MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

GENERAL ELECTRIC

MMLB01

MULTI-FINGER RELAY TEST PLUG

Used with the applicable MMLG relay test system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: GE Vernova MMLG and MMLB test equipment instructions

DESCRIPTION, INSTALLATION AND USE

MMLG test block

The MMLG cover, when in place, provides protection from electric shock hazards. Access to internal circuits for testing purposes can be gained by removing the front cover. A metallic probe secured to the inside face of the MMLG 01 cover is automatically withdrawn when the cover is removed, thus interrupting the circuit between terminals 13 and 14. By routing the main DC auxiliary supply to the protection scheme or relay through this circuit, the removal of the test block cover will prevent inadvertent tripping of the protection during the ensuing tests. This link is not provided on the MMLG 02 because the contacts between terminals 13 and 14 are normally closed.

Note: These two terminals on MMLG 01/02 must not be used for CT connections since this will create a safety hazard. The reason for this is that the associated MMLB 01 test plug contact finger is shorter that the others. This would result in an open circuit path on the MMLG 02. Removal of the cover also reveals an orange coloured strip on the block front plate which gives a clear visual indication that the scheme is out of service.

Connections to other equipment (e.g. CTs, VTs and DC supplies) should be made to odd numbered terminals on the test block. This ensures that when the test plug MMLB is used, the sockets in the white half of the plug are the isolated relay circuits while the sockets in the orange half are connected to the potentially live supplies.

MMLB 01 test plug

The test plug carries 28 4mm sockets. Each socket is identified by a number which corresponds to the numbered case terminal to which the socket is connected when the plug is inserted.

Notes:

a) The continuity of the shorting plug/wire links and the state of their insulation should be checked before insertion into the MMLG 01 test block.
b) Before use, the insulation of the flying leads should be visually checked for damage.

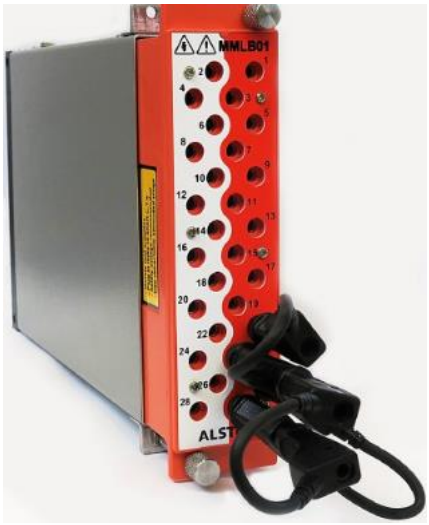


Figure 2
MMLG 01 test block with multi-finger test plug MMLB 01 inserted

Caution: It is essential that the sockets in the MMLB 01 test plug which correspond to current transformer secondary windings are shorted using external links before the test plug is inserted into the MMLG test block. For a typical example refer to Figure 1.

This ensures that current transformer secondary windings are short-circuited before they are disconnected from the protection relay or scheme, thereby avoiding danger-ously high voltages. This is illustrated in Figures 1 and 2.

To reiterate: The MMLG requires the user to make the necessary shorting links (if automatic internal CT shorting is required, use the MiCOM Grid Solutions P990 test block range).

If you wish to the use the DC auxiliary supply during testing, then it can be linked across using the sockets in the test plug. Test equipment can be connected to the relay or scheme using the sockets in the white area of the test plug and operation of contacts can be monitored.

Where more than one MMLG 01 test block is used in the connections to a relay, it may be advisable to route the DC supply through each of them as a safeguard against inadvertent operation.

MECHANICAL DETAILS

Test block type MMLG

The MMLG test block is a size 2 unit in the Midos system.

Relevant sizes and panel mounting details are given in Figure 5. Each terminal has:
1) A 4mm screw outlet for 'L' shaped pre-insulated crimp terminations.
2) Two blades (4.8mm x 0.8mm cross-section) to accept snap-on connectors as defined in BS5057.

An earth connection should be made to the protective earth terminal on the rear of the MMLG using 2.5mm² minimum wire.

If ring tabs are used for connection to the rear terminal block, use the insulated crimp type to maintain design insulation levels.

Multi-fingered test plug type MMLB 01
The test plug inserts securely into test sockets of the MMLG test block and can be retained by two knurled screws. Each of the 28 test sockets of the test plug accepts a 4mm test plug with a retractable shrouded test cable.

Accessories provided with each MMLB 01 test plug.

6 shorting plug links, each comprising of two 4 mm stackable plugs with retractable shrouds joined by 150 mm cable.

2 m cables of the same design are available to connect to the test equipment. (Available on request)



Figure 3 Test cable with retractable shrouded plugs

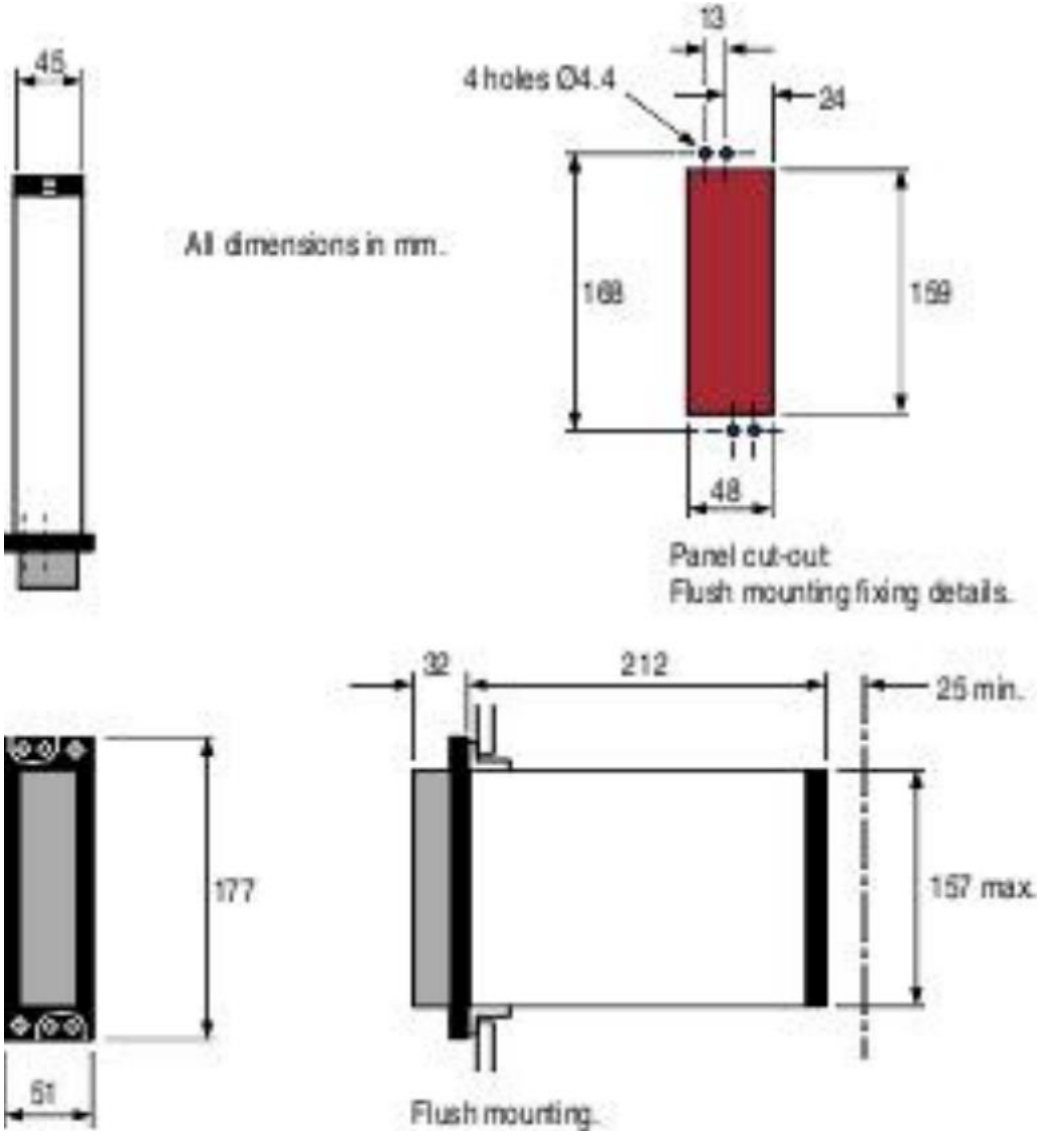


Figure 4: Case outline size 2