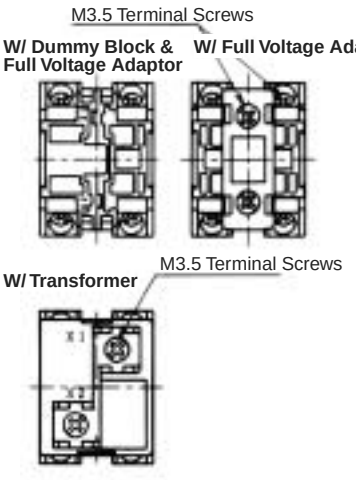
Extended



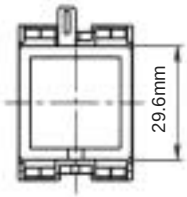
Round



24V AC/DC



Square

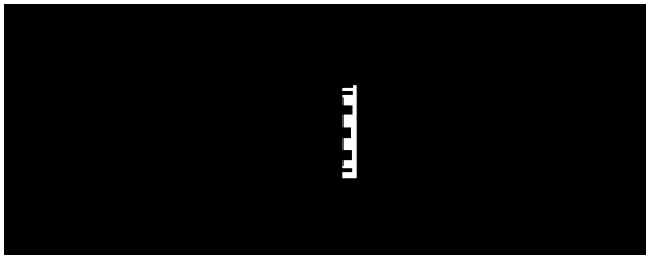


D1 = 0.51" 13mm

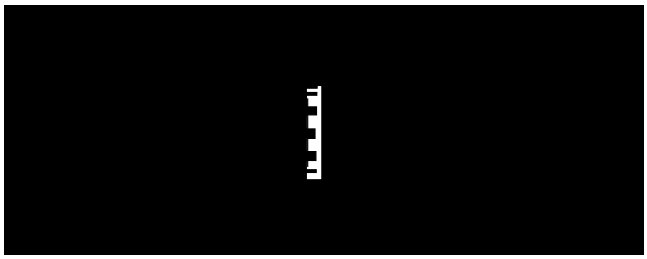
Dimensions con't

Unibody

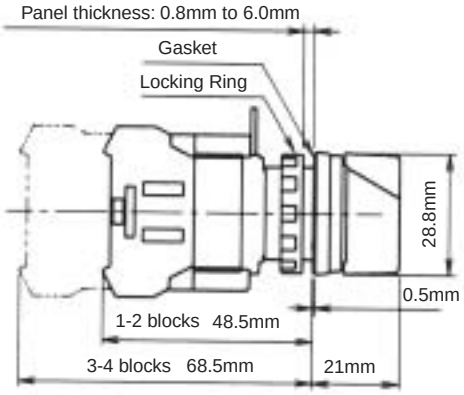
Illuminated

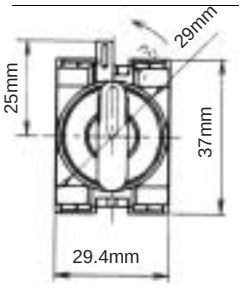


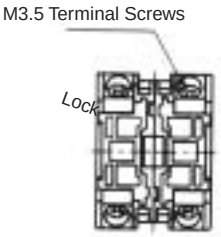
Non-Illuminated



Selector Switches

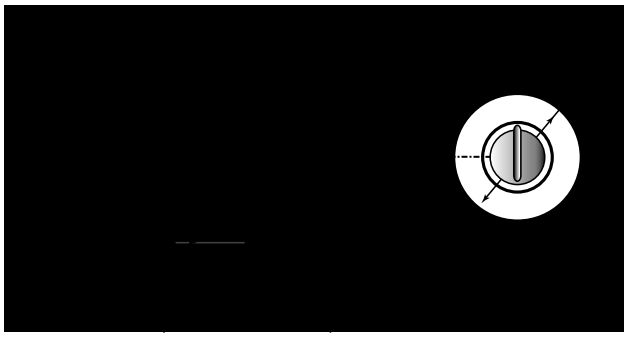




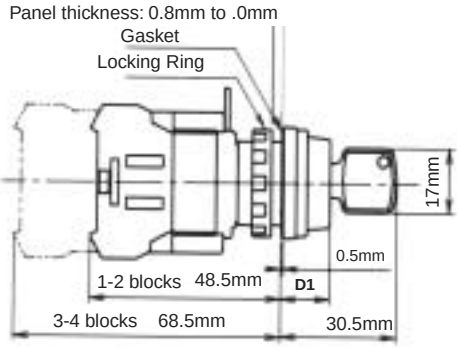


Illuminated Selector Switches

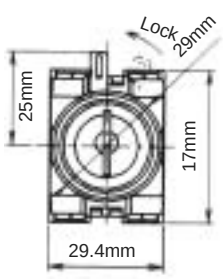
Pushlock Key Reset

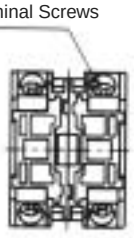


Key Switches



D1 = 13mm

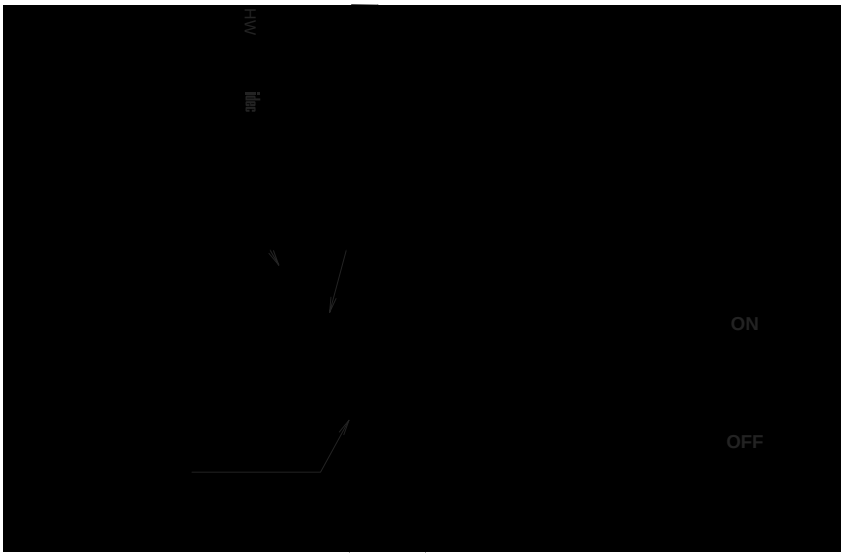




Dimensions con't

Dual Pushbutton Switches

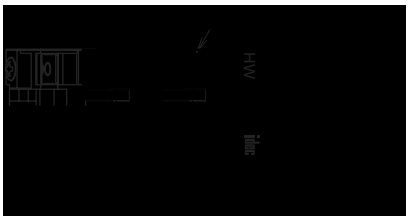
Without Pilot Light



With Pilot Light
• Full Voltage

(Bottom Button)

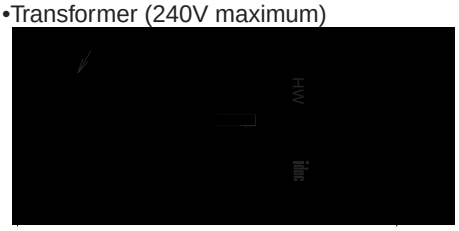
(Top Button)



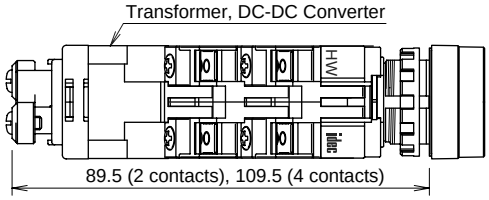
• The depth of 3-contact type depends on the combination of contact blocks at top and bottom pushbuttons.

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

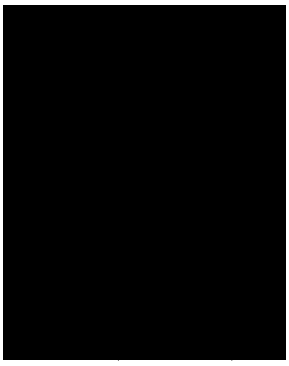
•Transformer (240V maximum)



• Transformer (480V)



Mounting Hole Layout



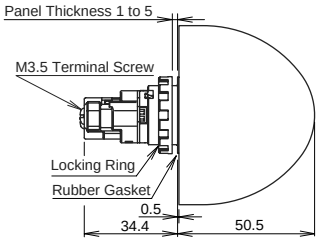
- The 3.2 mm recess is for preventing rotation and is not necessary when a nameplate or anti-rotation ring is not used.
- When using the safety lever lock, determine the vertical spacing in consideration of convenience for installing and removing the safety lever lock.
- Recommended vertical spacing: 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 in consideration of convenience for wiring.

All dimensions in mm.

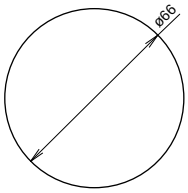
Dimensions con't

Jumbo Dome Pilot Lights

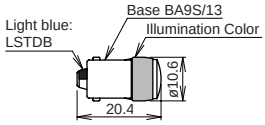
Dimensions



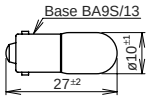
All dimensions in mm.



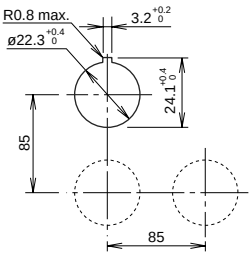
LED Lamp LSTDB



Incandescent Lamp LSB



Mounting Hole Layout



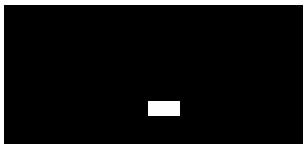
Accessory Dimensions

LW9Z-BM
Metallic Mounting Hole Plug

OB-31
Rubber Mounting Hole Plug

HW9Z-RL
Anti-Rotation Ring

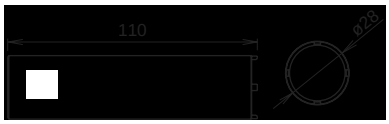
OR-55
Lamp/LED Removal Tool



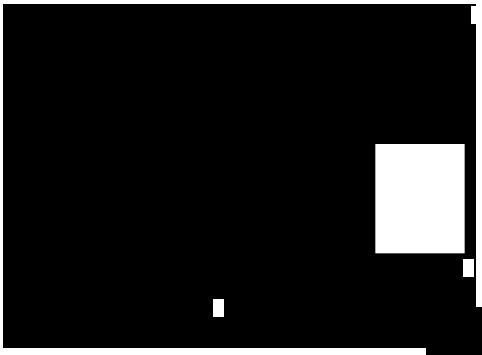
HW9Z-D7D
Dual Pushbutton Rubber Cover

HW-VG1
Dual Pushbutton Barrier

MW9Z-T1
Locking Ring Wrench

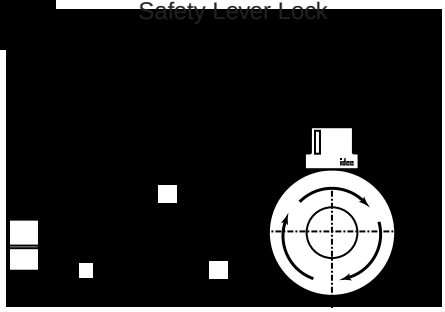


HW9Z-KL1
Padlock Cover

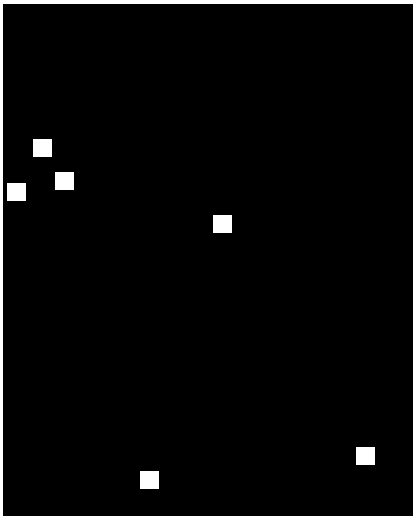


HW-VL1
Barrier

HWLS-TK1971
Safety Lever Lock



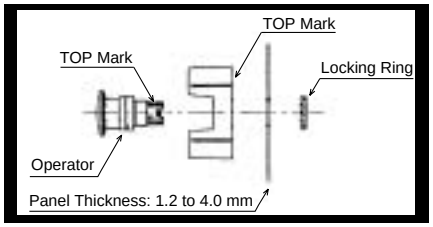
Mounting Hole Layout



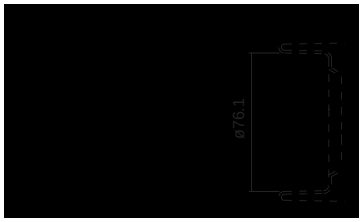
The values represent the minimum mounting centers when one stack of contact blocks is used. When two stacks or an illuminated unit is used, refer to the dimensions and considerwiring accessibility to determine minimum mounting centers.

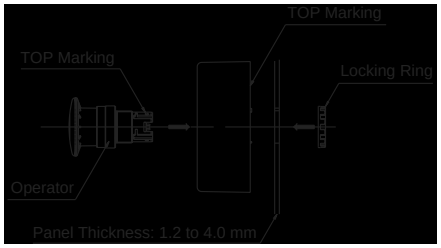
Accessory Dimensions con't

HW9Z-KG1-TK2120



HW9Z-KG2-TK2120





Specification Charts — HW Series

Rated Operational Power DC Voltage

Inductive

DC Voltages

Voltage V	24	48	110
Current A	4	2	1.1

AC Voltages

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

Resistive

DC Voltages

Voltage V	24	48	110
Current A	8	4	2.2

AC Voltages

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

HW Safety Precautions

HW Series 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.

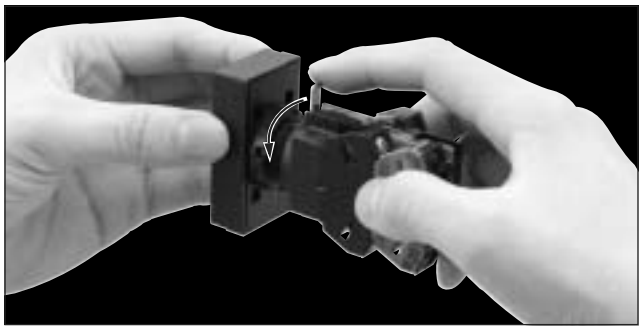
HW General Instructions

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

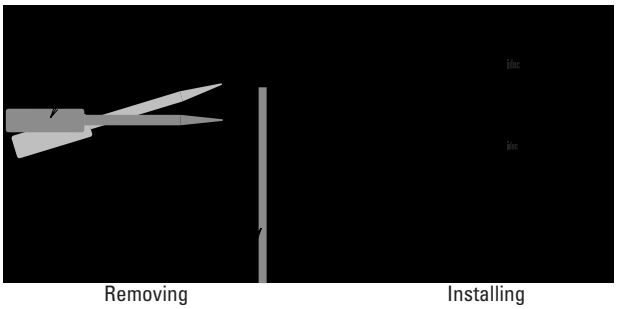
1. When mounting the operator onto a panel, use the optional locking ring wrench (MW9Z-T1) to tighten the locking ring. Tightening torque must not exceed 2.0 N·m. Do not use pliers. Excessive tightening will damage the locking ring.
2. For the contact blocks and transformers housing LED and incandescent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

Removing and Installing the Safety Lever Lock



Removing Installing

Dual Pushbutton Instructions

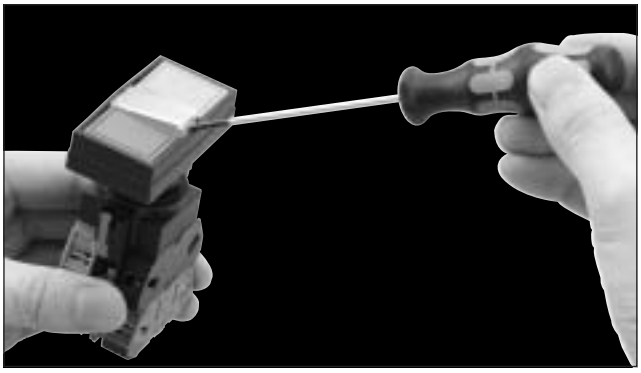
Replacement of Lens

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.



Dual Pushbuttons Instructions con't

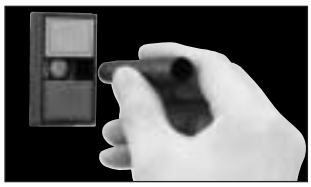
Replacement of Lamps

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

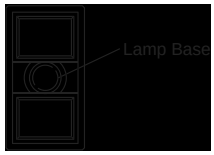
1. To remove, slip the lamp holder tool onto the lamp head lightly. Then push slightly, and turn the lamp holder tool counterclockwise.



Installation

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

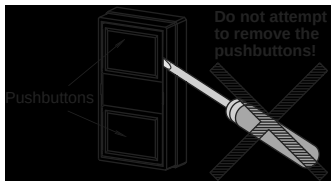
2. Place the pins on the lamp base to the grooves in the lamp socket. Insert the lamp and turn it clockwise.



About Pushbutton Switches

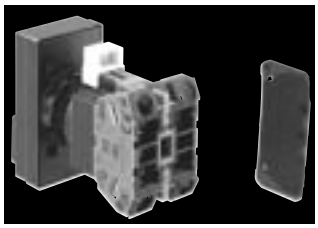
The pushbuttons cannot be removed or replaced!

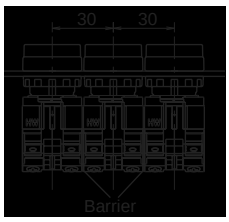
Do not attempt to remove using a flat screwdriver or pincers, otherwise the pushbuttons may be damaged.



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.

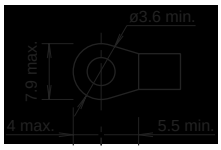
Installation of LED Illuminated Units

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 ø1.6 mm maximum) One or two wires can be connected.

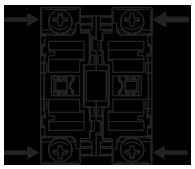
Applicable Crimping Terminal

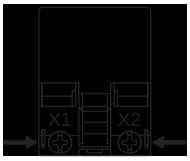


Be sure to use an insulation tube or cover on the crimping part of the crimping terminal to prevent electrical shocks.

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.