

## TEMBREAK 2

### MOULDED CASE CIRCUIT BREAKERS 16A TO 630A

1.	Welcome to TemBreak 2	
2.	Ratings and Specifications	
3.	Operating Characteristics	
4.	Application Data	
5.	Accessories	
6.	Installation	
7.	<b>Dimensions</b>	
	• S125-NF, S160-NF	87
	• E125-NJ, S125-NJ, S125-GJ	88
	• S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ	90
	• H125-NJ, L125-NJ, H160-NJ, L160-NJ, S250-NE, H250-NJ, H250-NE, L250-NJ	92
	• E400-NJ, S400-CJ, S400-NJ, S400-GJ, S400-NE, S400-GE	94
	• H400-NJ, H400-NE, L400-NJ, L400-NE	96
	• E630-NE, S630-CE, S630-GE	98
	• Operating Handles	100
	• Terminal Covers	105
	• Interpole Barriers	107
	• Terminal Blocks for Front-Connected and Rear-Connected MCCBs	108
	• Slide Interlocks	109
	• Link Interlocks	112
	• Wire Interlocks	114
	• Position of Trip Button	116



## TEMBREAK 2

### MINI MOULDED CASE CIRCUIT BREAKERS 10A TO 100A

8.	TemBreak 2 MINI Moulded Case Circuit Breakers
----	---

## TEMBREAK

### MOULDED CASE CIRCUIT BREAKERS 630A TO 160A

9.	TemBreak Moulded Case Circuit Breakers
----	--

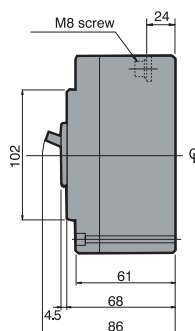
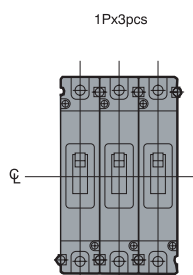
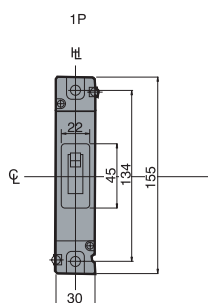
10.	Order Codes
-----	-------------

# DIMENSIONS

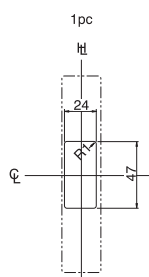
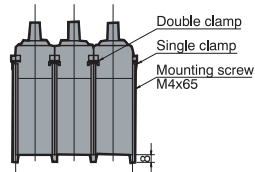
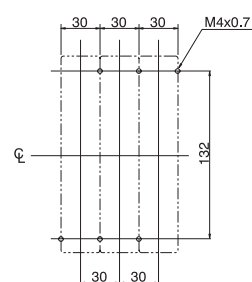
## S125-NF, S160-NF

ASL: Arrangement Standard Line  
HL: Handle Frame Centre Line

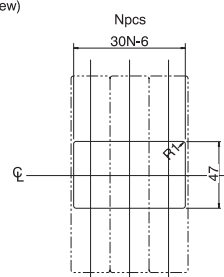
S125-NF Front connected



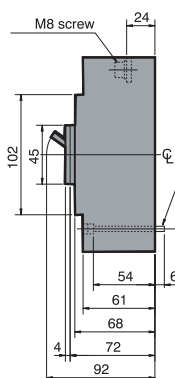
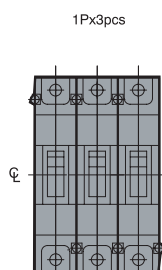
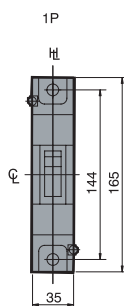
Drilling plan  
(front view)



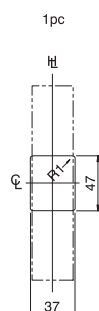
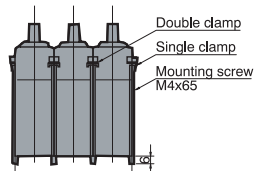
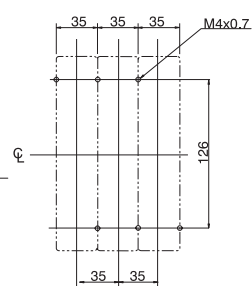
Panel cutout  
(front view)



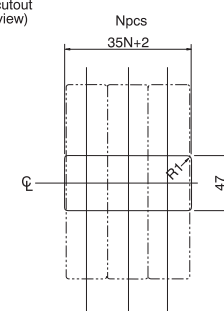
S160-NF Front connected



Drilling plan  
(front view)



Panel cutout  
(front view)

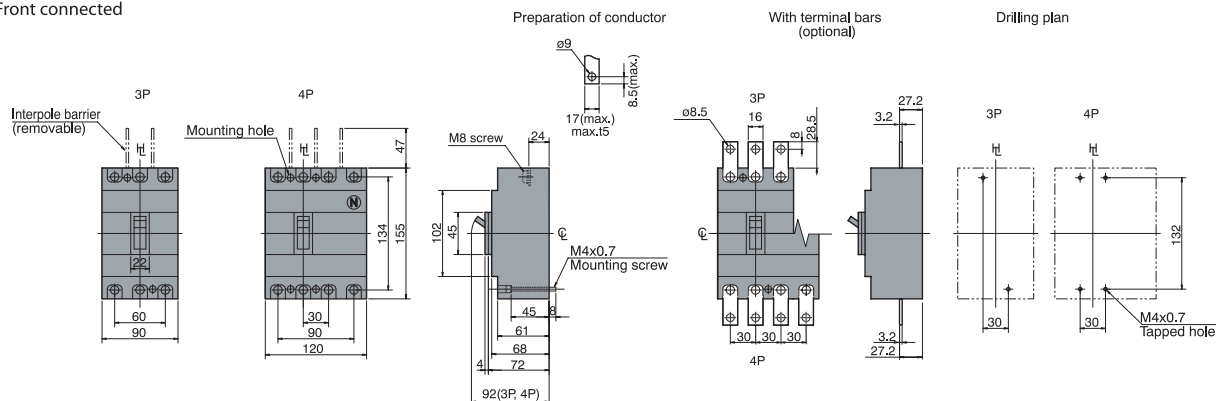


## E125-NJ, S125-NJ, S125-GJ

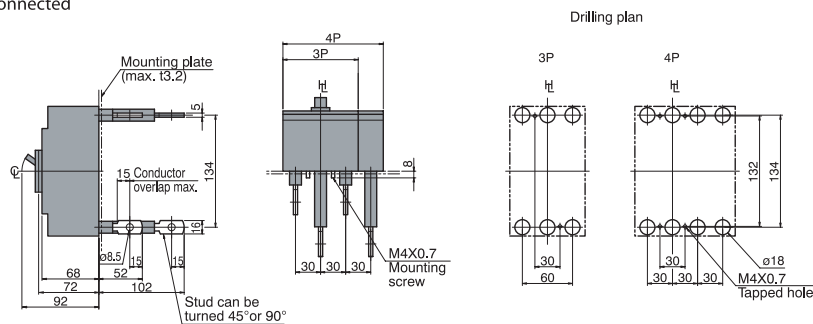
ASL: Arrangement Standard Line

H : Handle Frame Centre Line

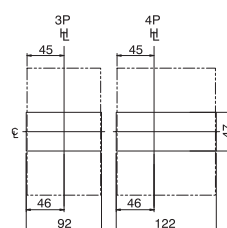
### Front connected



## Rear connected

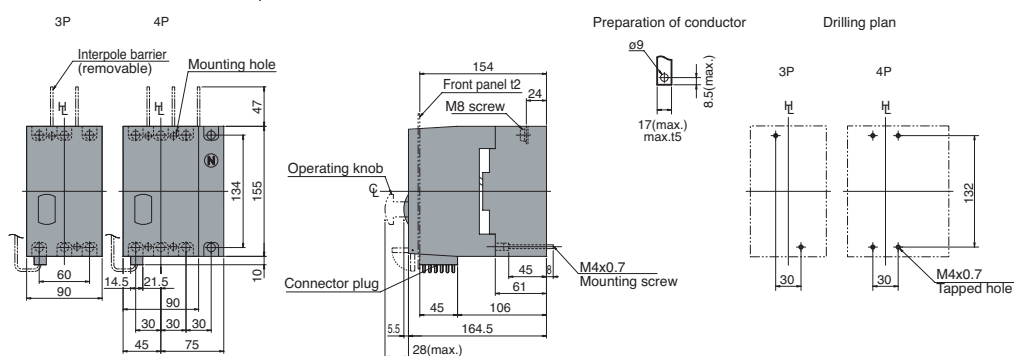


Panel cutout  
(Front view)

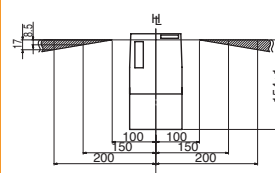


Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.

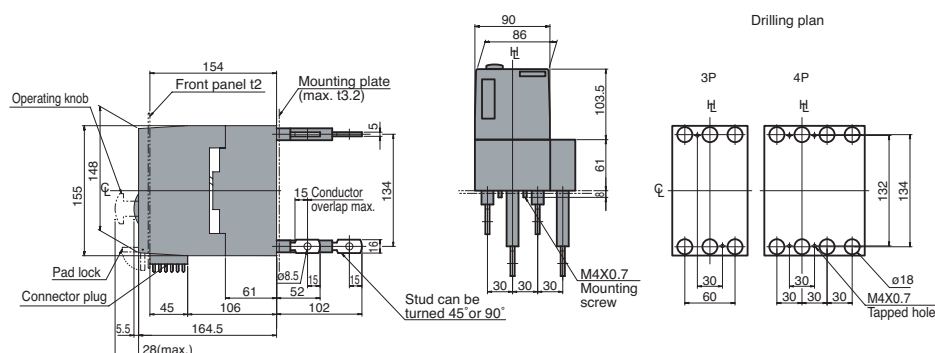
Front connected with Motor Operator



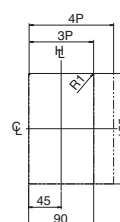
Panel hinge position (hatching area)  
bottom view



### Rear connected with Motor Operator



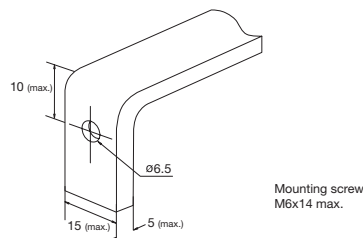
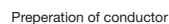
Panel cutout  
(Front view)



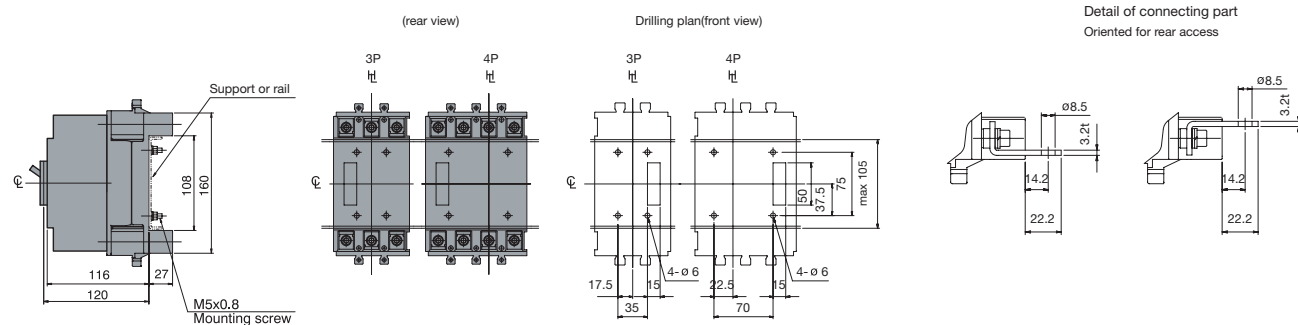
Panel cutout dimensions shown give an allowance of 1.5mm around the handle escutcheon.

## E125-NJ, S125-NJ, S125-GJ. Plug-in Versions

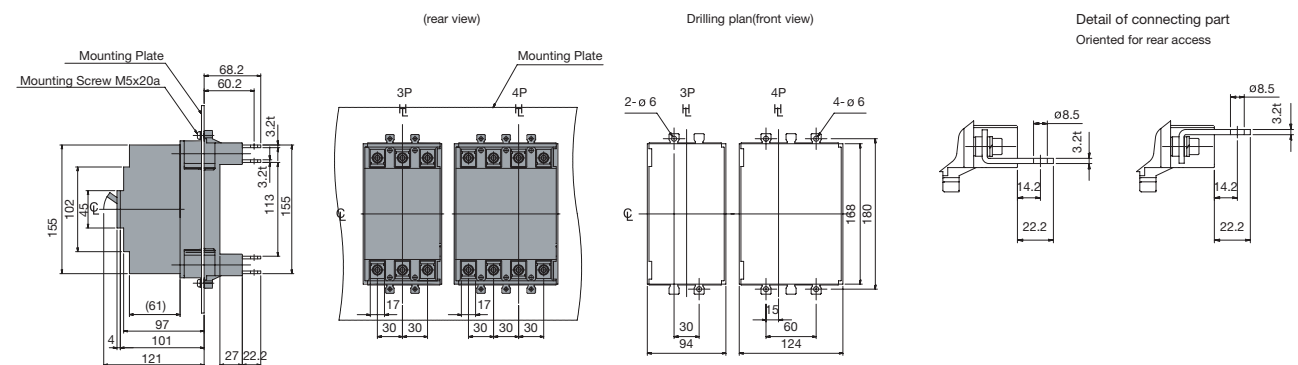
### Outline Dimensions



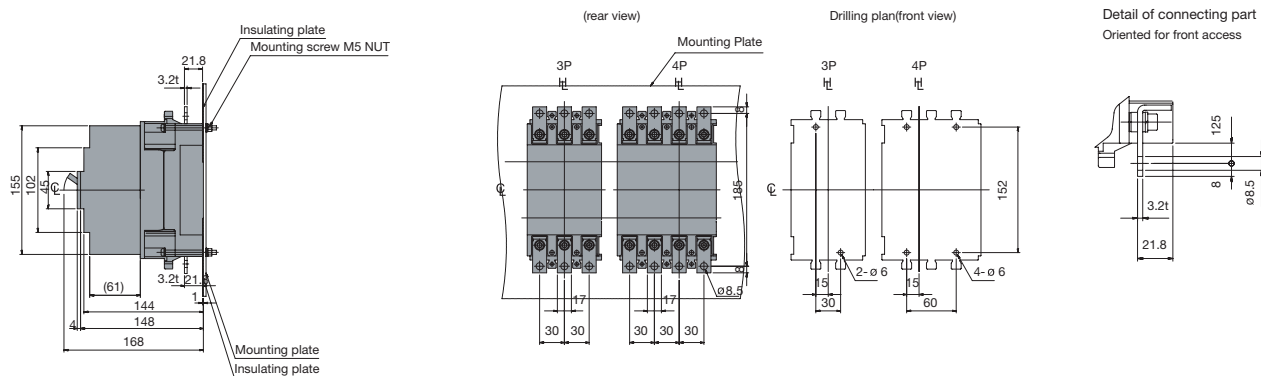
**Mounting on a support or rails** (shown with optional connection bars oriented for rear access)



**Mounting through the backplate** (shown with optional connection bars oriented for rear access)



**Mounting on the backplate** (optional connection bars must be oriented for front access)



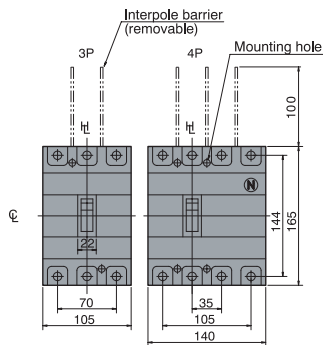
Note that the insulation plate (supplied as standard) must be fitted between the base and the backplate.

## S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ

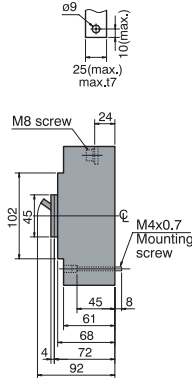
ASL: Arrangement Standard Line

H<sub>L</sub>: Handle Frame Centre Line

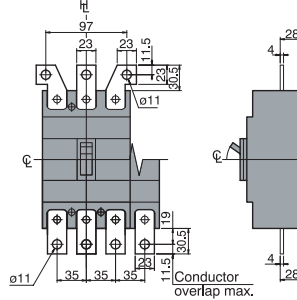
Front connected



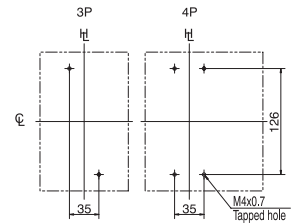
### Preparation of conductor



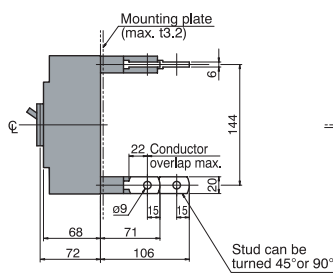
With terminal bars  
(optional)



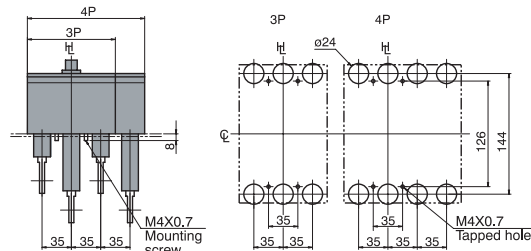
### Drilling plan



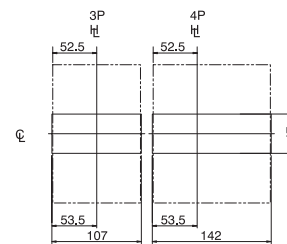
## Rear connected



### Drilling plan

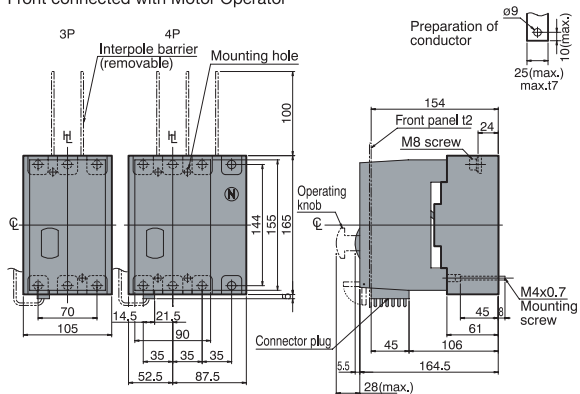


Panel cutout  
(Front view)

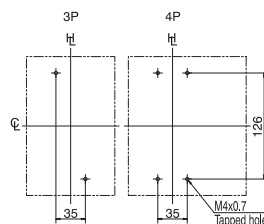


Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.

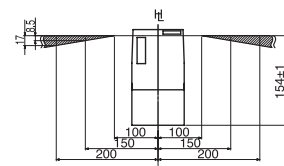
Front connected with Motor Operator



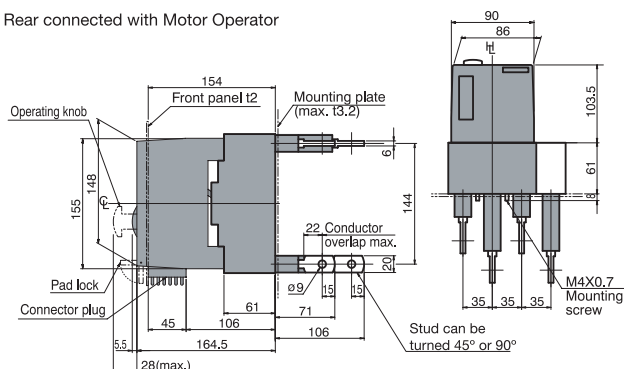
## Drilling plan



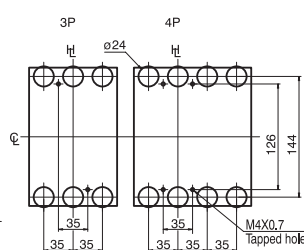
Panel hinge position (hatching area)  
bottom view



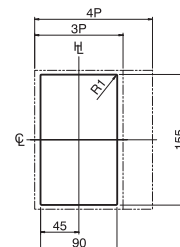
### Rear connected with Motor Operator



### Drilling plan



Panel cutout  
(Front view)

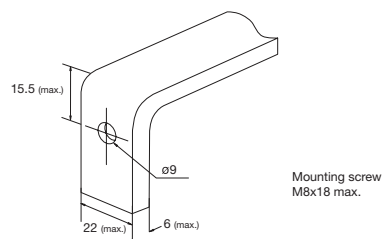


Panel cutout dimensions shown give an allowance of 1.5mm around the handle escutcheon.

## S160-NJ, S160-GJ, E250-NJ, S250-NJ, S250-GJ. Plug-in Versions

H<sub>L</sub>: Handle Frame Centre Line

### Preparation of conductor



Technical drawing showing two types of mechanical components, 3P and 4P, with their dimensions and part labels.

**Component 3P:**

- Top view: 3P
- Side view: 3P
- Dimensions: 35 (total width), 10 (central hole diameter), 15 (inner hole diameter), 17.5 (distance from center to edge), 70 (distance from center to edge), 15 (inner hole diameter), 105 (total height), 75 (distance from top to bottom hole), 37.5 (distance from top to bottom hole), 15 (inner hole diameter), 10 (central hole diameter).
- Labels: 4-ø 6 (four holes of diameter 6), 10 (central hole diameter), 15 (inner hole diameter), 17.5 (distance from center to edge), 70 (distance from center to edge), 15 (inner hole diameter), 105 (total height), 75 (distance from top to bottom hole), 37.5 (distance from top to bottom hole), 15 (inner hole diameter), 10 (central hole diameter).

**Component 4P:**

- Top view: 4P
- Side view: 4P
- Dimensions: 70 (total width), 15 (inner hole diameter), 105 (total height), 75 (distance from top to bottom hole), 37.5 (distance from top to bottom hole), 15 (inner hole diameter), 10 (central hole diameter).
- Labels: 4-ø 6 (four holes of diameter 6), 15 (inner hole diameter), 105 (total height), 75 (distance from top to bottom hole), 37.5 (distance from top to bottom hole), 15 (inner hole diameter), 10 (central hole diameter).

Terminal bars should be connected alternately on adjacent poles.

Technical drawings of the 3P4P terminal block. The left drawing is a side view showing dimensions: total width 88mm, mounting plate width 76.5mm, mounting hole spacing 41mm, total height 172mm, mounting plate height 116mm, terminal height 41mm, and terminal spacing 4mm. The right drawing is a rear view showing two columns of terminals labeled 3P and 4P, with a center-to-center distance of 35mm between columns and 22mm between individual terminals.

Technical drawing showing two views of a rectangular plate. The left view is a front elevation showing a plate with a width of 109 mm and a height of 190 mm. It features two vertical holes, each with a diameter of 6 mm and a pitch of 3P. The distance between the centers of the holes is 35 mm. The right view is a side elevation showing a plate with a width of 144 mm and a height of 178 mm. It features two vertical holes, each with a diameter of 6 mm and a pitch of 4P. The distance between the centers of the holes is 70 mm. The distance from the left edge to the center of the first hole is 17.5 mm. The overall dimensions are 109 mm by 190 mm for the left view and 144 mm by 178 mm for the right view.

Terminal bars should be connected alternately on adjacent poles.

[illegible]

Technical drawing showing two types of valves, 3P and 4P, with their dimensions and specifications.

**3P Valve Dimensions:**

- Top: 3P
- Height: 160
- Bottom: 35
- Internal hole: 2-ø 6
- Distance between holes: 70

**4P Valve Dimensions:**

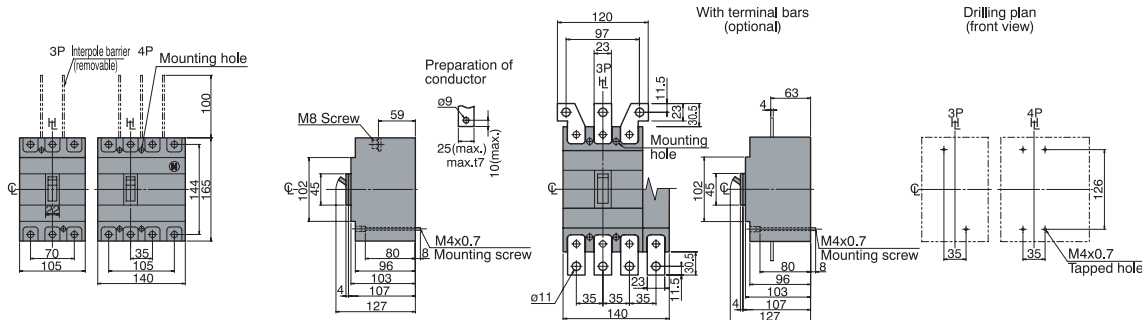
- Top: 4P
- Height: 160
- Bottom: 40
- Internal hole: 2-ø 6
- Distance between holes: 70
- Additional hole: 4-ø 6

## H125-NJ, L125-NJ, H160-NJ, L160-NJ, S250-NE, H250-NJ, H250-NE, L250-NJ

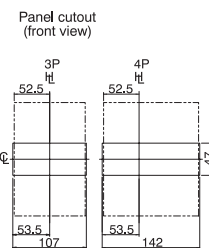
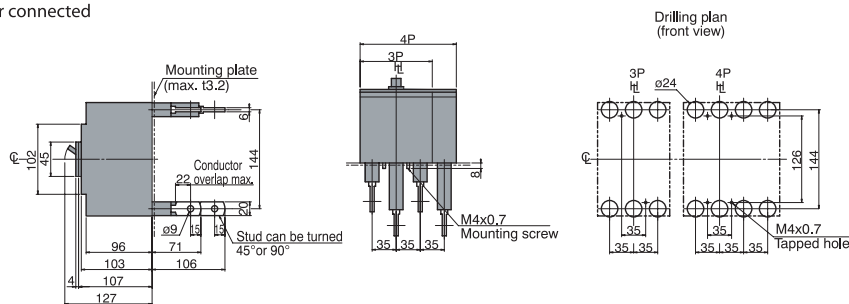
ASL: Arrangement Standard Line

HL: Handle Frame Centre Line

Front connected

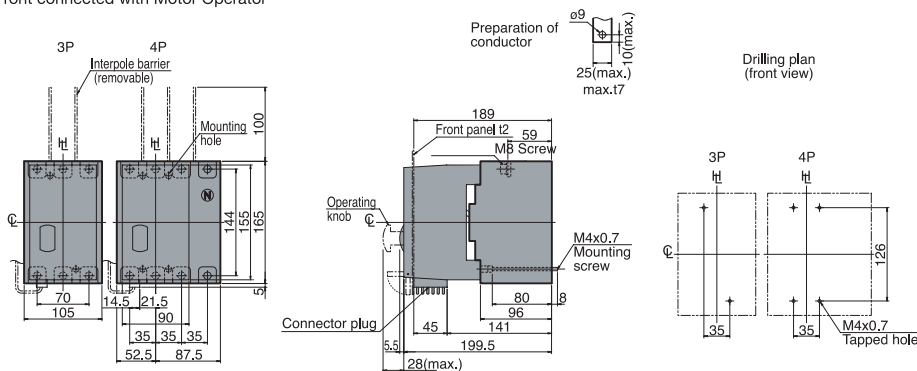


Rear connected

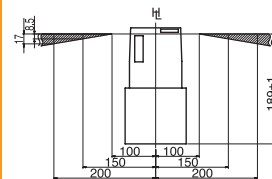


Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.

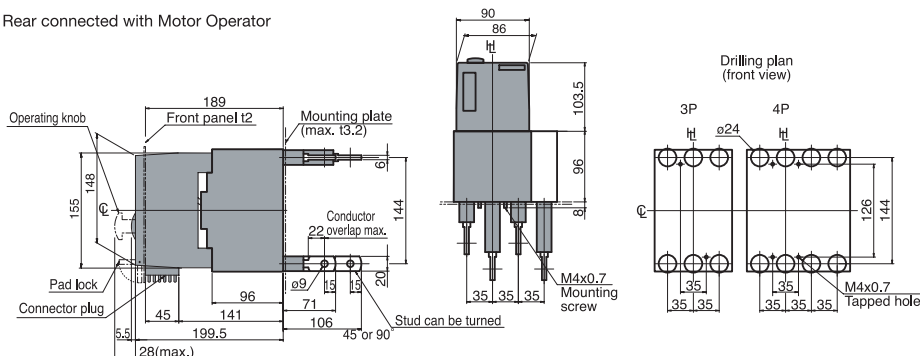
Front connected with Motor Operator



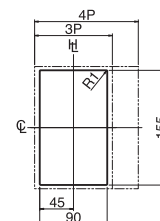
Panel hinge position (hatching area) bottom view



Rear connected with Motor Operator



Panel cutout (front view)



Panel cutout dimensions shown give an allowance of 1.5mm around the handle escutcheon.

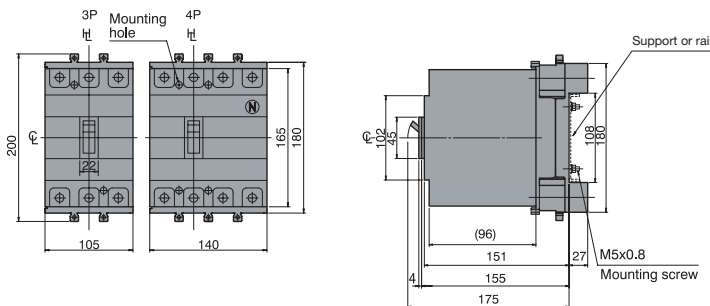
# DIMENSIONS

## H125-NJ, L125-NJ, H160-NJ, L160-NJ, S250-PE, H250-NJ, H250-NE, L250-NJ. Plug-in Versions

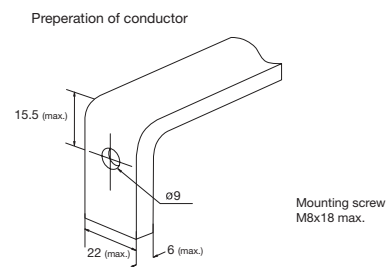
ASL: Arrangement Standard Line

HL: Handle Frame Centre Line

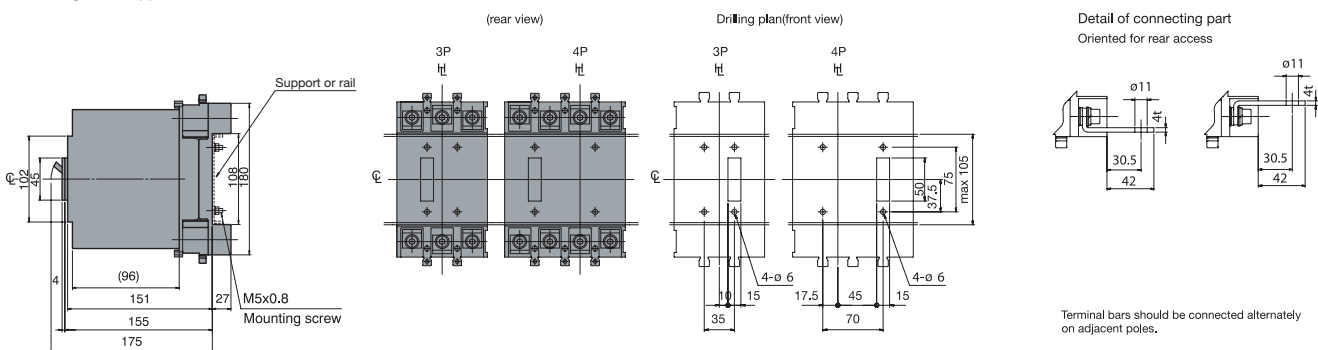
### Outline Dimensions



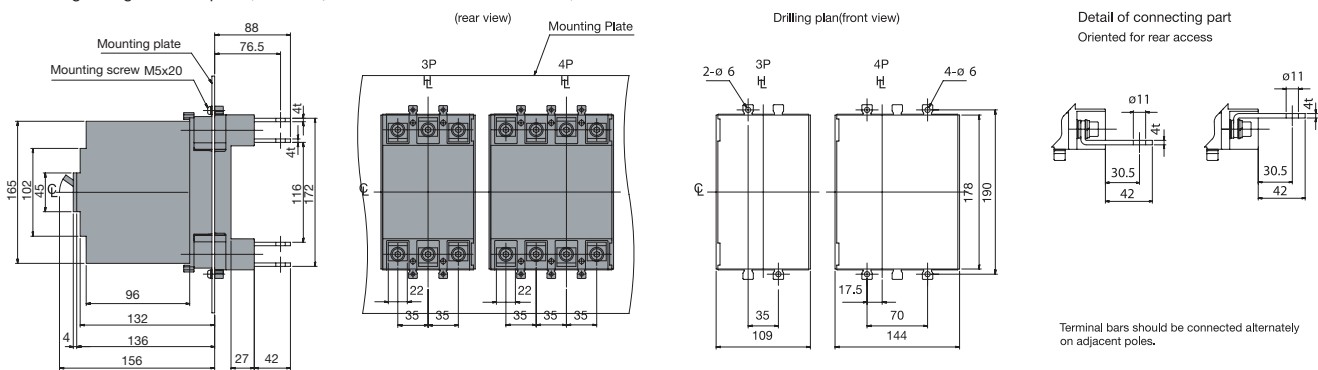
### Termination of Busbar



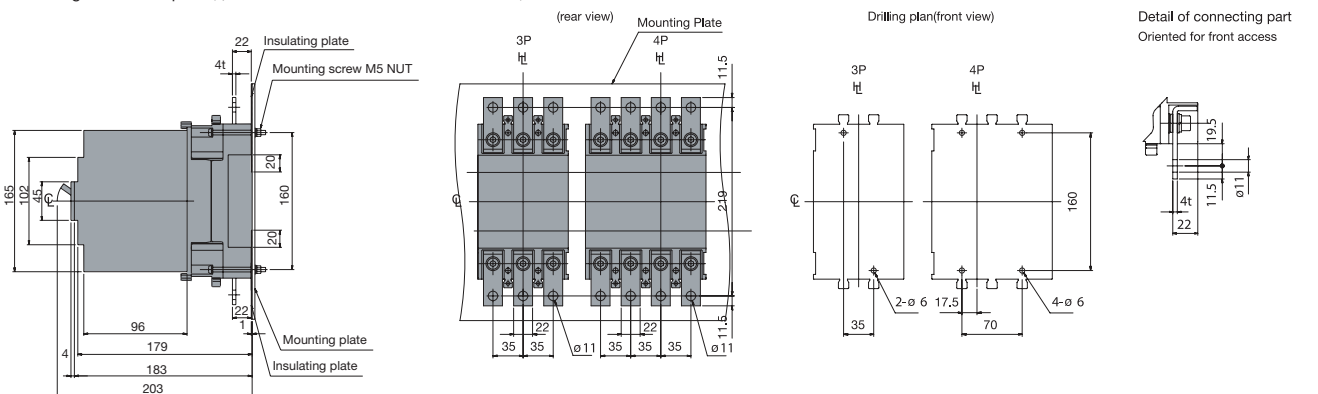
### Mounting on a support or rails (shown with optional connection bars oriented for rear access)



### Mounting through the backplate (shown with optional connection bars oriented for rear access)



### Mounting on the backplate (optional connection bars must be oriented for front access)



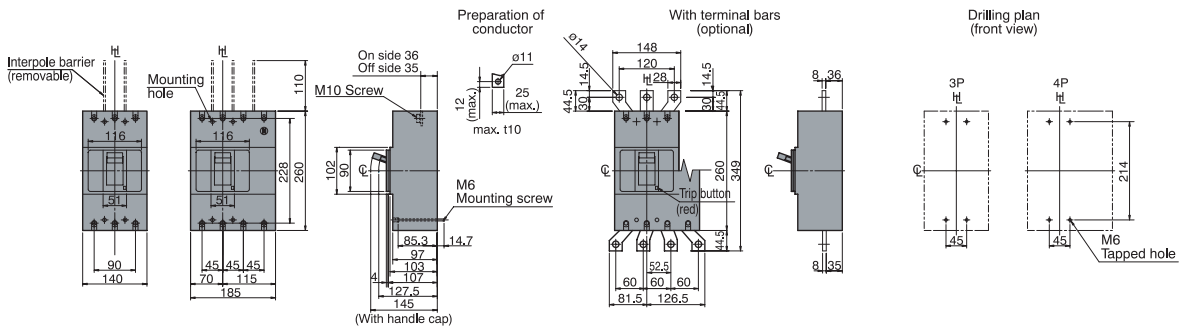


## E400-NJ, S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE

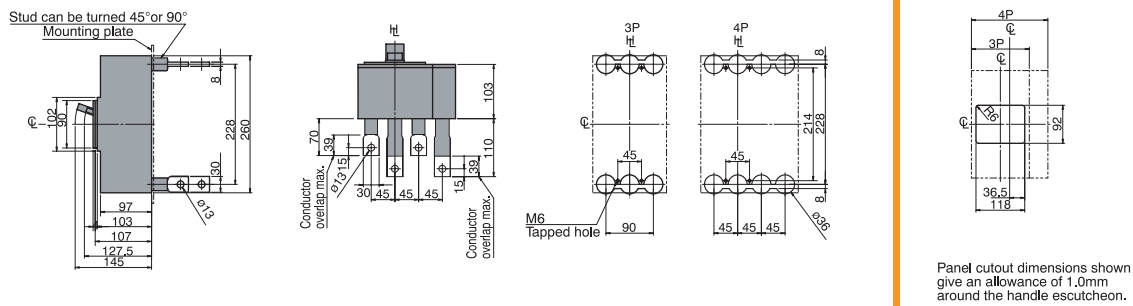
ASL: Arrangement Standard Line

Ht: Handle Frame Centre Line

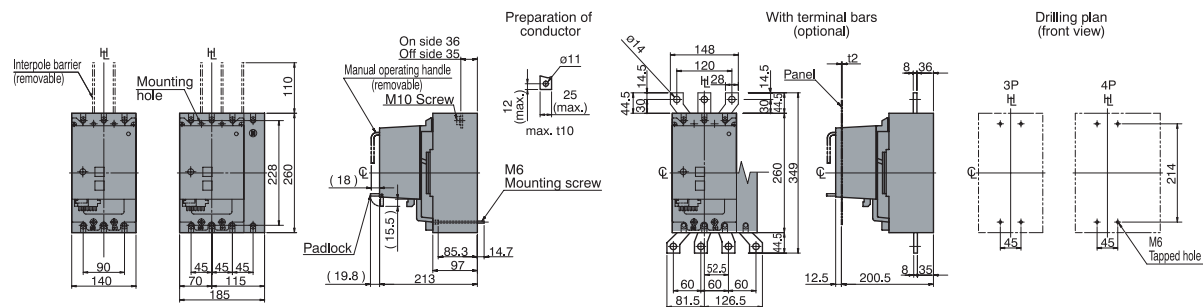
Front connected



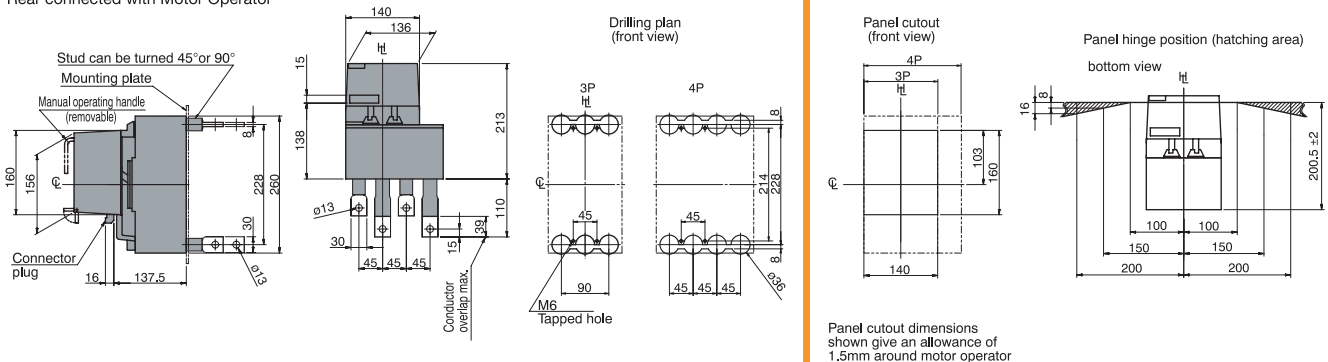
Rear connected



Front connected with Motor Operator



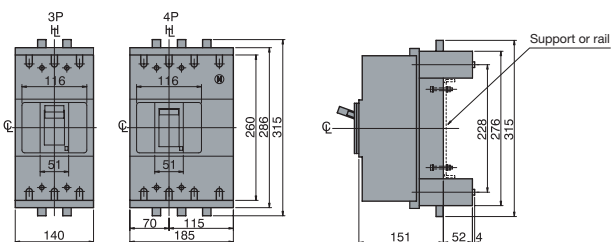
Rear connected with Motor Operator



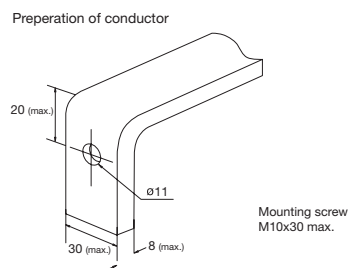
## E400-NJ, S400-CJ, S400-NJ, S400-NE, S400-GJ, S400-GE. Plug-in Versions

H: Handle Frame Centre Line

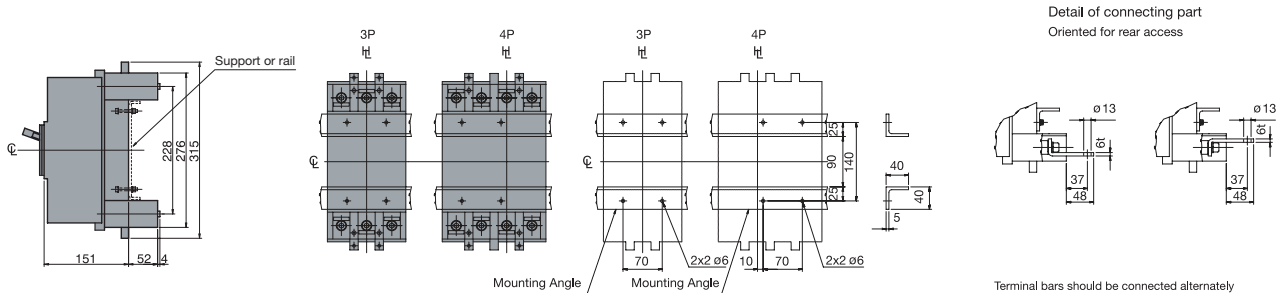
## Outline Dimensions



### Termination of Busbar

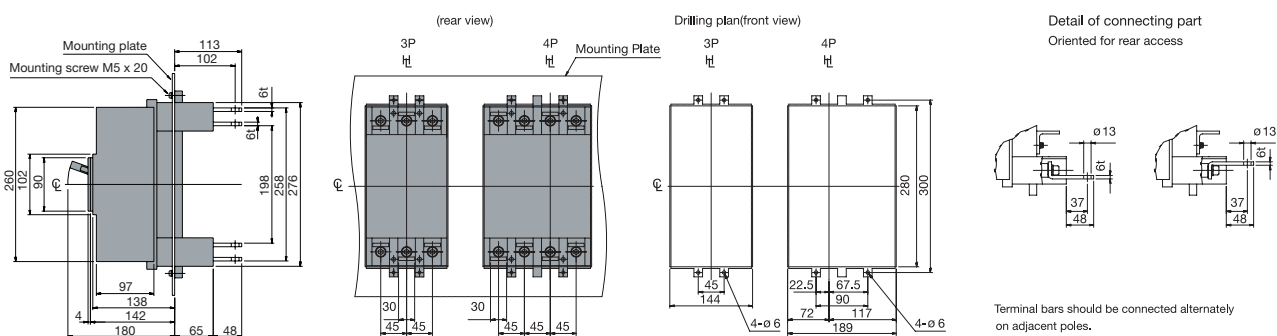


**Mounting on a support or rails** (shown with optional connection bars oriented for rear access)



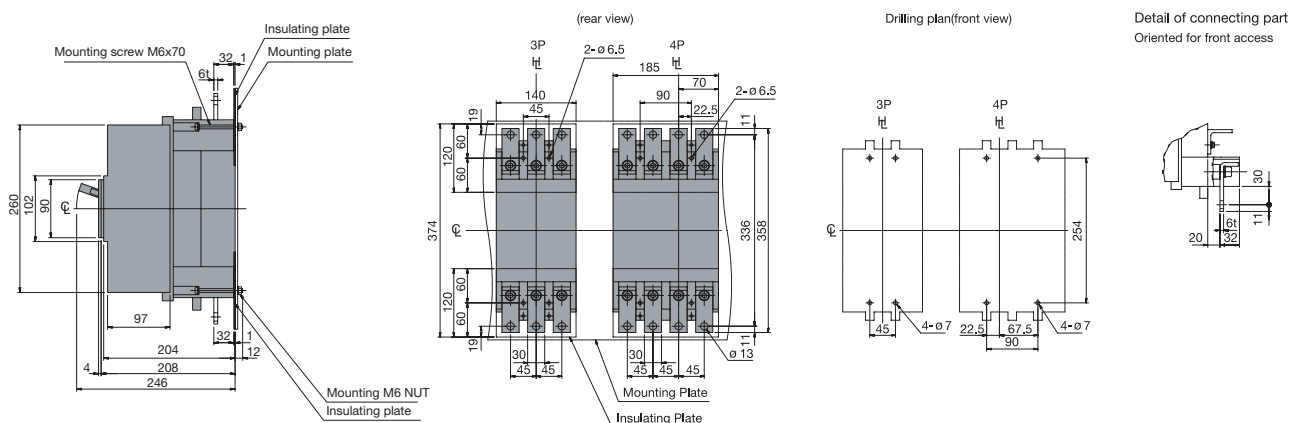
Terminal bars should be connected alternately on adjacent poles.

**Mounting through the backplate** (shown with optional connection bars oriented for rear access)



Terminal bars should be connected alternately on adjacent poles.

**Mounting on the backplate** (optional connection bars must be oriented for front access)

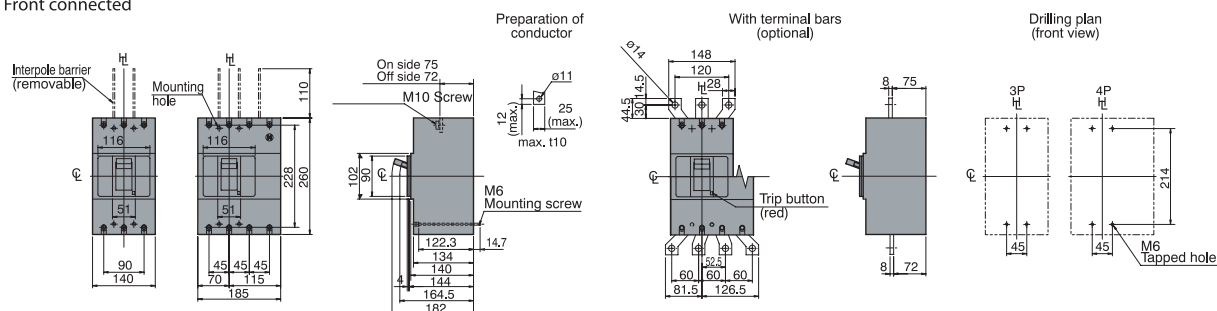


## H400-NJ, H400-NE, L400-NJ, L400-NE

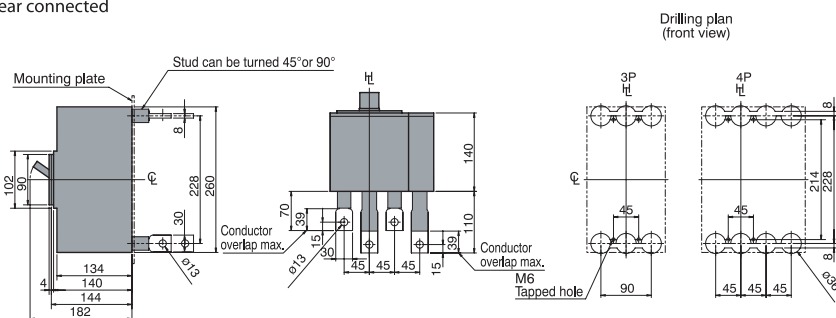
ASL: Arrangement Standard Line

H : Handle Frame Centre Line

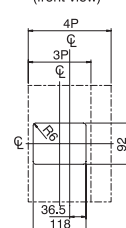
Front connected



Rear connected

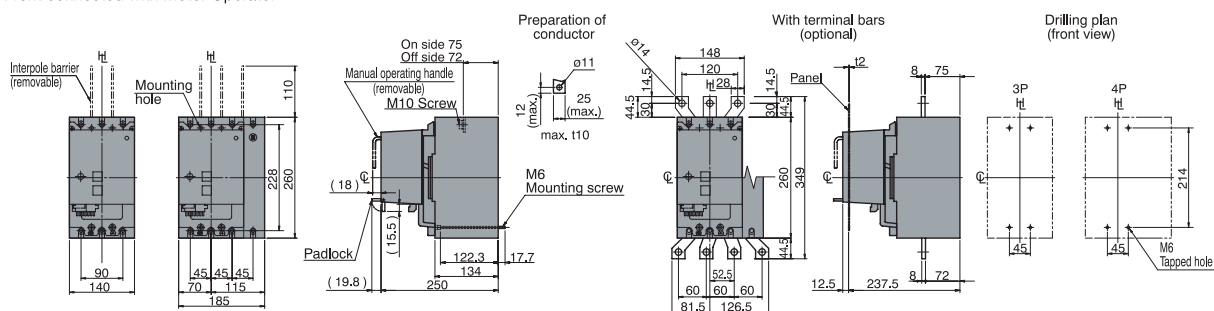


Panel cutout  
(front view)

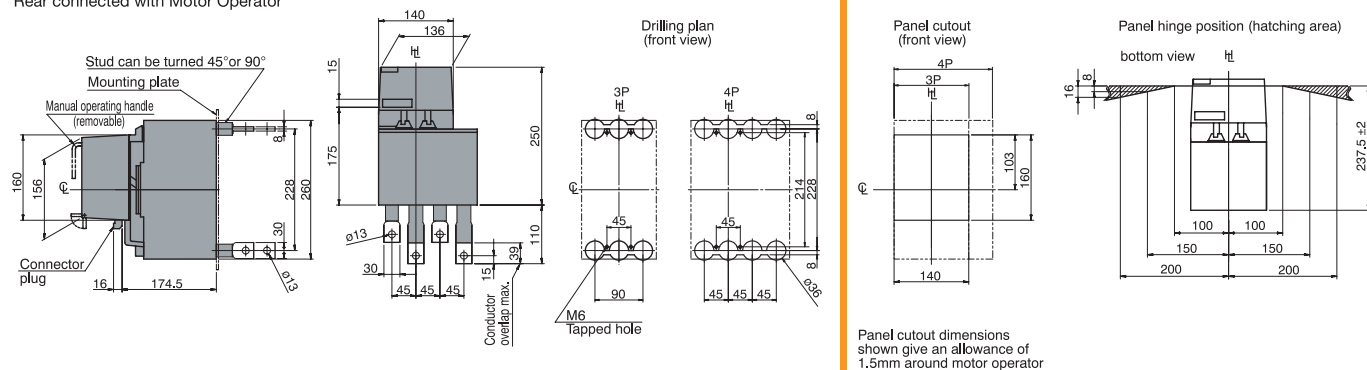


Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.

Front connected with Motor Operator



Rear connected with Motor Operator



Panel cutout dimensions shown give an allowance of 1.5mm around motor operator

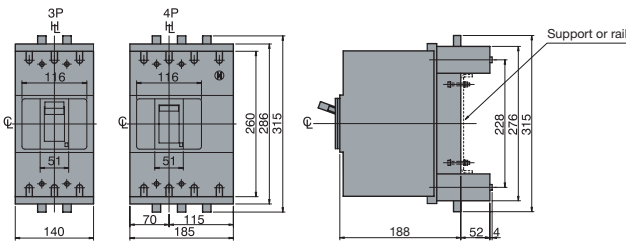
# DIMENSIONS

## H400-NJ, H400-NE, L400-NJ, L400-NE. Plug-in Versions

ASL: Arrangement Standard Line

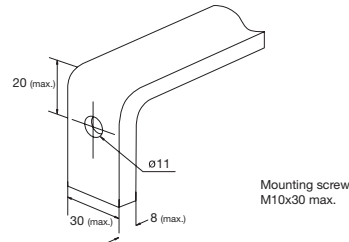
HL: Handle Frame Centre Line

### Outline Dimensions

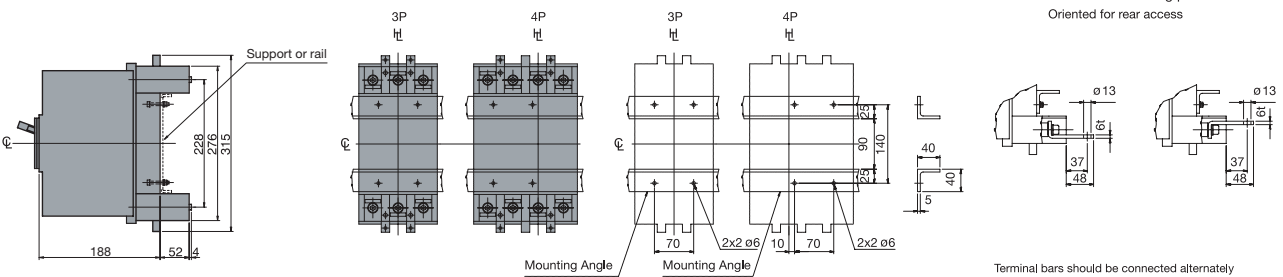


### Termination of Busbar

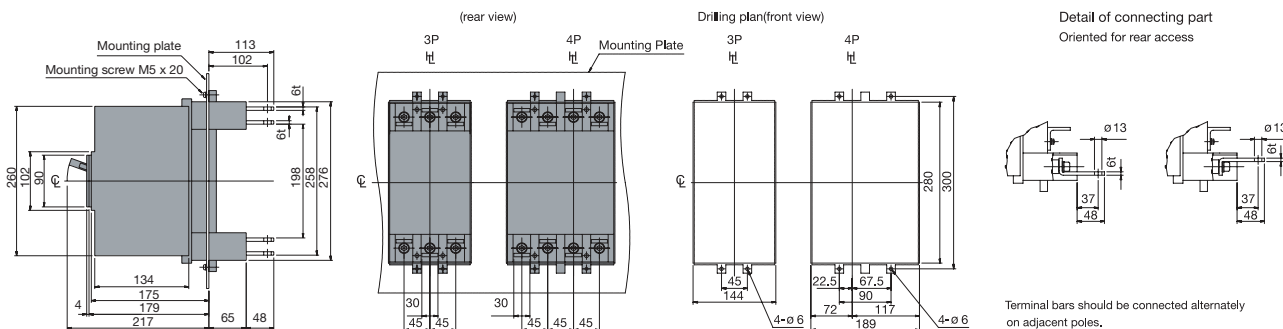
Preparation of conductor



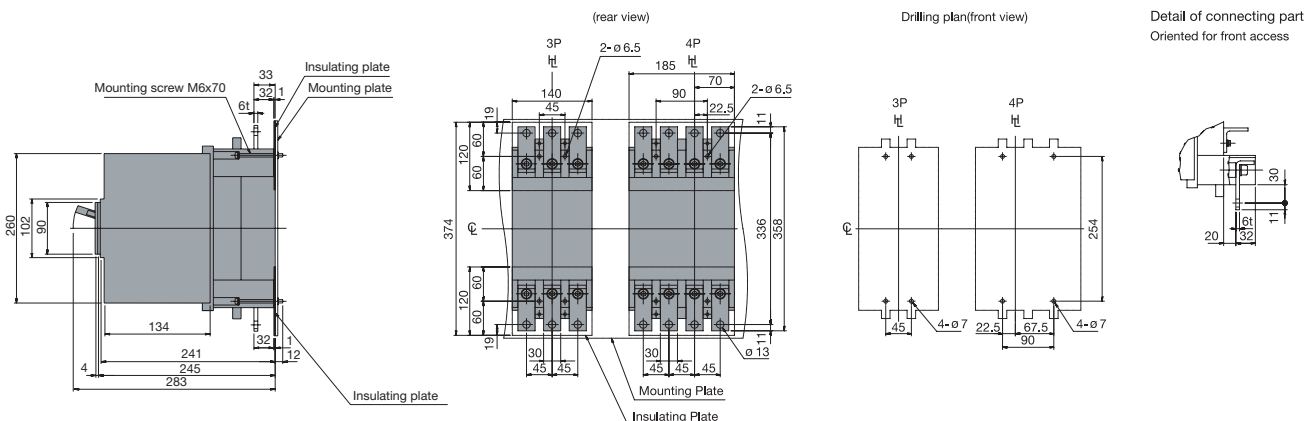
### Mounting on a support or rails (shown with optional connection bars oriented for rear access)



### Mounting through the backplate (shown with optional connection bars oriented for rear access)



### Mounting on the backplate (optional connection bars must be oriented for front access)

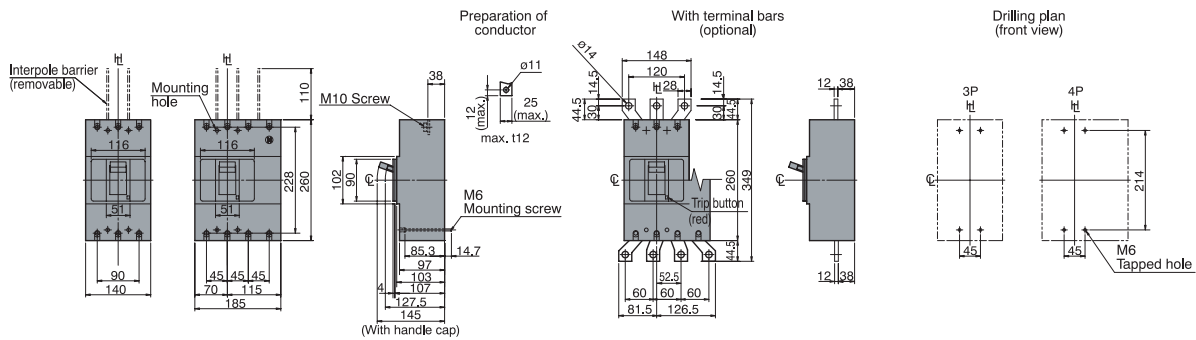


## E630-NE, S630-CE, S630-GE

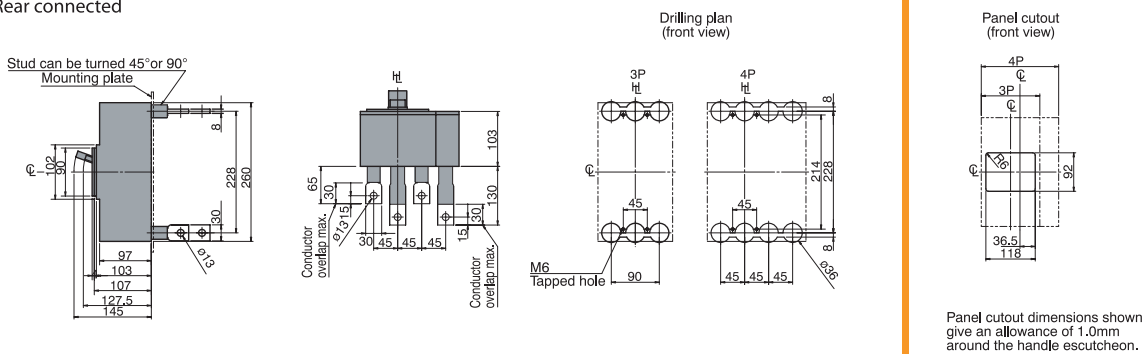
ASL: Arrangement Standard Line

HL: Handle Frame Centre Line

Front connected



Rear connected

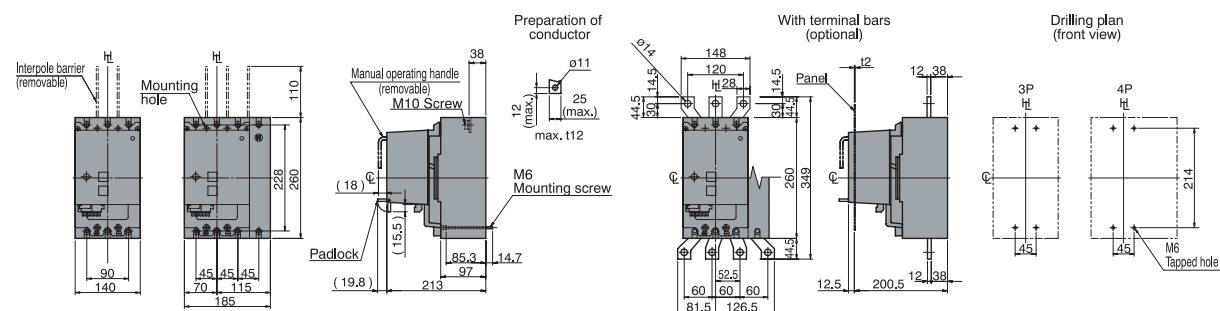


Panel cutout dimensions shown give an allowance of 1.0mm around the handle escutcheon.

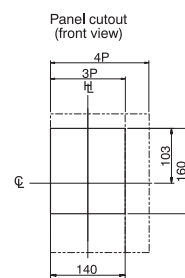
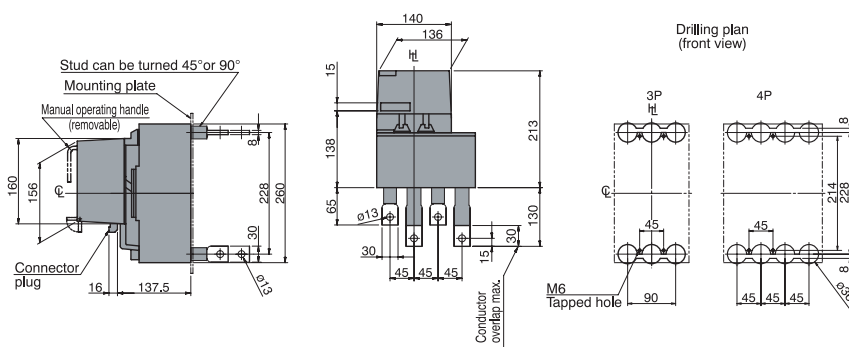
## E630-NE, S630-CE, S630-GE with Motor Operators

H<sub>1</sub> : Handle Frame Centre Line

### Front connected

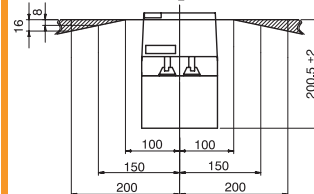


Rear connected with Motor Operator



Panel cutout dimensions shown give an allowance of 1.5mm around motor operator

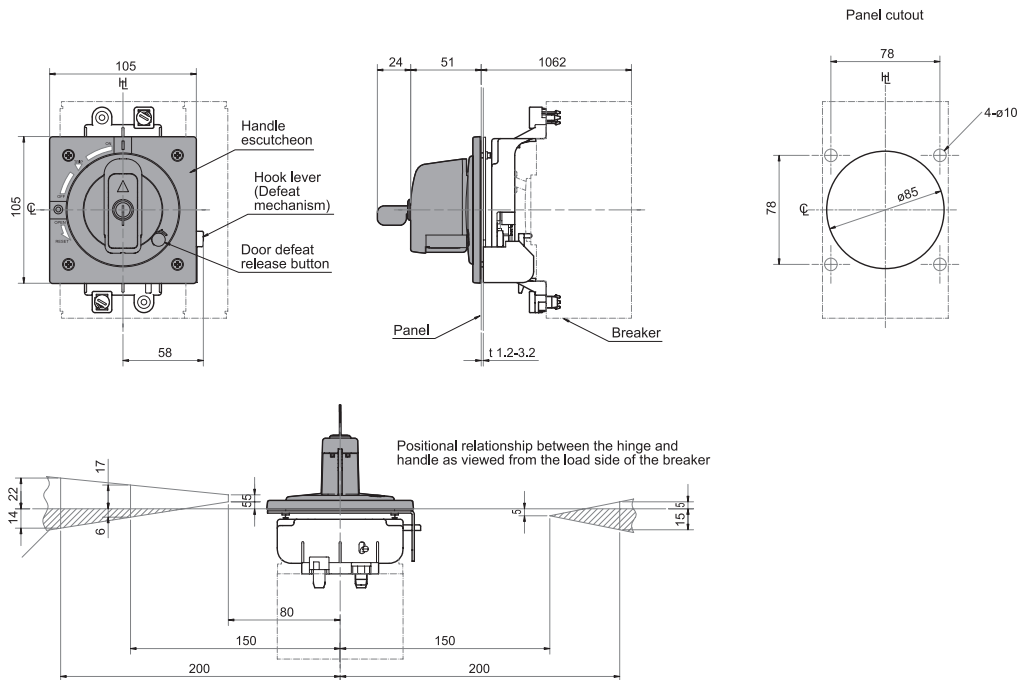
Panel hinge position (hatching area)  
bottom view



## Breaker Mounted Handle

### Applicable MCCB

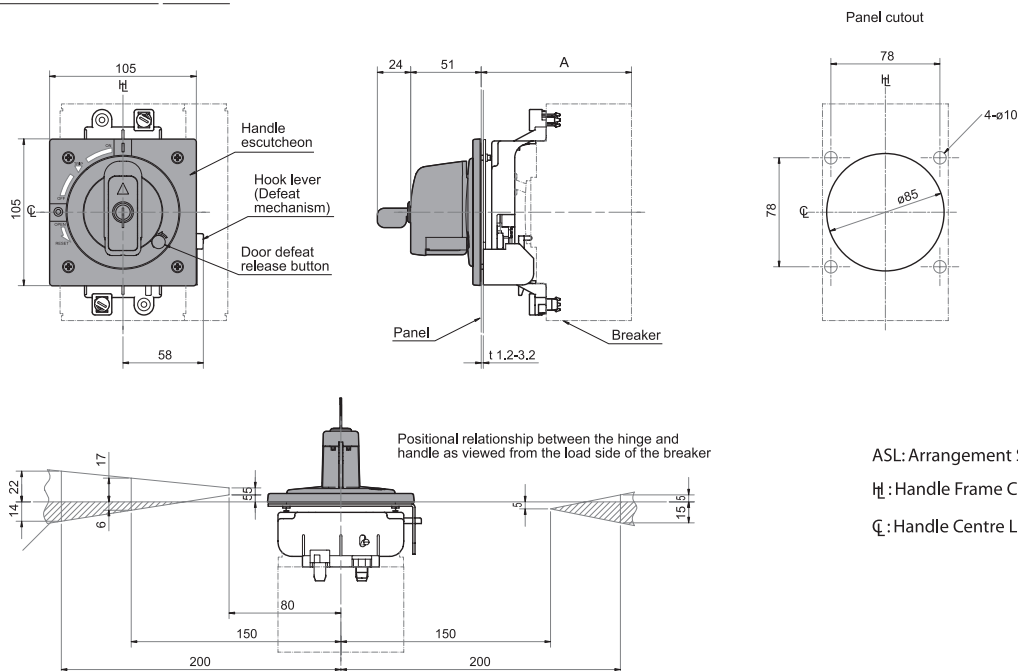
E125, S125



### Applicable MCCB

A

S250 (except S250-PE)	106±2
H125 L125 H250 L250	
S250-PE	141±2



ASL: Arrangement Standard Line

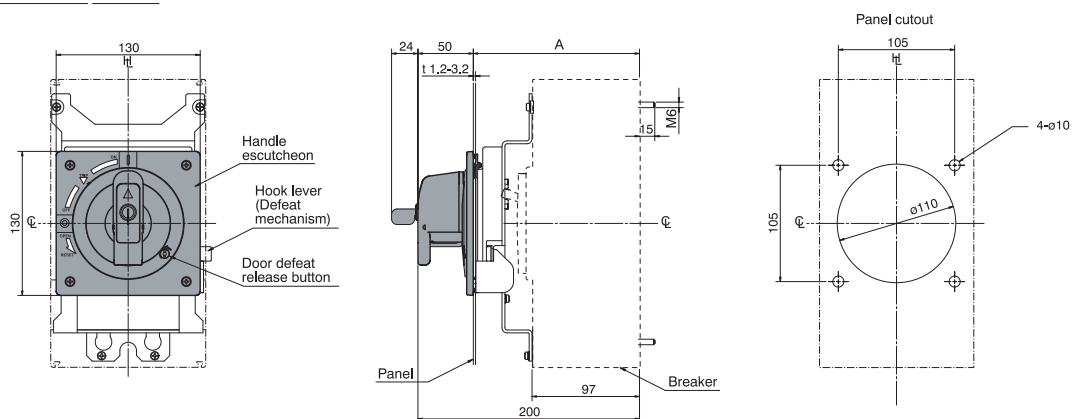
HL: Handle Frame Centre Line

CL: Handle Centre Line

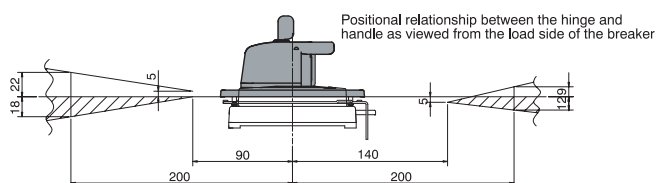
# DIMENSIONS

## Breaker Mounted Handle

Applicable MCCB	A
E400 S400 E630 S630	150±2
H400 L400	187±2



ASL: Arrangement Standard Line  
 $H_L$ : Handle Frame Centre Line  
 $C_L$ : Handle Centre Line

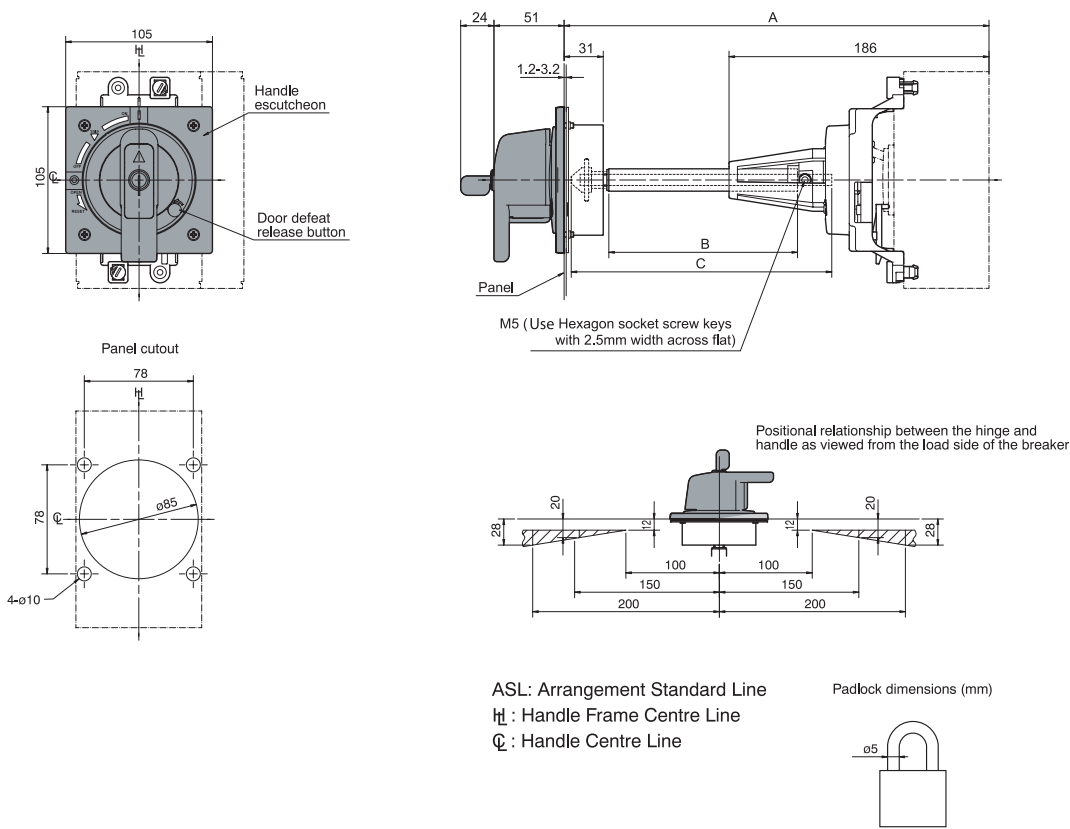




## Door Mounted Handle

Applicable MCCB	A ★1	B	C	Shaft support
E125 S125	540 max.	370	421	With +

★1: Max. means the maximum length for A without cutting the shaft.  
 + The shaft can be cut to the required length. If it is necessary to cut the shaft so short that it does not protrude beyond the shaft support, the shaft support may be removed.



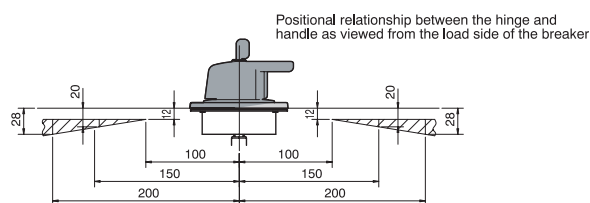
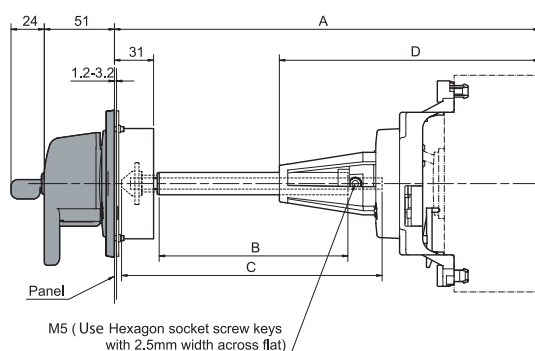
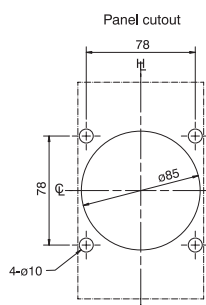
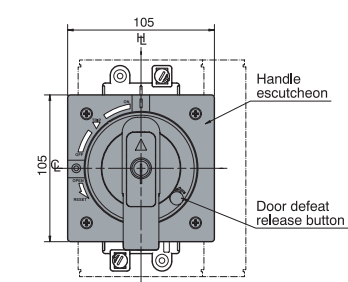
# DIMENSIONS

## Door Mounted Handle

Applicable MCCB	A *1	B	C	D	Shaft support
E250 S250 (except S250-PE)	540 max.	370	421	186	With +
S250-PE H125 L125 H160 L160 H250 L250	575 max.	370	421	221	With +

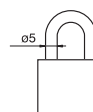
\*1: Max. means the maximum length for A without cutting the shaft.

+ The shaft can be cut to the required length. If it is necessary to cut the shaft so short that it does not protrude beyond the shaft support, the shaft support may be removed.



ASL: Arrangement Standard Line  
 HL: Handle Frame Centre Line  
 CL: Handle Centre Line

Padlock dimensions (mm)



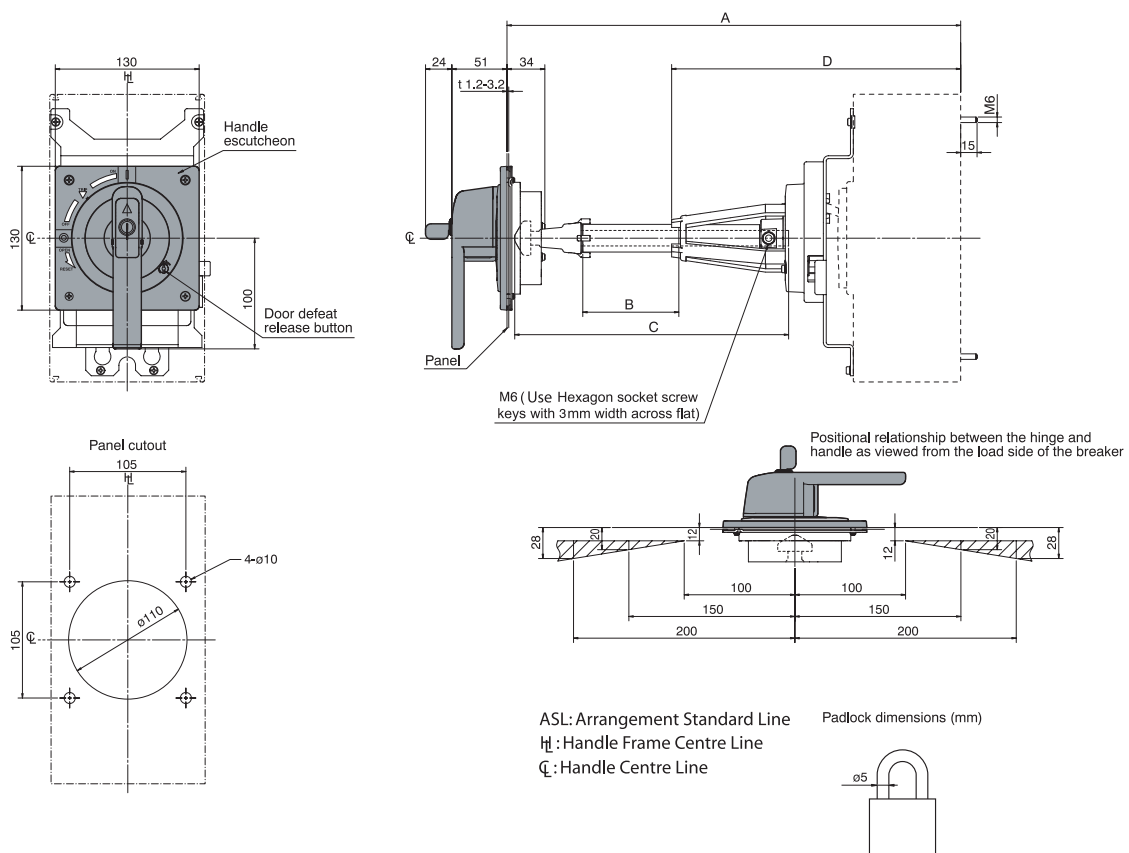
## Door Mounted Handle

Applicable MCCB	A *1	B	C	D	Shaft support
E400 E630	270 min.	12	107.5	—	Without
S400 S630	610 max.	280	447.5	261	With +
H400	307 min.	12	107.5	—	Without
L400	647 max.	280	447.5	298	With +

\*1: Min. means the minimum length for A by cutting the shaft.

Max. means the maximum length for A without cutting the shaft.

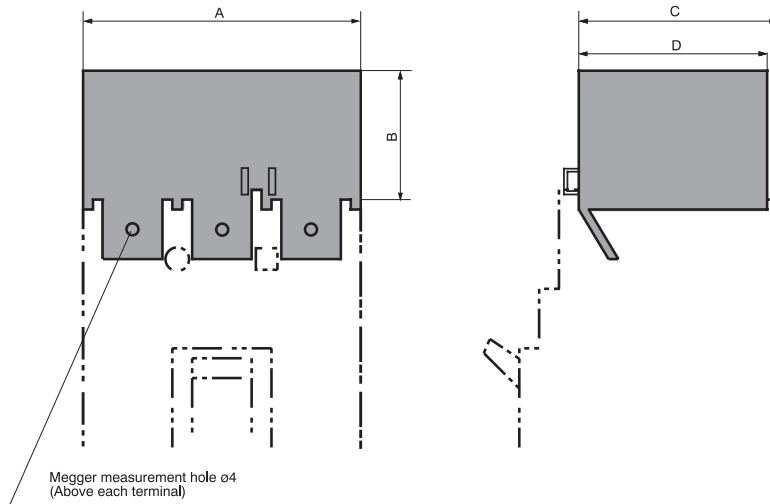
+ The shaft can be cut to the required length. If it is necessary to cut the shaft so short that it does not protrude beyond the shaft support, the shaft support may be removed.



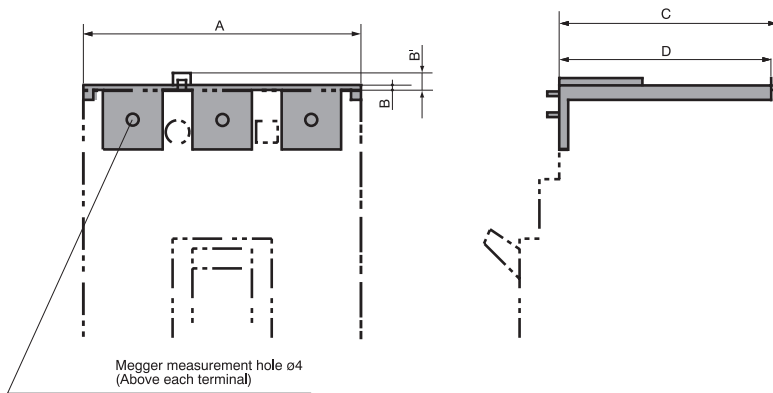
# DIMENSIONS

## Terminal Covers

Terminal covers for Front connected MCCB's (CF)



Terminal covers for Solderless terminal type MCCB's (CS)



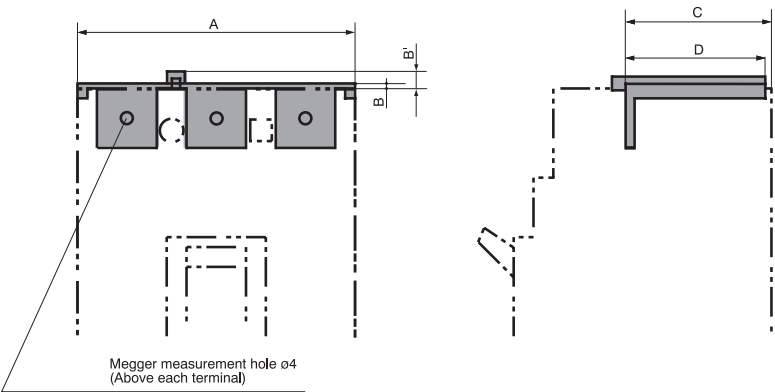
MCCB type	Connection	A			B			B'	C			D		
		1P	3P	4P	1P	3P	4P	3P, 4P	1P	3P	4P	1P	3P	4P
E125, S125	Front conn.	30	90	120	40	40	40	—	48	48	48	46	46	46
	Solderless Terminal	30	90	120	2.5	2.5	2.5	6	62.5	61	61	60	59.5	59.5
S160	Front conn. (1)	35	105	140	55	55	55	—	54	54	54	52	52	52
	Solderless Terminal	35	105	140	2.5	2.5	2.5	6	63	61	61	49.5	59.5	59.5
H125, L125, H160, L160	Front conn. (1)	—	105	140	—	55	55	—	—	89	89	—	87	87
	Solderless Terminal	—	105	140	—	2.5	2.5	4.5	—	96	96	—	59.5	59.5
E400, S400	Front conn.	—	180	240	—	110	114	—	—	97	99	—	96	98
	Solderless Terminal	—	140	185	—	3	3	4.5	—	97	97	—	93	93
E630-NE, S630-CE, S630-GE	Front conn.	—	180	240	—	110	114	—	—	134	136	—	96	98
	Solderless Terminal	—	140	185	—	3	3	4.5	—	134	134	—	93	93

Notes:

(1): Not applicable when flat bars (FB) are fitted.

## Terminal Covers

Terminal covers for Rear connected and Plug-in MCCB's (CR)

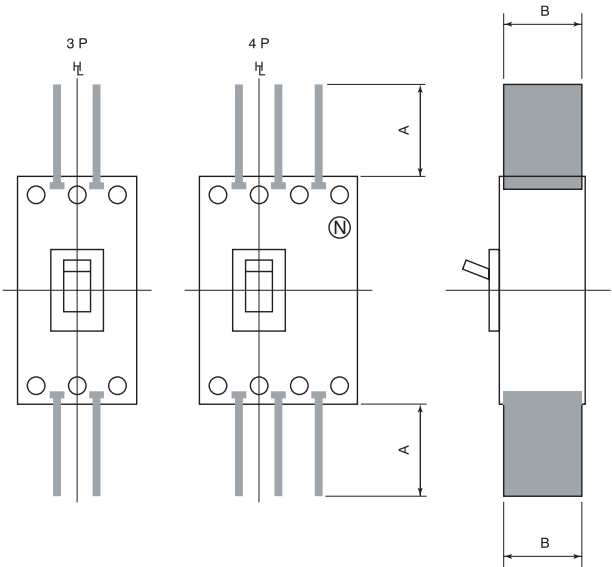


MCCB type	A		B	B'	C	D
	3 poles	4 poles				
E125, S125	90	120	2	6	41.5	40.5
S160	105	140	2	6	41.5	39.5
E250, S250 (except S250-PE)	105	140	2	6	77.5	39.5
H125, L125, H160, L160	105	140	2	6	77.5	39.5
H250, L250, S250-PE	140	185	3	4.5	97	93
E400, S400						
H400, L400						

# DIMENSIONS

## Interpole Barriers

Terminal Interpole Barriers (BA)



MCCB type	A	B
E125, S125	47	53
S160	100	53
E250, S250 (except S250-PE)	100	88
H125, L125, H160, L160	110	95
H250, L250, S250-PE	110	95
H400, L400		

ASL: Arrangement Standard Line  
H<sub>L</sub>: Handle Frame Centre Line  
C<sub>L</sub>: Handle Centre Line

## Terminal Blocks for Front-Connected and Rear-Connected MCCBs

Left terminal designations

Example

AXc1	AXc1
AXb1	AXb1
AXa1	AXa1
AXc2	AXc2
AXb2	AXb2
AXa2	AXa2
ALc1	ALc1
ALb1	ALb1
ALa1	ALa1
C1	D1
C2	D2

With  
SHT

With  
UVT

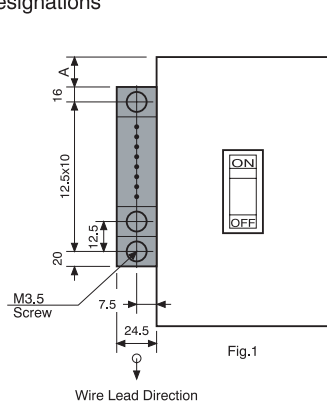


Fig.1

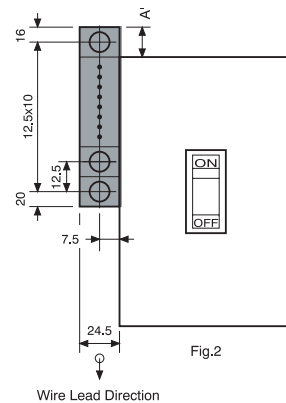
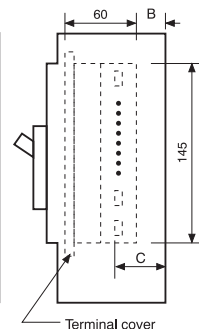


Fig.2



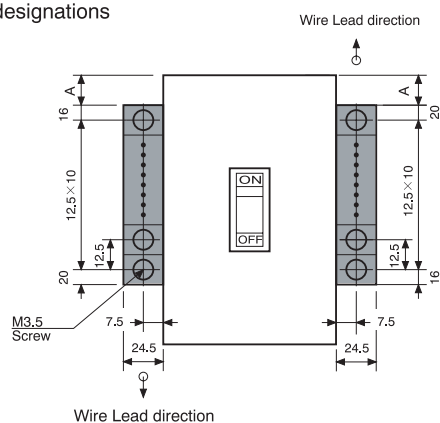
MCCB type	A	A'	B	C	Fig.
S125	—	3	0.5	40	2
S160	2	—	0.5	40	1
E250, S250 (except S250-PE)	2	—	0.5	40	1
H125, L125, H160, L160	2	—	35.5	75	1
H250, L250, S250-PE	2	—	35.5	75	1

Comments:

1. The tightening torque for the M3.5 terminal screw is 0.9 to 1.2 Nm.
2. Connection wire size is 2.5 mm<sup>2</sup> (max).

Left terminal designations

AXc1
AXb1
AXa1
AXc2
AXb2
AXa2
ALc1
ALb1
ALa1
AXc3
AXb3



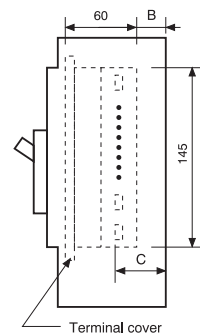
Wire Lead direction

Right terminal designations

PALc	PALc
PALa	PALa
OP1	OP1
OP2	OP2
C1	D1
C2	D2

With  
SHT

With  
UVT



MCCB type	A	B	C
E400, S400	39.5	30.5	70
H400, L400	39.5	67.5	107

Comments:

1. The tightening torque for the M3.5 terminal screw is 0.9 to 1.2 Nm.
2. Connection wire size is 2.5 mm<sup>2</sup> (max).

# DIMENSIONS

## Slide Interlocks

ASL: Arrangement Standard Line

H<sub>L</sub>: Handle Frame Centre Line

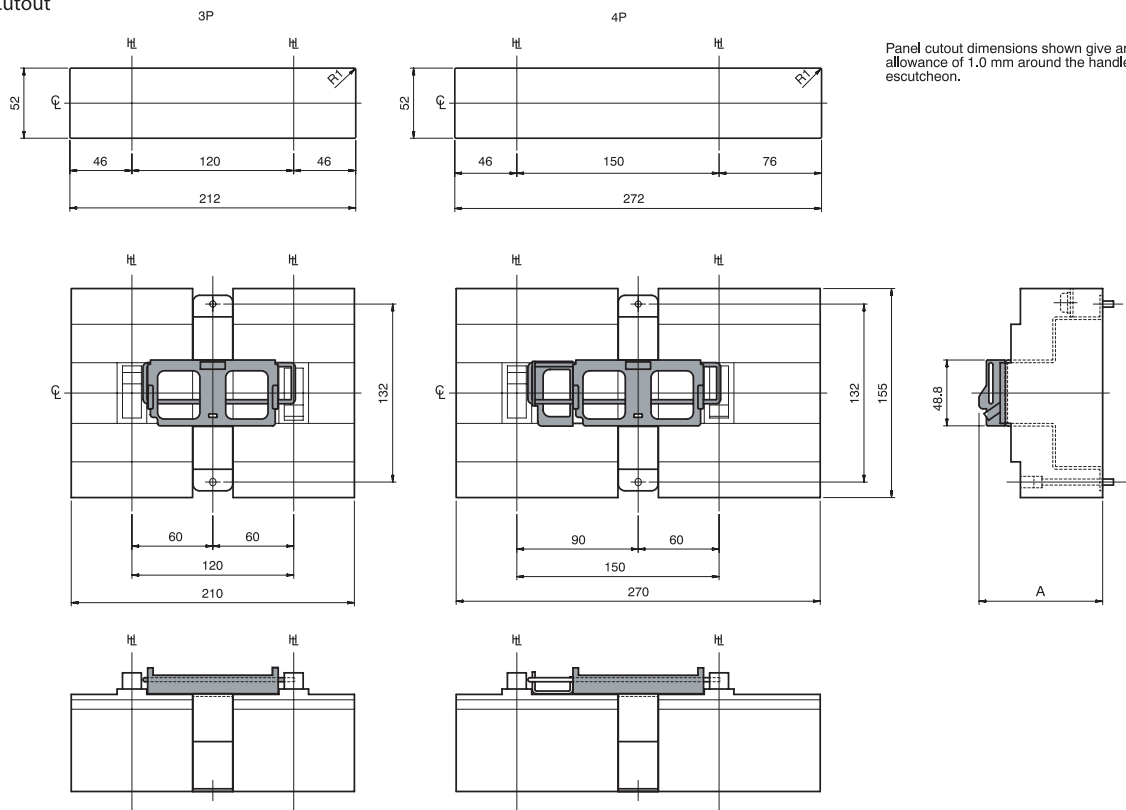
C<sub>L</sub>: Handle Centre Line

Mechanical Interlocks slide type (MS)

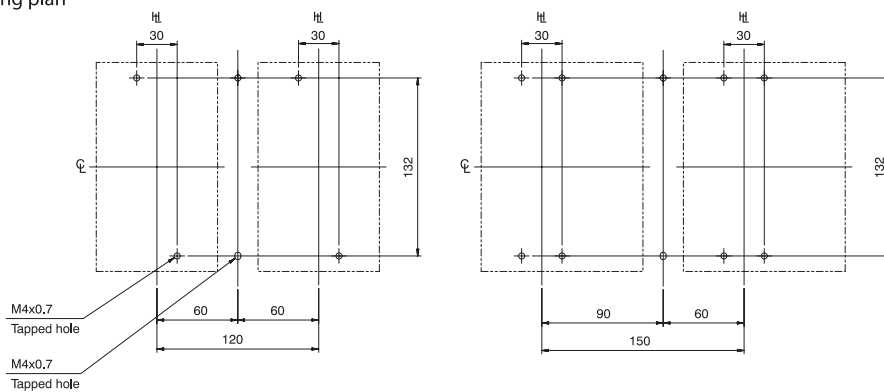
For 125A frame size

MCCB type	A
E125, S125	91.7

Panel Cutout



Drilling plan





## Slide Interlocks

ASL: Arrangement Standard Line

H<sub>L</sub>: Handle Frame Centre Line

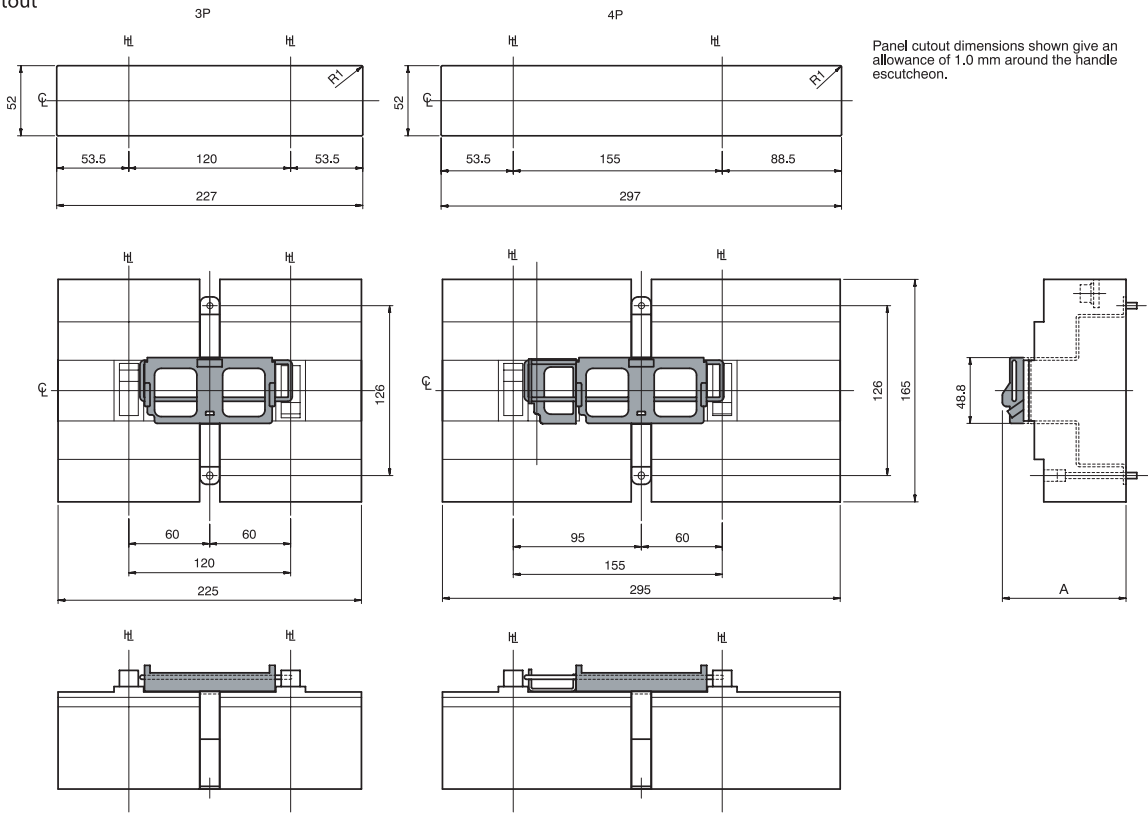
C<sub>L</sub>: Handle Centre Line

Mechanical Interlocks slide type (MS)

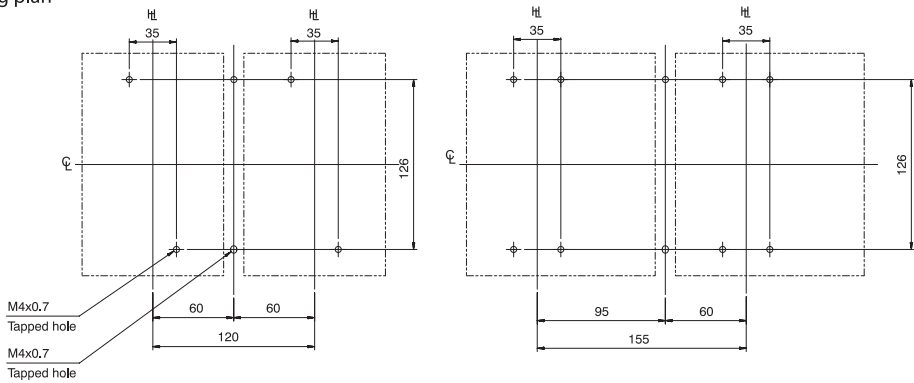
For 125A, 160A, 250A frame size

MCCB type	A
S160, E250, S250 (Except S250-PE.)	91.7
H125, L125, H160, L160 H250, L250, S250-PE	126.7

Panel Cutout



Drilling plan



# DIMENSIONS

## Slide Interlocks

ASL: Arrangement Standard Line

HL: Handle Frame Centre Line

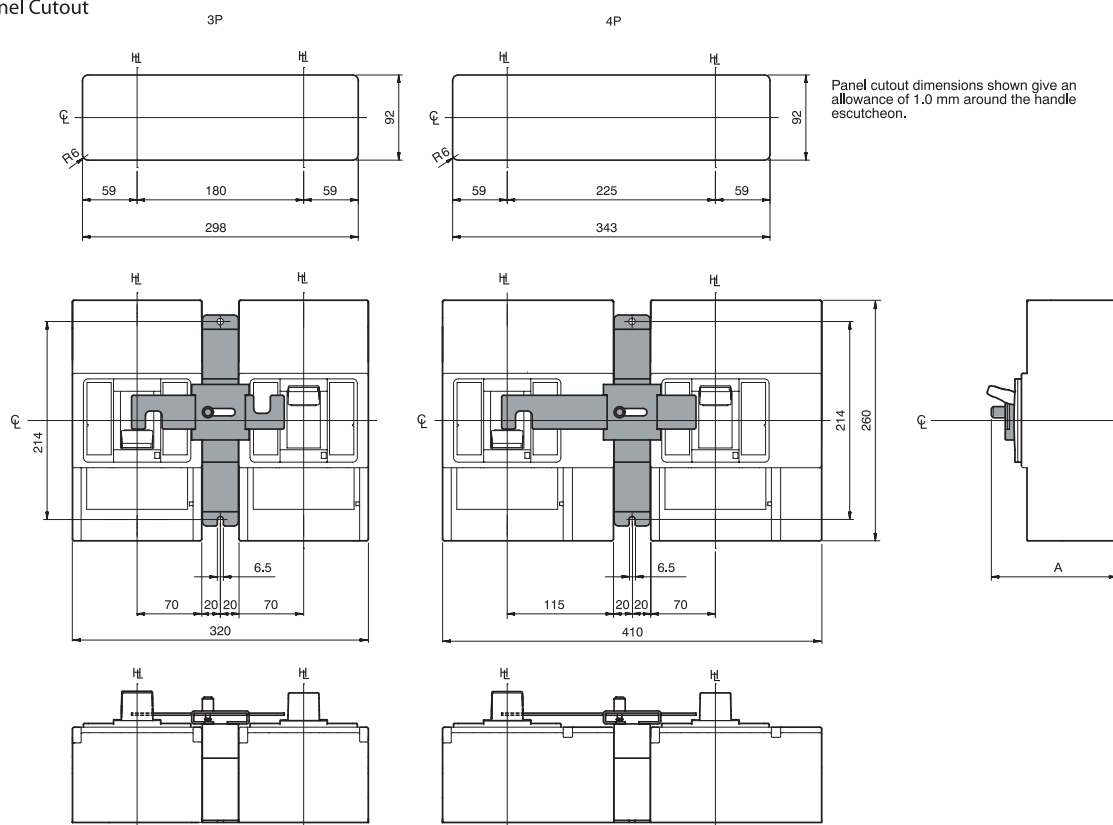
CL: Handle Centre Line

Mechanical Interlocks slide type (MS)

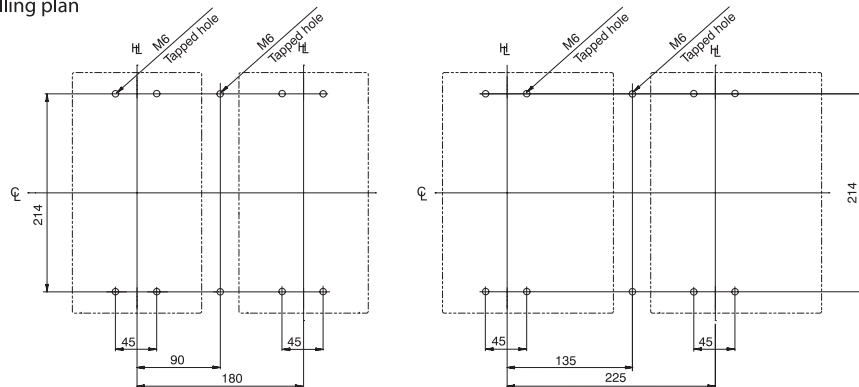
For 400A, 630A frame size

MCCB type	A
E400, S400	135.5
H400, L400	172.5
E630, S630	135.5

Panel Cutout



Drilling plan



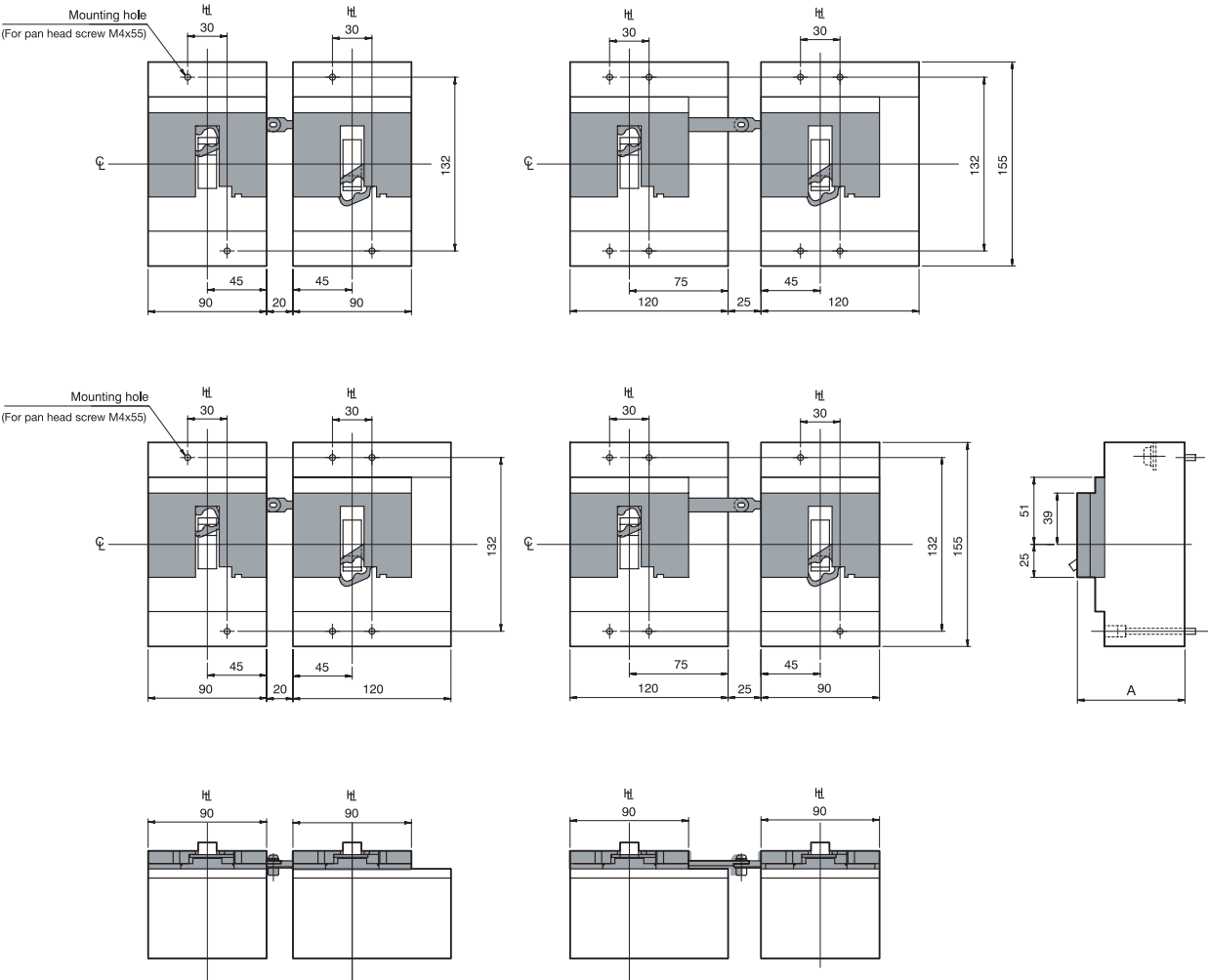
Link Interlocks

ASL: Arrangement Standard Line      HL: Handle Frame Centre Line      CL: Handle Centre Line

Mechanical Interlocks link type (ML)

For 125A frame size

MCCB type	A
E125, S125	81.7



# DIMENSIONS

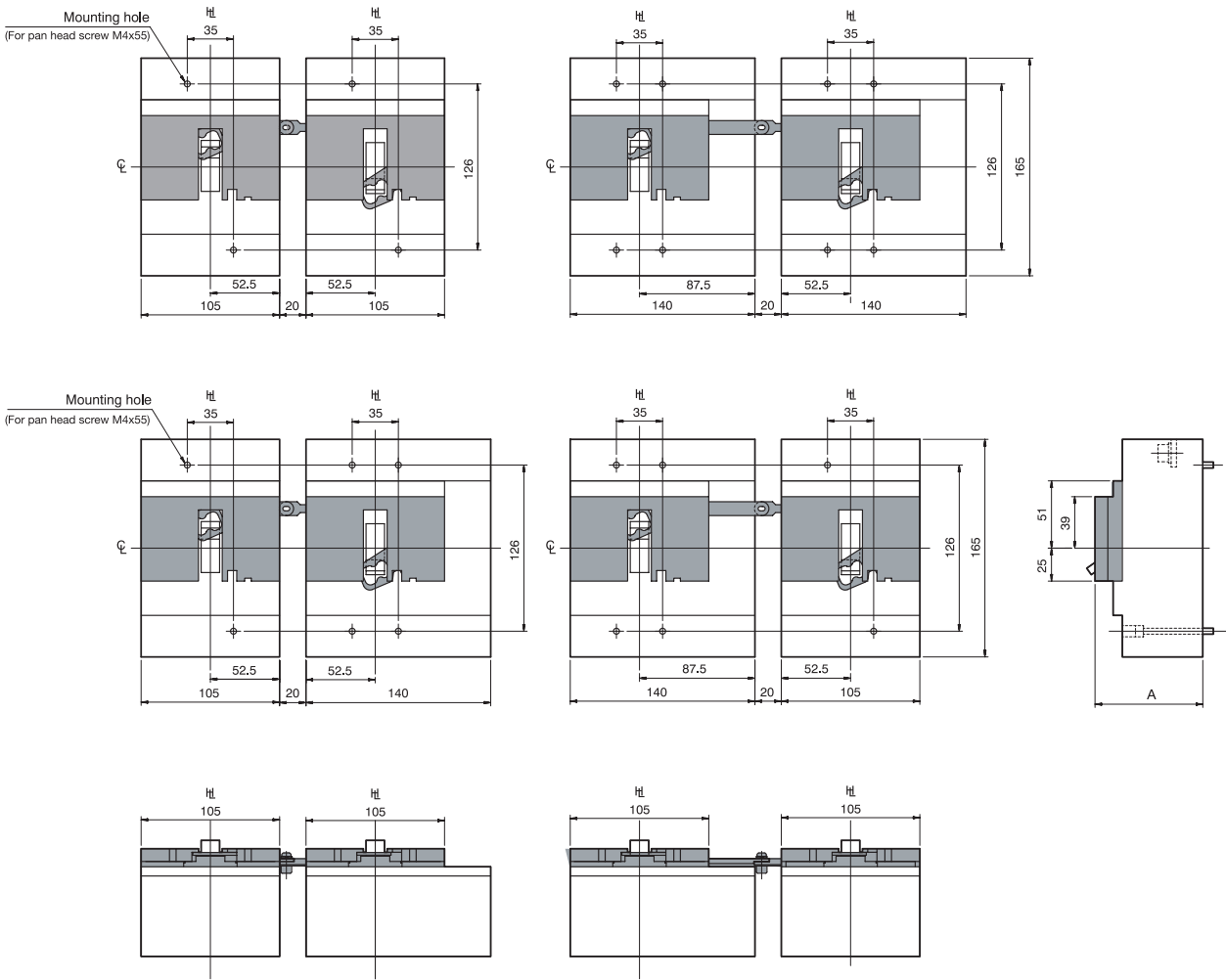
## Slide Interlocks

ASL: Arrangement Standard Line      HL : Handle Frame Centre Line      CL : Handle Centre Line

Mechanical Interlocks link type (ML)

For 125A, 160A, 250A frame size

MCCB type	A
S160, E250, S250 (Except S250-PE.)	81.7
H125, L125, H160, L160 H250, L250, S250-PE	116.7

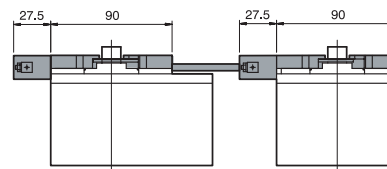
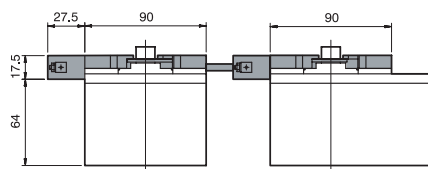
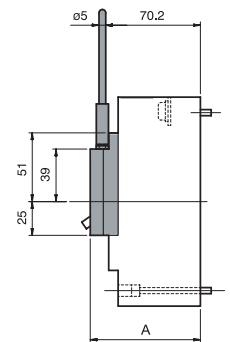
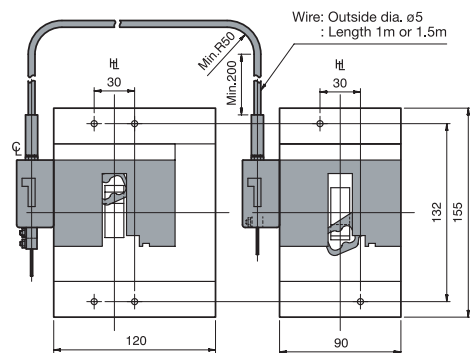
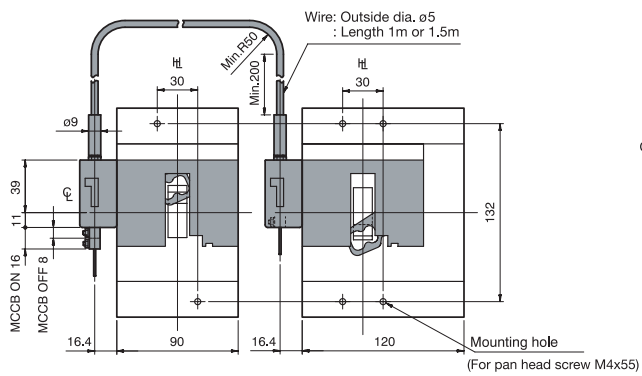
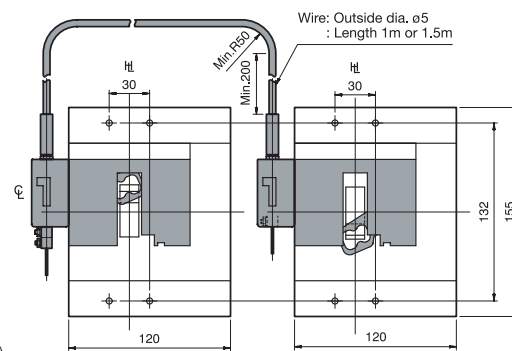
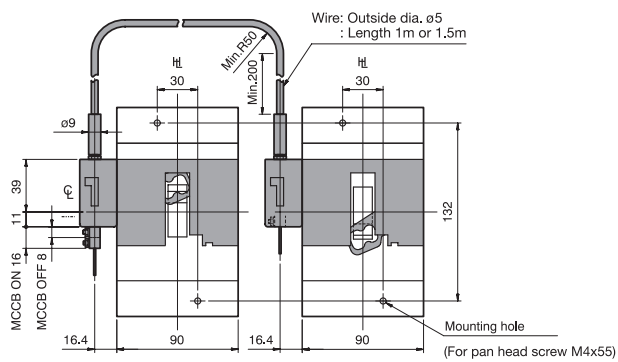


## Wire Interlocks

Mechanical Interlocks wire type (MW)

For 125A frame size

MCCB type	A
E125, S125	81.7



# DIMENSIONS

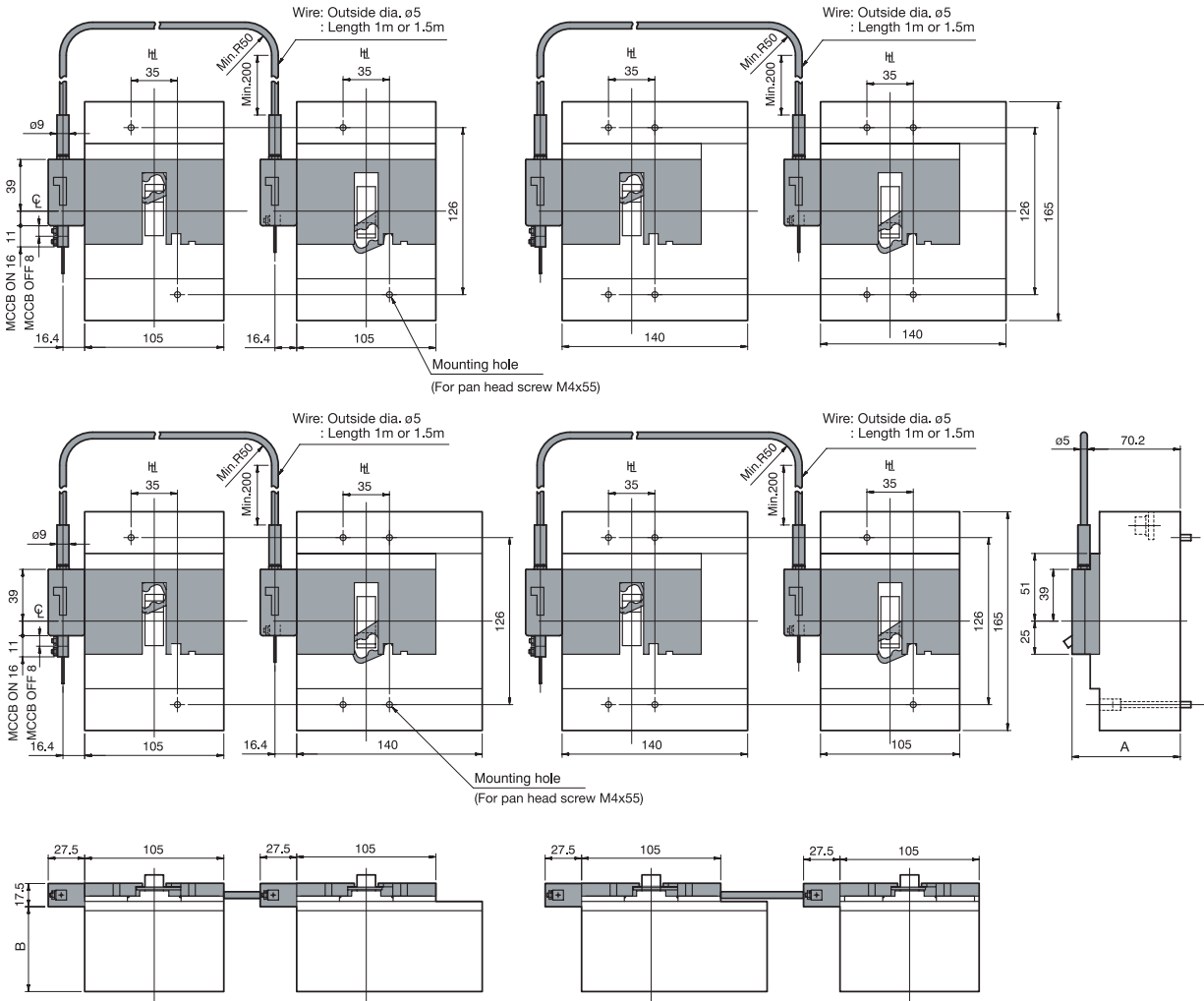
## Wire Interlocks

ASL: Arrangement Standard Line      HL: Handle Frame Centre Line      CL: Handle Centre Line

Mechanical Interlocks wire type (MW)

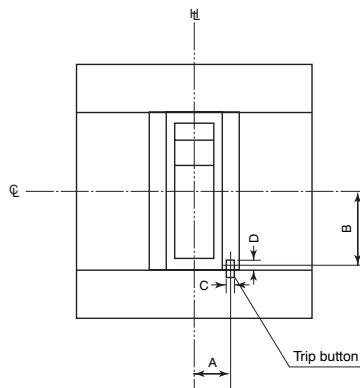
For 125A, 160A, 250A frame size

MCCB type	A	B
S160, E250, S250 (Except S250-PE.)	81.7	64
H125, L125, H160, L160 H250, L250, S250-PE	116.7	99



## Position of Trip Button

Positions of Trip Button



MCCB type	Poles	A	B	C	D
S125	3, 4	13.8	20.4	3.3	4.3
S160	3, 4	17.2	20.4	3.3	4.3
E250, S250 (except S250-PE)	3, 4	17.2	20.4	3.3	4.3
H125, L125, H160, L160	3, 4	17.2	20.4	3.3	4.3
H250, L250, S250-PE	3, 4	17.2	20.4	3.3	4.3
E400, S400	3, 4	21.6	37.2	5.3	6.6
H400, L400 E630 S630	3, 4	21.6	37.2	5.3	6.6

# DIRECT OPENING



Under the heading “Measures to minimise the risk in the event of failure”, IEC 60204-1 Safety of Machinery-Electrical Equipment Machinery includes the following recommendation:

“-the use of switching devices having positive (or direct) opening operation.”