TERASAKI
Innovators in Protection Technology

Instruction Manual

for

Model T2DR25, T2DR40, T2DR80 Draw-out Mechanisms

Model	Applicable products	Number of poles
T2DR25	E250-N☐ S160-N☐, S160-G☐, S225-N☐, S225-G☐ S250-N☐, S250-G☐ Cannot be applied to electronic breaker (with LCD or Pretrip alarm)	3P, 4P
T2DR40	E400-N☐ S400-C☐, S400-N☐, S400-G☐, S400-P☐	3P, 4P
T2DR80	S800-C☐, S800-N☐, S800-R☐, S800-P☐	3P, 4P

Please carefully store this instruction manual in an easily accessible place.

TERASAKI ELECTRIC CO., LTD.

KRB-5394b

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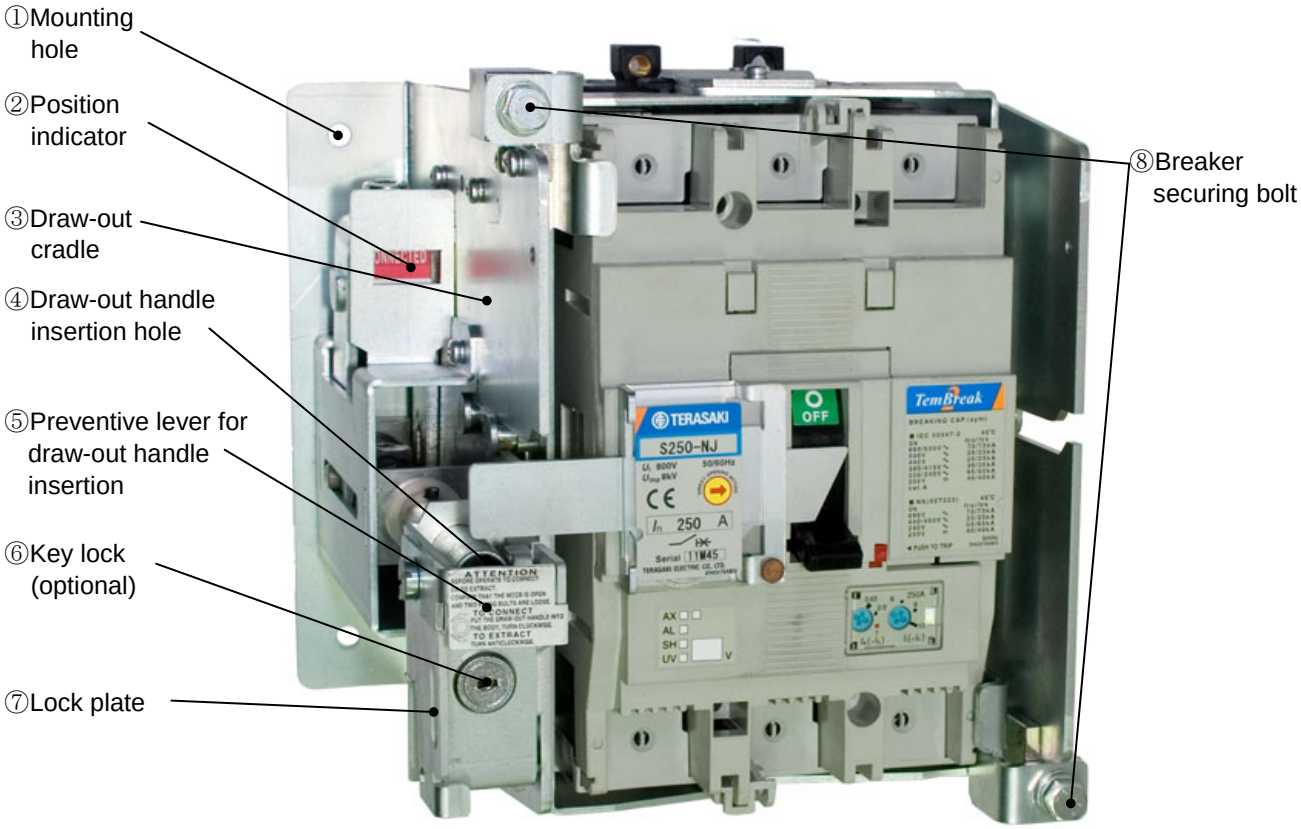
1. Introduction

The model T2DR25, T2DR40, T2DR80 draw-out mechanisms allow the breaker to be locked in either of two positions: CONNECTED and ISOLATED (see Table 1).

Table 1: Breaker position

Breaker position	Main circuit	Auxiliary circuit	Display of position indicator	Remarks
CONNECTED	Connected	Connected	“CONNECTED”	Position during the normal use
ISOLATED	Disconnected	Disconnected	“DISCONNEC.”	Both the main and auxiliary circuits are disconnected.



Visual appearance (model T2DR25)

2. Precautions for installation

1. Be sure to attach the draw-out cradle to the angle using 4 mounting bolts.

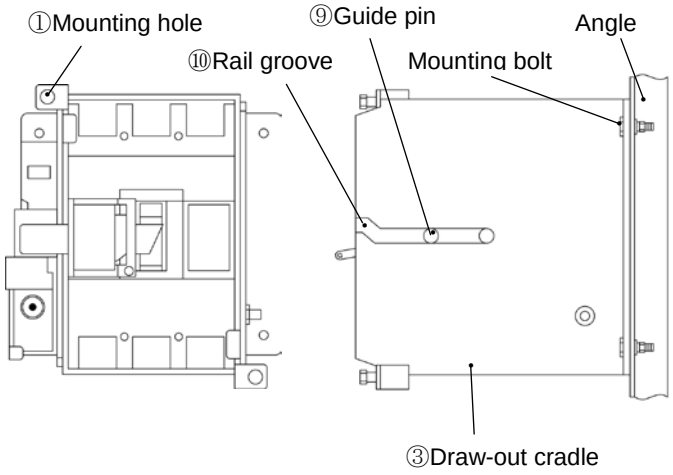
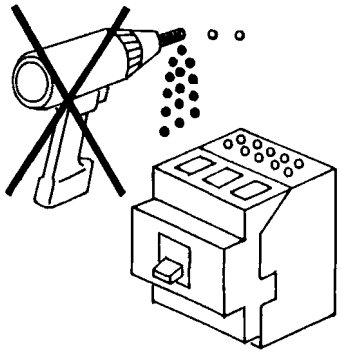


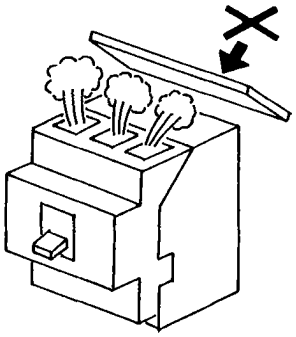
Table 2: Mounting bolts dimensions table

For T2DR25	Hexagon bolt M6×20
For T2DR40	Hexagon bolt M8×25
For T2DR80	Hexagon bolt M12×35

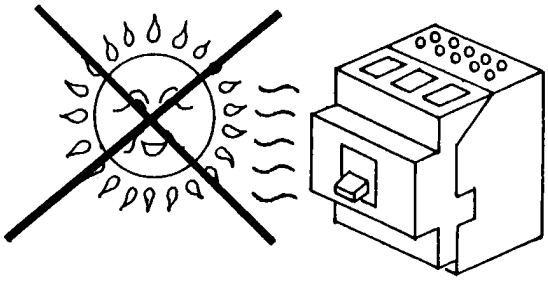
2. During the assembly of the switchboard, spread a cover over the breaker and its draw-out cradle.
   In particular, ensure that the vents of the arc chutes and the contactor and terminal on the draw-out cradle are kept free from electric wire chips, grinding swarf, weld pieces, and the like.



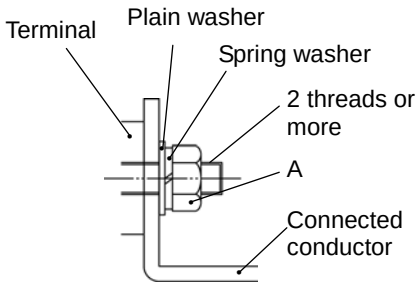
3. During use (current load), do not block the vents of the arc chutes.
   Provide sufficient insulating distance (arc space) from the grounding metal plate and insulating plate that are adjacent to the vents.
   （See "insulating distance from the power source" indicated in the catalog.）



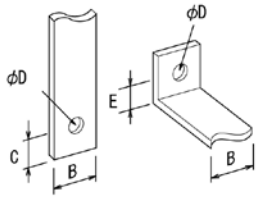
4. Mount the breaker in a place where it is not exposed to direct sunlight.



3. Precautions for conductor connections and control circuit wiring



1. For the screw to connect the conductor, be sure to use a plain washer and a spring waster to ensure the proper connection.
   Otherwise, the screw would be easily loosened, causing the connection to be burned.

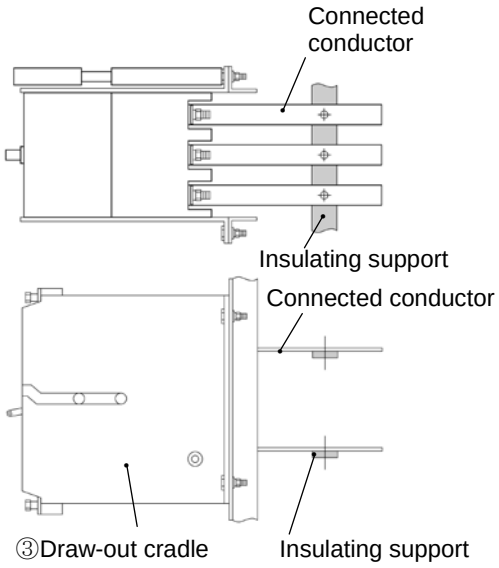


2. To clamp the conductor to be connected, use the specified torque.
   Insufficient clamping would cause overheat or excessive clamping would cause the screw to be damaged. Therefore, tighten the screw using the suitable tool for the screw size.

Table 3: Terminal detail dimensions table

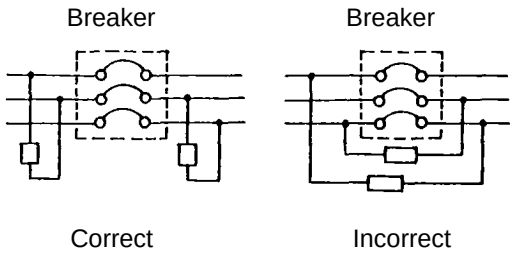
	T2DR25	T2DR40	T2DR80
A	M8	M10	M12
	8.8～14.7 N･m	18.6～29.4 N･m	32.3～51.9 N･m
B	≦22mm	≦30mm	≦40mm
C	≦15.5mm	≦20mm	≦26.5mm
D	9mm	11mm	13mm
E	≦15.5mm	≦20mm	≦26.5mm

3. Do not tighten the screw by lubricating it.
   This would decrease the friction of the threads, causing the screw to be easily loosened or excessively tightened.



4. Firmly support the connected conductor in a position near the terminal.
   The flow of accidental current will cause large electromagnetic force to be applied between the connected conductors.
   Against this electromagnetic force, the draw-out cradle alone is not enough to support the connected conductors.

5. Do not configure the control circuit between the input and output of the breaker. This is dangerous because the circuit still remains closed even if the breaker is turned OFF.



4. Operation procedures

4-1. Drawing from the CONNECTED position to the ISOLATED position

1) Turn OFF the breaker.

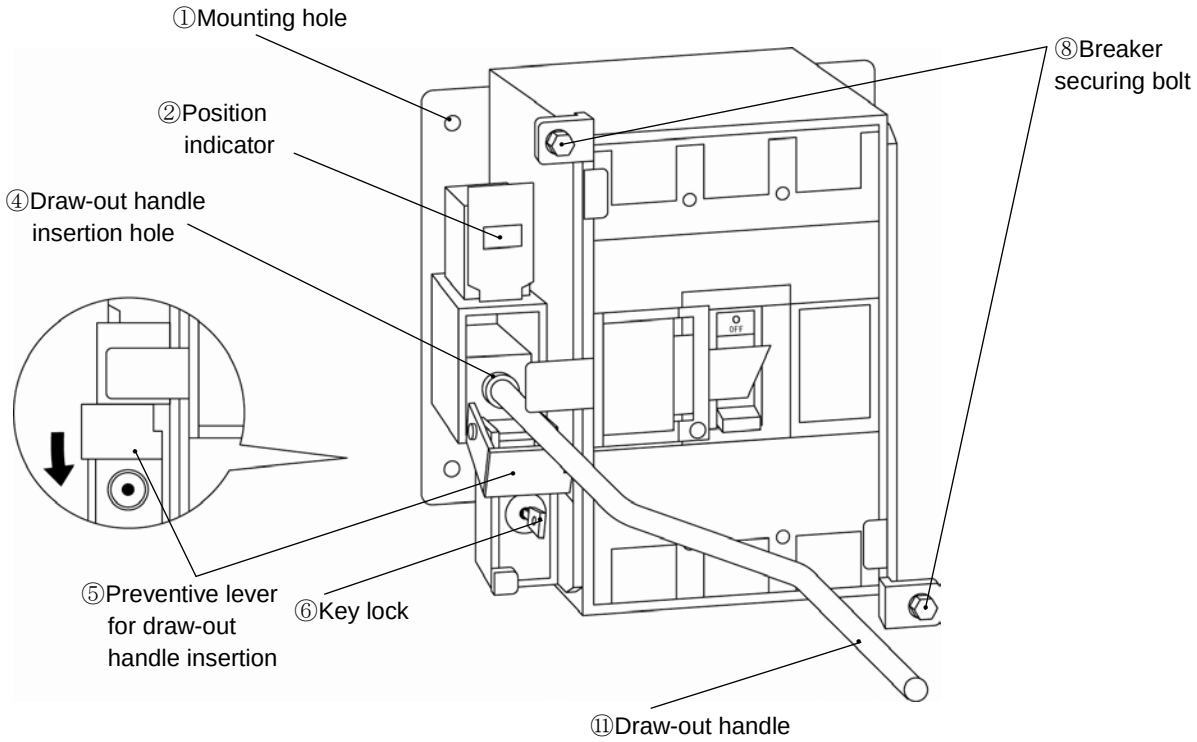
2) ⑧Loosen the breaker securing bolts to release the breaker.

3) ⑥For the key-lock version, unlock the key lock.

4) ⑤Pull down the preventive lever for draw-out handle insertion (toward the load side) and then insert ⑪draw-out handle into ④draw-out handle insertion hole.

5) ⑪When the draw-out handle is slowly turned counterclockwise until it becomes loose, ② position indicator shows "DISCONNEC."

When ②position indicator shows "DISCONNEC.", the breaker is in the ISOLATED position and the draw-out handle becomes loose.



4－2. Removing the breaker in the ISOLATED position

1） Check that the breaker is in the ISOLATED position (②position indicator shows "DISCONNEC”).

> If the breaker is not in the ISOLATED position, see 4.1 to draw out the breaker to the ISOLATED position.

2） Remove the breaker toward you from the draw-out cradle while raising it.

4－3. Mounting the removed breaker in the ISOLATED position

1） Check that ②position indicator shows "DISCONNEC."

2） Raise the breaker, align ⑨guide pin with ⑩rail groove, and then insert the breaker into the draw-out cradle.

4－4. Inserting the breaker from the ISOLATED position to the CONNECTED position

1) Pull down ⑤ preventive lever for draw-out handle insertion and insert ⑪draw-out handle into ④draw-out handle insertion hole.
2) When ⑪draw-out handle is slowly turned clockwise until it becomes loose, ②position indicator shows "CONNECTED.” If the breaker is not inserted at max. operating torque, contact us.

Table 4: Draw-out handle operating torque table in case of connection operation

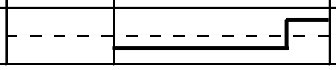
	T2DR25	T2DR40	T2DR80
Max. operating torque N･m	3 or less	5 or less	7 or less

3) Attach ⑧breaker securing bolt to secure the breaker to the draw-out cradle.

4－5. Contact status of position indicator and position switches(option)

Tables 5 show the contact status of position indicator and position switches respectively.
Refer to Page 6 regards to arrangement position of position switches.

Table 5: Contact statues of position indicator and position switches

Breaker position	CONNECTED	ISOLATED	
Position indicator			CONNECTED DISCONNEC.
Position switch			a-contact (PSa1) b-contact (PSb1)

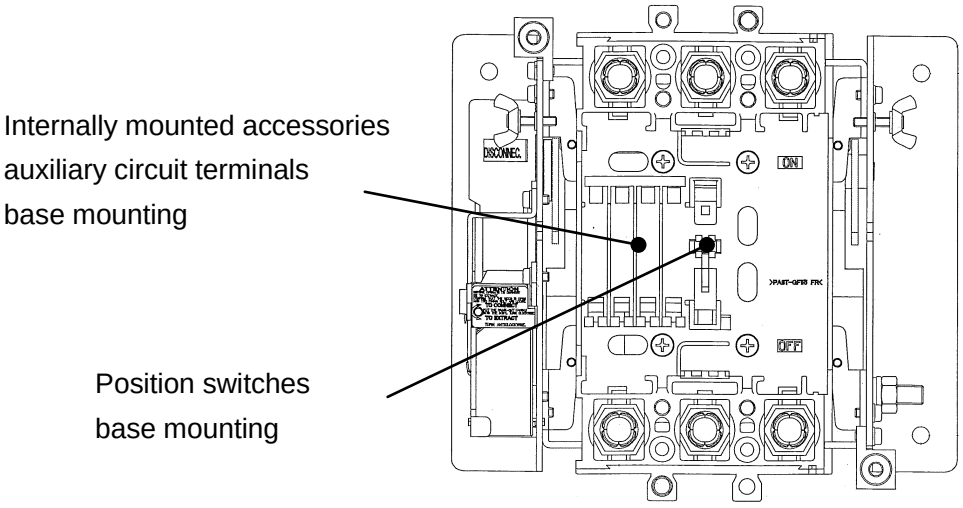
5. Standard arrangement for plug-in type auxiliary circuit terminals

Auxiliary circuit terminals are of self-engaging type.

Tables 6 show auxiliary circuit terminals of internally mounted accessories.

Position switches are mounted by sequence position of Table 6 in draw-out cradle.

"PSa1", "PSb1", "PSc1" are position switches terminals.



T2DR25 draw-out cradle visual appearance

Table6. Arrangement for plug-in type auxiliary circuit terminals (from the front of the draw-out cradle)

T2DR25	T2DR40, T2DR80
AXa1 AXa2 ALa1 C1 PSa1 AXb1 AXb2 ALb1 PSb1 AXc1 AXc2 ALc1 C2 PSc1	AXa1 AXa2 AXa3 ALa1 PSa1 C1 AXb1 AXb2 AXb3 ALb1 PSb1 AXc1 AXc2 AXc3 ALc1 PSc1 C2

6. Locking

When the breaker is in the "CONNECTED" position, it can be locked by turning the breaker handle to the OFF position.

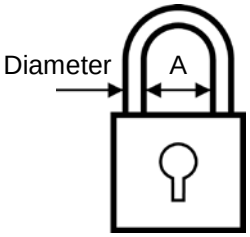
5-1. Lockup with a cylinder key (optional)

Turning the key counterclockwise locks the breaker, while turning it clockwise unlock the breaker.

Note: To turn the key, depress it at the same time.

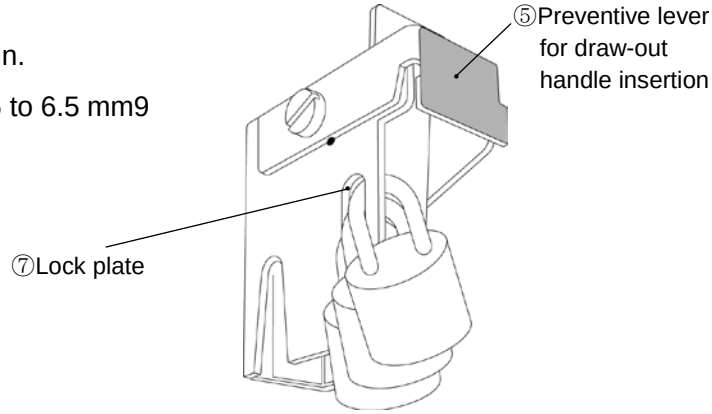
5-2. Lockup with a padlock

⑦Up to three padlocks may be used for the lock plate. The padlocks should be supplied by the customer.



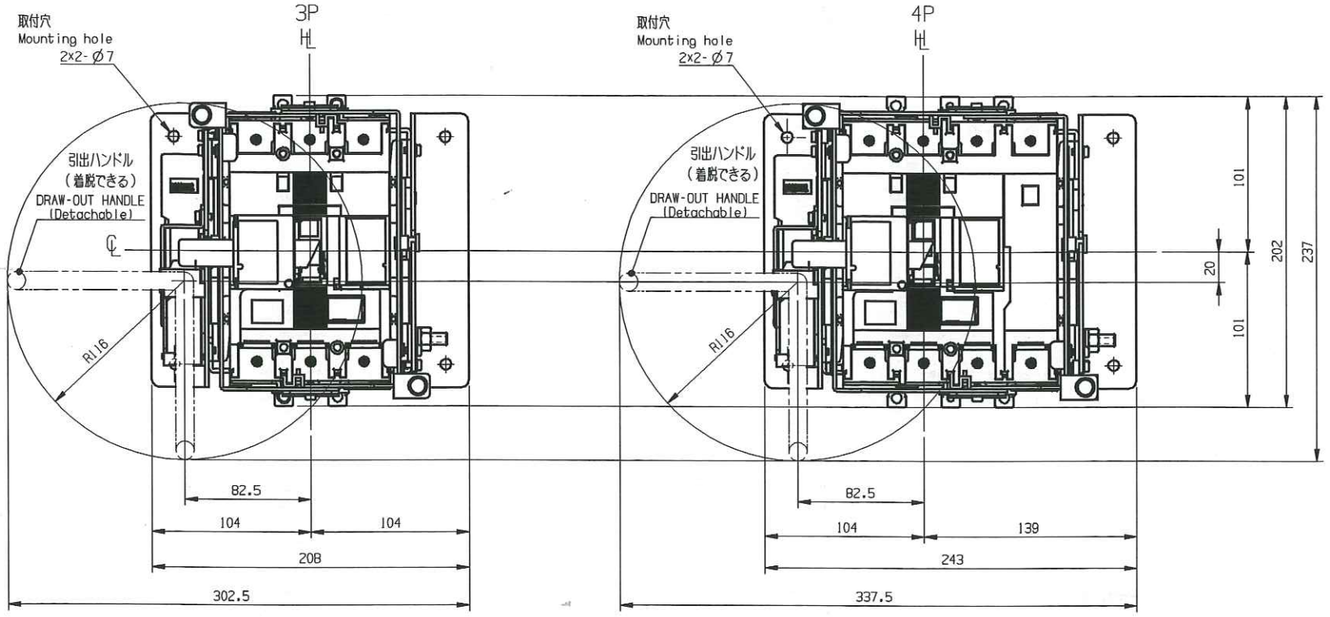
A: 13 mm min.

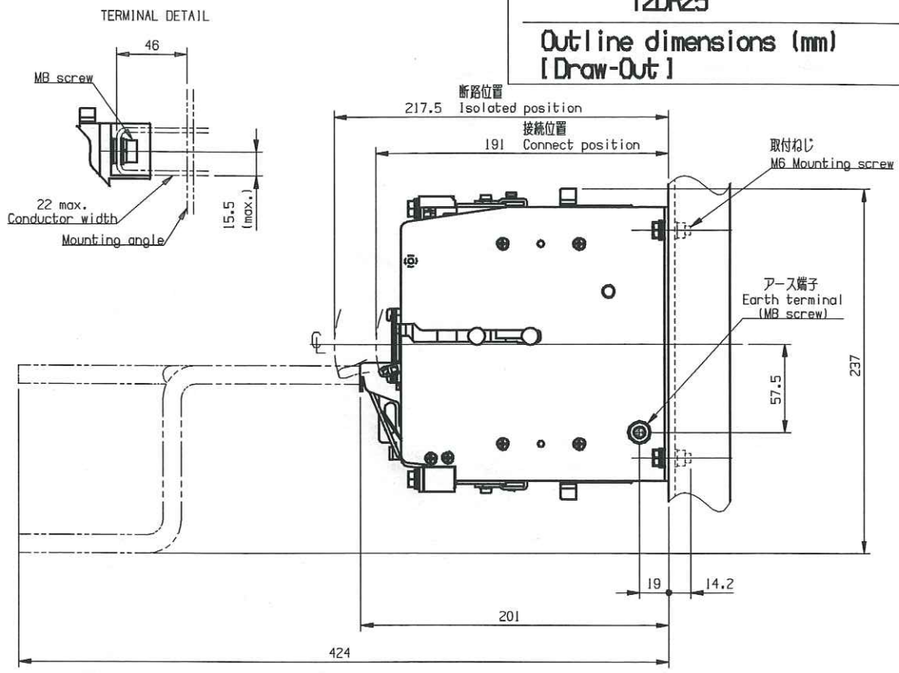
Diameter：5 to 6.5 mm9



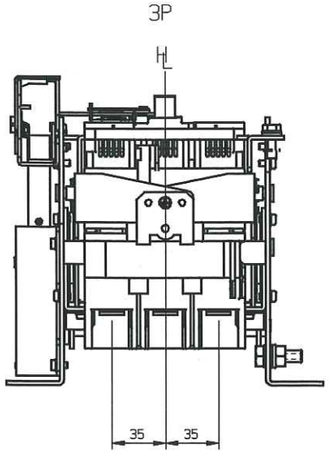
CAD (UG) DRAWING
EDIT BY CAD ONLY

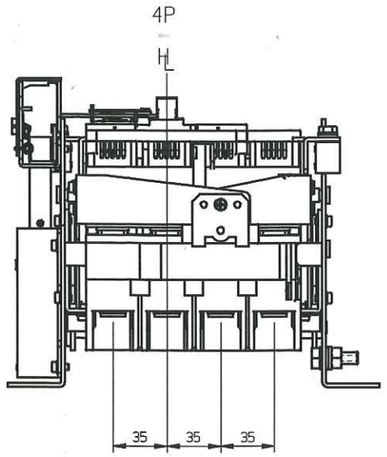
TITLE
T2DR25
Outline dimensions (mm)
[Draw-Out]

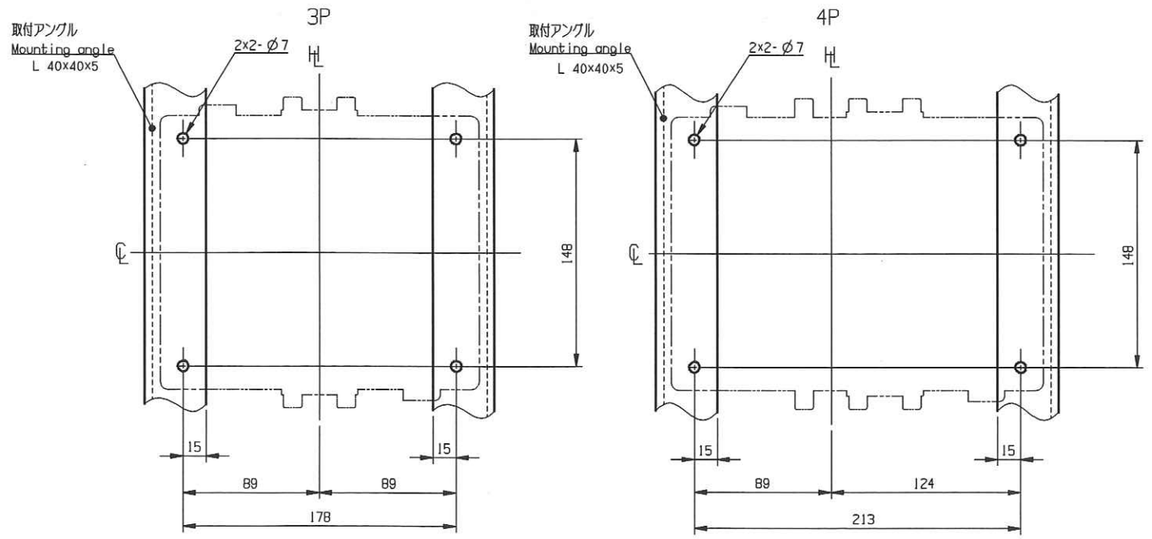




取付寸法図
DRILLING PLAN







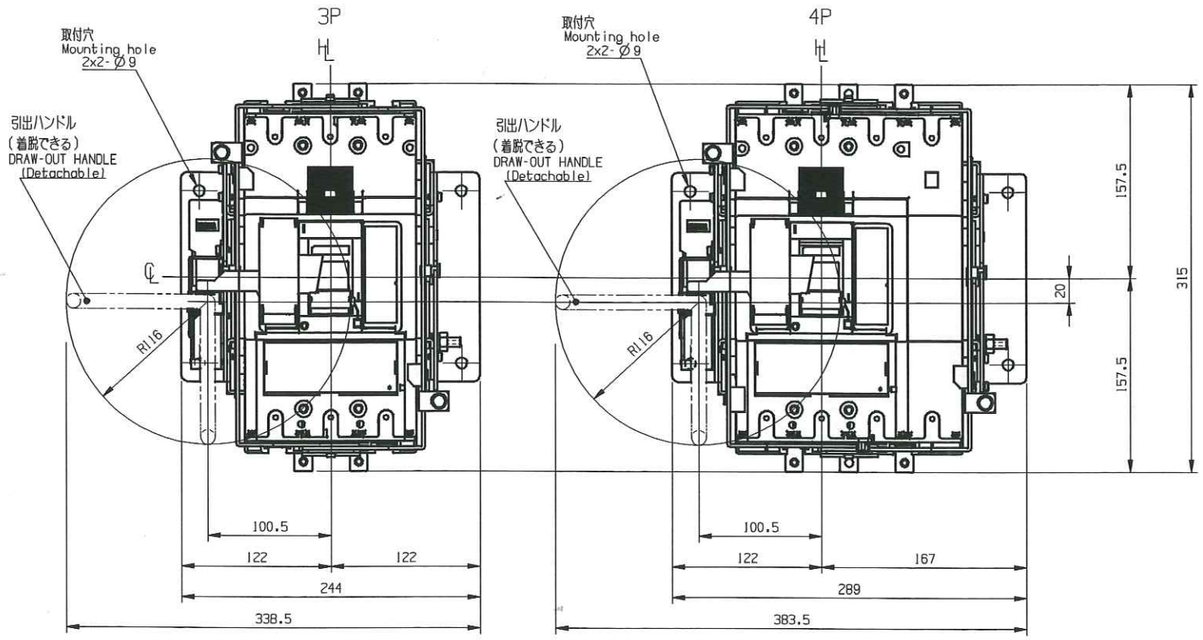
℄:Centre Line
℄:Handle Frame Centre Line

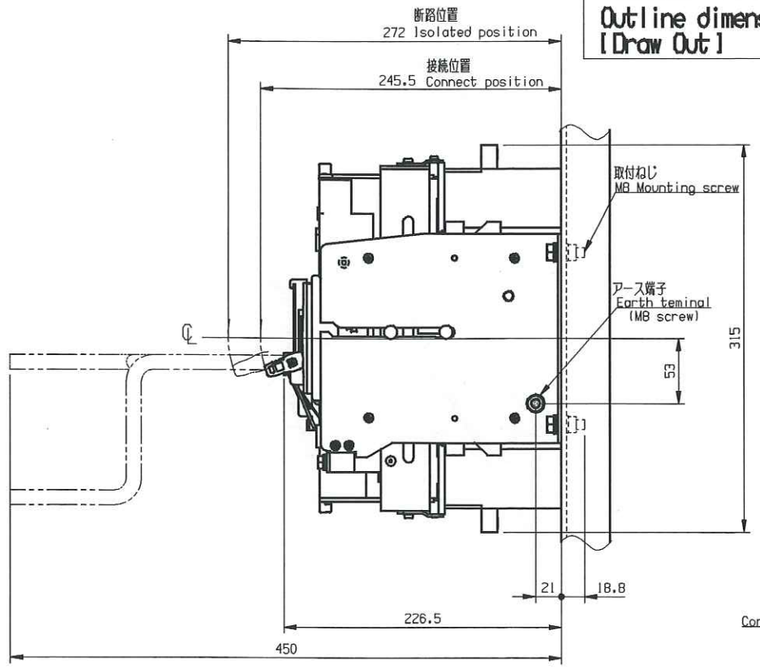
CAD (UG) DRAWING
EDIT BY CAD ONLY

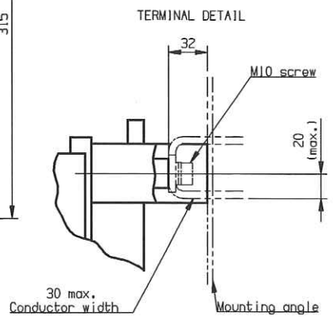
TITLE

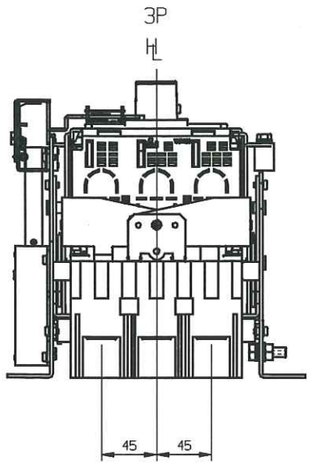
T2DR40

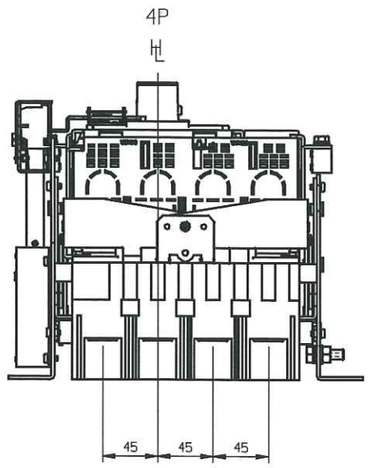
Outline dimensions (mm)
[Draw Out]



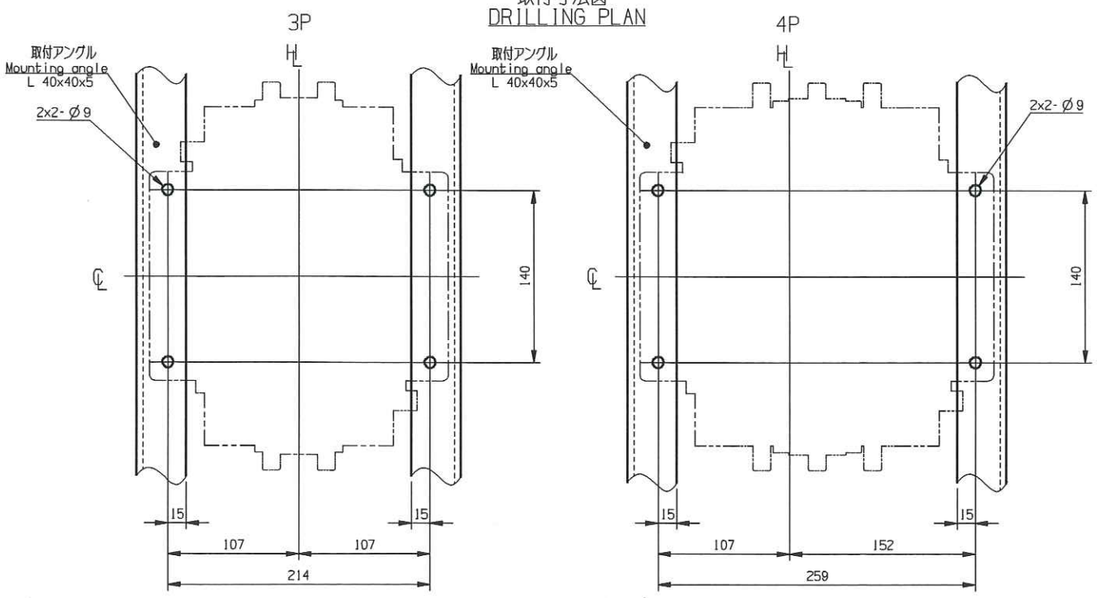








取付寸法図
DRILLING PLAN



℄:Centre Line
℄:Handle Frame Centre Line

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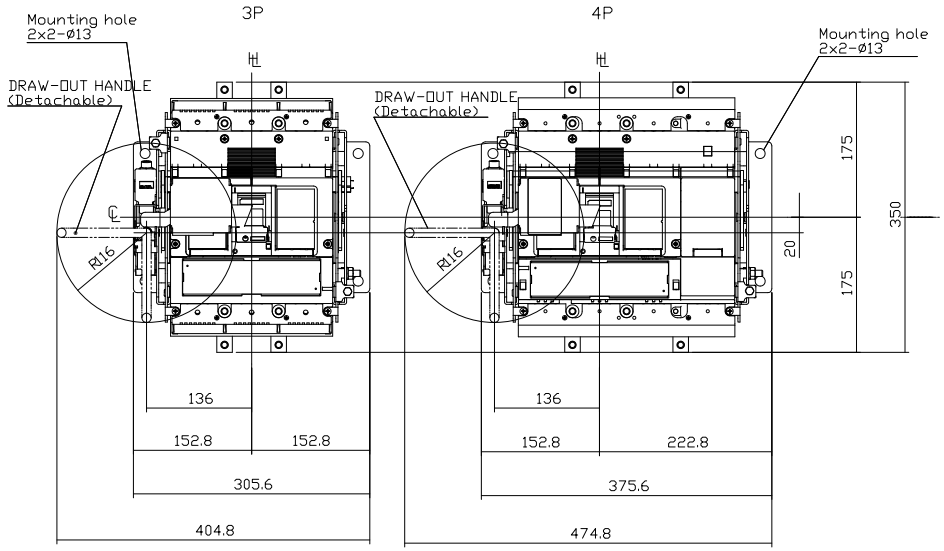
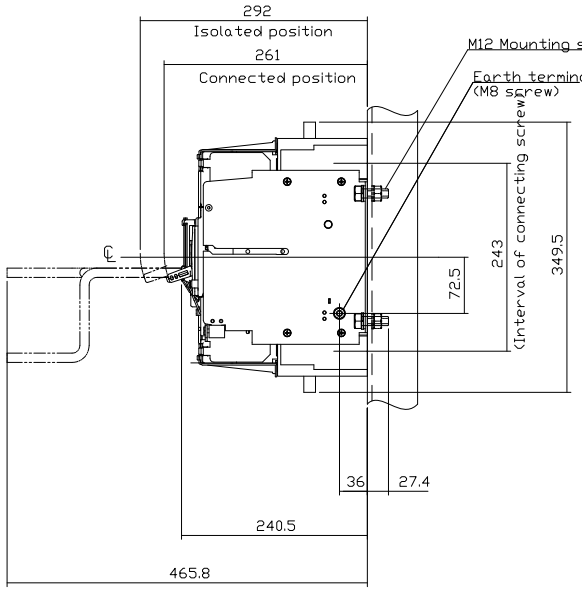
CAD (UG) DRAWING
EDIT BY CAD ONLY

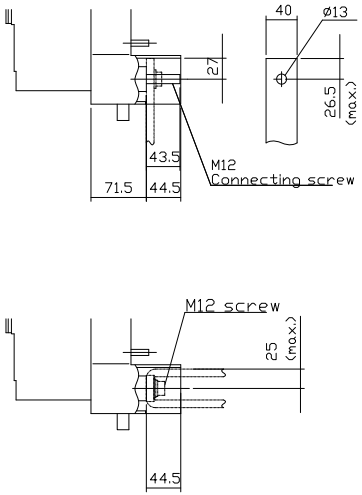
TITLE T2DR80

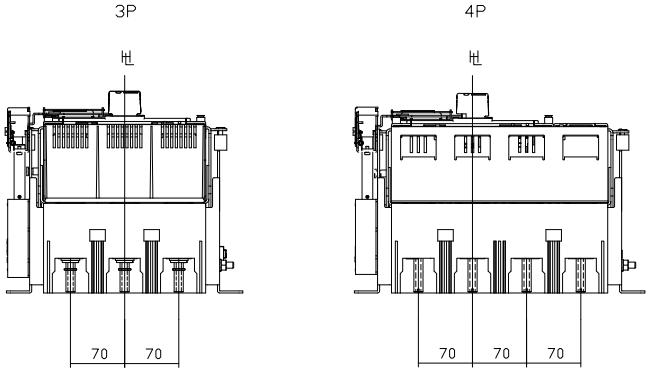
Outline dimensions (mm)
[Draw-Out]



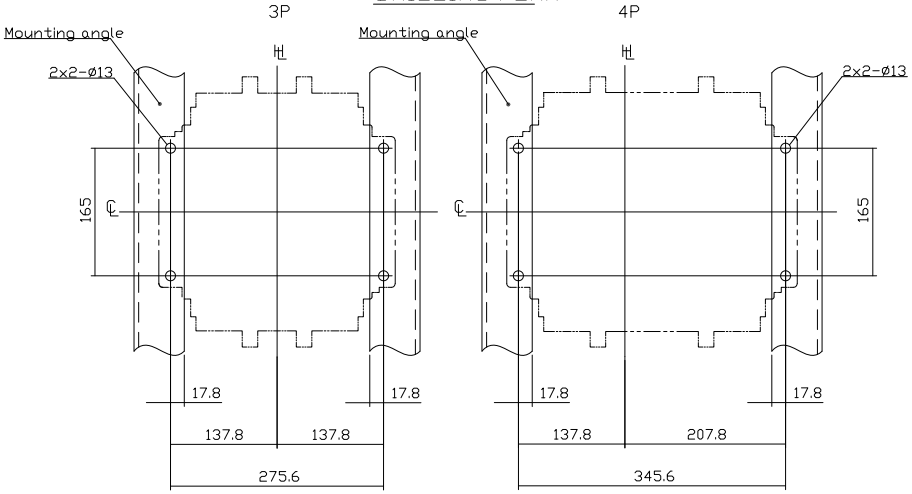


TERMINAL DETAIL





DRILLING PLAN



ASL:Arrangement Standard Line
H:Handle Frame Centre Line

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