Description

The 7XG222 range of test blocks, housed within an Epsilon enclosure, offers facilities for monitoring and secondary injection testing of power system protection schemes in conjunction with the appropriate multi-fingered test plug.

The 2RMLG Test Block has 14 pairs of spring loaded contacts which are linked to a terminal block positioned at the rear of the enclosure.

The 2RMLG07 is coded to only accept the 2RMLB-R7 Test Plug which has connection terminals 21, 23, 25, and 27, internally.

The 2RMLG08 is coded to only accept the 2RMLB-R8 Test Plug which has internal pairs 1 and 3, 5 and 7, 9 and 11, and 15 and 17, shorted together internally.

The 2RMLG09 is coded to only accept the 2RMLB-R9 Test Plug which has terminals 1-3-5-7, 9-11, 17-19 & 21-23-25-27 shorted together internally..

Each pair of contacts is normally closed completing the circuit through the test block when the associated protection equipment is in use.

For testing purposes the test block can be accessed by removing the front cover. The 2RMLG01 has a metallic probe attached to the front cover assembly which when withdrawn open circuits the 2 contacts at position 13 and 14.

The main DC auxiliary supply to the protection scheme or relay can be wired to this circuit to prevent inadvertent tripping of the protection circuit after removal of the cover and during the test procedure.

The 2RMLG02/07/08/09 do not include the above facility and contacts 13 and 14 are normally closed. These contacts must not be used for current circuits, as the relevant contact finger on the 2RMLB-R test plug is shorter in this position.

The short test finger in position 13 and 14 on the 2RMLB-R will open contacts 13 and 14 in the test block after the other fingers have made contact in all other positions.

It is important that the sockets in the test plug which correspond to the current transformer secondary windings are linked prior to the test plug being inserted into the test block.

This will ensure that the current transformer secondary windings are short circuited prior to disconnection from the protection scheme or relay. If the DC auxiliary supply is to be used during testing it can be linked using the sockets in the test plug.

Operation of the contacts can be monitored by connecting the test equipment to the protection scheme or relay with the even

[sc_7XG22, 1, --_--]

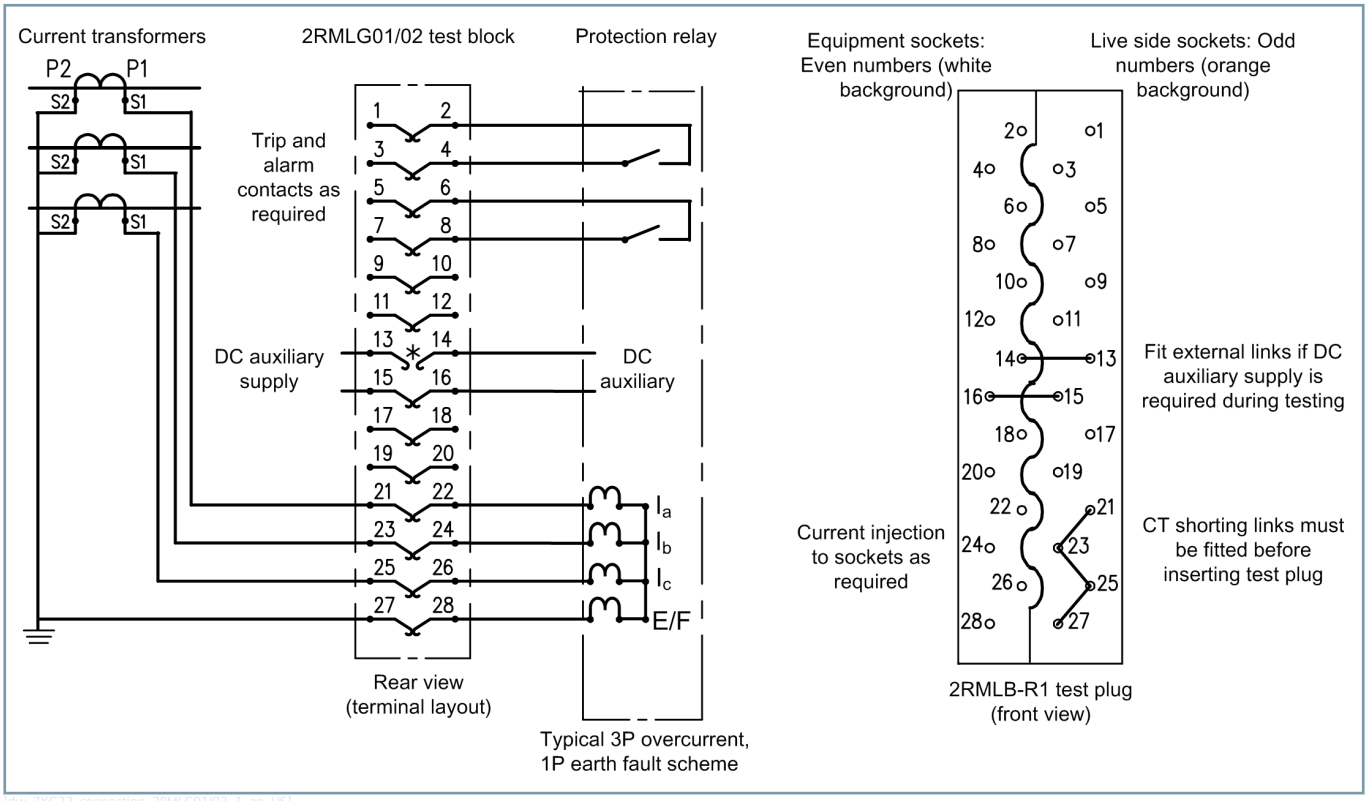
numbered sockets of the test plug. If a number of 2RMLG test blocks are connected to a relay it is recommended that the DC supply be routed through each of them to safeguard against inadvertent operation.

Benefits

The features of the Test Block are:

- Finger safe design
- Finger safe test leads
- Various scheme configurations
- Retention fixings on test plugs
- 7XG222 Suitable for vertical or horizontal mounting
- Standard 4U case design
- Coded test plugs prevent incorrect insertion

Connection Diagrams



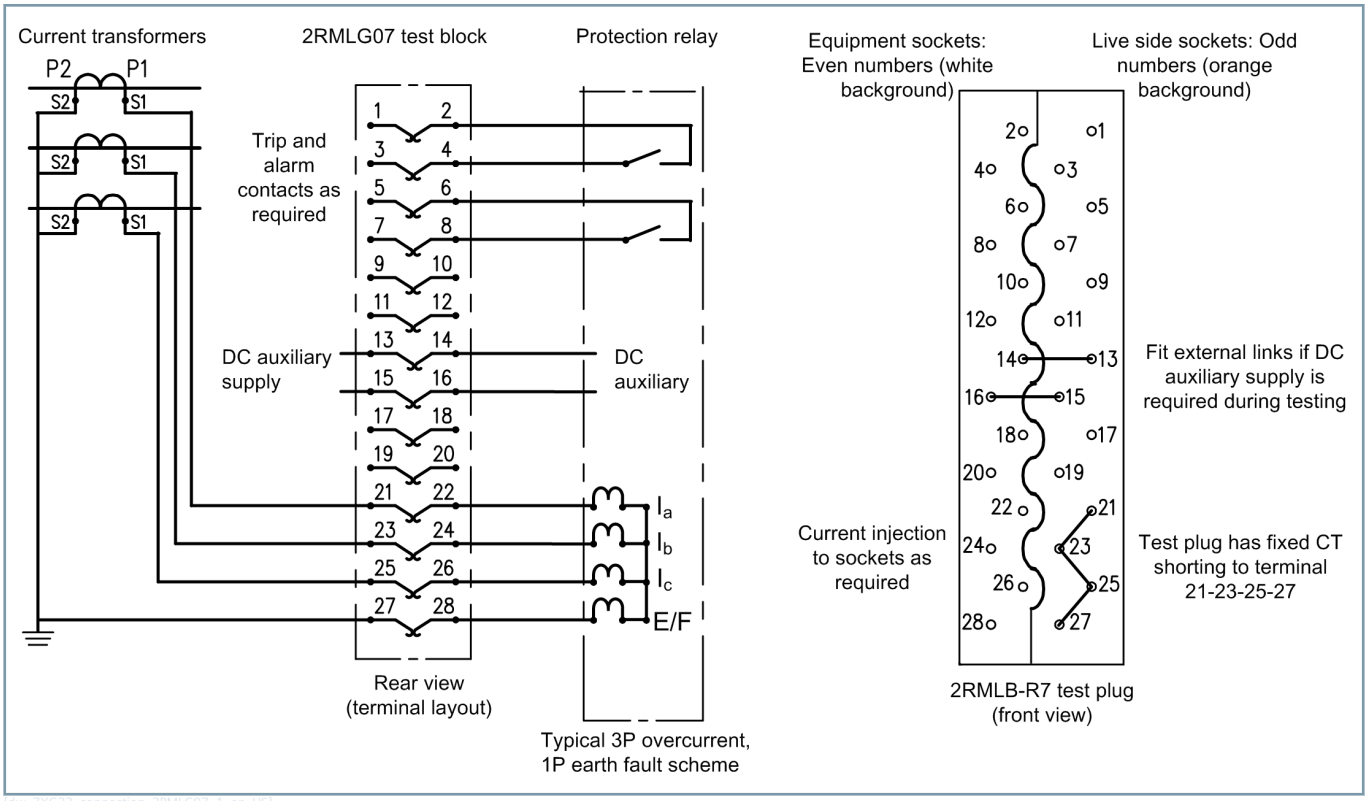
[dw_7XG22_connection_2RMLG01/02, 1, en_US]

Figure 10.1/2 Typical Application of the 2RMLG01 / 2RMLG02 Test Block and 2RMLB-R1 Test Plug

NOTE

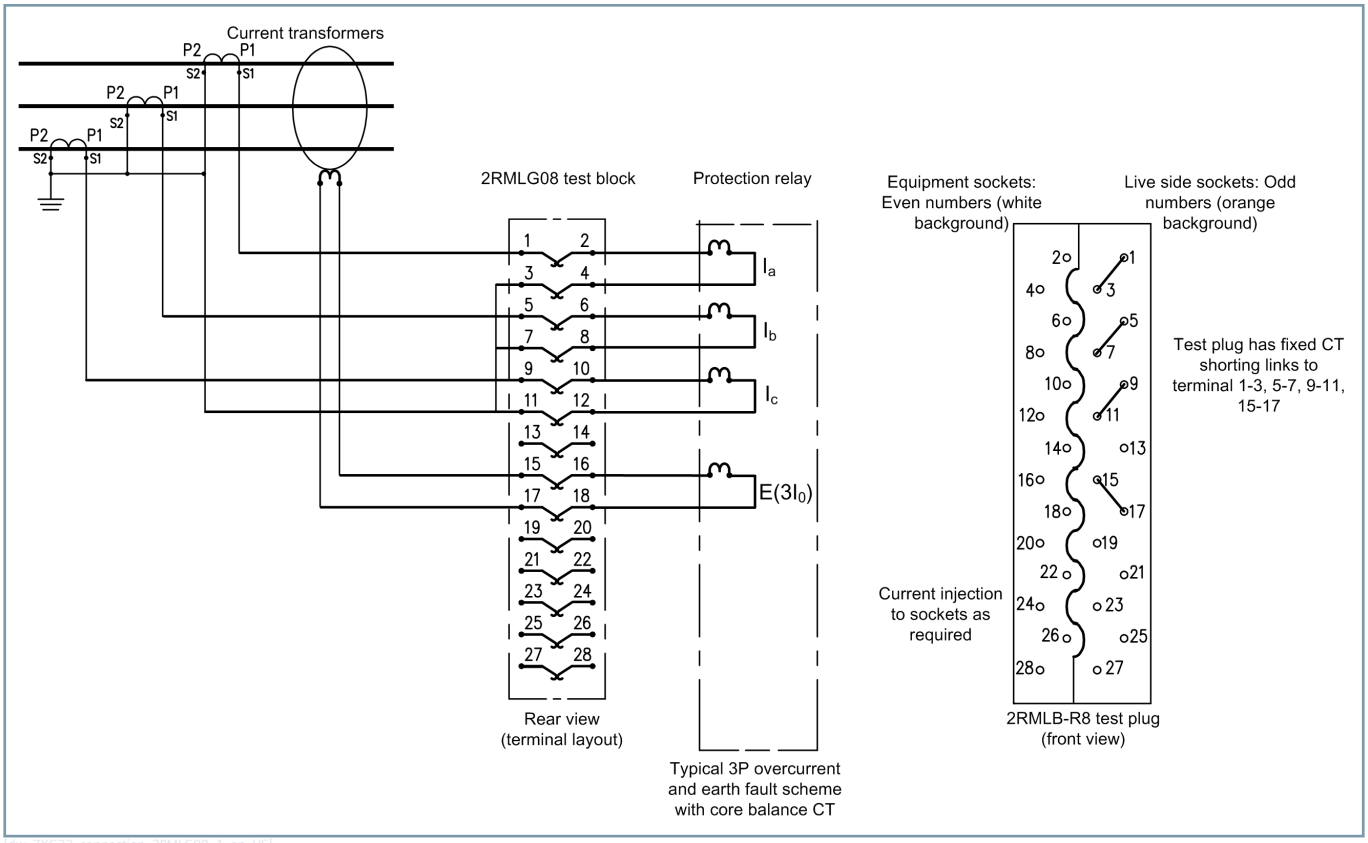
2RMLG01 13/14 open cct when cover is removed and all other positions are connected.

2RMLG02 13/14 connected as in the same way as other positions.



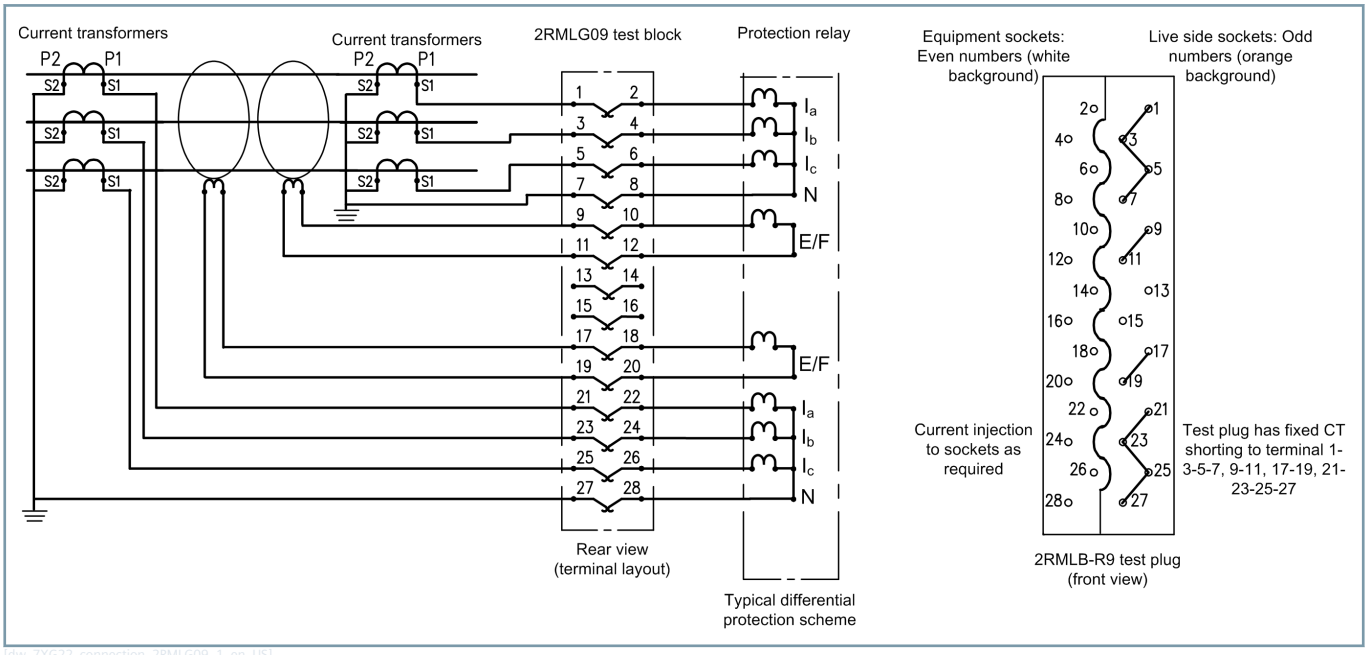
[dw_7XG22_connection_2RMLG07, 1, en_US]

Figure 10.1/3 Typical Application of the 2RMLG07 Test Block and 2RMLB-R7 Test Plug



[dw_7XG22_connection_2RMLG08, 1, en_US]

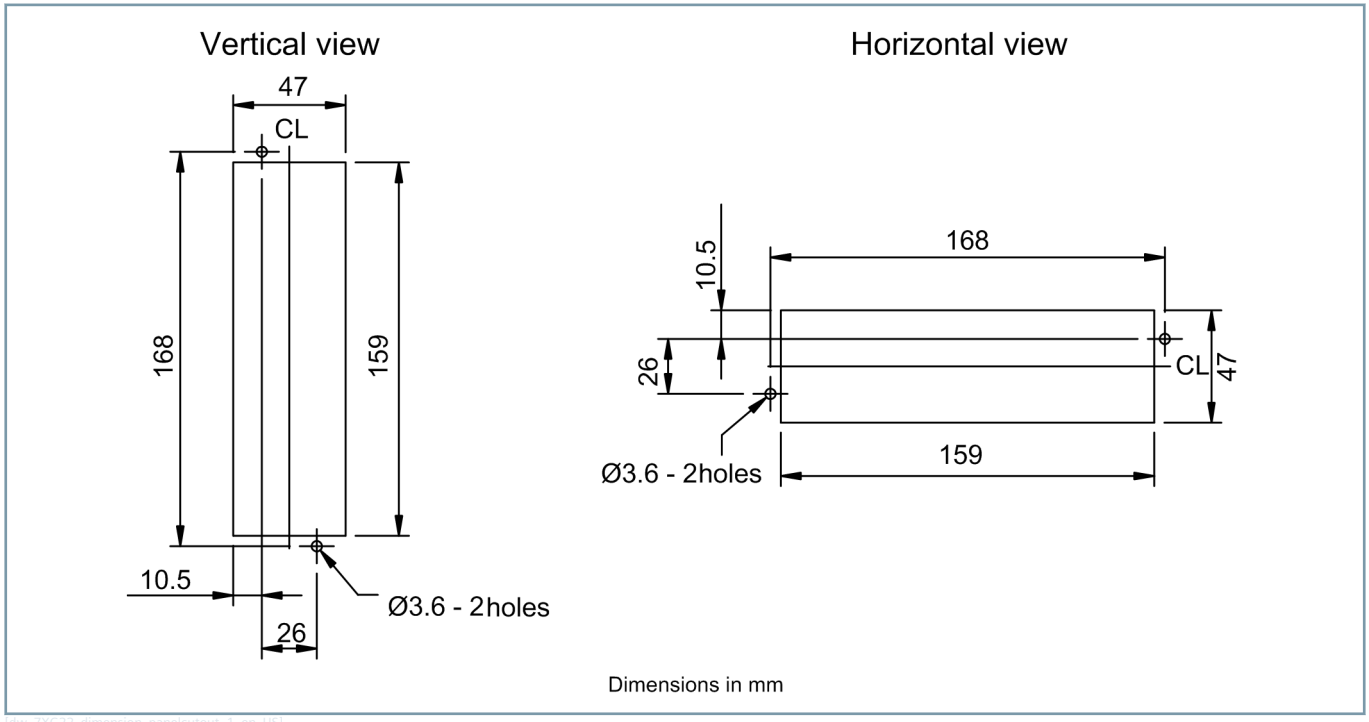
Figure 10.1/4 Typical Application of the 2RMLG08 Test Block and 2RMLB-R8 Test Plug



[dw_7XG22_connection_2RMLG09, 1, en_US]

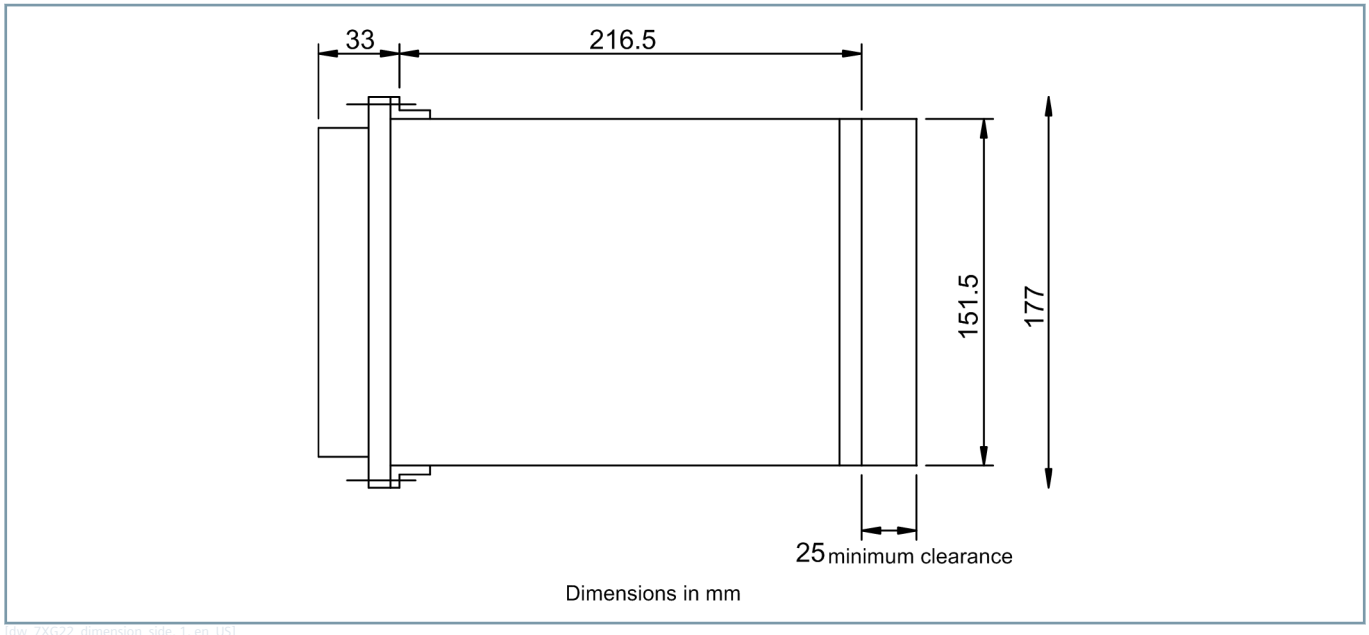
Figure 10.1/5 Typical Application of the 2RMLG09 Test Block and 2RMLB-R9 Test Plug

Dimension Drawings



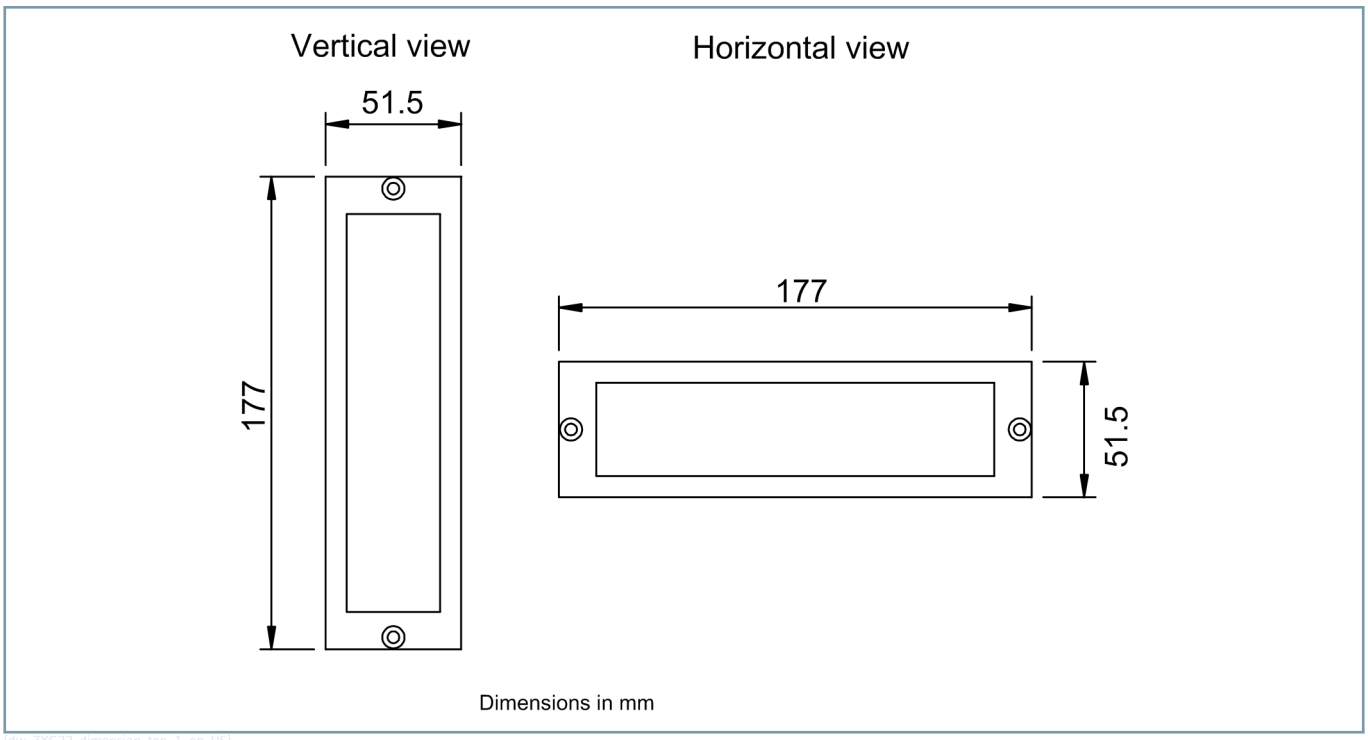
[dw_7XG22_dimension_panelcutout, 1, en_US]

Figure 10.1/6 Panel Cut-out View



[dw_7XG22_dimension_side, 1, en_US]

Figure 10.1/7 Side View (Vertical) Top View (Horizontal)



[dw_7XG22_dimension_top, 1, en_US]

Figure 10.1/8 Front View

NOTE

The Ø3.6 holes are for M4 thread forming (trilobular) screws. These are supplied as standard and are suitable for use in ferrous/aluminum panels 1.6 mm thick and above. For other panels, holes to be M4 clearance (typically Ø4.5) and relays mounted using M4 machine screws, nuts and lockwashers (supplied in panel fixing kit).

Technical Data

Indication of Conformity

This product complies with the directive of the Council of the European Communities on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 2014/30/EU) and concerning electrical equipment for use within specified voltage limits (Low Voltage Directive 2014/35/EU) as well as restriction on usage of hazardous substances in electrical and electronic equipment (RoHS Directive 2011/65/EU).

This conformity has been proved by tests conducted by Siemens AG in accordance of the Council Directive in accordance with the product standard IEC/EN 60255-26 for the EMC directives, and with the standard IEC/EN 60255-27 for the low-voltage directive.

RoHS directive 2011/65/EU is met using the standard EN 50581. The device has been designed and produced for industrial use.

EMC Compliance

89/336/EEC	These products have been classified as electromagnetically benign and are therefore excluded from the European Community EMC Directive. (89/336/EEC)

General Technical Data

High Voltage Withstand

IEC 60255-5

2RMLG 01/02/07/08/09	5 kV_{RMS} for 1 minute between all case terminals connected together and the case earth terminal.
	5 kV_{RMS} for 1 minute between any contact pair and either adjacent alternate contact pair, provided the intermediate contact pair is not used.
	2 kV_{RMS} for 1 minute between any contact pair and either adjacent contact pair.
2RMLG 01 only	1 kV_{RMS} for 1 minute between terminals 13 and 14 when the cover is removed (e.g. opening the auxiliary supply or trip circuit).
2RMLB-R1	As 2RMLG 01 plus 2 kV_{RMS} for 1 minute between incoming and outgoing contacts when inserted.
2RMLB-R7	As above with the exception of terminals 21, 23, 25, and 27 which are permanently shorted together.
2RMLB-R8	As above with the exception of terminal pairs 1-3, 5-7, 9-11, and 15-17 which are permanently shorted together as pairs.
2RMLB-R9	As above with the exception of terminal pairs 1-3-5-7, 9-11, 17-19, and 21-23-25-27 which are permanently shorted together in groups.

Transient Overvoltage

IEC 60255-27

2RMLG 01/02/07/08/09	5 kV impulse between all case terminals connected together and the case earth terminal.
	5 kV impulse between any contact pair and either adjacent alternate contact pair, provided the intermediate contact pair is not used.
	2 kV impulse between any contact pair and either adjacent contact pair.
2RMLG 01 only	2 kV impulse between terminals 13 and 14 when the cover is removed (e.g. opening the auxiliary supply or trip circuit).
2RMLB-R1	As 2RMLG 01 plus 2 kV impulse between incoming and outgoing contacts when inserted.
2RMLB-R7	As above with the exception of terminals 21, 23, 25, and 27 which are permanently shorted together.
2RMLB-R8	As above with the exception of terminal pairs 1-3, 5-7, 9-11, and 15-17 which are permanently shorted together as pairs.
2RMLB-R9	As above with the exception of terminal pairs 1-3-5-7, 9-11, 17-19, and 21-23-25-27 which are permanently shorted together in groups.

Current and Voltage Withstand

2RMLG 01/02/07/08 2RMLBR1-R9	All contact circuits rated at 20 A continuously or 400 A for 1 s, AC or DC.
	AC 300 V/DC 300 V maximum service voltage.

Mechanical Tests

Test	Standard
Vibration	IEC 60255-21-1, Response and endurance, Class 2

Climatic Environmental Tests

Temperature

IEC 60068-2-1/IEC 60068-2-2/IEC 60255-6

Ambient operating temperature	-10 °C to +55 °C
Storage temperature (non-operational)	-25 °C to +70 °C

Humidity

IEC 60068-2-3

Damp heat test, steady state	56 days at 93 % RH and +40 °C

Enclosure Protection (2RMLG only)

IEC 60529

IP50 (dust protected)

Test Equipment

Test Switch/Test Block – 7XG22 2RMLG

Ordering Information – 7XG222

Product Description	Order Number																
	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16
Test Modules (2RMLG)	7	X	G	2	2	2	0	–	□	□	A	0	0	–	0	A	A	0
				|	|	|			|	|								
Category				|	|	|			|	|								
Ancillary equipment				2	|	|			|	|								
					|	|			|	|								
Ancillary Equipment					|	|			|	|								
Modular case test components					2	|			|	|								
						|			|	|								
Test Component Type						|			|	|								
Test modules (2RMLG)						2			|	|									
									|	|									
Component Type									|	|									
Test module (2RMLG01)									1	|									
Test module without open circuit facility between terminals 13 and 14 when cover removed (2RMLG02)									2	|									
Test module with automatic CT shorting (2RMLG07)									3	|									
Test module with automatic CT shorting (2RMLG08)									4	|									
Test module with automatic CT shorting (2RMLG09)									5	|									
										|									
Mounting										|									
E2 case vertical										A									
E2 case horizontal										B									

Ordering Information – 7XG2241

Product Description	Order Number																
	1	2	3	4	5	6	7	–	8	9	10	11	12	–	13	14	15	16
Test Plugs (2RMLB-R)	7	X	G	2	2	4	1	–	□	A	A	0	0	–	0	A	A	0
				|	|	|	|		|									
Category				|	|	|	|		|									
Ancillary equipment				2	|	|	|		|									
					|	|	|		|									
Ancillary Equipment					|	|	|		|									
Modular case test components					2	|	|		|									
						|	|		|									
Test Component Type						|	|		|									
Test plugs (2RMLB-R)						4	1		|										
									|										
Component Type									|										
Multi finger test plug complete with leads (2RMLB-R1)									1										
Multi finger test plug complete with leads and internal shorting links (2RMLB-R7)									3										
Multi finger test plug complete with leads and internal shorting links (2RMLB-R8)									4										
Multi finger test plug complete with leads and internal shorting links (2RMLB-R9)									5										

UK Manufacture Test Modules, E2 Size	
2RMLG01 Test block with Trip Isolation contact	VCE: 2993H10060D
2RMLG02 Test block with No Isolation contact	VCE: 2993H10063D
2RMLG07 Test block with CT shorting	VCE: 2993H10067D
2RMLG08 Test block without Trip Isolation	VCE: 2993H10080D
2RMLG09 Test block for 2RMLB-S9 Test Plug	VCE: 2993H10085D

Accessories for 2RMLG	
2RMLG Cover for 2RMLG01 (with probe)	VCE: 2993G50002
2RMLG Cover for 2RMLG02	VCE: 2993G50008