

TemPlug 70

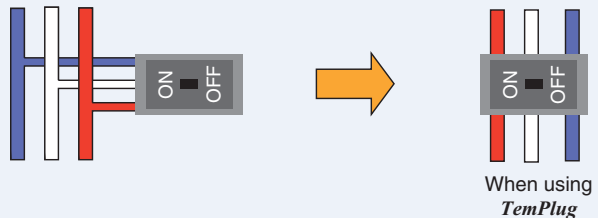
PG Series

Simply plug the **TemPlug** into the main busbar to complete the connection !
 Aligned with the handle centreline, no need for height adjustment due to standardized depth dimensions.

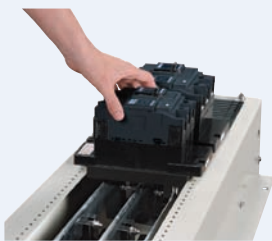
We can help you miniaturize, standardize, and shorten the production time for 21st century switchboards and distribution boards.

Miniaturisation and time reduction

Branching busbars do not need to be fabricated and the width of the switchboard can be reduced.



Standardisation & Flexibility



The 15mm pitch mounting holes allow the 100AF to 630AF TemPlugs to be mounted in any position.

Standardized mounting pitch
 Multiples of 15mm

Standardisation

The front panel cutout width is standardized to 92mm

*Excludes high-performance electronic circuit breakers and smart circuit breakers.



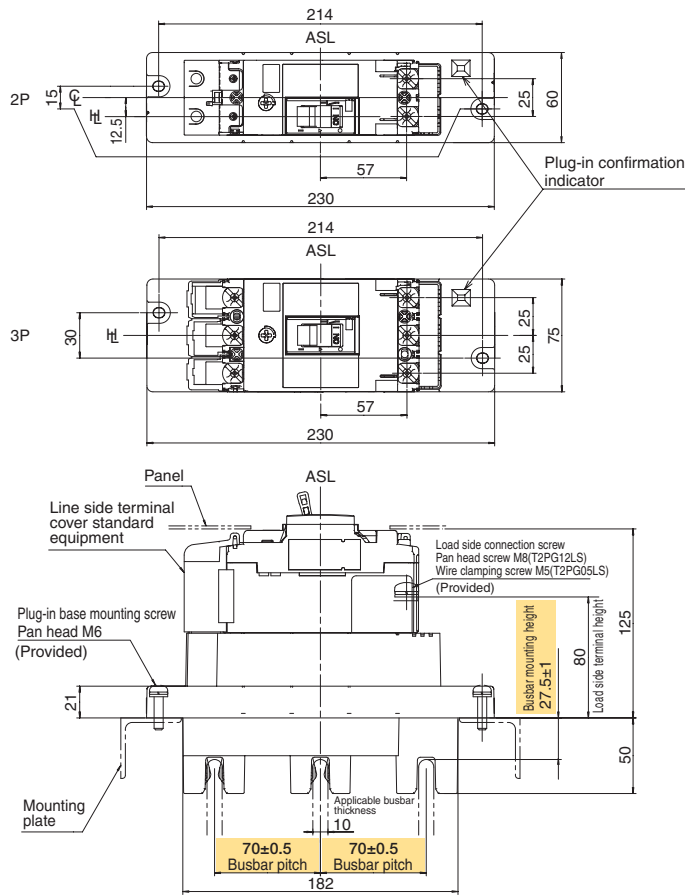
The front panel and mounting surface height is standardized

Safety

- Switchboards where the busbar block (primary side) and equipment (secondary side) are separated can be configured.
- Optional items for circuit breaker can be used for the terminal covers and interpole barriers on the load side.

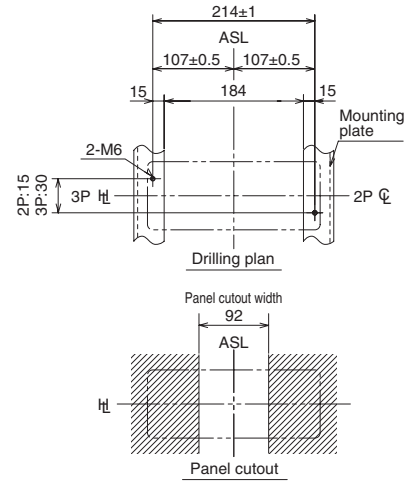
ASL : Arrangement Standard Line
 ht : Handle Frame Centre Line
 C : Handle Centre Line

T2PG05LS, T2PG12LS



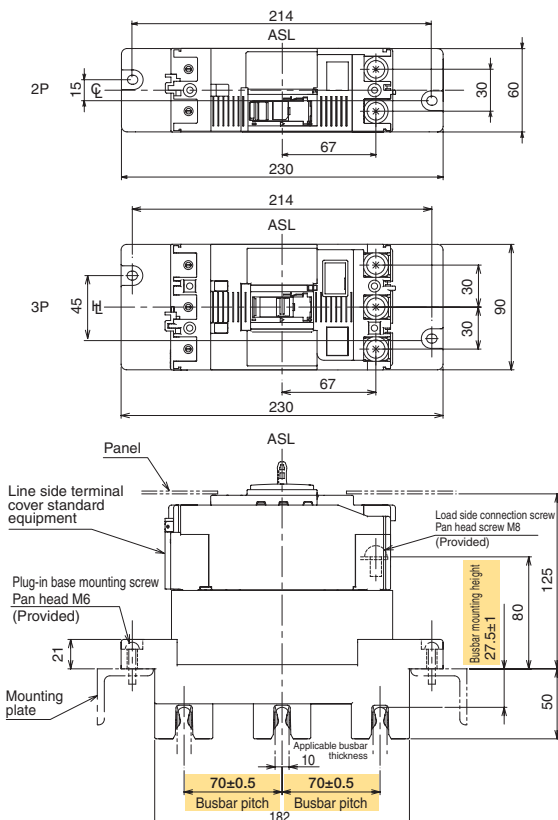
Applicable breakers

Type of TemPlug	MCCB	ELCB
T2PG05LS	S50-SF, S125-SF (15-50A), ZAS125-SF (15-50A)—3P only	ZS50-SF, ZS125-SF (15-50A), ZS100-SM (16-45A)] 3P only
T2PG12LS	S125-SF (60-125A), S125-SN, ZAS125-SF (60-125A)] 3P only	ZS125-SF (60-125A), ZS100-SM (60-100A)] 3P only



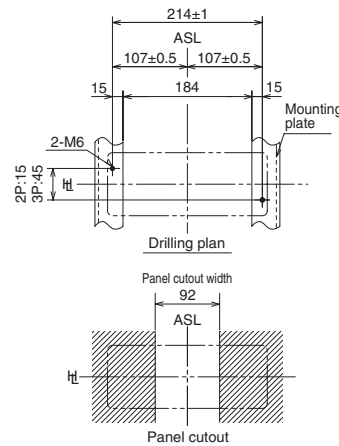
- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 3 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

T2PG12S



Applicable breakers

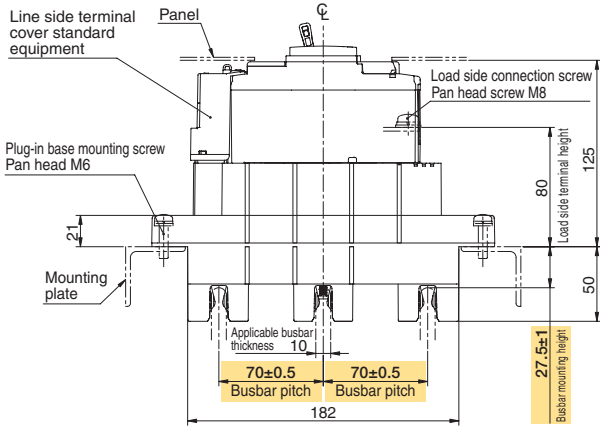
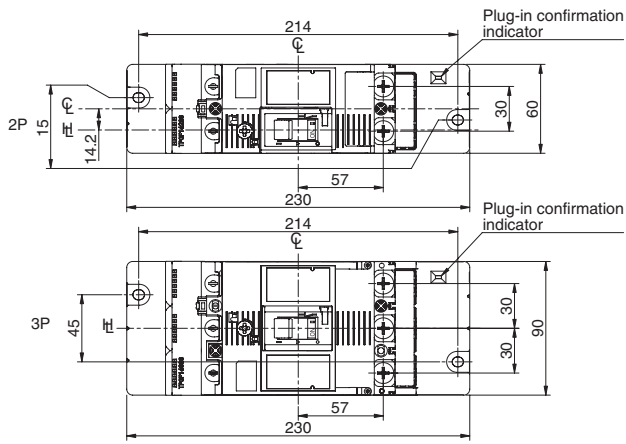
Type of TemPlug	MCCB	ELCB
T2PG12S	ZAS50-GF, ZAS100-GF, ZAS125-GF, S100-GF, S125-GF] 3P only	ZS100-GF, ZS125-GF] 3P only



- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 3 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

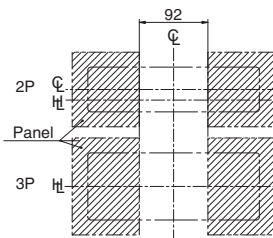
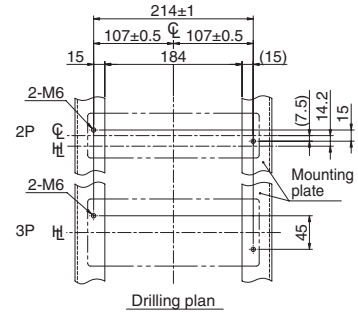
ASL : Arrangement Standard Line
 ht : Handle Frame Centre Line
 CL : Handle Centre Line

TPPG12S



Applicable breakers

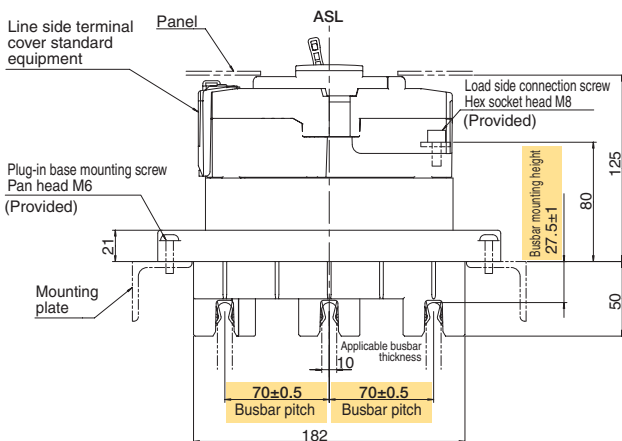
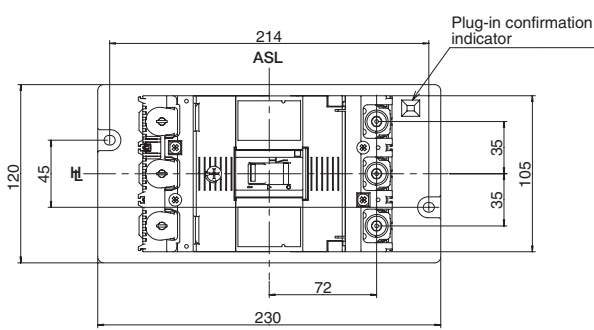
Type of TempPlug	MCCB
TPPG12S	PS125-NF, PS50-PF, PS125-PF, PS125-NE, PS125-PE PS125-NN, PS125-NM } 3P only



Note: Smart circuit breakers have a different panel cutout and are not compatible with panel cutout width 92mm.

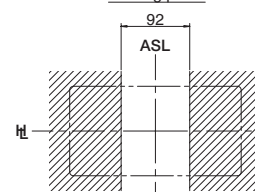
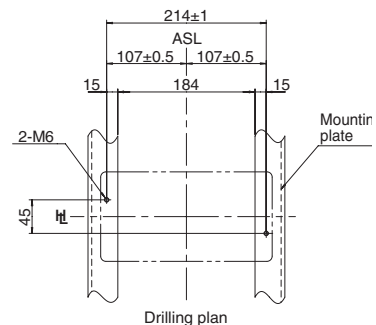
- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 3 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

T2PG25LS



Applicable breakers

Type of TempPlug	MCCB	ELCB
T2PG25LS	E250-SF, S250-SF, S250-SM, S250-SN, ZAE250-SF, ZAS250-SF, PS250-PF, PS250-NE, PS250-PE, PS250-NN	ZE250-SF, ZS250-SF, ZS250-SM

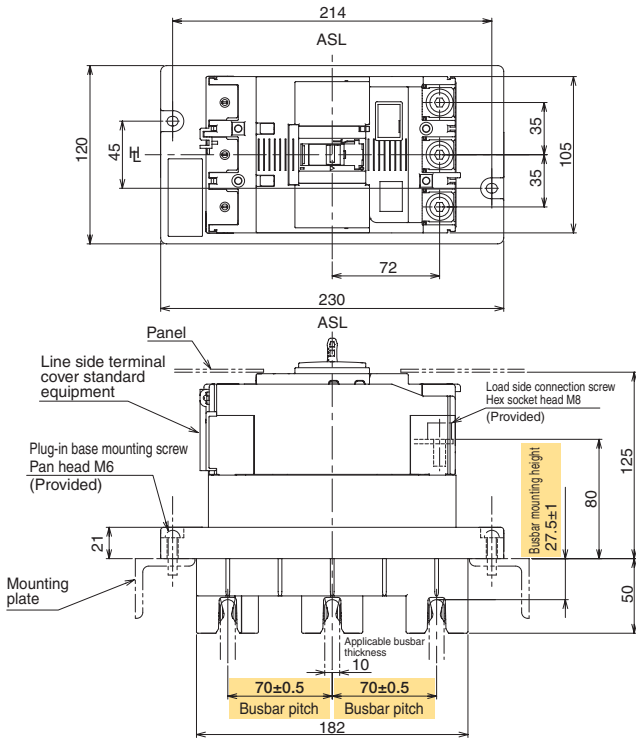


Note: Smart circuit breakers have a different panel cutout and are not compatible with panel cutout width 92mm.

- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 3 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

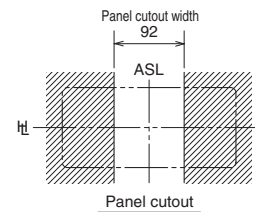
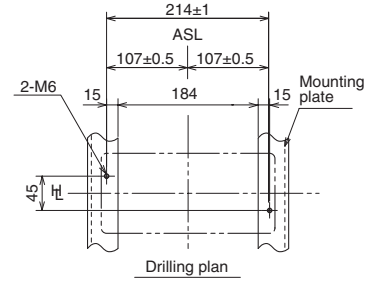
ASL : Arrangement Standard Line
 H_L : Handle Frame Centre Line
 C_L : Handle Centre Line

T2PG25S



Applicable breakers

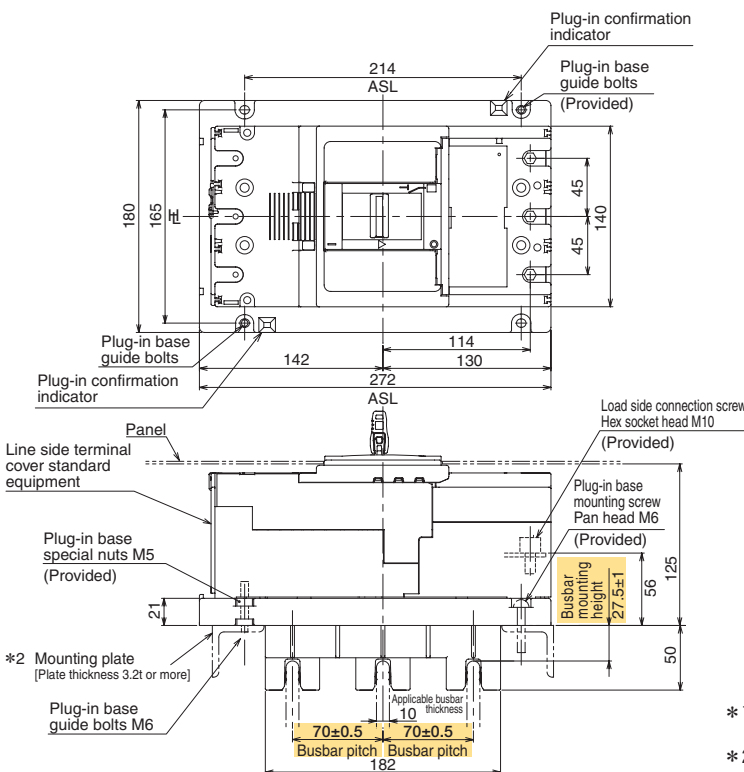
Type of TemPlug	MCCB	ELCB
T2PG25S	ZAS225-GF, ZAS250-GF	ZS225-GF, ZS250-GF



- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 3 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

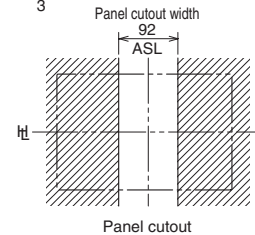
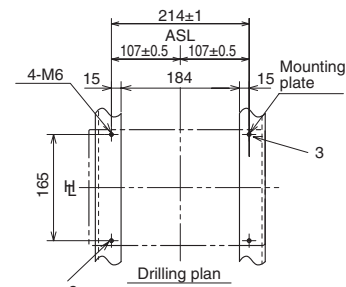
T2PG40S

ASL : Arrangement Standard Line
 H_L : Handle Frame Centre Line



Applicable breakers

Type of TemPlug	MCCB	ELCB
T2PG40S	ZAE400-NF, ZAS400-NF, ZAS400-GF, E400-NF	ZE400-NF, ZS400-NF, ZS400-GF

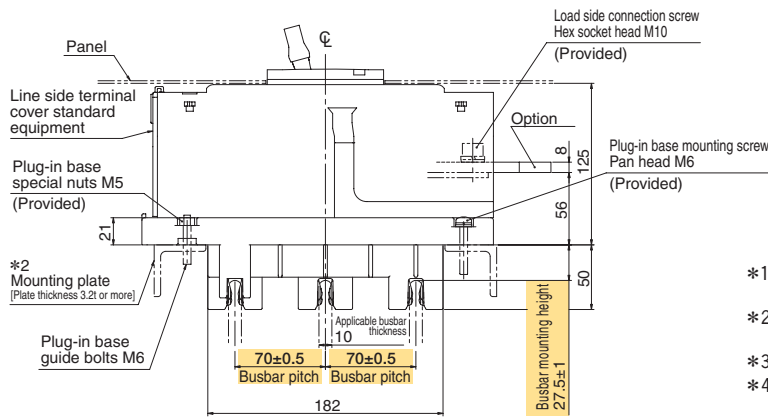
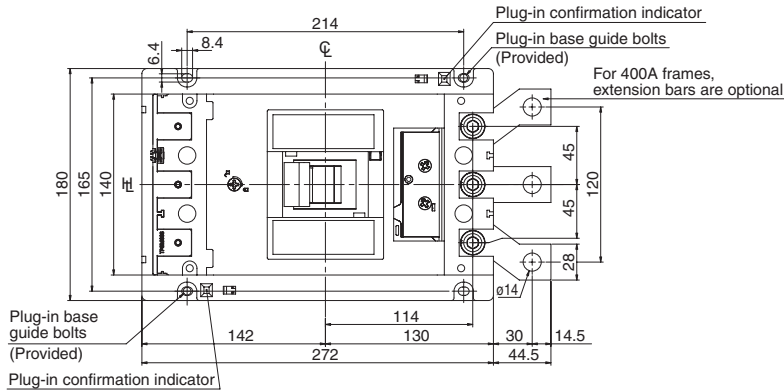


Note: High-Performance electronic circuit breakers have a different panel cutout and are not compatible with panel cutout width 92mm.

- * 1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- * 2 When using a steel plate for the mounting angle, the thickness of the plate should be 3.2t or more.
- * 3 Install the guide bolts in this position first and position them.
- * 4 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- * 5 If needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

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

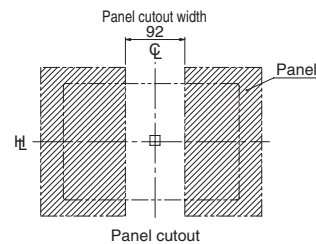
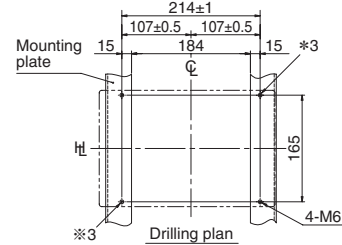
TPPG40S



Applicable breakers

Type of TemPlug	MCCB
TPPG40S	PS400-CF, PS400-NF, PS400-GF, PS400-NE, PS400-GE, PH400-CF①, PH400-CE①, PS400-NN, PS630-CF 500A, PS630-NF 500A, PS630-GF 500A, PS630-NN 500A, PH630-CF 500A①

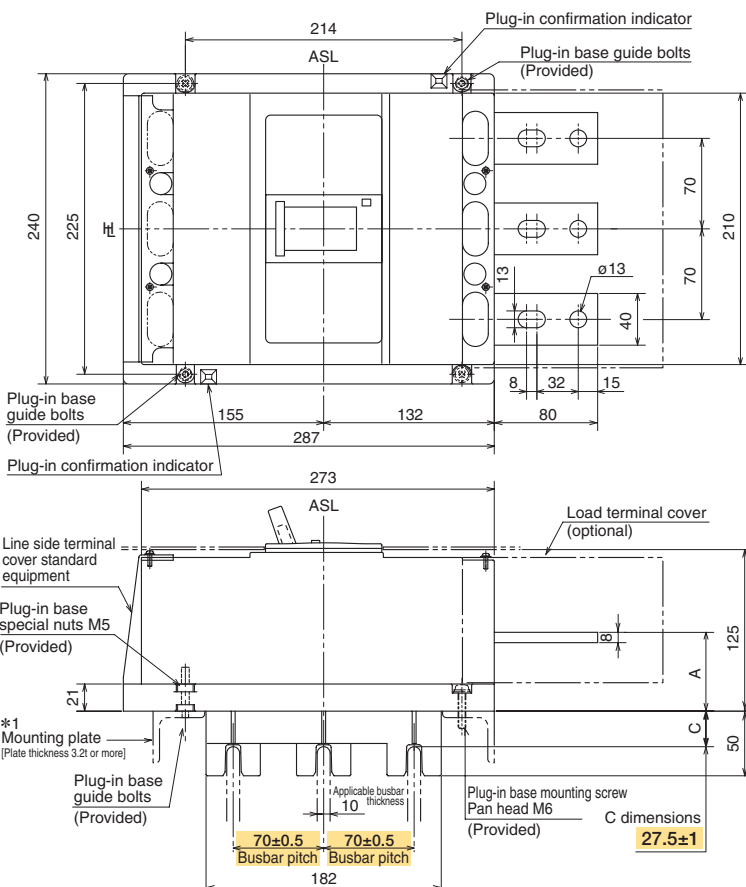
Note① : These are special types that can be used. However, due to the limitation of the short-time withstand current of the busbar, they cannot be applied to circuits with a short circuit breaking current exceeding 85kA.



- *1 See the outline dimensions of the chapter 7 for the load side connection conductor preparation diagram.
- *2 When using a steel plate for the mounting angle, the thickness of the plate should be 3.2t or more.
- *3 Install the guide bolts in this position first and position them.
- *4 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.
- *5 For 400A frames, if needed please specify front-connected type with extension bar (optional) on the secondary side when ordering.

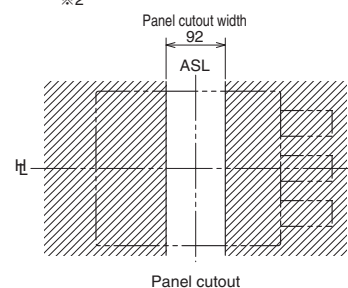
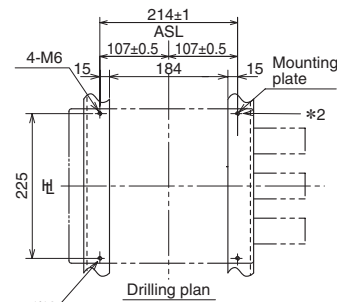
ASL : Arrangement Standard Line
 HL : Handle Frame Centre Line

T2PG63S



Applicable breakers

Type of TemPlug	MCCB	ELCB	A (mm)
T2PG63S	S630-CF, S630-NF, S630-GN		61
	S630-NE, ZAS630-CF, ZAS630-NF	ZS630-CF, ZS630-NF	63



- * 1 When using a steel plate for the mounting angle, the thickness of the plate should be 3.2t or more.
- * 2 Install the guide bolts in this position first and position them.
- * 3 The busbar pitch (70 ± 0.5) and busbar mounting height (27.5 ± 1) are important dimensions.

100A to 630A Frame

Plug-in base type *1	poles	Applicable breakers					
		Moulded case circuit breakers	Non-automatic trip breakers/ Switch disconnectors (3P only)	Circuit breakers with earth leakage alarm (3P only)	Earth leakage circuit breakers (3P only)	Moulded case circuit breakers for motor protection (3P only)	Earth leakage circuit breakers for motor protection (3P only)
T2PG05LS	2 3	S50-SF, S125-SF (15-50A)		ZAS125-SF (15-50A)	ZS50-SF, ZS125-SF (15-50A)		ZS100-SM (16-45A)
T2PG12LS	2 3	S125-SF (60-125A)	S125-SN	ZAS125-SF (60-125A)	ZS125-SF (60-125A)		ZS100-SM (60-100A)
T2PG12S	2 3	S100-GF, S125-GF		ZAS50-GF, ZAS100-GF, ZAS125-GF	ZS100-GF, ZS125-GF		
TPPG12S	2 3	PS125-NF, PS50-PF, PS125-PF PS125-NF, PS50-PF, PS125-PF, PS125-NE*2, PS125-PE*2	PS125-NN			PS125-NNM	
T2PG25H	3	H100-NF*3*4, H125-NF*3*4, H225-NF*3*4					
T2PG25LS	3	E250-SF, S250-SF, PS250-PF, PS250-NE*2, PS250-PE*2	S250-SN, PS250-NN	ZAE250-SF, ZAS250-SF	ZE250-SF, ZS250-SF	S250-SM	ZS250-SM
T2PG25S	3			ZAS225-GF, ZAS250-GF	ZS225-GF, ZS250-GF		
T2PG40S	3	E400-NF		ZAE400-NF, ZAS400-NF, ZAS400-GF	ZE400-NF, ZS400-NF, ZS400-GF		
TPPG40S	3	PS400-CF, PS400-NF, PS400-GF, PH400-CF*3, PS400-NE*2, PS400-GE*2, PH400-CE*2*3, PS630-CF 500A, PS630-NF 500A, PS630-GF 500A, PS630-NN 500A, PH630-CF 500A*3	PS400-NN, PS630-NN 500A				
T2PG63S	3	S630-CF, S630-NF, S630-NE*2	S630-GN	ZAS630-CF, ZAS630-NF	ZS630-CF, ZS630-NF		

Use full-round R5 or square R0.9 with a plate thickness of 10mm for the main busbar.

If used in a multi-stack, please consider the temperature of the busbar for a 30K rise under JIS C 4620.

* 1 : The plug-in base is not supplied as a single item. Order together with the circuit breaker.

* 2 : High-performance electronic circuit breakers and smart circuit breakers are not compatible with panel cutout width 92mm.

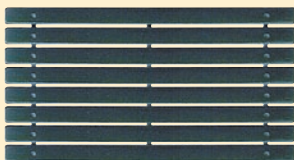
* 3 : These are special types that can be used. However, due to the limitation of the short-time withstand current of the busbar, they cannot be applied to circuits with a short circuit breaking current exceeding 85kA.

* 4 : Please contact us for the outline dimensions.

OPTION *TemPlug 70*

Blank cover for *TemPlug 70*

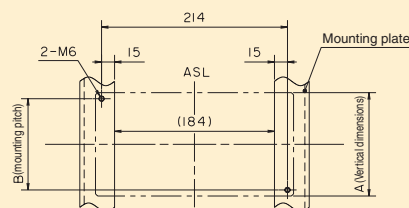
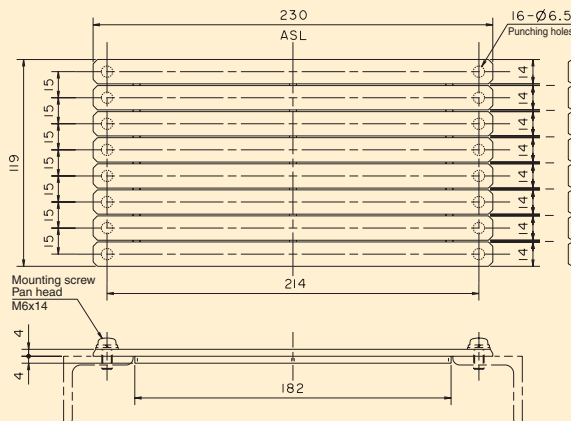
(Option)



A cover that covers the gap between the *TemPlug* and separates them from the busbar block.

It can be easily divided in 15mm increments, so cut it to fit the gap.

Type XDI-BCOVER

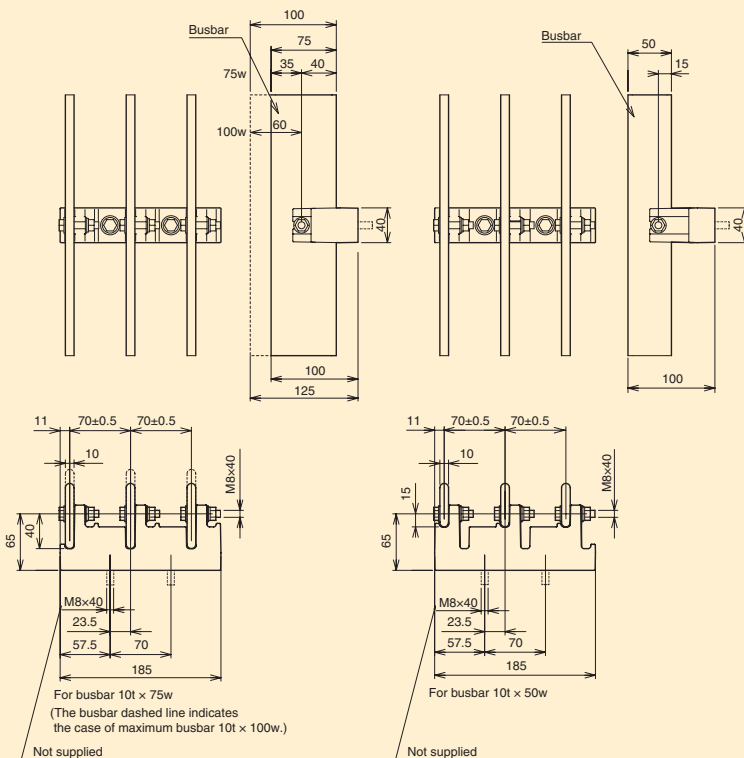
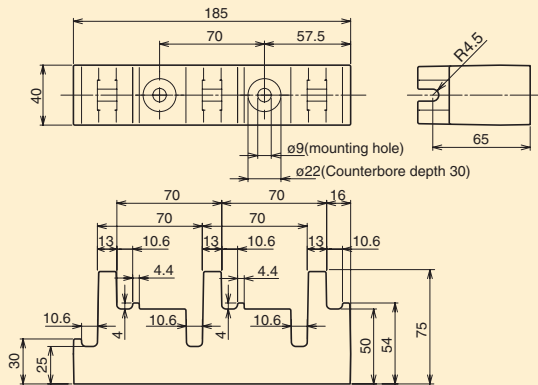


If folded into 1 in series	A=14.5	B=0
If folded into 2 in series	A=29.5	B=15
If folded into 3 in series	A=44.5	B=30
If folded into 4 in series	A=59.5	B=45
If folded into 5 in series	A=74.5	B=60
If folded into 6 in series	A=89.5	B=75
If folded into 7 in series	A=104.5	B=90
	A=119	B=105 for 8 in series

Busbar support for *TemPlug 70*

We recommend the use of a busbar support in order to achieve an accurate busbar pitch of 70mm.

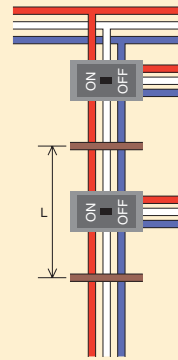
Type BST 70



- Note1. When using a busbar of 10t x 125w or more, use a bushing type support, too.
 Note2. When using a 50w or 75w busbar, the relationship between the busbar and the busbar support mounting hole is the same, and the busbar support can be mounted inversely in the horizontal direction.
 Note3. The busbar support should be secured to a strong L-shaped angle or similar.

When using *TemPlug 70*

- ① The recommended values for the busbar support interval to interrupt short-circuit current with an MCCB are as shown in the table below.



For rated breaking capacity 460V AC 50kA

Busbar size	Busbar support interval L (mm)		
	225A	400A	600/630A
10t×50w	585	405	345
10t×100w	735	525	450

For rated breaking capacity 220V AC 85kA

Busbar size	Busbar support interval L (mm)		
	225A	400A	600/630A
10t×50w	690	525	390
10t×100w	885	660	495

- ② In order to withstand a short-time current of 50kA for 1 second the distance between the busbar supports should be 300mm.

In order to withstand a short-time current of 85kA for 1 second the distance between the busbar supports should be 150mm.

TemPlug 70 confirmation jig

Type XDI-GAUGE



TemPlug 70 confirmation jig is a Go/No Go gauge that determines whether the plug-in base is properly inserted into the busbar.

(Not available for T2PG05LS 3P, T2PG12LS 3P, T2PG12S 2P/3P and TPPG12S 2P/3P.)

Busbar unit for *TemPlug 70*

We have prepared busbar units to standardize and shorten the production time for switchboards.

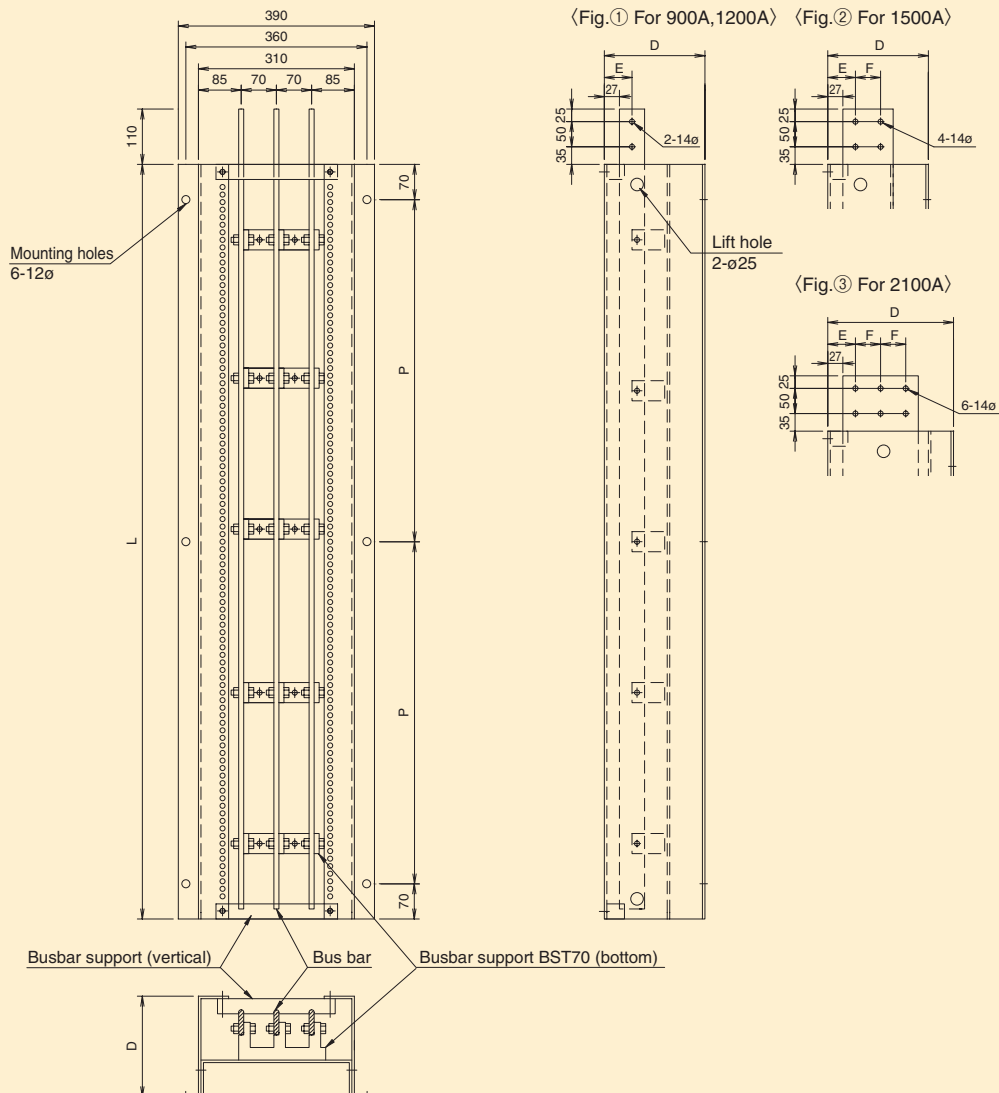
Every busbar unit is inspected before shipment for tolerances such as busbar pitch, busbar mounting height, and lateral dimensions of the busbar and plug-in base mounting screw holes, so you can be assured of product quality.

Slim type branch dedicated type

The branch circuit breaker can be installed on the line side or load side, either on the left or right.

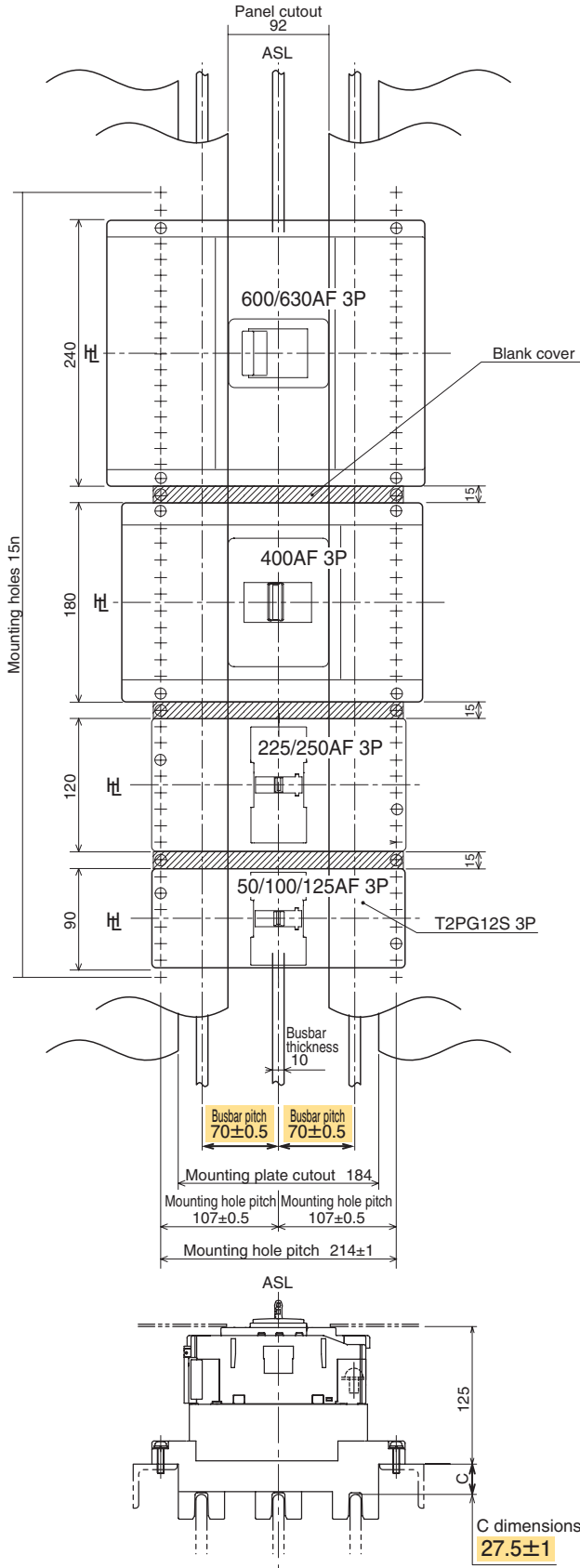
Type	Rated current	Busbar width (mm)	E (mm)	F (mm)	L (mm)	P (mm)	D (mm)	Short-time current
BW 9-B-50S	900A	50 Fig.①	52	—	1500	680	200	50kA 1sec
BW12-B-50S	1200A	75 Fig.①	64.5	—				
BW15-B-50S	1500A	100 Fig.②	52	50				
BW 9-B17-50S	900A	50 Fig.①	52	—	1700	780	200	
BW12-B17-50S	1200A	75 Fig.①	64.5	—				
BW15-B17-50S	1500A	100 Fig.②	52	50				
BW 9-B-85S	900A	50 Fig.①	52	—	1500	680	200	85kA 1sec
BW12-B-85S	1200A	75 Fig.①	64.5	—				
BW15-B-85S	1500A	100 Fig.②	52	50				
BW21-B-85S	2100A	150 Fig.③	52	50	1700	780	200	
BW 9-B17-85S	900A	50 Fig.①	52	—				
BW12-B17-85S	1200A	75 Fig.①	64.5	—				
BW15-B17-85S	1500A	100 Fig.②	52	50	1700	780	250	85kA 1sec
BW21-B17-85S	2100A	150 Fig.③	52	50				

The outline drawing shows the case of a rated current of 900A and short-time current of 50kA 1sec.



100A to 630A Frame

Circuit breaker mounting drawing

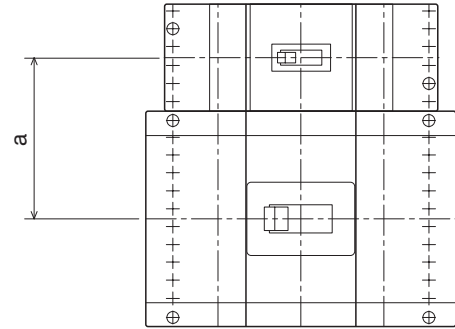


* The busbar pitch (70±0.5) and busbar mounting height (27.5±1) are important dimensions.

Circuit breaker centre-to-centre pitch

■ For close fitting mounting

(Close fitting is possible in the case of lead wire draw-in. However, circuit breakers with earth leakage alarm except for ZAE250-SF and ZAS250-SF cannot be close fitted.)



a dimensions

Circuit breaker frame size	50/100/125AF 2P	50/100/125AF 3P	50/100/125AF 3P	225/250AF 3P	400AF 3P	600/630AF 3P
	<i>TemPlug</i> Type	T2PG05LS 2P T2PG12LS 2P T2PG12S 2P TPPG12S 2P	T2PG06LS 3P T2PG12LS 3P	T2PG12S 3P TPPG12S 3P	T2PG25LS 3P T2PG25S 3P	T2PG40S 3P TPPG40S 3P
50/100/125AF 2P	60	67.5	75	90	120	150
50/100/125AF 3P	67.5	75	82.5	97.5	127.5	157.5
50/100/125AF 3P	75	82.5	90	105	135	165
225/250AF 3P	90	97.5	105	120	150	180
400AF 3P	120	127.5	135	150	180	210
600/630AF 3P	150	157.5	165	180	210	240

■ When mounting a blank cover

(If the circuit breaker has a lead wire terminal block, use about one to three blank covers. (See the figure on the left))

a dimensions

Circuit breaker frame size	50/100/125AF 2P	50/100/125AF 3P	50/100/125AF 3P	225/250AF 3P	400AF 3P	600/630AF 3P
	<i>TemPlug</i> type	T2PG05LS 2P T2PG12LS 2P T2PG12S 2P TPPG12S 2P	T2PG06LS 3P T2PG12LS 3P	T2PG12S 3P TPPG12S 3P	T2PG25LS 3P T2PG25S 3P	T2PG40S 3P TPPG40S 3P
50/100/125AF 2P	75	82.5	90	105	135	165
50/100/125AF 3P	82.5	90	97.5	112.5	142.5	172.5
50/100/125AF 3P	90	97.5	105	120	150	180
225/250AF 3P	105	112.5	120	135	165	195
400AF 3P	135	142.5	150	165	195	225
600/630AF 3P	165	172.5	180	195	225	255

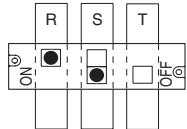
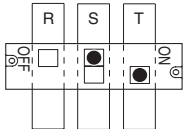
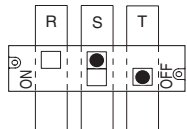
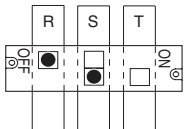
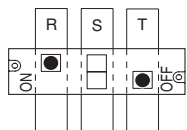
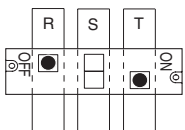
Order Form

When ordering a *TemPlug*, please specify the "breaker type", "number of poles", "*TemPlug* series abbreviation" and "connection type" (for 2 poles). It is not necessary to fill in the individual type of *TemPlug* (plug-in base type) because we do not supply plug-in bases as a single item. We will deliver it as a set with the circuit breaker.

	<i>TemPlug</i> series abbreviation
<i>TemPlug70</i>	PG

When the number of poles is 2P, the following three types of plug-in base are available, depending on the phase to be connected.

Please specify which connection type.

Connection type	For ON (line side) left mounting	For ON (line side) right mounting
A	 <p>R-S(N) phase connection</p>	 <p>T-S(N) phase connection</p>
B	 <p>T-S(N) phase connection</p>	 <p>R-S(N) phase connection</p>
C	 <p>R-T phase connection</p>	 <p>R-T phase connection</p>

Order code

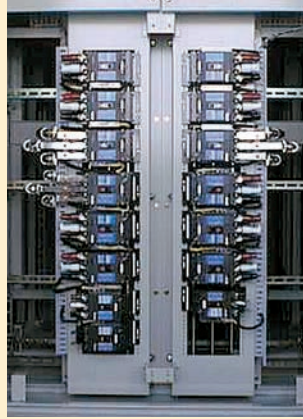
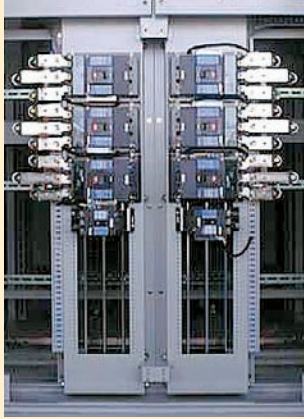
EX. 1

[PS125-NF] + [2P] + [PG] + [A]

EX. 2

[PS250-PF] + [3P] + [PG]

Flexibility to change specifications



The system can easily accommodate changes to the circuit breakers or additions due to changes in load capacity, as well as changes in the use of the circuit breaker.

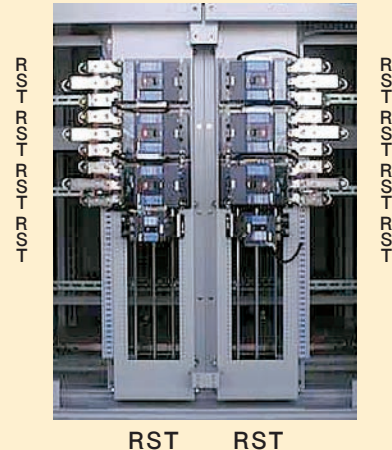
Note: We recommend turning off the power when replacing circuit breakers for safety. However, in emergencies or when it is impossible to turn off the power, it is possible to replace a circuit breaker when energised, provided that the breaker is turned off and the work is carried out with due consideration for safety.

Miniaturisation of the switchboard



TemPlug plugs directly into the main busbar, so no space is needed for the branching busbar. This makes it possible to reduce the width of the switchboard.

Standardisation of phase order



Regardless of the mounting orientation of the circuit breaker, the phase order of the load side can be standardized to R, S, T from the top.

TemPlug uses the contact part used in the motor control centre (MCC). Terasaki has developed this technology over many years in our marine switchboards.

- Short circuit test
- Short-time withstand current test
- Vibration test
- Insertion test
- Multi-step temperature test (photo on the right)

We conduct a variety of tests, such as:



Status of multi-step temperature test