



# MD1701

## Series Test Blocks

MD1701 series products, including test blocks, test plugs and accessories cooperate with protection relays to provide online monitoring/testing for power system protection schemes. With the application of MD1701 series test blocks, operation security can be ensured. Moreover, monitoring, isolation and secondary injection testing can be simplified and quickly performed.

Available models of MD1701 series products are listed below:

- MD1701-01/02

MD1701 series products can be installed at secondary sides of CTs/VTs, or installed in the signal sampling circuit of IEDs in power system protection schemes. Shorting links of secondary sides of CTs, online monitoring/testing can be performed.

MD1701-01 is a standard test block. Terminal 13 and terminal 14 of MD1701-01 can be used to connect the main DC auxiliary supply to the protection scheme or relay through this circuit.

MD1701-02 is a special test block designed for use in busbar protection schemes. Terminal 13 and terminal 14 of MD1701-02 can be used for CT connections.

The MD1701 cover can provide protection from electric shock hazard. There are two covers as shown in the following two figures.

In figure 3, the 1st cover (with a shorting link for terminal 13 and terminal 14) is designed for MD1701-01.



Figure 3 Cover for MD1701-01 test block (with a shorting link for terminal 13 and terminal 14)



Figure 1 MD1701-01/MD1701-02 test block

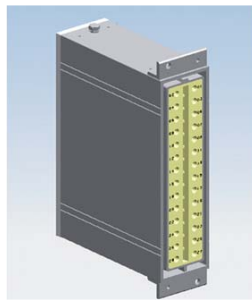


Figure 2 MD1701-01/MD1701-02 test block (Without cover)



Figure 4 Cover for MD1701-02 test block (without shorting link)



Figure 5 Application of plug-link and CJ28T multi-finger test plug

- CJ28T

CJ28T is a multi-finger test plug. Plug-link can be used to short link corresponding secondary CT circuit. Attach a plug-link to CJ28T multi-finger test plug firstly, and then insert CJ28T into MD1701-01/MD1701-02 test block.

As shown in Figure 5, terminal 09 and terminal 10 are linked by the plug-link, now the circuit between terminal 13 and terminal 14 will be interrupted. Therefore, the plug-link can be used for testing, or used for potential monitoring.

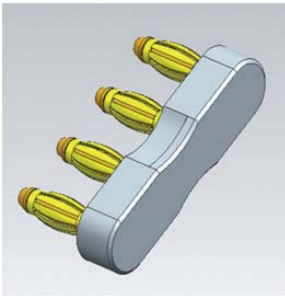


Figure 6 Four-terminal CT shorting link (CJ4T)

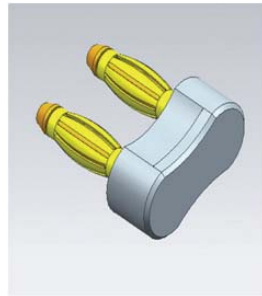


Figure 7 Two-terminal CT shorting link (CJ2T)

- CJ4T/CJ2T

- CJ4T is a four-terminal CT shorting link.
- CJ2T is a two-terminal CT shorting link.

When CT shorting links (CJ2T and CJ4T) cooperate with multi-finger test plug (CJ28T) to short-link different circuits, please check the short-link position carefully, and then plug CJ2T/CJ4T and CJ28T to corresponding test block.

- YJ2T

YJ2T is a single-finger test plug. As shown in the following figure, the YJ2T single-finger test plug can be inserted into individual test positions in the test block, so as to perform potential monitoring of designated circuit. Moreover, current/voltage measurements can also be provided.

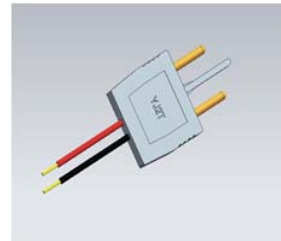


Figure 8 YJ2T Single-finger test plug

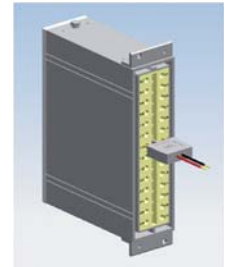


Figure 9 Application of YJ2T single-finger test plug

## Technical Data

### Electrical Specifications

Maximum working current for all contact circuits(continuously)	20A
Maximum working current for all contact circuits(for 1s)	400A
Maximum working voltage	320V
Contact resistance	≤4mΩ

### Mechanical Specifications

Interconnecting cable	1.5 mm <sup>2</sup> ~ 2.5 mm <sup>2</sup>
Screw	M4 screw
	Torque: 1.2 N·m ~ 1.8 N·m
Durability	Increment percentage of contact resistance ≤ 50% (After 500 operations)
Protection class	
Standard	IEC 60225-1:2009
with cover fitted	IP50
(without cover) and CJ28T	IP20
Flame Retardation	UL94V-0

## Ambient Temperature and Humidity Range

Standard	IEC 60255-1:2009
Operating temperature	-25°C to +55°C
Ripple in the DC auxiliary voltage	Mounting
Weight per relay	Approx. 1kg

## Type Tests

### Mechanical Tests

Vibration	IEC 60255-21-1:1988 Class I
Shock and bump	IEC 60255-21-2:1988 Class I

### Electrical Tests

Standard	IEC 60255-27:2005
Dielectric tests	
Between terminal 13 and terminal 14 of MD1701	Test voltage 1kV, 50Hz, 1min
Between any two terminals of MD1701	Test voltage 2kV, 50Hz, 1min
Between earth and any terminal of MD1701	Test voltage 5kV, 50Hz, 1min
Standard	IEC 60255-5:2000
Insulation resistance measurements	Isolation resistance >100MΩ@500VDC