

Breaker type applicable

IEC 60529 IP54

Type name	Breaker type applicable				Outline (Fig.)	Dimensions (mm)					Outline	Position of Trip button	Attached Parts
	MCCB	pole	ELCB	pole		A	B	C	D	E			
F-03SV2 F-03SVE2	NF32-SVF,NF63-CVF/SVF	2	NV32-SVF,NV63-CVF/SVF	2	3, 5	9	82.5	-	-	-	Fig1	-	1) Instruction Manual (1pc) 2) Operating handle mtg.screws (2pcs): (b) M4X7.3
F-03SV F-03SVE	NF32-SVF,NF63-CVF/SVF	3	NV32-SVF,NV63-CVF/SVF	3	4, 5	18	-	-	-	-	-	-	3) Flat head screws (4pcs): (b) M4X10
F-05SV2 F-05SVE2	NF32-SV,NF63-CV/SV/HV/HDV NF125-CV/F DSN32-SV,DSN63-CV/SV	2	-	-	3, 6	12.5	-	-	-	-	-	F	4) Flush plate (1pc)
F-05SV F-05SVE	NF32-SV,NF63-CV/SV/HV/HDV NF125-CV/F/SVF/HDV NF63-ZCV/ZSV/ZHV,NF63-NCV/NCVZ DSN32-SV,DSN63-CV/SV	3 · 4	NV32-SV,NV63-CV/SV/HV NV125-CV/F/SVF NV63-NCV	2 · 3	4, 6	105	25	-	-	-	-	G	5) Packing (1pc)
F-1SV2 F-1SVE2	NF125-SV DSN125-CV/SV	2	-	-	3, 6	15	-	-	-	-	-	F	6) Hook plate (1pc)
F-1SV F-1SVE	NF125-CV/SV/HV NF125-ZCV/ZSV/ZHV NF125-NCV/NSV/NCVZ/NSVZ NF125-SVL,DSN125-CV/SV	3 · 4	NV125-CV/SV/HV NV125-NCV/NSV NV125-SVL	3 · 4	4, 6	30	-	-	-	-	-	G	7) Breaker mtg.screws (2pcs): (a) M4X6.2 Note: F-03SV, F-03SVE only
F-2SV F-2SVE	NF125-SEV/LEV/HEV/RV/HDA NF125-SGLV/LGV/HGV/RGV/LXV/HXV NF160-SGLV/LGV/HGV/SXV/LXV/HXV NF250-CV/SV/HV/SEV/LEV/HEV/RV/HV/HDA NF250-ZCV/ZSV/ZHV/ZEV NF250-NCV/NSV/NCVZ/NSVZ NF250-SVL,DSN250-CV/SV NF250-SGLV/LGV/HGV/RGV/CXV/SXV/LXV/HXV	2 · 3 · 4	NV125-SEV/HEV NV250-CV/SV/HV NV250-SEV/HEV NV250-NCV/NSV NV250-SVL	3 · 4	4, 6	107	35	126	-	-	-	H	

For correct operation, please go over this paper "Instruction Manual for F type Operating Handle" beforehand.

There is no other application except above table.

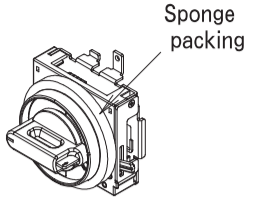
The marks used respectively mean the following.

	CAUTION	Wrong handling can cause dangerous situation in which possibility of fatal accidents or serious injuries assumed.
	This means prohibition. Never ignore this indication.	
	Be sure to follow these instructions without fail.	
	Warning for possible electrification under certain conditions.	

1. Be sure to follow for the performance of IP54

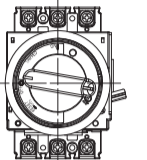
CAUTION

- Please do not remove Sponge packing.
- Please install the packing built into the door side between the door and Hook plate.
- It is necessary that Sponge packing compress 1~5mm by closing the door.
 - Please make it to the size for which depth in installation respect of Breaker from the door is specified.
 - Please adjust depth in installation respect of Breaker from reinforcement or the door of the door when the space is generated by the distortion etc. of the door.
- Please make the position of hinge a specified size.
- Please install the space between Flush plate and Operating Handle uniformly.
- Please tighten the flat head screw of Flush plate surely by a regulated torque.



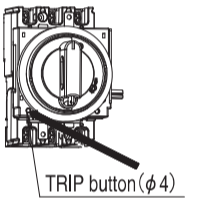
2. Cautionary instructions for operation

- Do not use organic solvent (thinner etc) to clean the Operating handle.
- Direction of the Handle where the door is made open. When the door is open, the Handle may move from ON to OFF position. This causes no problem for Handle function.
- When the door is to be opened with the Breaker ON, open it with the Release screw left turned in the arrowed direction. When the door is open, should not touch the live parts.
- Operate the Handle with the power of 5N · m and under. (In case of F-03SV and F-03SV2 operate 2N · m and under)
- The door lock mechanism doesn't have strength by which the entire door of the enclosure is maintained. Please fix the door of the enclosure with the detent tool on the enclosure side.
- It can not be operated when the mounting direction LINE and LOAD is mounted accidentally.
- Should not trip operation to OFF position.
- Please exchange the Release protection for the new when remove by installing it once.
- Normal service condition maintenance and others have been described to Handling and Maintenance for Molded-case circuit breakers.
- Do not stop the turning ON · OFF and RESET operation on the way.
- In case of DF (OPEN:OFF), the door is opened after confirming the handle is at the turning off position. (The horizontal)

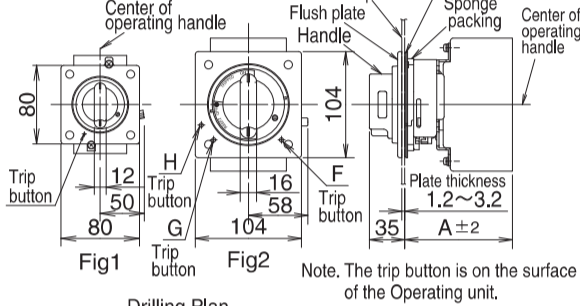


3. Specification

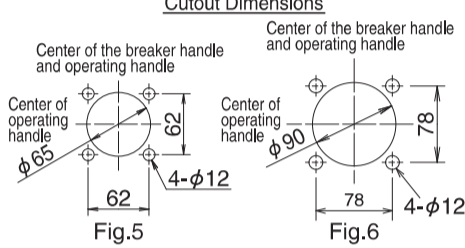
- Safety device (Interlock lever) is equipped so that the Handle cannot be operated when panel-door is opened.
- Operation Lock Mechanism
 - LF (LOCK:OFF) : OFF lock only, (Standard)
 - LN (LOCK:ON/OFF) : ON/OFF lock type.
- Door Lock Mechanism
 - DR (OPEN:RESET) : RESET-position open type. (Standard) The door can be opened with the RESET operating.
 - DF (OPEN:OFF) : OFF-position open type. The door can be opened with the OFF operating.
- Mounting direction
 - Vertically type (ON side of Breaker is upper) Standard
 - Y (MOUNTING:LEFT) : The Horizontally type. (ON side of Breaker is left)
 - Z (MOUNTING:RIGHT) : The Horizontally type. (ON side of Breaker is right)
- The degree of protection (IEC 60529) is IP54.
- The products of which Cat.No. include "E" are for emergency stop equipments and they have red handle and yellow Flush plate.
- When the trip button is pushed with the door opened, the breaker does trip. the position of the trip button is different in the type name.



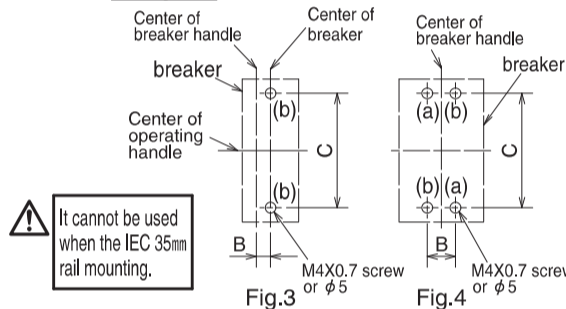
Outline & Dimensions



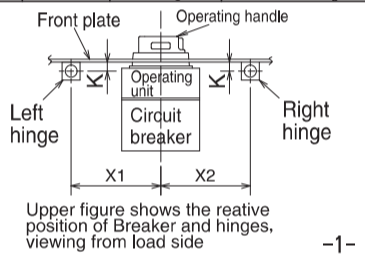
Front Plate Cutout Dimensions



Drilling Plan

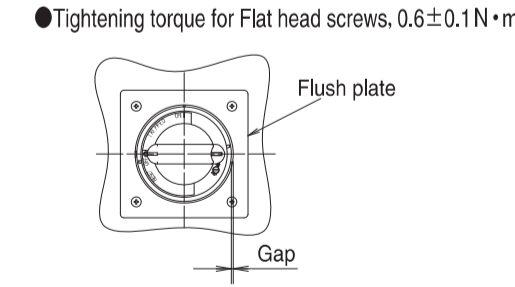
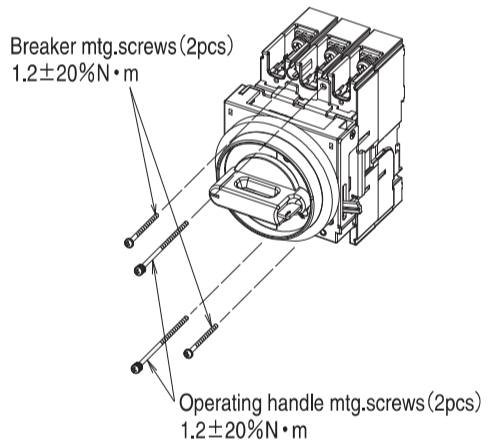


Left hinge		Right hinge	
K	X1	K	X2
0 or higher	(5K + 85) or higher	Less than 10	170 or higher
		10 or higher	(5K + 120) or higher



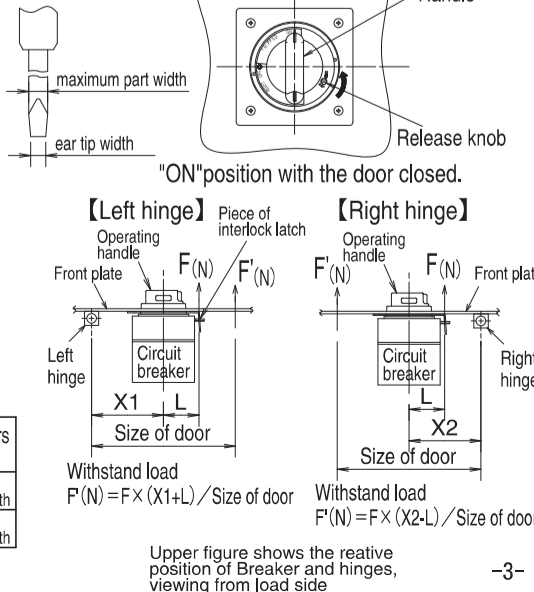
4. Installation for Operating handle

- Mounting of the Operating handle
 - Mount the Breaker and the Operating handle in following the matter.
 - Breaker is OFF position
 - Operating handle (for 3poles and 4poles)
 - Mount the Breaker using Breaker mtg.screws (2pcs) on the board. Under the Operating handle is OFF ("O" mark) position. Mount the Operating handle on the breaker using the Operating handle mtg.screws (2pcs) of packed together.
 - Operating handle (2P)
 - Under the Operating handle is OFF ("O" mark) position. Mount the Operating handle on the breaker using the Operating handle mtg.screws (2pcs) of packed together.
- Mounting of the Flush plate, the Packing and the Hook plate
 - Provide bores on the door to the boring dimensions to mount the Flush plate, the Packing and the Hook plate using Flat head screws contained in the package of the Operating handle. When the horizontal mounting type for Breaker, Turn the interlock latch at the same time to be aligned with the Interlock lever.
- Adjustment in position where the Flush plate is mounted
 - fasten the Flush plate temporarily. Close the door. Adjust the Breaker and the Operating handle in position, so that gap between above two becomes uniform. Tighten the Flat head screws securely.



5. How to the door interlock

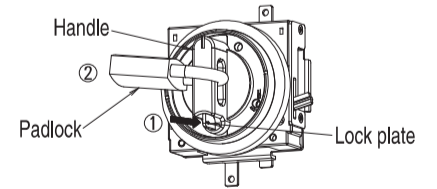
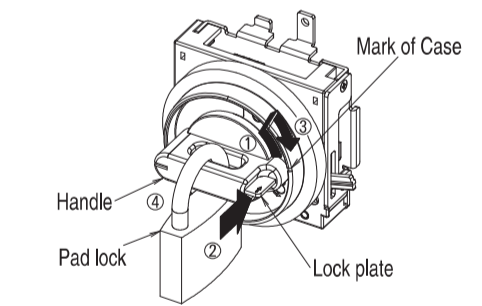
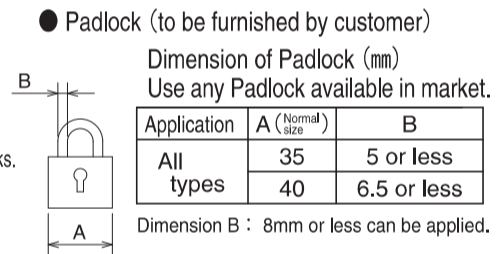
- The door can be locked in ON and TRIP position. It is possible to open the door in ON position, open it the release knob right turned in arrowed direction by the screwdrivers for slotted-head screws.
- Withstand load to the door interlock
 - Withstand load to the door F (N) is 500N on the piece of interlock latch. (F-03SV, F-03SV2 is 200N) Otherwise, The operating handle may be destructed.
 - *Withstand load to the door interlock changes depending on the size of the door.



Type name	F (N)	L (mm)	Dimension of the screwdrivers for slotted-head screws
F-03SV2, F-03SV, F-03SVE2, F-03SVE	200	39	4mm in ear tip width, 4mm or less in maximum part width
Except type name on the above table	500	50	4mm in ear tip width, 5mm or less in maximum part width

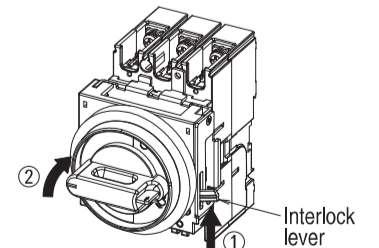
6. How to lock the handle

- The Operating handle for standard models can be locked at OFF position only. The ON/OFF lock types can be locked at ON position. It can be used the up to 3 Padlocks (A=35, 40mm) or the Lockout Hasp.
- Note: F-03SV, F-03SV2, F-03SVE, F-03SVE2 can be locked by 2 Padlocks. It is available opening the door by using the release operation when the lockup condition.
- OFF lock (Standard models, ON/OFF lock type)
 - Turn the Handle toward the reset position at the mark of case. (1) push the Lock plate (2), return the Handle in OFF position (3). Use the padlock through the Handle's hole to lock the Handle (4).
 - How to release the OFF lock
 - Please detach the Padlock, turn the Handle to reset direction until the lock plate return to the former position. (Please check that the Lock plate has plugged up the hole of the center of the Handle.)
 - ON lock (ON/OFF lock type)
 - Push the Lock plate in the arrowed direction with the Handle turned to "ON" position (1) then lock the Handle with a Padlock (2).
 - Perform trip display when the Circuit-breaker trips even when the lock is ON. "Only when one Padlock (weight of 70g or less) is available"



7. How to release the safety device

- The Operating handle of standard type incorporates safety device. (The Breaker will not be energize as far as the door is kept open condition.) To energize the Breaker with the door open, turn the Handle to "ON" position and (1) Interlock lever pushed in the direction of arrow and turn the Handle to "ON" position. (2)



8. Accessory

- Terminal cover "TC-L" "TC-S" "TTC"
 - The normal Terminal cover can be attached to the breaker with the external handle on it. But when use Handle No. F-05SV2, F-05SVE2, F-1SV2, F-1SVE2 use the exclusive Terminal cover. Note: The small Terminal cover for a four-pole model can not be attached.
- Release protection "F-RCS"
 - Seal for Release knob, it prevents the door open operation.

