

2016 Catalog page



Easergy TestBlock

Test Blocks

Medium Voltage Distribution



Main features

- 14 circuits with different possible configurations (trips, current, voltages).
- Safer for the user, who will never have access to live parts during insertion and removal operations.
- Safer sequence of disconnection when inserting the test plug, first disconnecting the tripping circuits, to avoid unwanted operation, and later current and voltage circuits, short-circuiting CTs before opening the current circuits (make before break sequence).

Application

- Safer sequential removal of the test plug, connecting VTs and CTs first, and using a braking system allowing the relay to stabilize before connecting the tripping circuits.
- Single test plug for all the different variants of test blocks.
- Test block includes 14 circuits, which can be accessed by removing the front cover.
- Each of these circuits is connected to a separate pair of terminals at the rear of the case, and includes a contact, which is normally closed when the protection device is in normal service.
- There are different types of possible circuits (trip & signals, voltage, current), and each of the circuits of the TSB test block can be configured to be of a determined type.
- In case of current circuits, an automatic short circuit mechanism is included to ensure the CT circuit is short-circuited before the contact in the test block opens. Two different types of short-circuits will be allowed: short-circuit of two circuits and short-circuits of four circuits, according to the application.
- With the product ordering code, the user will specify the number of circuits of each type, the position of these circuits within the test block, and also the type of short-circuits required for the current circuits.
- All the current circuits will be marked in a different color to allow easy identification, which will be visible even with the test plug inserted.
- Field elements will be automatically isolated short-circuiting current circuits and opening voltage and digital circuits.
- The rugged TSB-P test plug includes a mechanism to guide and facilitate the insertion on the test block ensuring the opening of all contacts at the same time, and the insertion in the correct position. Once the test plug is inserted, it is possible to block it mechanically to help avoid involuntary extraction.
- The test plug includes 28 sockets that allow the use of safe banana plugs. 14 sockets are for injection testing on the protection relay, and 14 are for accessing the live side. The protection side and live side are clearly marked on the test plug.
- Each socket on the test plug is identified by a number that corresponds to the same numbered terminal of the test block to which the socket is connected when the test plug is inserted.



Insertion and removal operation

A retention system requires users to follow this sequence of steps in order to remove the test plug:

1. Connection of voltage and current circuits.
2. Opening the short circuit of the CTs.

Before proceeding to the next step, it is necessary to act on the retention system of the test plug. This operation will give the necessary time for the values of current and voltage to stabilize after energizing transients, helping avoid thus unwanted tripping due to these transients.

3. Connection of tripping circuits.

During insertion and removal operation there will be no bounces which can cause interruption of the CT circuit.

During the insertion of the test plug, the circuits are prepared for testing, in the following sequence:

- Opening of tripping and signal circuits
- Short-circuiting the CTs
- Opening of current and voltage circuits

Once the test plug is connected, the protection relay is prepared for injection tests, which should not affect at all to the rest of the system, from which it has been safely isolated.

Rear connection

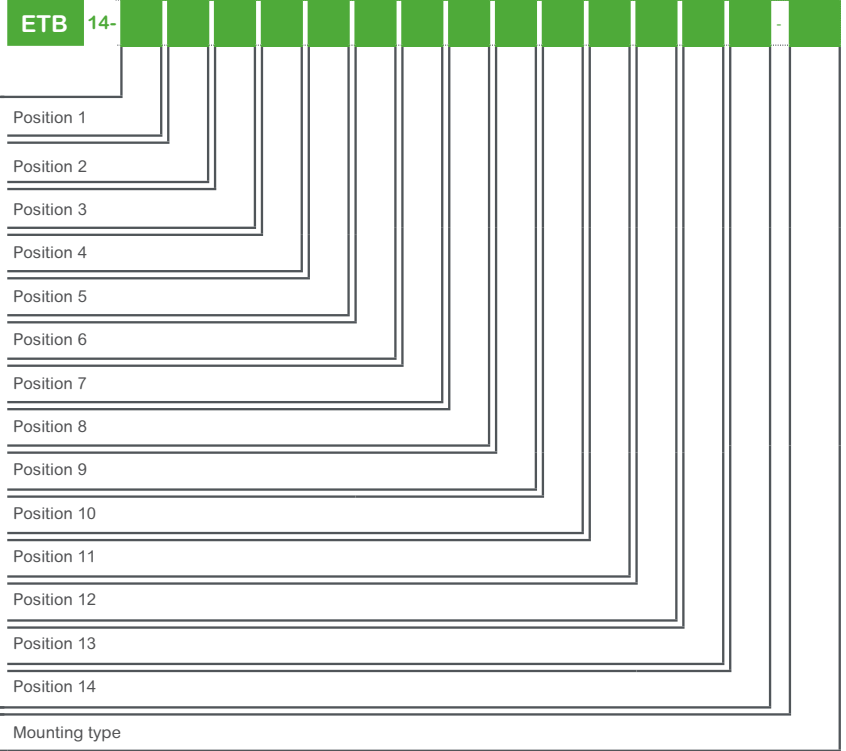


- Maximum number of terminals to be connected on the rear side: 2.
- Cable up to 4 mm² or 12 AWG.
- Maximum external diameter for the ring type terminals 9 mm.
- Screws type: M4 with Phillips head will be supplied with the test block

Technical Data

Dielectric withstand IEC 60255-5	TSB & TSB-P	2kV incoming and outgoing circuits
		2kV open circuits, plug inserted
		5kV rms for 1 minute between all case terminals connected together and the case earth terminal
		2kV rms for 1 minute between any contact pair and either adjacent contact pair
Current withstand	TSB	All contact circuits rated at 20A continuously or 400A for 1s
	TSB-P	All contact circuits rated at 10A continuously or 200A for 1s
Maximum working voltage	TSB & TSB-P	300 volts ac or dc continuous rating
Atmospheric environment	Temperature	Storage -25°C to +70°C Operating -25°C to +55°C
		IEC 60068-2-1 Cold
		IEC 60068-2-2 Dry Heat
	Humidity	IEC 60068-2-78 56 days at 93% RH and +40°C
		IEC 60529
	Enclosure Protection	TSB with cover fitted IP50
TSB (without cover) IP20		
TSB-P fitted IP20		
Mechanical environment	Vibration	IEC 606255-21-1 Class 2

EasyTestBlock



Options

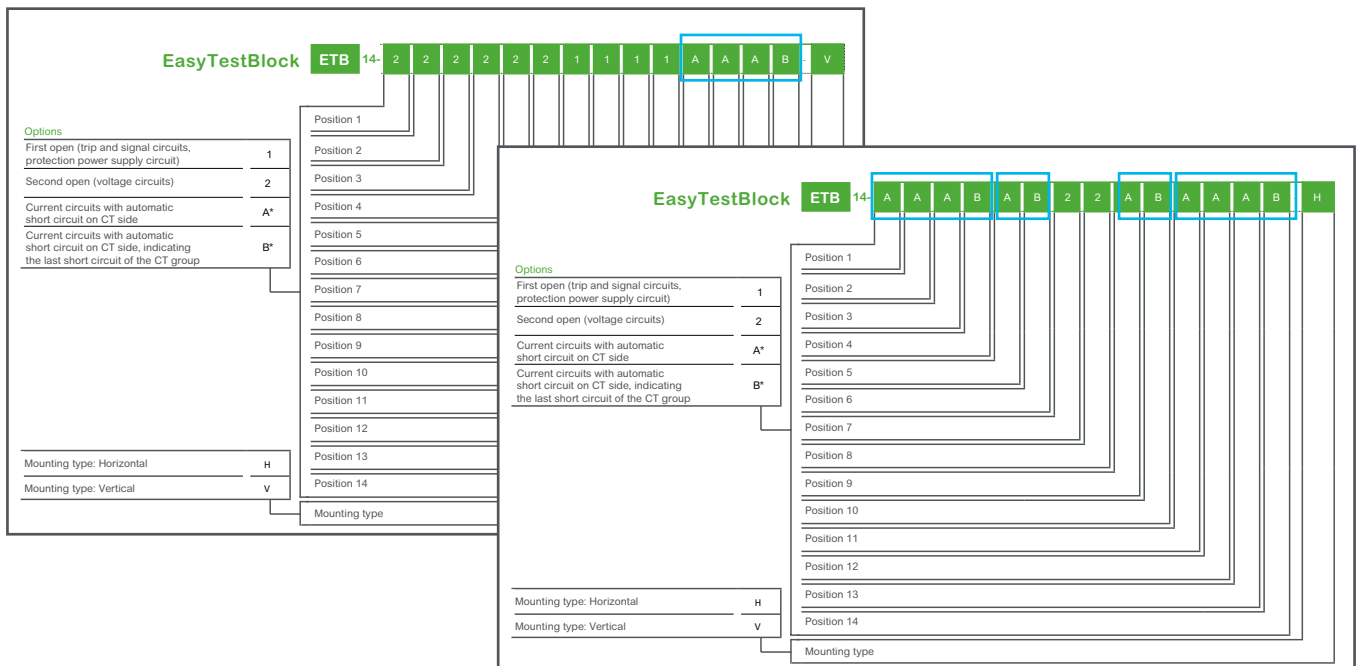
First open (trip and signal circuits, protection power supply circuit)	1
Second open (voltage circuits)	2
Current circuits with automatic short circuit on CT side	A*
Current circuits with automatic short circuit on CT side, indicating the last short circuit of the CT group	B*

Mounting type: Horizontal	H
Mounting type: Vertical	V

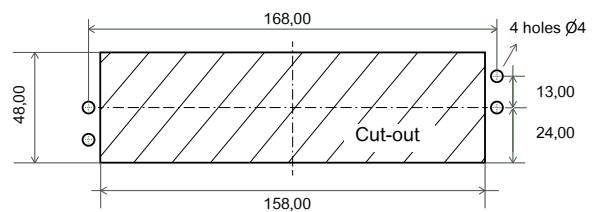
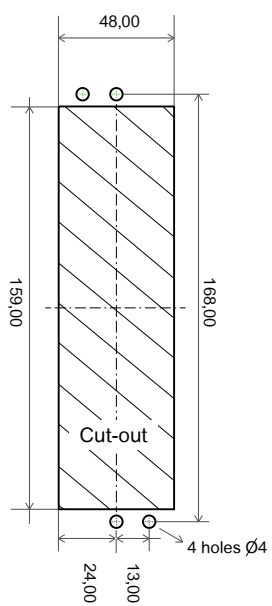
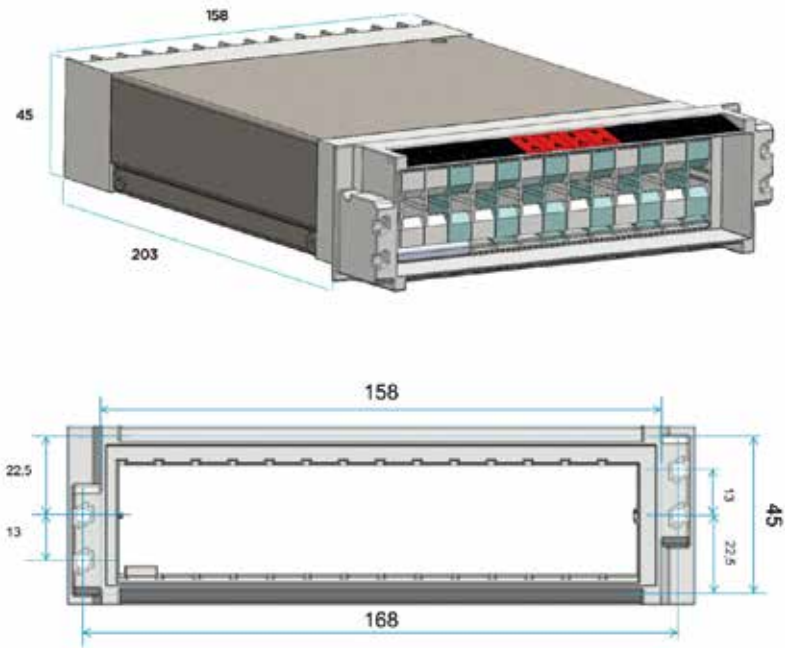
Test Plug



Current circuits to be short-circuited must be placed together, i.e.

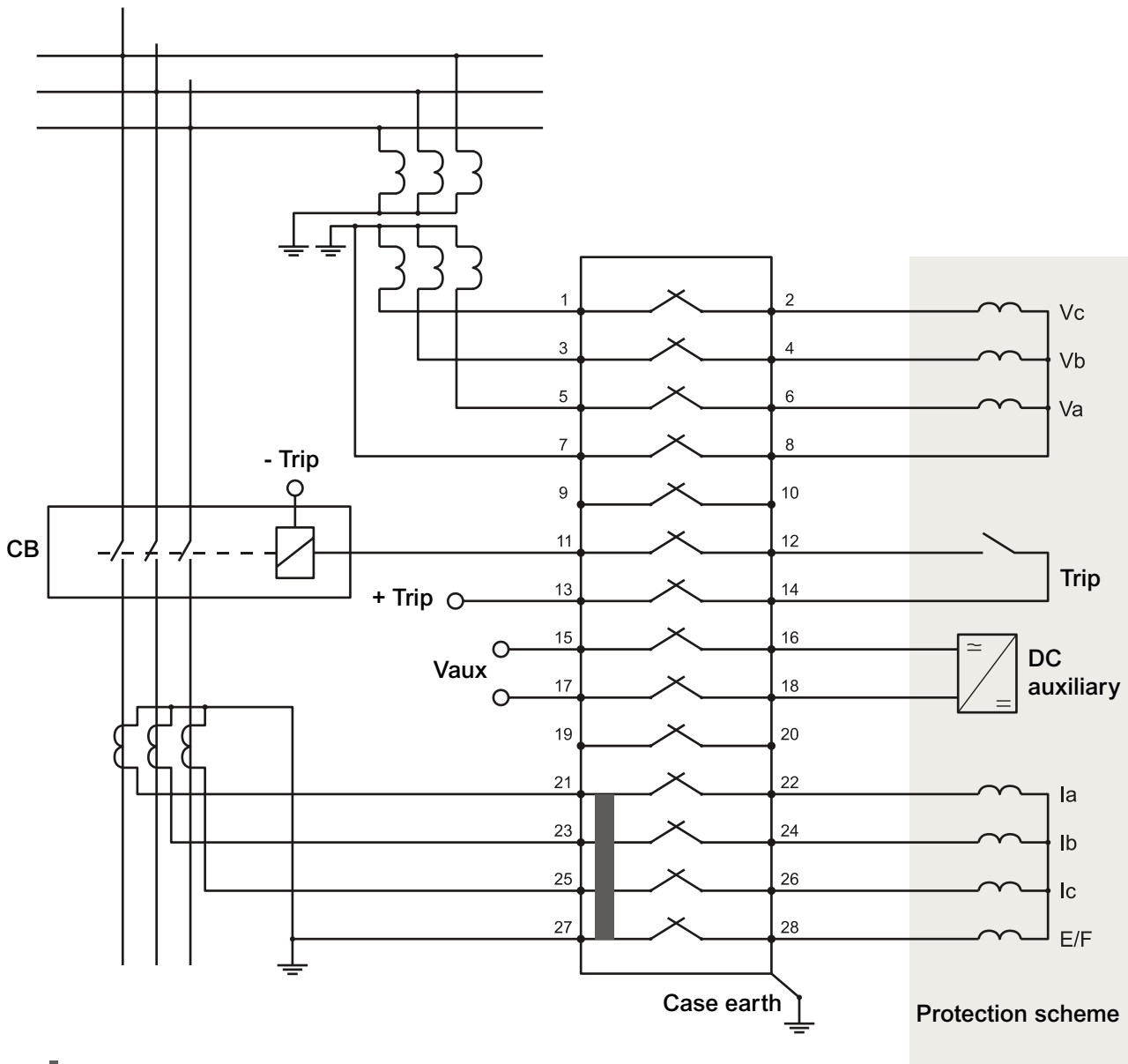


Dimensions and mounting



Suitable for panel mounting and for 19 inch rack frame.
 Dimensions in mm.
 Natural mounting type: horizontal and vertical

Sample of application



CT shunting bar for circuit isolation

Schneider Electric Industries SAS

35 rue Joseph Monier
92500 Rueil-Malmaison, France
Tel : +33 (0)1 41 29 70 00

www.schneider-electric.com

SAS capital social 928 298 512 €
954 503 439 RCS Nanterre

NRJED316713EN
19/05/2016

©2016 Schneider Electric. All Rights Reserved.
All trademarks are owned by Schneider Electric Industries SAS or its affiliated companies.