

FB series Control Stations

IP65 lightweight control stations. IDEC HW and XW series switches and pilot lights installed.

- ø22 mm switches/pilot lights can be installed.
- Blank front enclosures, without mounting holes, are also available.
- Blank front enclosures can also be used as junction boxes to mount terminal blocks.
- Yellow cover enclosures for emergency stop switches are also available.
- Front panel mounting, rear panel mounting, hook mounting, and frame mounting options are available.



- Contact cover box (Part no.: FB1WBR) is not UL or c-UL listed.
- Enclosures without mounting hole is not UL or c-UL listed. (Enclosures less than 1,639 cm³ is not approved by UL50, 2:8.)
- See website for details on approvals and standards.



Enclosures

Package Quantity: 1

Size	No. of Mounting Holes	Mounting Hole Description	Cover Color (*1)	Part No.
76mm	0	Without mounting hole	Light beige	FB1T-000Z
	1	ø22mm	Yellow	FB1W-111Y
	1	ø22mm	Light beige	FB1W-111Z
140mm	0	Without mounting hole	Light beige	FB2T-000Z
	2	ø22mm, mounting centers 50mm	Light beige	FB2W-211Z
	3	ø22mm, mounting centers 30mm	Light beige	FB2W-312Z
200mm	0	Without mounting hole	Light beige	FB3T-000Z
	3	ø22mm, mounting centers 50mm	Light beige	FB3W-311Z
	4	ø22mm, mounting centers 36mm	Light beige	FB3W-413Z
	5	ø22mm, mounting centers 30mm	Light beige	FB3W-512Z

*1) Light beige (Munsell 5Y7/1 or equivalent), Yellow (Munsell 2.5Y8/10 or equivalent), Enclosure base color: Black (Munsell N1.5 or equivalent)

Contact Cover Box

Package Quantity: 1

Size	No. of Mounting Holes	Mounting Hole Description	Cover Color	Part No.
76mm	1	ø22 mm hole in the base	Light beige	FB1WR-111Z

- For operating instructions, see **C-019**.

Accessories

Description	Part No.	Ordering No.	Package Quantity
Mounting Bracket	FB9Z-PK1	FB9Z-PK1	1
DIN Rail Adapter	FB9Z-PK3	FB9Z-PK3PN02	2
Mounting Hole Plug	LW9Z-BP1	LW9Z-BP1	1

- Connectors and nuts are supplied by users.

Specifications (*2)

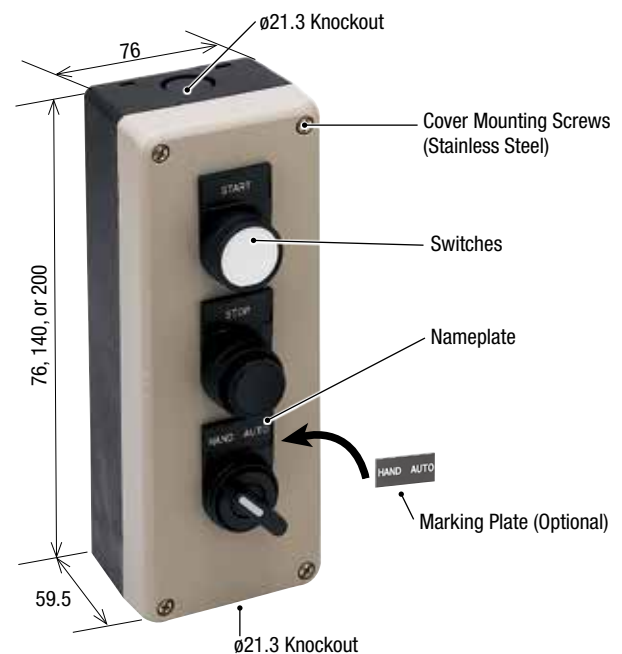
Applicable Standards	IEC/EN60529 UL508 UL50 CSA C22.2 No. 14 CSA C22.2 No. 94
Standard Operating Conditions	Ambient temperature: -25 to +60°C (no freezing) Relative humidity: 45 to 85%RH (no condensation) Storage temperature: -40 to +80°C (no freezing) Degree of pollution: 3
Degree of Protection	IP65 (when IP65 switches/pilot lights are installed) NEMA Type 4X Indoor Use Only (when Type 4X switches/pilot lights are installed)
Electric Shock Protection	Class II (when class II switches/pilot lights are installed)
Material	Box cover / box base: polycarbonate (*5) Box cover mounting screw: stainless
Applicable Switches/ Pilot Lights	IDEC's HW/TW/XW series and accessories (*3) (*4)
Weight (approx.)	76 mm: 125g (FB1W-111Y) 140 mm: 184g (FB2W-211Z) 200 mm: 243g (FB3W-311Z)

*2) The above specifications are for enclosures. For switches/pilot lights, refer to the specifications of each unit.

*3) Choose switches/pilot lights and accessories which match the mounting hole centers, effective depth behind the cover, and the thickness of the cover where switches/pilot lights are installed (3 mm). Note that enclosures with 30 mm or 36 mm mounting hole centers may limit the knob orientation of selector switches, because the contact blocks can be mounted in one direction only on these mounting centers.

*4) An XW series emergency stop switch of screw terminal model can be installed on an enclosure with one mounting hole or mounting holes of 50 mm mounting centers, by connecting one clamping terminal to one terminal pole.

*5) Flame-resistant (UL94V-0).



All dimensions in mm.

Technical drawings of the FB1WR-111Z Contact Cover. The top row shows the front view with dimensions: outer width 76mm, mounting holes 21mm from top/bottom edges, 62mm between side holes, and 15.5mm between bottom holes. It also shows a side view with a height of 59.5mm. The bottom row shows a top-down view of the base with dimensions: 41mm height, 21mm hole offset, 62mm width, and 15.5mm hole offset. A note indicates dimensions are standard.

Technical drawings of the FB2 and FB3 control panels. The drawings include front, side, and top views. Key dimensions and features are labeled:

- Cover Mounting Screws**: Indicated on the front view of the FB2 panel.
- Cover**: Indicated on the side view of the FB2 panel.
- Base**: Indicated on the side view of the FB2 panel.
- 2-ø14 Knockout**: Indicated on the top view of the FB2 panel.
- 4-IP2**: Indicated on the top view of the FB2 panel.
- 2-ø21.3 Knockout**: Indicated on the front view of the FB3 panel.
- Dimensions**:
 - L**: Total height of the FB2 panel.
 - A**: Height of the upper section of the FB2 panel.
 - B**: Height of the lower section of the FB2 panel.
 - C**: Total height of the FB3 panel.
 - 18**: Height of the lower section of the FB3 panel.
 - 76**: Width of the FB2 panel.
 - 59.5**: Width of the base of the FB2 panel.
 - 31**: Width of the lower section of the FB2 panel.
 - 62**: Width of the upper section of the FB2 panel.

	FB2	FB3
L	140	200
A	84	144
B	104	164
C	106	166

[illegible]

SEMI Switch Guard (HW9Z-KG3)

The drawing illustrates the SEMI Switch Guard (HW9Z-KG3) from three perspectives: front, side, and top.

- Front View:** Shows the EMO logo in the center. Dimensions include a width of 76 mm and a height of 35 mm. It features four cover mounting screws at the corners.
- Side View:** Shows the profile of the guard and the switch mechanism. Labels indicate the "EMO Switch" and the "Guard (HW9Z-KG3)".
- Top View:** Provides detailed dimensions for the mounting holes and base. Key dimensions include:
 - Overall width: 62 mm
 - Distance between rear M4 tapping holes: 15.5 mm
 - Distance between front mounting holes: 21 mm
 - Overall depth: 41 mm
 - Base thickness: 18 mm
 - Knockout diameter: $\phi 14$
 - Box base knockout: $2-\phi 21.3$

Additional labels and specifications include:

- "Cover Mounting Screws"
- "4-M4 tapping holes for rear mounting (Depth: 10mm)"
- "2-Front Mounting Holes"
- "Box Cover"
- "Box Base"

Technical drawings of the EMO Switch Guard (HW9Z-KG4) showing dimensions and labels:

- Top View:**
 - Overall width: 90
 - Overall height: 76
 - Mounting holes: 4-M4 tapping holes for rear mounting (Depth: 10mm)
 - Front mounting holes: 2-Front Mounting Holes
 - Knockout: $\phi 14$ Knockout
 - Dimensions: 21, 41, 15.5, 62, 2- $\phi 4.6$
- Side View:**
 - Component: EMO Switch Guard (HW9Z-KG4)
- Bottom View:**
 - Overall width: 59.5
 - Overall height: 35
 - Mounting holes: 2- $\phi 21.3$ Knockout
 - Box Cover
 - Box Base
 - Dimensions: 18

Technical drawings of the M3 tapping holes for rear mounting of the device. The drawings show three views: a top view, a side view, and a front view. The top view shows a rectangular plate with dimensions 45mm x 64mm. The side view shows a rectangular plate with dimensions 92mm x 70mm. The front view shows a rectangular plate with dimensions 150mm x 130mm. The drawings include labels for 'Switch Mounting Area Thickness' (5.5mm), 'Internal Projection' (Height: 1.8mm, diameter: ø1.8mm), and 'M3 Tapping Holes for Rear Mounting (Depth: 7mm)'.

Choose an enclosure in consideration of switch's depth behind the panel and the mounting centers of the adjacent switches.

Switch/Pilot Light Mounting Hole Centers

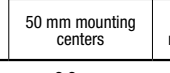
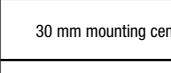
Model	76mm	140mm		200mm		
		2 mounting holes	3 mounting holes	3 mounting holes	4 mounting holes	5 mounting holes
Shape						

Applicable Accessories

Series	Description
HW Series	Nameplate: HWAM, HWAQ, HWAS, HWAV-□
	Marking plate for nameplate: HWNP-□
	Anti-rotation ring: HW9Z-RL
	EMO switch guard: HW9Z-KG3, HW9Z-KG4
	Switch guard: HW9Z-K1, HW9Z-K11
	Pushbutton clear boot: OC-31, OC-32
	Padlock cover: HW9Z-KL1
XW Series Emergency Stop Switches	Nameplate: HWAV-□
	EMO switch guard: HW9Z-KG3, HW9Z-KG4
	Anti-rotation ring: HW9Z-RL
TW Series	Nameplate: NWA-□, NWAQ-□, NWA-S-0, NWA-L-0, NWAQL-0, NWA-V-□
	Anti-rotation ring: OGL-31
	Metal protector: OLW-C
	Pushbutton clear boot: OC-31, OC-32
	Button cover: OCW-10*, OCW-11*
	Padlock cover: HW9Z-KL1, HS9Z-PC22

Note: Confirm the specifications of boxes, switches/pilot lights, and accessories before choosing accessories, referring to separate catalogs.

Mounting Hole Dimensions

Model	76mm	140mm	200mm	140/200mm
	50 mm mounting centers	36/50 mm mounting centers	30 mm mounting centers	
Shape				

Note: For contact cover boxes, see **C-019**.

Applicable DIN Rail

Description	Material	Part No.	Ordering No.
DIN Rail	Aluminum	BAA1000	BAA1000PN10
	Steel	BAP1000	BAP1000PN10
End Clip	Steel	BNL6	BNL6PN10

Note: Use DIN rail adapters FB9Z-PK3 when installing a DIN in the control box. See **H-071** for DIN rail products.

Applicable Terminal Block / Transformer

Series / Part No.	
Terminal Block	BN-W / BNH-W / BN1U BN10W, BN15MW, BN15LW, BN30W BNH10W, BNH15MW, BNH15LW, BNH30W BN1U-16W, BN1U-20W, BN1U-40W
	BA BA111T, BA211T, BA311T
Separate Mounting Transformer TWR5**	

Note: Install the terminal blocks and separate mounting transformers on a DIN rail using two DIN rail adapters (FB9Z-PK3). Choose the types and quantity of terminal blocks, transformers, end clips, and enclosures carefully taking the specifications into consideration. The separate mounting transformer can be installed on a DIN rail adapter directly.

Control Stations

Symbols of Switches

Symbols	Item
	Emergency Stop Switches
	Pushbuttons
	Pilot Lights
	Selector Switches
	Key Selector Switches

Legend / Guard

Legend / Guard	Nameplate Part No.	Guard / Marking Plate Part No.
E-STOP Nameplate	<Optional marking plate>	HWAM
	<Yellow - Blank>	HWAV-0
	EMERGENCY-STOP	HWAV-27
Nameplate	ON	HWAM
	OFF	HWAM
	START	HWAM
	STOP	HWAM
	OFF-ON	HWAM
	HAND-AUTO	HWAM
	HAND-OFF-AUTO	HWAM
Guard	HW9Z-KG4	HW9Z-KG4
	HW9Z-KG3	HW9Z-KG3

1 Hole (Box Size: 76mm)

Symbols	Specification	Switch Part No.	Legend	Part No. (Ordering Part No.)	Color (*)	Part No. (Ordering Part No.)	Color (*)
	XW Series Emergency Stop Switches (Non-illuminated, pushlock pull or turn reset)	XW1E-BV4	1NC	FB1W-XW1E-BV401MRH-Y0	RH	FB1W-XW1E-BV401MRH-Y1	RH
			2NC	FB1W-XW1E-BV402MRH-Y0		FB1W-XW1E-BV402MRH-Y1	
			3NC	FB1W-XW1E-BV403MRH-Y0		FB1W-XW1E-BV403MRH-Y1	
			4NC	FB1W-XW1E-BV404MRH-Y0		FB1W-XW1E-BV404MRH-Y1	
			1NO1NC	FB1W-XW1E-BV411MRH-Y0		FB1W-XW1E-BV411MRH-Y1	
			1NO2NC	FB1W-XW1E-BV412MRH-Y0		FB1W-XW1E-BV412MRH-Y1	
			1NO3NC	FB1W-XW1E-BV413MRH-Y0		FB1W-XW1E-BV413MRH-Y1	
			2NO2NC	FB1W-XW1E-BV422MRH-Y0		FB1W-XW1E-BV422MRH-Y1	
	XW Series Emergency Stop Switches (Illuminated, LED/24V, pushlock pull or turn reset)	XW1E-LV4	1NC	FB1W-XW1E-LV401Q4MR-Y0	R	FB1W-XW1E-LV401Q4MR-Y1	R
			2NC	FB1W-XW1E-LV402Q4MR-Y0		FB1W-XW1E-LV402Q4MR-Y1	
			3NC	FB1W-XW1E-LV403Q4MR-Y00		FB1W-XW1E-LV403Q4MR-Y1	
			4NC	FB1W-XW1E-LV404Q4MR-Y0		FB1W-XW1E-LV404Q4MR-Y1	
			1NO1NC	FB1W-XW1E-LV411Q4MR-Y0		FB1W-XW1E-LV411Q4MR-Y1	
			1NO2NC	FB1W-XW1E-LV412Q4MR-Y0		FB1W-XW1E-LV412Q4MR-Y1	
			1NO3NC	FB1W-XW1E-LV413Q4MR-Y0		FB1W-XW1E-LV413Q4MR-Y1	
			2NO2NC	FB1W-XW1E-LV422Q4MR-Y0		FB1W-XW1E-LV422Q4MR-Y1	
	XW Series Emergency Stop Switches (Push-ON LED, LED/24V, pushlock pull or turn reset)	XW1E-TV4	3NC	FB1W-XW1E-TV403Q4MR-Y0	R	FB1W-XW1E-TV403Q4MR-Y1	R
			1NO2NC	FB1W-XW1E-TV412Q4MR-Y0		FB1W-XW1E-TV412Q4MR-Y1	

Color code (*): Red (R), Bright Red (RH)



Download catalogs and CAD from <http://asia.idec.com/downloads>