

Ø16mm X6 Series Emergency Stop Switches



Excellent safety and design.
The shortest depth behind the
panel in its class.

Actual
Size



If you have ever wondered...

"Which emergency stop switch assures the highest level of safety?"

→ Ask IDEC.

ø16mm X6 Series

Third-generation emergency stop switch with **Reverse Energy Structure**

Long committed to providing the highest level of safety, IDEC has developed the new X6 series unibody emergency stop switch. With IDEC's original Reverse Energy Structure incorporated, the X6 series emergency stop switches provide the highest level of safety in a compact body.

Third-generation
Reverse Energy
Structure

First*

Excellent safety

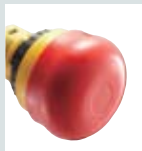
IDEC's unique Reverse Energy Structure, achieved as a result of in-depth failure analysis of emergency stop switches, has resulted in this innovative emergency stop switch. X6 series emergency stop switches provide the highest level of safety, because the unibody design eliminates the possibility of the contact blocks falling off the switch (details on page 3).

* Based on IDEC research as of March 2010.

New

Unparalleled design

The smooth button is ideal for applications that require utmost cleanliness, such as food processing machines or semiconductor manufacturing equipment. Also suitable for applications requiring a sleek design of emergency stop switches, such as medical equipment.



ø30 mm Button
Unmarked



ø30 mm Button
Arrow Marked



ø40 mm Button
Unmarked



ø40 mm Button
Arrow Marked

Only **19.5 mm**
depth behind
the panel

Smallest
in its
class

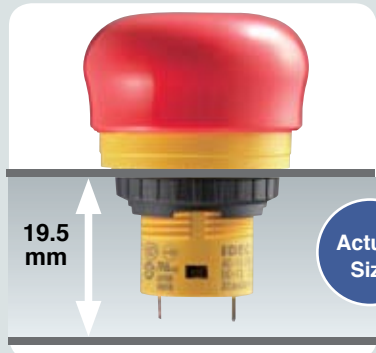
The short depth behind the panel reduces the required mounting space.

Depth: 30% reduction

Volume: 70% reduction

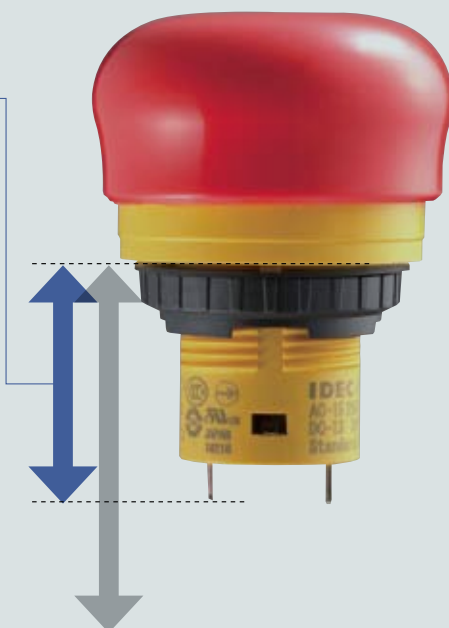
(Compared with conventional emergency stop switch)

The equipment and control panels can be made much smaller.



19.5 mm

Actual
Size



27.9 mm

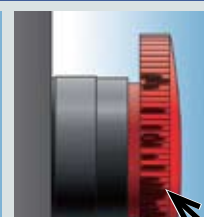
Conventional emergency
stop switch with short
depth behind the panel

Clean

Prevents dust build-up



ø16mm X6 Series



Conventional
Operator

Dust
build-up

The smooth and ridge-less button surface prevents dust built-up, and is also easy to clean.

Variety

Two ways to reset, two button sizes.

The X6 emergency stop switch can be reset either by pulling or turning. The button is available in ø30 mm and ø40 mm sizes. In addition to a red button, a yellow button is also available as a stop switch.



Pull to reset



Turn to reset

Third-generation
Reverse Energy
Structure

Highest Safety

IDEC's Unique Reverse Energy Structure

Third Generation

Compliant with international safety standards. Even more consideration has been taken into account on operator safety.

Satisfies the requirements of:

① ② ③

+

IDEC's Unique
Reverse Energy Structure

Second Generation

Compliant with international safety standards.

Satisfies the requirements of:

① ② ③

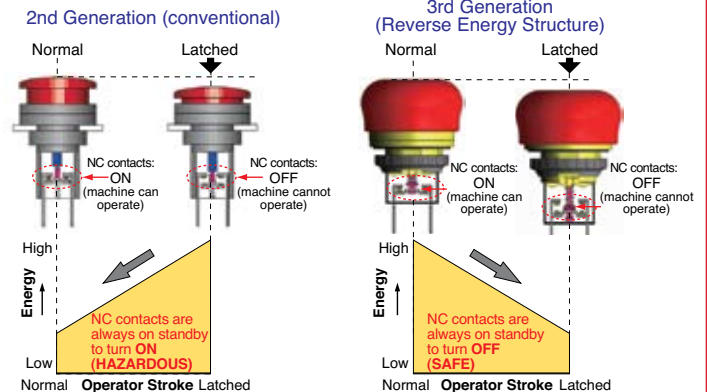
First Generation

Developed before the establishment of international safety standards.

Satisfies the requirements of:

① ②

Energy Status of Emergency Stop Switches



With X series emergency stop switches, the potential energy level of the latched status is lower than that of normal status. In the event the switch is damaged due to excessive shocks, the NC contacts will turn off, thus stopping the machine (patented design).

International Safety Standards Requirements

- ① Red-colored, mushroom actuator, with yellow background. (IEC 60947-5-5; 4.2, ISO 13850; 4.4, IEC 60204-1; 10.7)
- ② Normally closed contacts with a direct opening action (IEC 60947-5-5; 5.2, IEC 60947-5-1; Annex K)
- ③ The emergency stop function shall be maintained by latching of the operator until reset manually (IEC 60947-5-5; 6.2, ISO 13850; 4.4)

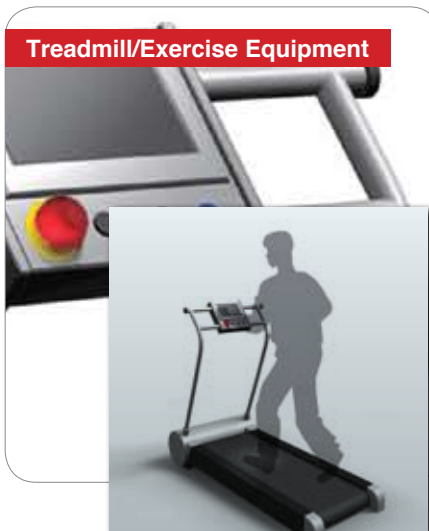
High functionality with sleek design

X6 series emergency stop switches for various applications

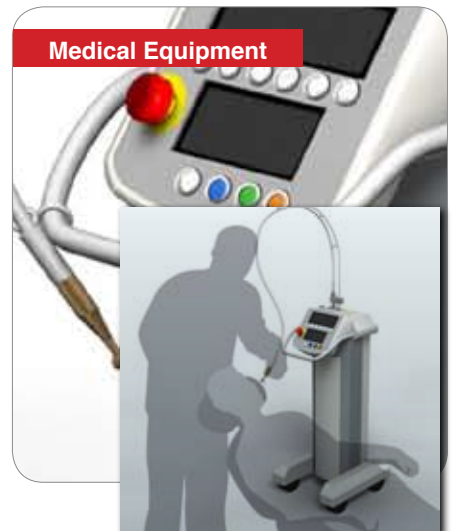
Food Processing Equipment



Treadmill/Exercise Equipment



Medical Equipment



Ø16

Types

Unmarked Type (Pushlock Pull/Turn Reset Switch)

Package quantity: 1

Shape	Main Contact (NC)	Ordering Type No.
ø30mm Mushroom  	1NC	AB6E-3BV01PRH
	2NC	AB6E-3BV02PRH
ø40mm Mushroom  	1NC	AB6E-4BV01PRH
	2NC	AB6E-4BV02PRH

- Pushlock pull/turn reset switches are locked when pressed, and reset when pulled or turned clockwise.

Arrow Marked Type (Pushlock Pull/Turn Reset Switch)

Package quantity: 1

Shape	Main Contact (NC)	Ordering Type No.
ø30mm Mushroom  	1NC	AB6E-3BV01PRM
	2NC	AB6E-3BV02PRM
ø40mm Mushroom  	1NC	AB6E-4BV01PRM
	2NC	AB6E-4BV02PRM

- Pushlock pull/turn reset switches are locked when pressed, and reset when pulled or turned clockwise.

Stop Switch (Unmarked, Yellow Button, Solder Terminal Pushlock Pull/Turn Reset Switch)

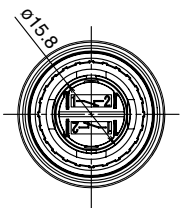
Package quantity: 1

Shape	Operator	Main Contact (NC)	Ordering Type No.
ø30mm Mushroom  	ø30mm button	1NC	AB6E-3BV01PY
		2NC	AB6E-3BV02PY
	ø40mm button	1NC	AB6E-4BV01PY
		2NC	AB6E-4BV02PY

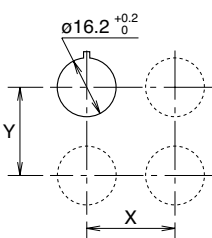
- Pushlock pull/turn reset switches are locked when pressed, and reset when pulled or turned clockwise.
- Do not use the stop switch as an emergency stop switch.

Ø16

Dimensions

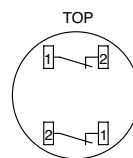


Mounting Hole Layout



	X	Y
ø30 mm Button	40 mm min.	40mm min.
ø40 mm Button	50 mm min.	50mm min.

Terminal Arrangement (Bottom View)



1NC type: Terminals located near the TOP marking

Accessories

Shape	Material	Ordering Type No.	Package Quantity	Remarks
Locking Ring Wrench 	Metal (nickel-plated brass)	MT-001	1	- Used to tighten the locking ring when installing the X6 switch onto a panel. - Recommended tightening torque: 0.88 N·m maximum
Locking Ring 	Plastic	XA9Z-LNPN10	10	Black

X6 Series Emergency Stop switch (Unibody Type) ø16

Nameplate (for emergency stop switch)

Package quantity: 1

Description	Legend	Ordering Type No.	Material	Background Color	Legend Color
For ø30mm Button	Blank	HAAV-0	Polyamide	Yellow	Black
	EMERGENCY STOP	HAAV-27			
For ø40mm Button	Blank	HAAV4-0			
	EMERGENCY STOP	HAAV4-27			

- Cannot be used with switch guard.

SEMI S2 Compliant Switch Guard

Package quantity: 1

Shape	Material	Ordering Type No.	Remarks
	Polyamide (PA6)	XA9Z-KG1	• IP65 degree of protection • Color: yellow (Munsell 2.5Y8/10 or equivalent) • Cannot be used with nameplate.

Note:

Switch guards have been designed for applications in semiconductor manufacturing equipment only. Do not use the switch guards with emergency stop switches which are installed on other machines such as machine tools or food processing machines. Machinery Directive of the European Commission and IEC 60204-1 require that emergency stop switches be installed in a readily accessible area, and the usage of switch guards is not permitted.

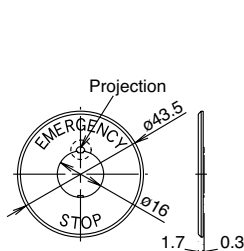
White Nameplate (for stop switch)

Package quantity: 1

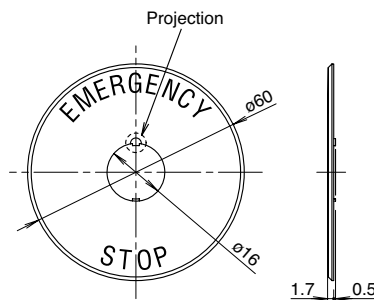
Description	Legend	Ordering Type No.	Material	Background Color
For ø30mm Button	Blank	HAAV-0-W	Polyamide	White (Munsell N9.5)
For ø40mm Button		HAAV4-0-W		

Dimensions

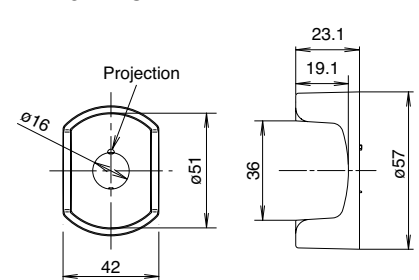
• Nameplate for ø30mm Button HAAV-*



• Nameplate for ø40mm Button HAAV4-*



• Switch Guard XA9Z-KG1



- Remove the projection from the nameplate using pliers, otherwise the switch cannot be installed.
- Panel thickness when using a nameplate: 0.5 to 3 mm

- Remove the projection from the switch guard using pliers, otherwise the switch cannot be installed.
- Panel thickness when using a nameplate: 0.5 to 3 mm

ø16 X6 Series Emergency Stop switch (Unibody Type)

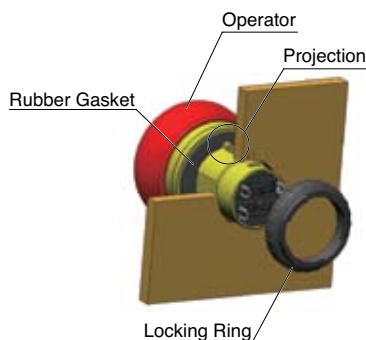
Safety Precautions

- Turn off power to the X6 series units before installation, removal, wiring, maintenance, and inspection. Failure to turn power off may cause electrical shocks or fire hazard.
- For wiring, use wires of proper size to meet the voltage and current requirements and solder properly. Improper soldering may cause overheating and create fire hazards.

Instructions

Panel Mounting

Remove the locking ring from the operator and check that the rubber gasket is in place. Insert the operator from panel front into the panel hole. Face the side with the projection upward, and tighten the locking ring using the locking ring wrench MT-001.



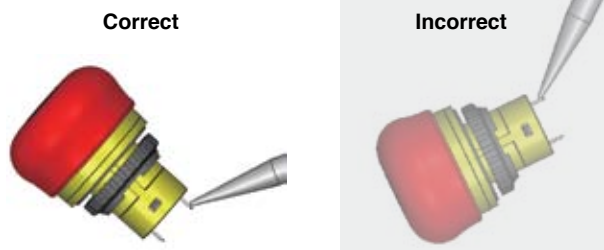
• Notes for Panel Mounting

Using the locking ring wrench MT-001, tighten the locking ring to a torque of 0.88 N·m. Do not use pliers. Do not apply excessive force, otherwise the locking ring will become damaged.

Wiring

1. Applicable wire size is 1.25 mm² maximum.
2. Solder the terminals using a soldering iron at 310 to 350°C for 3 seconds maximum. Do not use flow or dip soldering. SnAgCu type lead-free solder is recommended. Make sure that the soldering iron touches the terminals only, not plastic parts. Do not apply external force such as bending the terminals or applying tensile force on the wires.

3. Use a non-corrosive rosin flux. To prevent the flux from entering the switch while soldering, face the terminals downward.



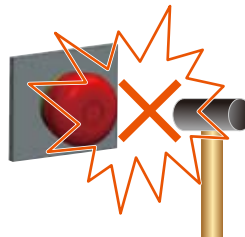
4. Because the terminal spacing is narrow, use protective tubes or heat shrinkable tubes to avoid burning the wire sheath or short circuit.
5. Apply force on the terminals in the vertical direction to the panel only, otherwise the terminals will be damaged.

Contact Bounce

When the button is reset by pulling or turning, the NC contacts will bounce. When designing a control circuit, take the contact bounce time into consideration (reference value: 20 ms).

Handling

Do not expose the switch to excessive shock and vibrations, otherwise the switch may be deformed or damaged, causing malfunction or operation failure.



Specifications and other descriptions in this catalog are subject to change without notice.



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