Europa components | Technical Data: CBR125 (ZE125-NJ)
IP4X Enclosed CBRs

⚠ Important Safety Notice

It is the responsibility of the person installing the electrical equipment to ensure that the installation meets the requirements of the IET wiring regulations and is therefore 'fit for purpose'. Factors such as correct selection of components, cable sizing, protective devices and Earth bonding are all critical and should be checked prior to full testing and power-up. Any other regulations applicable to the equipment being installed such as the Machinery Directive and current health and safety legislation must also be adhered to.

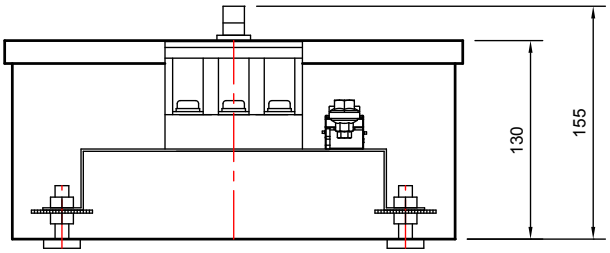
All connections (including factory made) must be checked for the correct tightness prior to commissioning of the electrical installation.

All connections should be checked periodically to ensure correct tightness.

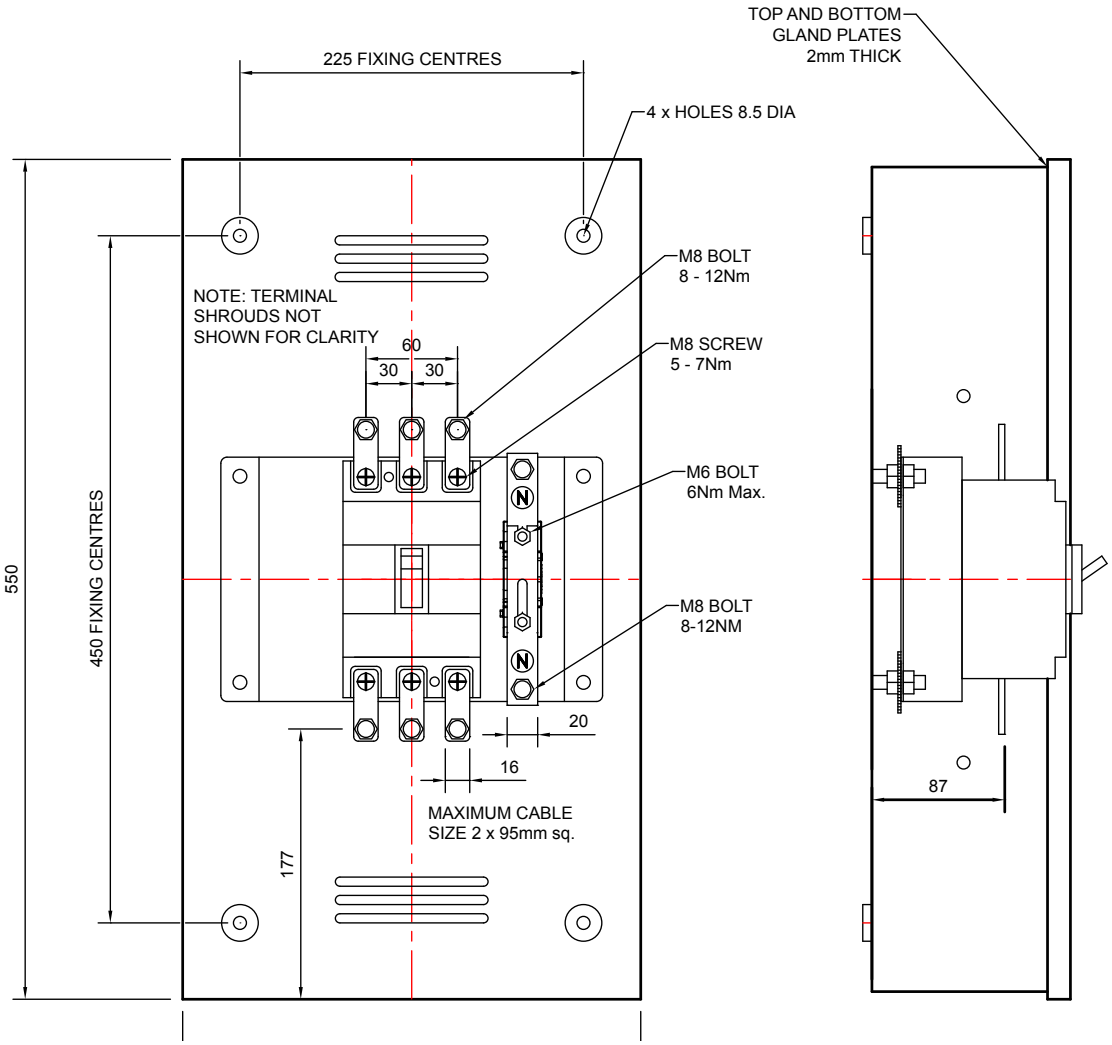
DO NOT USE POWER TOOLS ON THESE PRODUCTS

CE

CBR125-3PNL-MC

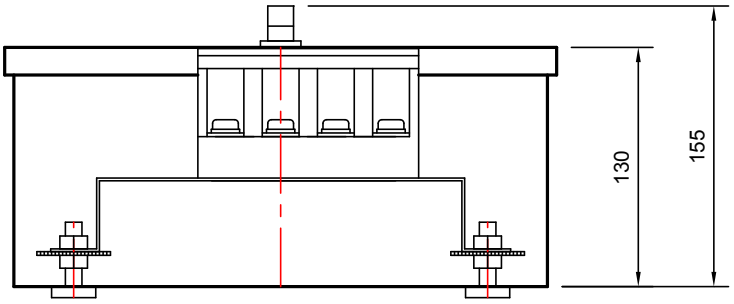


WARNING: All connections (including factory made) must be checked for the correct tightness prior to the commissioning of the electrical installation

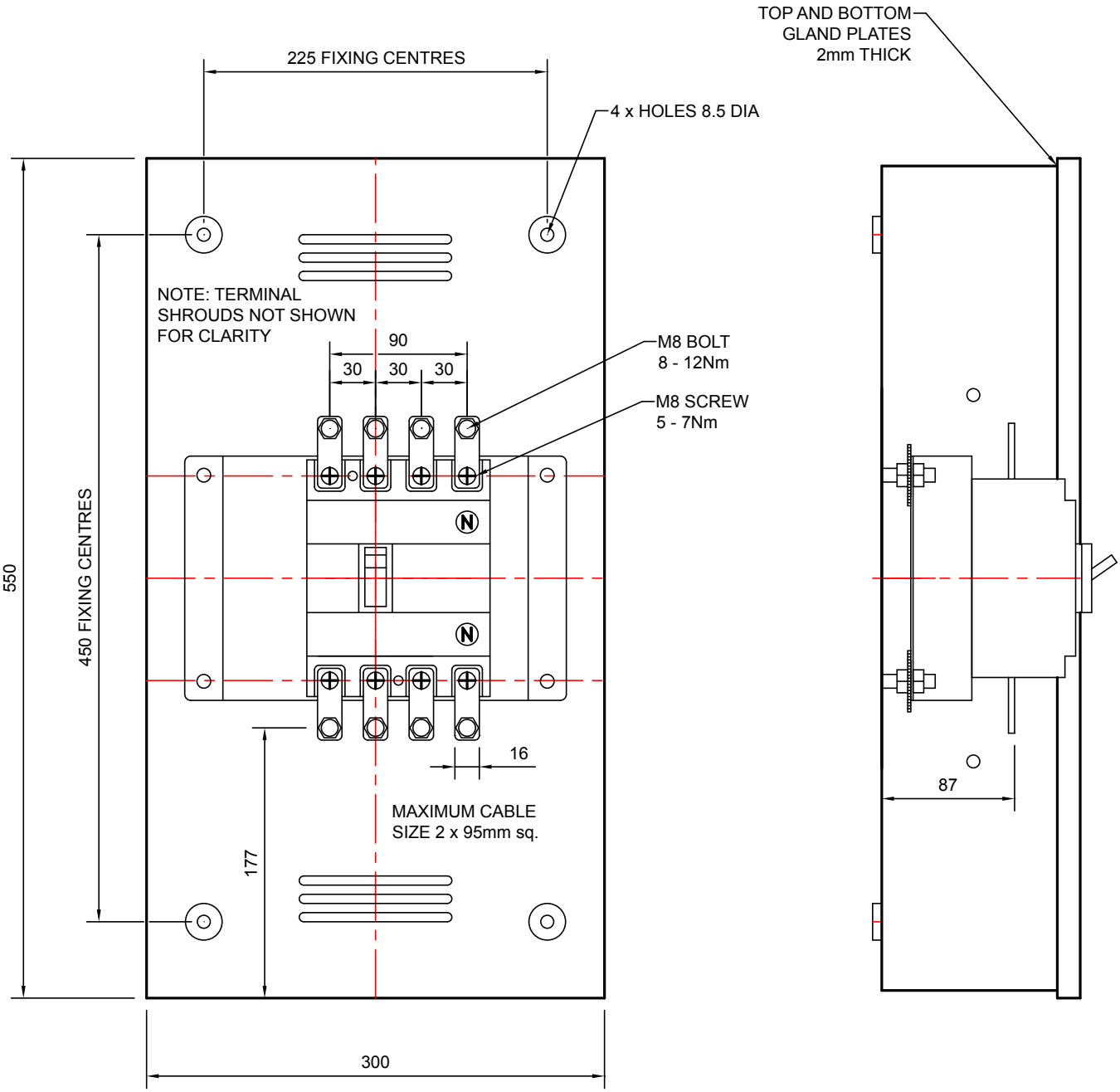


RoHS Compliant

CBR125-4P-MC



WARNING: All connections (including factory made) must be checked for the correct tightness prior to the commissioning of the electrical installation



Europa House, Airport Way, Luton, Beds, LU2 9NH Tel: 01582 692 440 / Fax: 01582 692 450
e-mail: sales@europacomponents.com / **website: http://www.europacomponents.com**

TERASAKI
Innovators in Protection Technology

DATA SHEET: TEMBREAK 2 ZE125-NJ MCCB WITH INTEGRAL RESIDUAL CURRENT PROTECTION (CBR)

MCCB Electrical Characteristics to IEC 60947-1, IEC 60947-2, IEC 60947-2 ANNEX B, IEC 60755

Frame Reference	Quantity	Unit	Condition	TB2 S125
Maximum In (A) of Frame				**125**
Model				ZE125
Number of Poles				3,4
Type				NJ
Nominal current ratings				
	I_n	(A)	50°C	20,32 50,63 100,125
Electrical characteristics				
Rated operational voltage	U_e	(V)	AC 50/60 Hz	525
Rated insulation voltage	U_i	(V)		525
Rated impulse voltage	U_{imp}	(kV)		8
Ultimate breaking capacity (IEC, JIS,AS/NZS)	I_{cu}	(kA)	525V AC	8
			440V AC	15
			400/415V AC	25
			220/240V AC	35
Service breaking capacity (IEC, JIS,AS/NZS)	I_{cu}	(kA)	525V AC	6
			440V AC	12
			400/415V AC	19
			220/240V AC	27
Energy withstand (EN 61008)	I^2t	(kA^2s)		>22.5
Peak current withstand (EN 61008)	I peak	(A)		> 3.3
Protection				
Adjustable thermal, fixed magnetic				■
Residual current protection, Type A 				■
Utilisation Category				A
Installation				
Front Connection (FC)				■
Extension Bar (FB)				•
Cable Clamp (FW)				•
Rear Connection (RC)				•
Plug-in (PM)				-
Din Rail Mounting (DA)				•
Dimensions:	height	(mm)		155
	width	(mm)	3 pole	90
			4 pole	120
	depth	(mm)		68
Weight	weight	(kg)	3 pole	1.1
			4 pole	1.4
Operation				
Direct Opening Action				■
Toggle operation				■
Door mounted (HS)/ Breaker mounted handle (HB)				•
Motor operation				•
Residual Current Monitor and Remote Trip Module				•
Endurance	Electrical	cycles	415V AC	30,000
	Mechanical	cycles		30,000

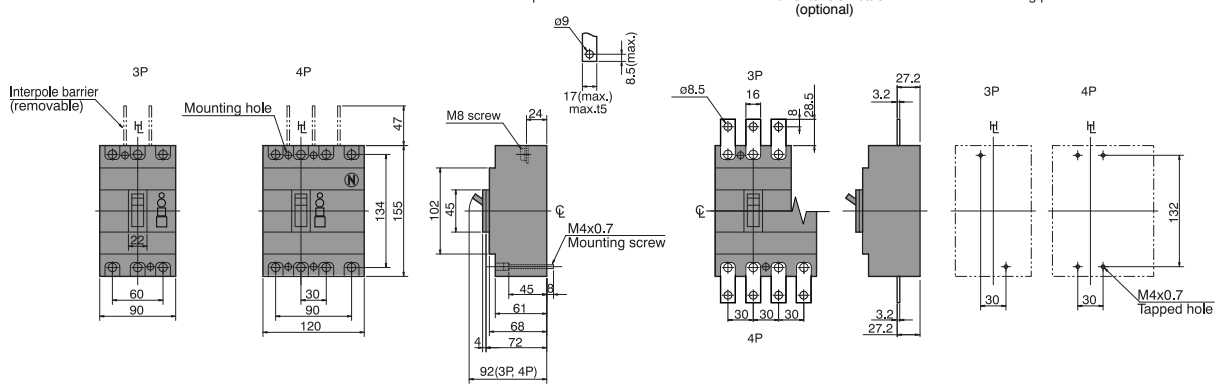
■ Standard • Optional - Not Available

DATA SHEET: TEMBREAK 2 ZE125-NJ MCCB
WITH INTEGRAL RESIDUAL CURRENT PROTECTION (CBR)

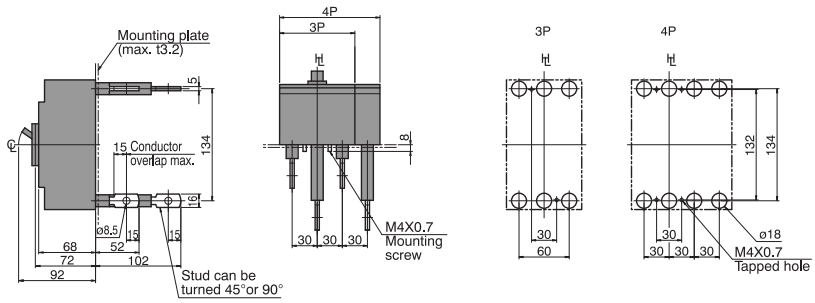
Outline Dimensions ZE125-NJ

ASL: Arrangement Standard Line ℄: Handle Frame Centre Line

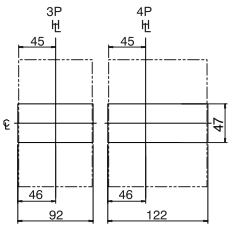
Front connected



Rear connected



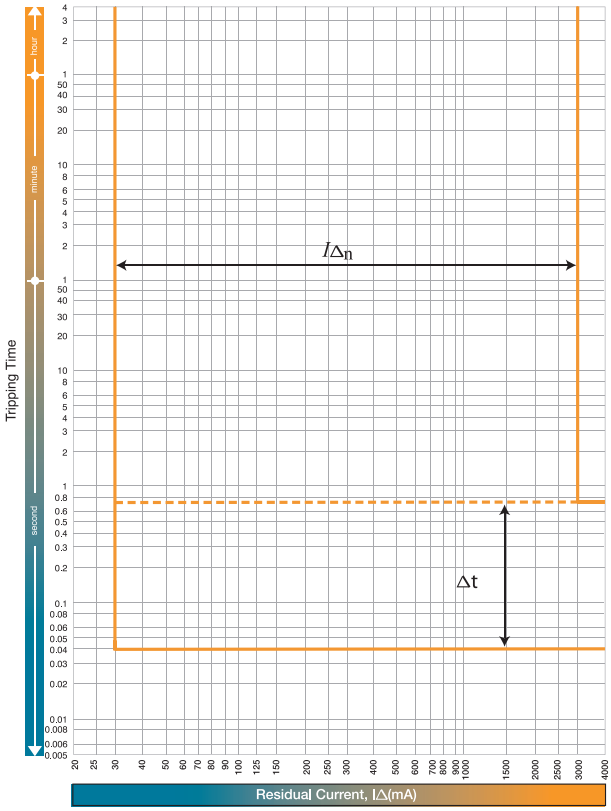
Panel cutout (Front view)



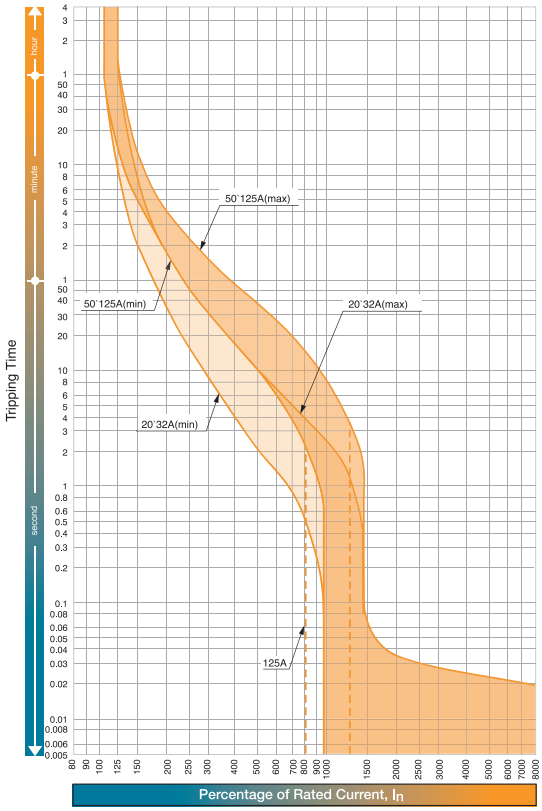
Panel cutout dimensions shown give an allowance of 1.0mm or more around the handle escutcheon.

DATA SHEET: TEMBREAK 2 ZE125-NJ MCCB
WITH INTEGRAL RESIDUAL CURRENT PROTECTION (CBR)

Time/Current Characteristic Curves
ZE125-NJ,



Time/Current Characteristic Curves
ZE125-NJ,



TemBreak2

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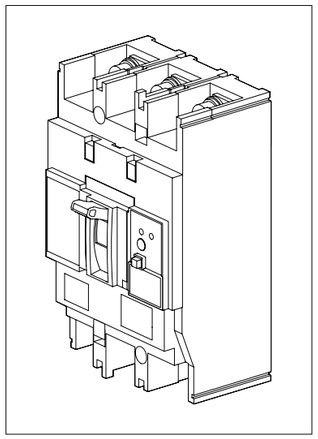


Instruction Manual for Earth Leakage Circuit Breaker

Types
ZE125-NJ ZS125-NJ
ZS125-GJ
ZE250-NJ ZS250-NJ
ZS250-GJ

Please retain this manual for future reference.

The Manufacturer assumes no responsibility for damages resulting from non-application or incorrect application of the instructions provided herein.

TERASAKI ELECTRIC CO., LTD.

7-2-10 Kamihigashi, Hiranoku, Osaka
547-0002, Japan
TEL: 81-6-6791-9323/ FAX: 81-6-6791-9274
URL：http: //www.terasaki.co.jp
E-mail：kiki-osaka@terasaki.co.jp

2G0722SAD（KRB-5326d）

1 Safety Notices

Be sure to read these Instructions and other documents accompanying the product thoroughly before mounting, using, servicing, or inspecting the product. In these Instructions, safety notices are divided into "Warning" and "Caution" according to the hazard level:

⚠Warning : A warning notice with this symbol indicates that neglecting the suggested procedure or practice could result in lethal or serious personal injury.

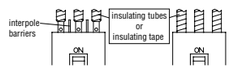
⚠Caution : A caution notice with this symbol indicates that neglecting the suggested procedure or practice could result in moderate or slight personal injury and/or property damage.

Note that failing to observe ⚠Caution notices could result in serious results in some cases. Because safety notices contain important information, be sure to read and observe them.

■Mounting Precautions
(For detailed mounting dimensions, refer to the TemBreak2 catalogue.)

⚠Caution

- ●Electrical work should only be undertaken by suitably qualified persons.
- ●Do not place the product in an area that is subject to high temperature, high humidity, excessive dusty air, corrosive gas, strong vibration and shock, or other unusual conditions. Mounting in such areas could cause a fire or malfunction.
- ●Be careful to prevent foreign objects (debris, concrete powder, iron powder, etc.) and rainwater from entering product. These materials inside the product could cause a fire or malfunction.
- ●Prior to commencing any work on the product, open an upstream circuit breaker or isolator to ensure that no voltage is applied to the product. Otherwise, electrical shock may result.
- ●For 4-pole breakers, be sure to connect a neutral conductor to the N-phase pole. Otherwise, an over-current may hinder the product from tripping, thus resulting in a fire.
- ●When connecting cable or busbar to the product, tighten terminal screws to the torque specified in this manual. Otherwise, a fire could result.
- ●For front-connected circuit breakers having **interpole barriers between bare conductors on the line side, insulate the conductors** using insulating tubes or tape to below the interpole barriers. Be sure to use supplied interpole barriers. Insufficient insulation may result in short-circuit.



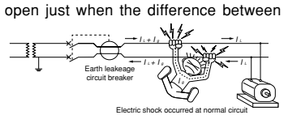
- ●Do not block the arc gas vents of the product to ensure adequate arc space. Blocking these vents could result in failure of circuit interruption.

- ●Using the test button, check the breaker for normal operation.Proceed as follows: After **proper connection,** move the handle to the ON position and then (while applying voltage to the breaker) **press the test button.**The breaker will trip open.If pressing the test button for 2 or 3 seconds does not cause the breaker to trip open, the breaker is out of order. Please contact your local agent or our branch office immediately.

■Handling Precautions

⚠Warning

- ●Never touch terminals. Otherwise, electric shock may result.
- ●The earth leakage circuit breaker trips open just when the difference between outgoing current and incoming current exceeds a specified value. Never touch two or more bare live parts simultaneously.The breaker does not respond to electric shock.



⚠Caution

- ●When the breaker trips open automatically, remove the cause, then return the handle to the ON position. Should a fault be interrupted, the breaker must be inspected. Otherwise, a fire may result.
- ●Be sure to connect the earth terminal of a load device to ground.
- ●**Check the breaker for normal operation by pressing the test button once per month.** If pressing the test button for 2 or 3 seconds does not cause the breaker to trip open, the breaker is out of order. Replace it by new one.

■Maintenance Precautions

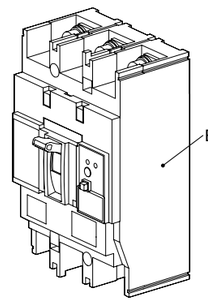
⚠Caution

- ●Service and/or inspection of the product must be done by persons having expert knowledge.
- ●Before service or inspection of this product, please ensure that no voltage is present on the breaker supply side. Any device upstream of this breaker should be suitably isolated otherwise electric shock may result.
- ●Regularly check that the MCCB terminal screws are tightened to torque values shown within this manual, failure to do so may result in fire.
- ●Check the breaker for normal operation by pressing the test button while applying voltage to the breaker.If pressing the test button for 2 or 3 seconds does not cause the breaker to trip open, the breaker is out of order. Replace it by new one.

■Other Precautions

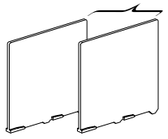
- ・Do not carry this product by accessory leads, as this may cause damage to the product.
- ・Unauthorised opening of the breaker cover will invalidate product warranty. (Except Accessory Cover)
- ・For product installation, please ensure that adequately rated conductors are selected. Failure to use conductors with adequate cross sectional area may result in the breaker tripping or conductor overheating.
- ・Avoid dielectric withstand voltage tests and insulation resistance tests between poles with different polarity.Otherwise,could cause damage to the breaker.
- ・Change in rated sensitivity current: Unless otherwise specified, the rated sensitivity current is factory set to 0.03xIΔn(A). You can optimize the rated sensitivity current according to your application. After optimization (if done), do not change your setting inadvertently.
- ・Change in trip time: Unless otherwise specified, the trip time is factory set to "INST". You can optimize the trip time current according to your application. After optimization (if done), donot change your setting inadvertently. The time delay types does not provide protection against electric shock.

2 Packaged Items/Assembly tools



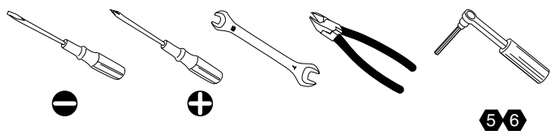
ELCB：1

Instruction Manual：1
(This document)



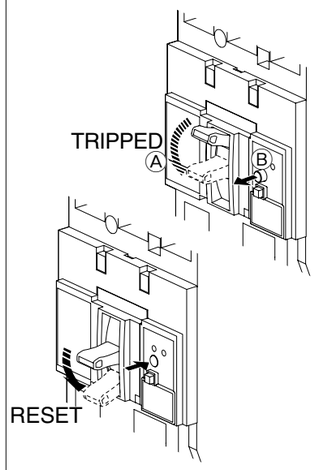
Interpole Barrier
(Only FC)
3P：2
4P：3

		Type					
Connections/Poles		Qty	ZE125-NJ, ZS125-NJ, ZS125-GJ		Qty	ZE250-NJ, ZS250-NJ, ZS250-GJ	
Front Connected (FC)	3P	6	(M8×16)		6	(M8×20)	
	4P	8			8		
	3P	2	(M4×55)		2	(M4×55)	
	4P	4			4		
Rear Connected (RC)	3P	6	(M8×25)		6	(M8×25)	
	4P	8			8		
	3P	2	(M4×55)		2	(M4×55)	
	4P	4			4		



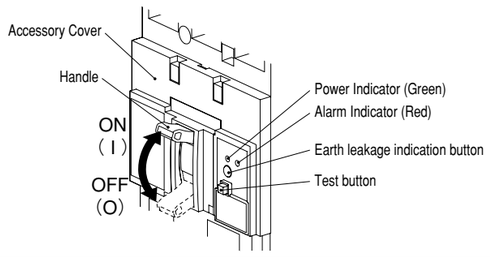
3 Operating Instructions

For Over Current Trip : TRIPPED Ⓐ
For Earth leakage Trip : TRIPPED Ⓐ+Ⓑ
Earth leakage indication button will return automatically, if Handle is RESET.

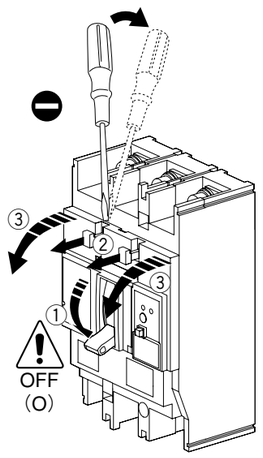


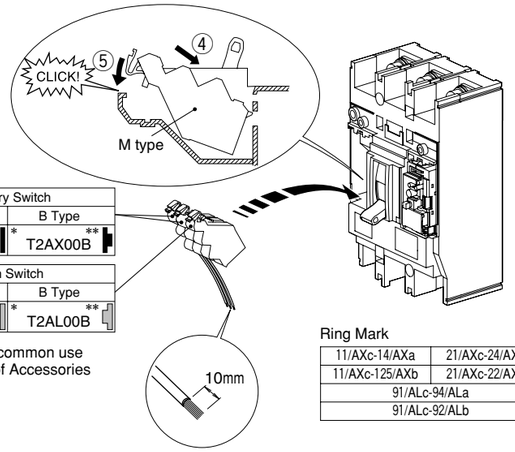
	Type	Operation Effort
ON⇒OFF	ZE125-NJ ZS125-NJ ZS125-GJ	28N
OFF⇒ON		22N
ON⇒OFF	ZE250-NJ ZS250-NJ ZS250-GJ	36N
OFF⇒ON		25N

	Type	Operation Effort
TRIP⇒OFF (RESET)	ZE125-NJ ZS125-NJ ZS125-GJ	68N
	ZE250-NJ ZS250-NJ ZS250-GJ	76N



4 Fitting Internal Accessories





Auxiliary Switch	
M Type	B Type
* T2AX00M **	* T2AX00B **

Alarm Switch	
M Type	B Type
* T2AL00M **	* T2AL00B **

＊100-1600AF common use
＊＊Symbols of Accessories

Combination

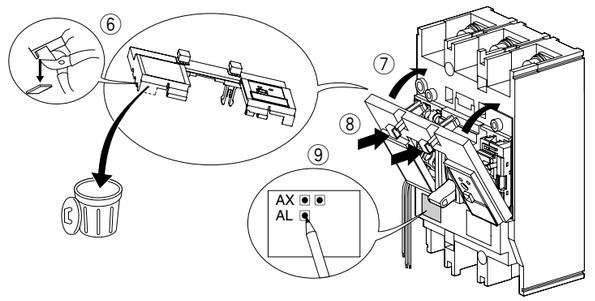
	125AF	250AF
M Type	ON (I) / OFF (O)	ON (I) / OFF (O)
B Type	ON (I) / OFF (O)	ON (I) / OFF (O)

In case of fitting only one auxiliary switch, fit in left side slot.

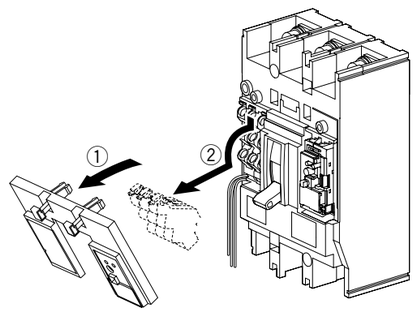
Ring Mark

11/AXc-14/AXa	21/AXc-24/AXa	Auxiliary Switch a contact
11/AXc-125/AXb	21/AXc-22/AXb	Auxiliary Switch b contact
91/ALc-94/ALa		Alarm Switch a contact
91/ALc-92/ALb		Alarm Switch b contact

Pull Out Leads on Load Side

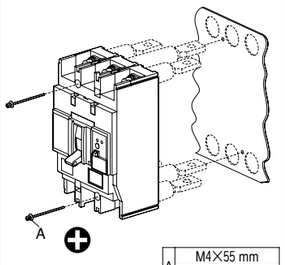


Removal



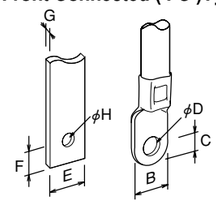
＊ After fitting , verify the function of the Accessory.

5 Breaker Mounting Procedure for Front Connected (FC)and Rear Connected (RC)



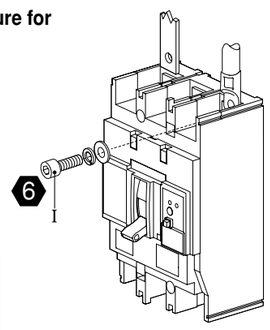
A	M4×55 mm
	1.3～1.7N・m

6 Conductor Connection Procedure for Front Connected (FC)Types

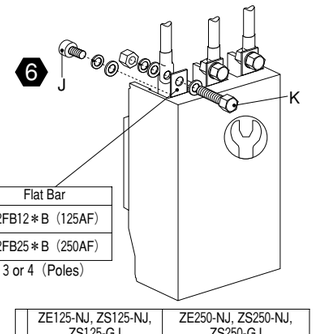


(mm)

	ZE125-NJ, ZS125-NJ, ZS125-GJ	ZE250-NJ, ZS250-NJ, ZS250-GJ
B	≦16	≦22
C	≦8	≦11
D	8.4	8.4
E	≦17	≦25
F	≦8.5	≦10
G	≦5	≦7
H	9	9



	ZE125-NJ, ZS125-NJ, ZS125-GJ	ZE250-NJ, ZS250-NJ, ZS250-GJ
I	M8×16 mm	M8×20 mm
	4.9～6.9N・m	7.8～125.7N・m



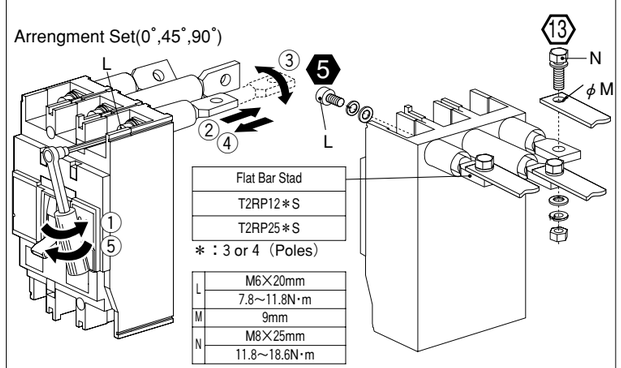
Flat Bar
T2FB12＊B（125AF）
T2FB25＊B（250AF）

＊：3 or 4（Poles）

	ZE125-NJ, ZS125-NJ, ZS125-GJ	ZE250-NJ, ZS250-NJ, ZS250-GJ
J	M8×16 mm	M8×20 mm
	4.9～6.9N・m	7.8～125.7N・m
K	M8×25 mm	M10×25 mm
	11.8～18.6N・m	22.5～37.2N・m

7 Conductor Connection Procedure for RC (Where Applicable)

Arrengment Set(0˚,45˚,90˚)

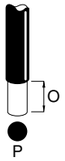


Flat Bar Stad
T2RP12＊S
T2RP25＊S

＊：3 or 4（Poles）

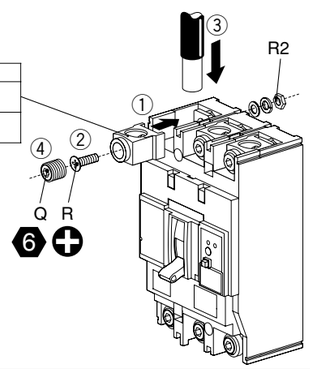
L	M6×20mm
	7.8～11.8N・m
M	9mm
N	M8×25mm
	11.8～18.6N・m

8 Solderless Terminals Mounting Procedure for FC



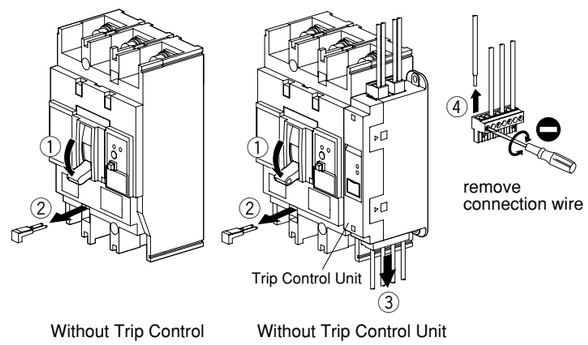
Solderless Terminal
T2FW12S＊
T2FW25L＊

＊：3 or 4（Poles）



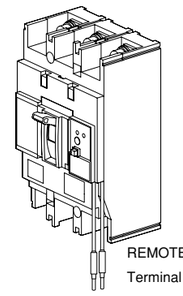
	T2FW12S＊	T2FW25L＊
O	≦17mm	≦20mm
P	≦50mm²	≦120mm²
Q	❹ 6N・m	❻ 19N・m
R	M5×15mm	M6×20mm
	2.4～3.4N・m	6.9～9.3N・m
R2	⑧	⑩

16 Preparation for Dielectric test

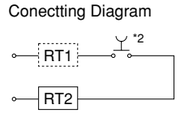


Without Trip Control　　Without Trip Control Unit

17 Remote Trip (OPTION)



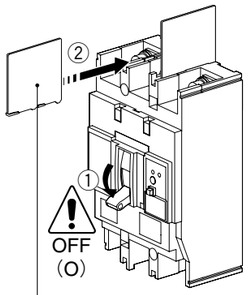
Conecting Diagram



REMOTE TRIP *1
Terminal No. RT1 , RT2

*1: Maximum length of Remote Trip connection wire is 3m.
*2: Tripping signal is 45VDC/5mA.
*3: Do not touch the "RT1" "RT2" wires when applying voltage to main circuit. You might get an electric shock.
*4: Do not apply external voltage to the "RT1" "RT2" wires. It might cause the breakage and misoperation.

9 Procedure for mounting Interpole Barrier

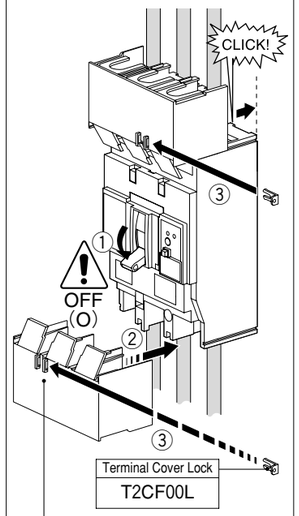


For 125 AF Interpole Barrier(S type)
T2BA12＊S
For 250 AF Interpole Barrier (E, S type)
T2BA25＊S

＊：3 or 4（Poles）

＊When removing, remove the items in reverse order of mounting.

10 Procedure for mounting Terminal Cover

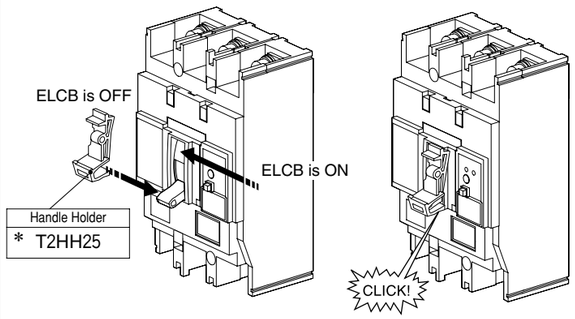


For 125 AF Terminal Cover(S type)
T2CF12＊S
For 250 AF Terminal Cover (E, S type)
T2CF25＊S

＊：3 or 4（Poles）

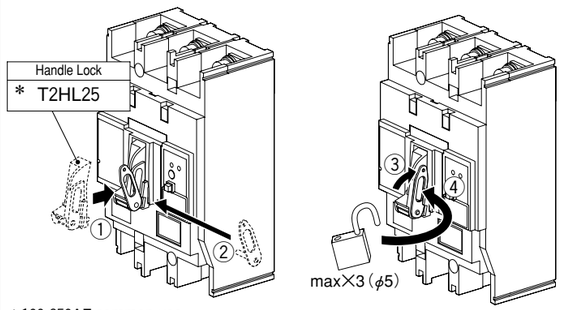
＊When removing, remove the items in reverse order of mounting.

11 Procedure for mounting Handle Holder



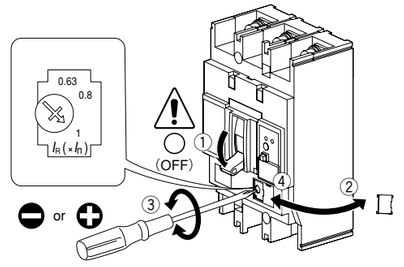
＊100-250AF common use
＊When removing, remove the items in reverse order of mounting.

12 Procedure for mounting Handle Lock



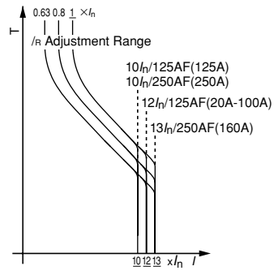
＊100-250AF common use
＊Handole look can be fitted in any position of ON and OFF.
＊When removing, remove the items in reverse order of mounting.

13 Adjustable Thermal Magnetic

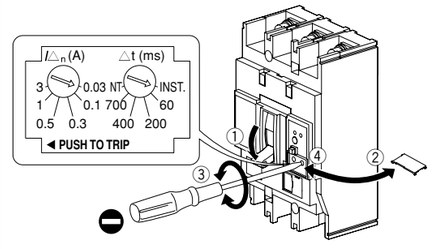


14 Time/Current Characteristic Curves

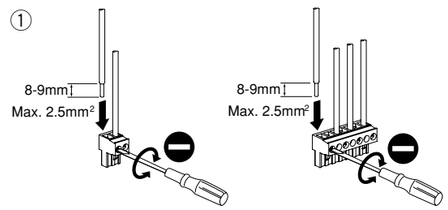
Under bar is default setting.

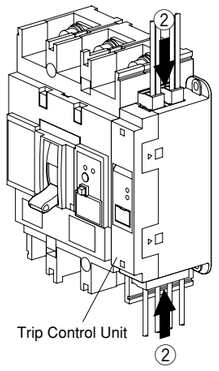


15 Adjustable Rated sensivity current and Trip Time

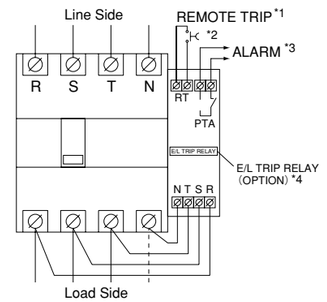


18 Connecting Procedure of Trip Control Unit (OPTION)



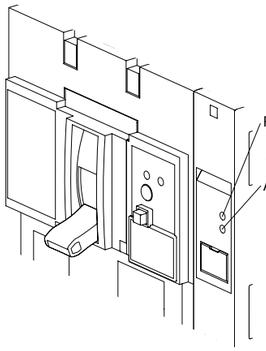


Conecting Diagram



*1: Maximum length of Remote Trip connection wire is 3m.
*2: Tripping signal is 65VDC/5mA.
*3: Normal open contractor for IΔ<50% of IΔn or 70% of IΔn / 250Vac 2mA
When the ELCB is tripped by residual current, alarm signal (PTA) turns OFF.
*4: OPTION : E/L TRIP RELAY
When the ELCB is tripped by residual current, alarm signal (PTA) keeps ON condition.
When the ELCB is closed by residual current in under the IΔn set alarm signal (PTA) turns OFF automatically.
*5: Do not touch the "RT" terminals when applying voltage to main circuit.
You might get an electric shock.
*4: Do not apply external voltage to the "RT" terminals.
It might cause the breakage and misoperation.

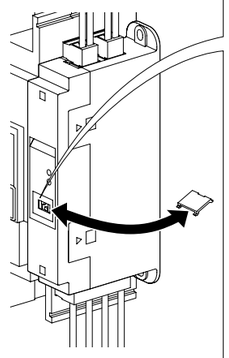
19 Operation indication and settings of Trip Control Unit (OPTION)



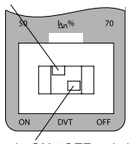
Power Indicator (Green)
Turn on when the trip control unit is connected to the ELCB and power supply.

Alarm Indicator (Red)
IΔ>50% of IΔn or 70% of IΔn: flashing slowly
IΔ=100% of IΔn: flashing fast

*When the residual current goes down under the IΔ set value, alarm indicator is turned OFF.



IΔ select switch



Drop voltage trip ON / OFF switch
When the Drop voltage trip switch is ON, ELCB is TRIP when the main circuit voltage becomes less than 85Vac and continues around 500ms.