Testing Module TSBE-14 Series

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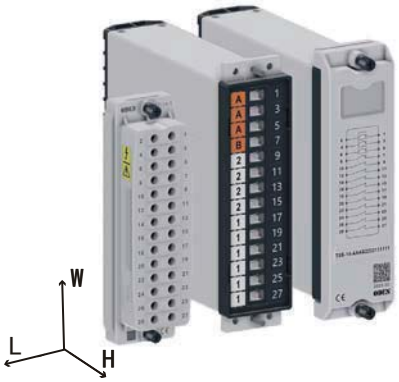
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Version number V1.0 Date 2026.05.11

Testing Module TSBE-14 Series

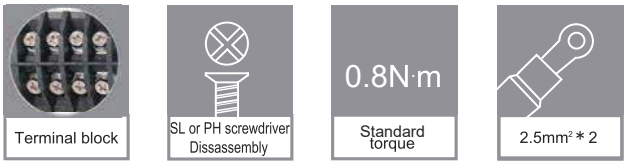
Product overview



Testing Module TSBE-14 Series

Product application scenarios and features

- TestBlock testing module is together with test plugs in the field of relay protection.It is capable of quickly isolate input side (voltage,current,auxiliary power supply, etc.) of relay protection device from the output circuit (trip, signal, etc.), meanwhile ensure reliable short-connecting of external CT to facilitate the verfication of protective devices.
- According to the customer's circuit seeting inside, no further short-connecting for later test.
- Adopt modular configuration scheme to realize different configuration of different circuits.
- Anti-misoperation measures prevent the plug from misinserting.
  Strictly implement "error proof" logic, set insert and unplug logic.
- In the test process of inserting test plug, first disconnect the tripping, signal and power circuit before and after the Test Module, then disconnect the voltage and current circuit to avoid serious accidents caused by misoperation.
- When removing the test plug, restore the current and voltage circuit to ensure stable current and voltage supply before the tripping circuit, signal circuit and power circuit are reconnected.
- Panels have clear and concise ribbon labels indicating the location of different feature nodes.
- Installation Dimension:48mm（L）*177.6mm（W）*181mm（H）
- Installation Method：Embeded Installation



Order information

Testing Module TSBE-14 Series Numbering Rules

Typical Model	TSBE–	14-	A	A	A	B	2	2	2	2	1	1	1	1	1	1

Series Model
TSBE=Test Module

Meaning of Product Names
14=14 pairs of cassettes

Test module position 1 function definition
A、B= Represent Current Circuit Modules
1=Represents Tripping Circuit, Signal Circuit or Power Circuit Module
2=Represents Voltage Circuit Module
O=Represents Power Circuit Module or Test Circuit Module

Notice：Test Module 1 is located at the top, Test Module 14 is located at the bottom.
Test Module Type:
1: Represents Tripping Circuit, Signal Circuit or Power Circuit Module
2: Represents Voltage Circuit Module
A、B: Represent Current Circuit Modules
A:Represents the current circuit short-connecting on the CT side
B:Represents the public side of the current circuit short-connecting on the CT side
If AB represents single-phase current, AAAB represents three-phase current.
O:Represents Power Circuit Module or Test Circuit Module
When O Represents Power Circuit Module , the test plug is selected FTE-14-R
When O Represents Test Circuit Module , the test plug is selected FTE-14-S

Testing Module TSBE-14 Series

Testing Module TSBE-14 Series Typical Model

Typical Model	Functionality
TSBE-14-AAAB2222111111	three-phase current + three-phase voltage+6 groups of signal contacts
TSBE-14-ABABABAB222222	4 single-phase current + three-phase voltage+ 1 single- phase voltage
TSBE-14-AAAB2222221111	three-phase current + three-phase voltage+1 single-phase voltage +4 groups of tripping contacts
TSBE-14-ABABABABABABAB	7 single-phase current
TSBE-14-AAABAAABAAAB11	3 three-phase current+2 groups of tripping contacts
TSBE-14-11111111111111	14 groups of tripping contacts
TSBE-14-22221111112222	three-phase voltages +6 groups of tripping contacts + three-phase voltages
TSBE-14-22221101ABAAAB	three-phase voltage +2 groups of tripping cassettes +1 power circuit +1 group of tripping contact+1 single phase current+ three-phase current
TSBE-14-AAABAAAB222222	three-phase current +three-phase current +three-phase voltage +1 single-phase voltage
TSBE-14-AAAB2222222211	three-phase current +4 single-phase voltage+2 groups of tripping contacts
TSBE-14-22222222222222	14 groups of voltage contacts
TSBE-14-AAABAB22222222	three-phase current + 1 single phase current+4 single-phase voltage

Tips:
Typical Model : the model is simplified according to the typical configuration of the project;
Module placement sequence (top to bottom) :
Current Module——Voltage Module——Power Supply Module——Tripping Module——Signal Module

TestBlock Test Plug Series Naming and Numbering Rules

Typical Model	FTE-	14	-R

Product Series

FTE=Test Plug

Number of Circuits

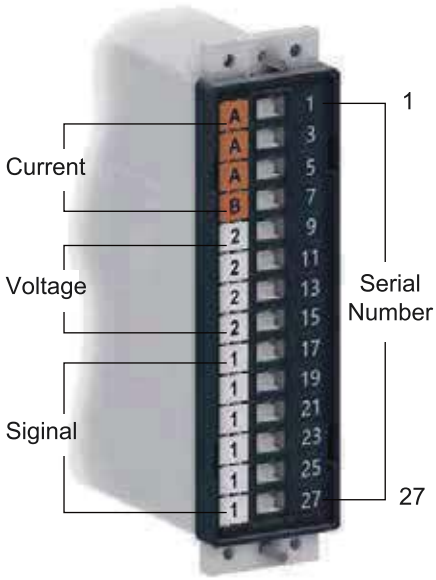
14=14 Testing Circuits

Function definition

R=Regular test plug；S=Test plug with protective device test function

Testing Module TSBE-14 Series

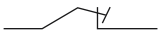
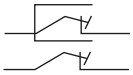
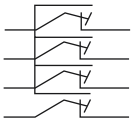
User interface





* The color coding on the label on the left of the front panel corresponds to the model. Orange - current; White - Voltage/signal

* Install the protective cover on the front panel after testing to prevent foreign bodies from entering.
* The information panel at the top of the protective cover can be adjusted to display information required.

Testing Module	Symbol	Color
Current Module		Orange
Voltage Module		White
Signal Module		White
Single-Phase Current Shorting		Orange
Three-Phase Current Shorting		Orange
DC Power Module or Test Circuit Module		White

Testing Module TSBE-14 Series
Product Technical Parameters

Withstand Pressure of Test Block			
	Input/ Output		2kV/1min
	After inserting the test plug, between disconnected terminals		2kV/1min
	Withstand pressure between all terminals and case housing		5kV/1min
	Between Adjacent Contact Pair		2kV/1min
	Between AC contact pairs		5kV/1min
	After inserting the test plug,Between All Terminals and the Case shell		5kV/1min
Permanent current of Testing Module	20A or 100A/10S continuously		
Permanent current of Test Plug	20A continuously		
Maximum operating voltage	300VAC or 300VDC		
	Terminal blocks		Wiring terminal diameter
	Screw terminals		0. 5~2. 5㎜^{2} *2
Protection requirement	IP40		
EMC	Community EMC Directive This product is classified as electromagnetically benign and is thus excluded from the Europear		
Vibration and collision			
Vibration	IEC 60068-2-6:2007		Environmental testing of electrical and electronic products-part 2, test methods,tests for Fc
Vibration response	IEC 60255-21-1:1988		The acceleration amplitude is 10m/s^2
Vibration durability			The acceleration amplitude is 20m/s^2
Impact	IEC 60068-2-27:2008		Environmental testing for electrical and electronic products-part 2, test methods,test Ea and guidance, impact
Impact response	IEC 60255-21-1:1988		The acceleration amplitude is 98m/s^2
Impact durability			The acceleration amplitude is 294m/s^2
Collision	IEC 60068-2-27:2008		Environmental testing for electrical and electronic products-part 2, test methods,test Ea and guidance, impact
Collision response	IEC 60255-21-1:1988		The acceleration is 196m/s^2
Environmental data			
salt fog test	IEC 60068-2-11:1981		(35±2)℃，Solution PH value within 6.5~7.2, salt solution concentration (5±1)%(mass ratio)，96H
Environmental Temperature：	Operational/Storage		-25℃~70℃
	Operational/Storage		-25℃~70℃
	Maximum operating humidity		93%/+40℃
Flame retardant			
Flame retardant grade	UL94-V0 Class flame retardant (750℃, 30s)		

Testing Module TSBE-14 Series

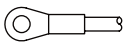
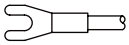
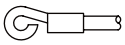
Product Terminal Definition



Use a phillips or flat-head screwdriver to tighten the screws;

A=8. 5mm

Maximum shape of terminal: no more than 8.5mm(diameter).

Compatible connection terminal types		
Round Shape		2.5^2*2
Y Shape		
Hard Wire		2.5^2*1

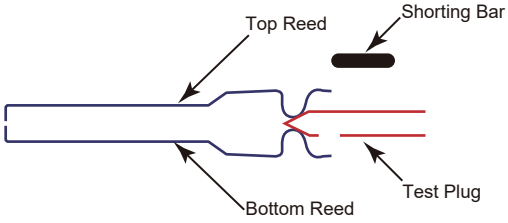


Terminal connection definition

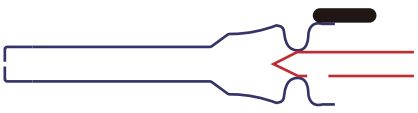
* Install the protective cover on the front panel after testing to prevent foreign bodies from entering.
* The information panel at the top of the protective cover can be adjusted to display information required.

Product Function

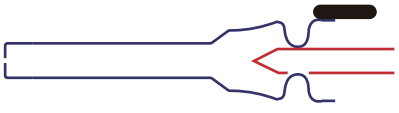
Four Stages of Connecting Test Plug and Removing CT Testing Modules



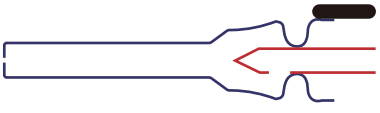
Test plug just opening cassette contacts.



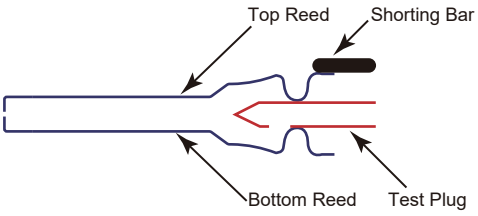
The reeds are shorted and the top reed is shorted to the shorting bar



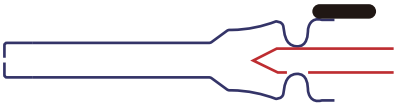
Test plug not fully inserted, the upper reed is shorted to the shorting bar and the bottom reed is disconnected



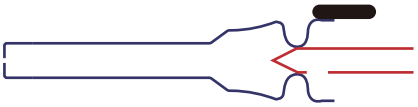
Test plug fully inserted, the upper reed is shorted to the shorting bar and the bottom reed is connected, ready to be tested



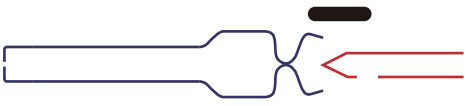
When the test plug is not removed, the upper reed is shorted to the shorting bar and the bottom reed is connected



Test plug not fully removed, the upper reed is shorted to the shorting bar and the bottom reed is disconnected



The reeds are shorted and the top reed is shorted to the shorting bar

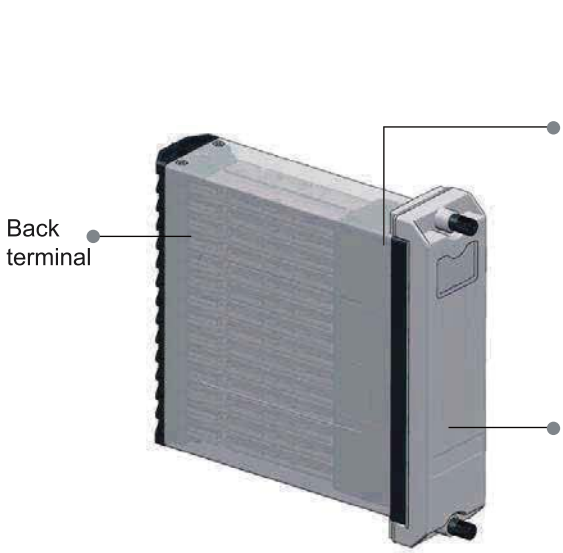


Test plug fully removed, the reeds close

Testing Module TSBE-14 Series

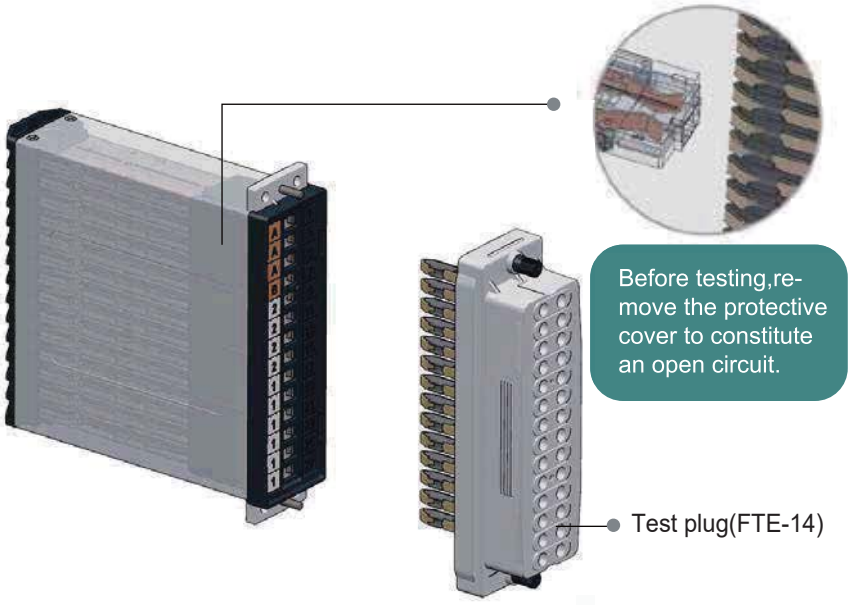
Dc Power Module

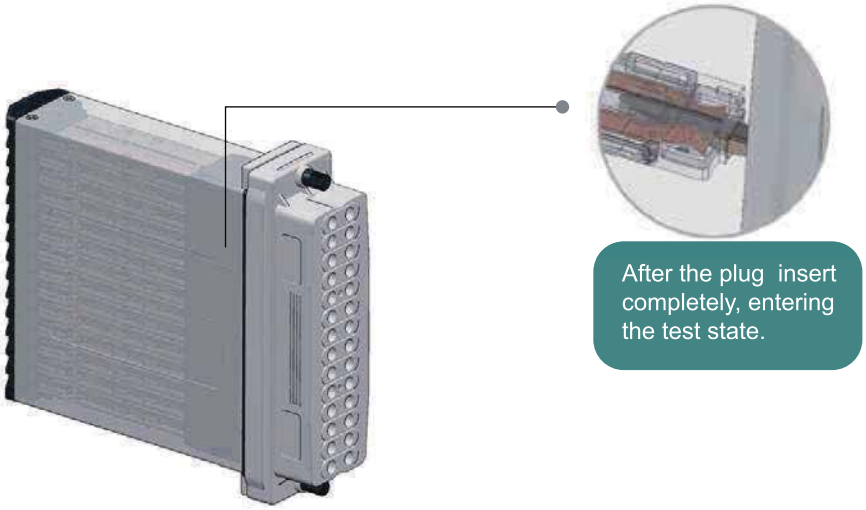
It is used for preventing the power-off of the protective device during the test, so as to avoid the error signal sent by this device.
In the test block, the power module is usually designed as a normally open contact.When the product works normal, normally open contact conduction(Fit protective cover with short copper bar)； When the product is being tested,remove the protective cover,the contact remains normally open.The diagram is as follows：





The difference between common protection cover and protection cover with short copper rod.

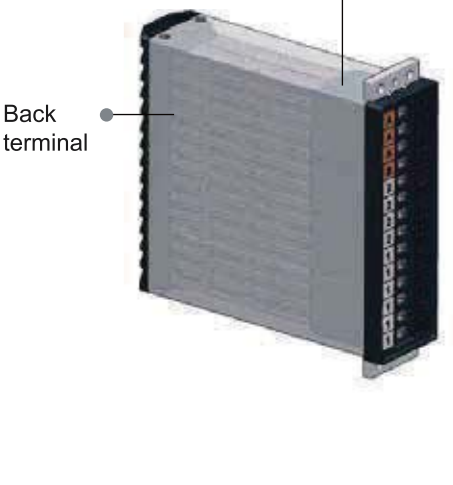




Notice：
1.Please refer to the naming rules for the test block model with DC power module function.
2.The position of the DC power module in the test block cannot be customized.

Testing Module TSBE-14 Series

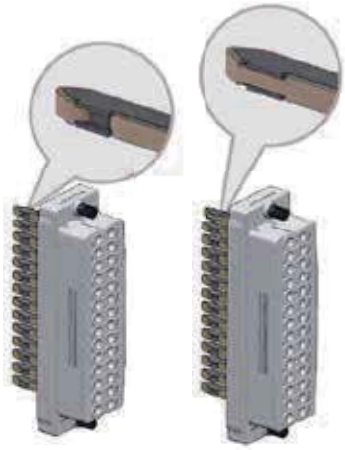
Protection Device Test Module Function





In the non-test state, the contact of the alarm signal module is disconnected.

In the non-test state, the common module contact is in the conduction state.



The difference between general plug and special plug

When the plug starts to be inserted, the alarm contact has a superior pilot connection and provides an alarm signal.





In this case, the contact status of the common module does not change.

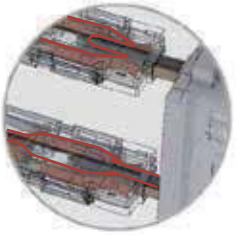
If the plug continues to be inserted, the alarm contact keeps on and provides an alarm signal.





In this case, the common module contact is disconnected.



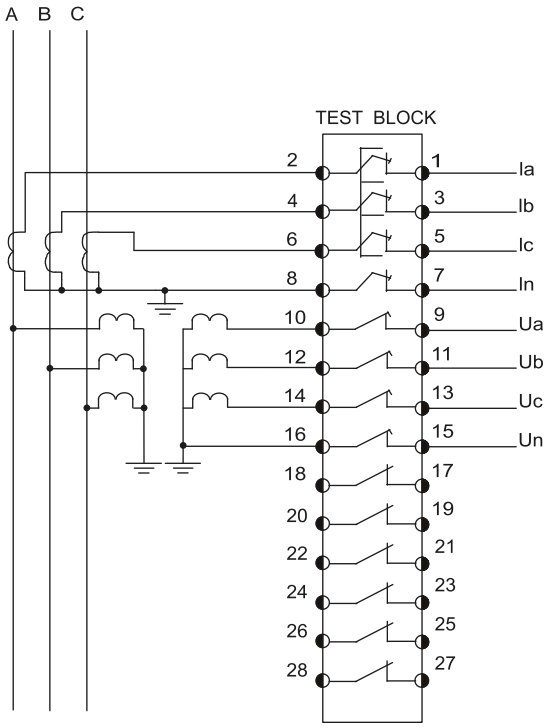


After the plug insert completely, entering the test state.

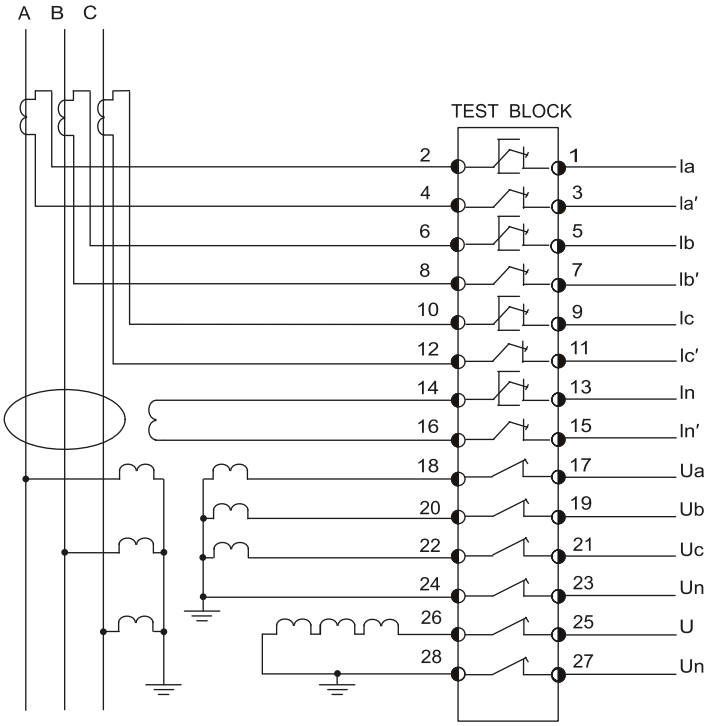
Notice:
1.When selecting this function, please contact our technical support for selection suggestions;
2.It is recommended that in a single project, the selected test blocks are equipped with alarm contacts to unify the plug type.

Testing Module TSBE-14 Series

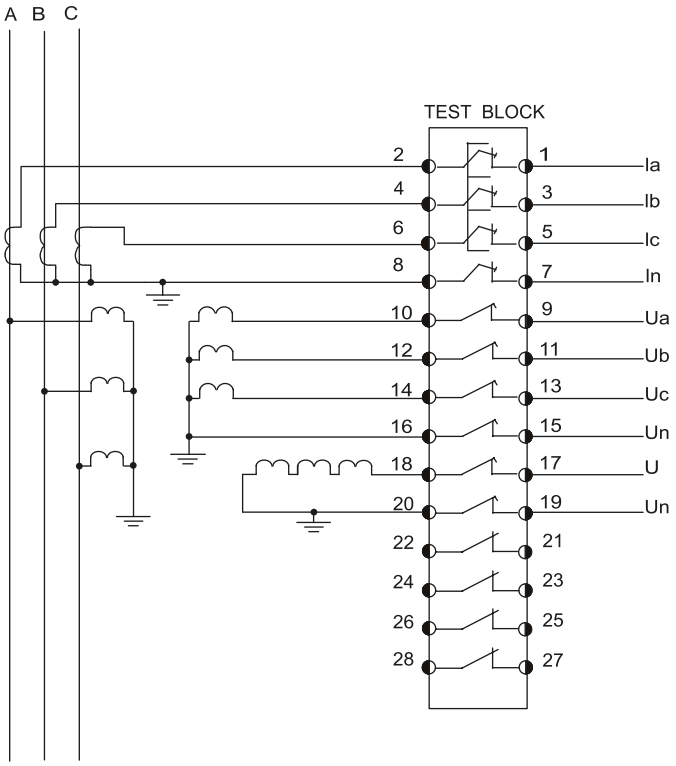
Typical Model Principle Wiring Diagram



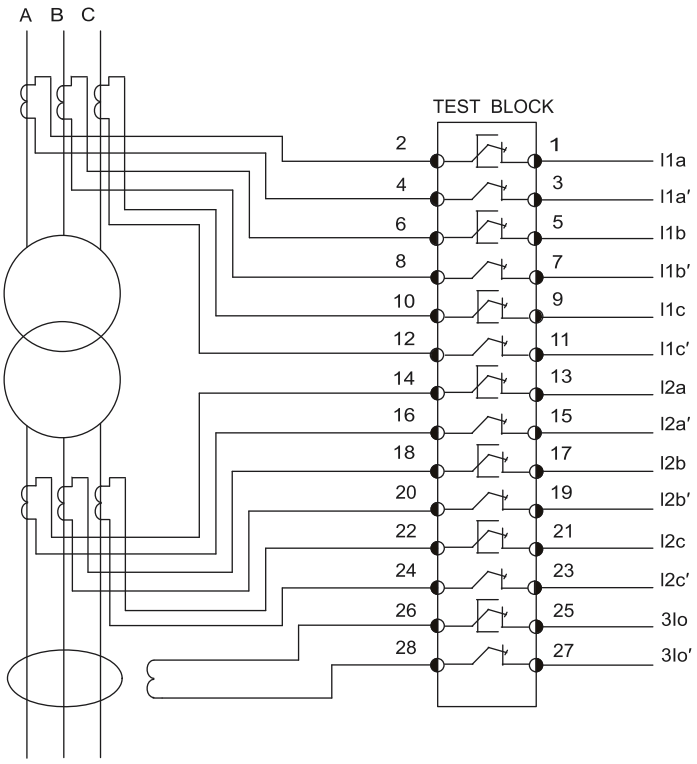
TSBE-14-AAAB2222111111



TSBE-14-ABABABAB222222



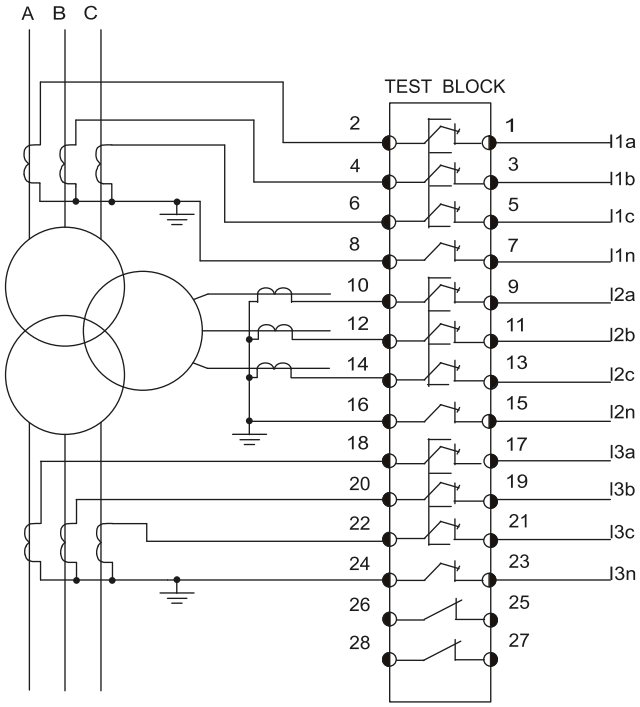
TSBE-14-AAAB2222221111



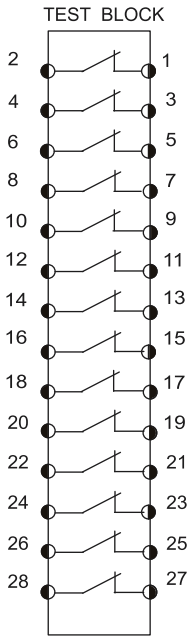
TSBE-14-ABABABABABABAB

Testing Module TSBE-14 Series

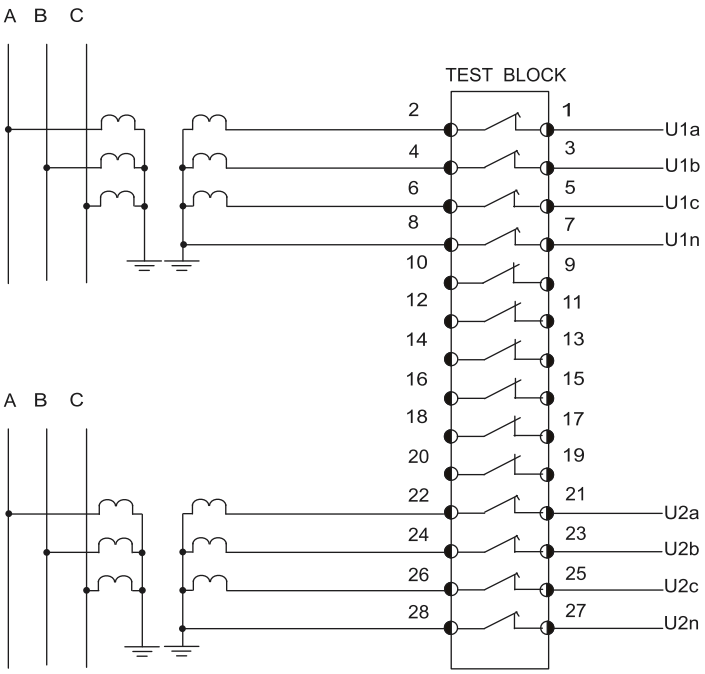
Typical Model Principle Wiring Diagram



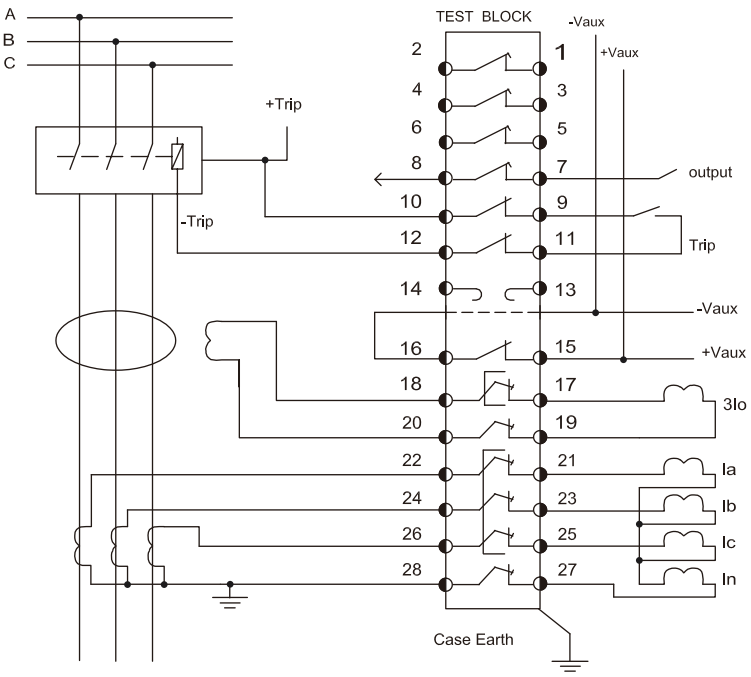
TSBE-14-AAABAAABAAAB11



TSBE-14-11111111111111



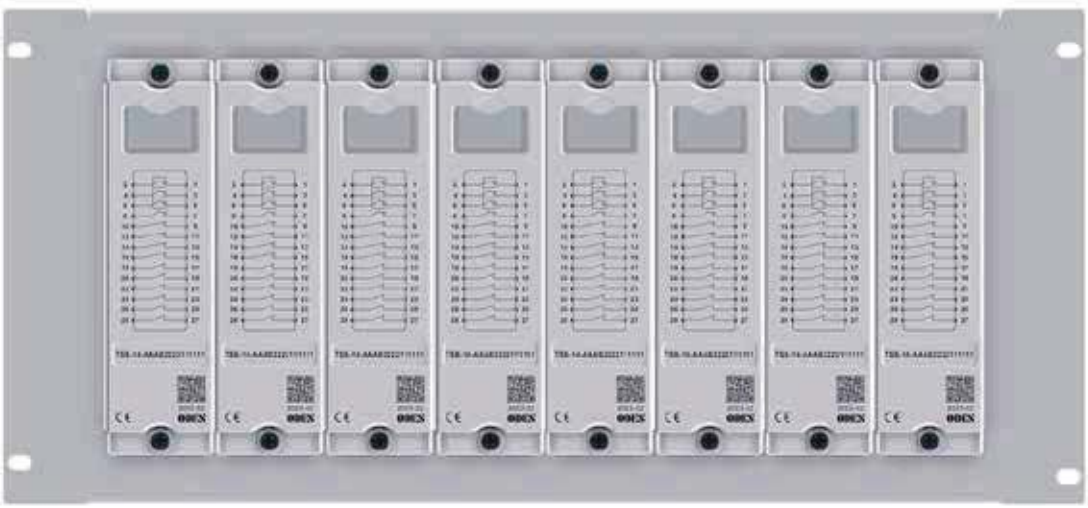
TSBE-14-22221111112222



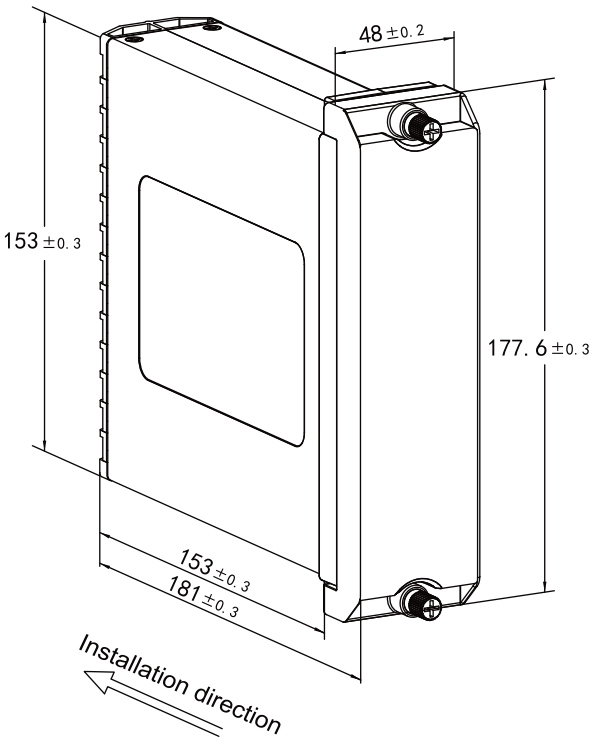
TSBE-14-222211O1ABAAAB

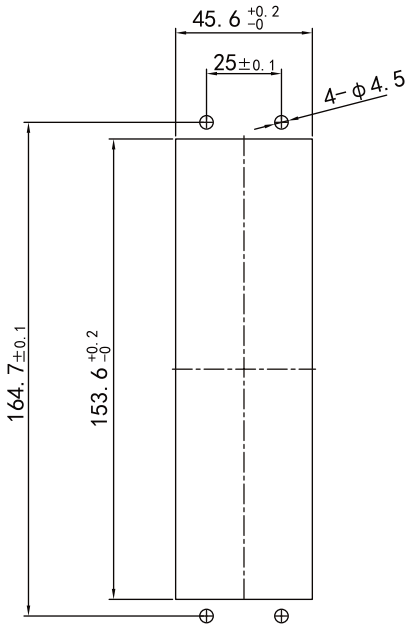
Testing Module TSBE-14 Series

Installation Dimension (mm)



* Up to eight products can be placed side-by-side on a standard 5U, 19-inch panel.



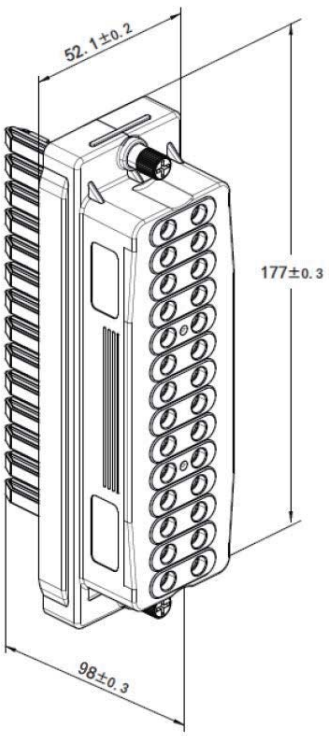


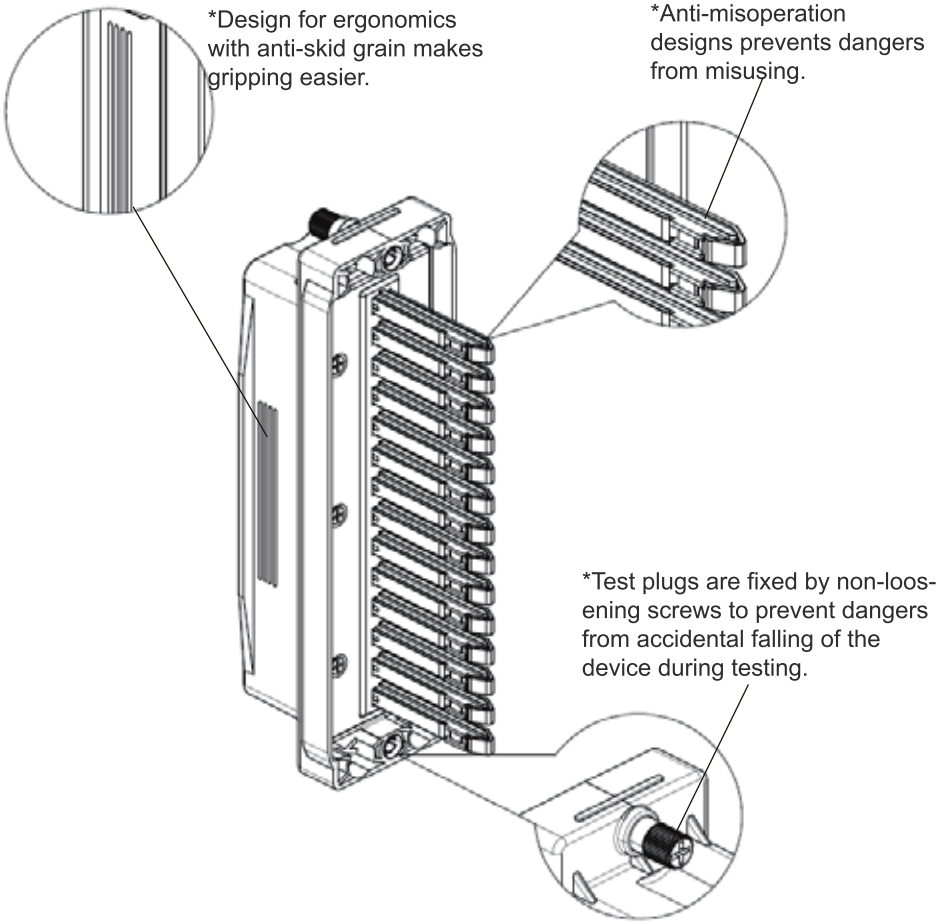
Mounting dimension diagram

Embeded Installation

Testing Module TSBE-14 Series

TestBlock Dimensions of Test Plug





Testing Module TSBE-14 Series

Appendix Optional Model

Product Model	Functionality
TSBE-14-AAABABAB222222	1 three-phase current +2 single-phase current +1 three-phase voltage+1 single- phase voltage
TSBE-14-2222222222222AB	3 three-phase voltage+1 single-phase current
TSBE-14-AAAB2222222222	1 three-phase current+2 three-phase voltage+1 single- phase voltage
TSBE-14-AAABAAABAAAB22	3 three-phase current+1 single- phase voltage
TSBE-14-AAABAAABAAABAB	3 three-phase current+1 single-phase current
TSBE-14-AAAB1111112222	1 three-phase current+6 groups of tripping contacts+1 three-phase voltage
TSBE-14-AAABAAABAB2222	2 three-phase current+1 single-phase current +three-phase voltage
TSBE-14-AAABAAABABAB11	2 three-phase current+2 single-phase current +2 groups of tripping contacts
TSBE-14-22221101111111	1 three-phase voltage+2 groups of tripping contacts+1 power circuit +7 groups of tripping contacts
TSBE-14-AAABAB22221111	1 three-phase current+1 single-phase current +1 three-phase voltage+4 groups of tripping contacts
TSBE-14-22222222222211	3 three-phase voltage+2 groups of tripping contacts
TSBE-14-AAABAAABAAAB11	3 three-phase current+2 groups of tripping contacts
TSBE-14-22222211111111	3 three-phase voltage+1 single- phase voltage +8 groups of tripping contacts