5 kV, 10 kV and 15 kV lead sets
Insulation resistance testers



- **Large range to suit all applications**
- **Unique locking HV insulated plugs**
- **None detachable clips for safety with capacitance**
- **Screened options for high noise environments**
- **High quality silicon double insulated cable**

DESCRIPTION

Megger provide a range of lead sets and clips of different sizes and electrical characteristics for use with Megger 5 kV, 10 kV and 15 kV insulation resistance testers, enabling the user to choose the most applicable lead set for the work in hand.

The design of the lead sets is intended to facilitate connection to a variety of de-energised systems for the purpose of making insulation resistance measurements. In all cases it is the responsibility of the user to employ safe working practices and verify that the system is safe before connection. Even isolated systems may exhibit significant capacitance which will become highly charged during the application of the insulation test. This charge can be lethal and connections, including the leads and clips, should never be touched during the test. The system must be safely discharged before touching connections. These lead sets are suitable for use with all current Megger 5 kV, 10 kV and 15 kV insulation resistance testers except the BM11, BM15 and MJ15.

SAFETY WARNINGS

Safety Warning must be observed during use.

- The circuit under test must be switched off, de-energised, isolated and checked to be safe before insulation test connections are made. Make sure the circuit is not reenergised whilst the instrument is connected.
- Circuit connections must not be touched during an insulation test.
- After completing a test, capacitive circuits must be completely discharged before disconnecting the test leads. Capacitive charges can be lethal.
- Tested items should be firmly shorted out with a shorting link, after discharge, until required for use. This is to guard against any stored dielectric absorption charge subsequently being released thereby raising the voltage to potentially dangerous levels.
- Test leads, including crocodile clips, must be in good order, clean, dry and with no broken or cracked insulation.
- The leadset should not be used if any part of it is damaged.
- These accessories are not designed to provide full levels of safety isolation to the operator if touched. The required physical dimensions would render this impractical. Safe working practices must be used.

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APPLICATION

LARGE TEST CLIP 5 kV and 10 kV

Clip details:	
Dimensions:	220 (L) X 140 (closed) mm
Jaw opening:	34 mm diameter max
Number in set:	3
Double insulation rating:	5 kV d.c.
Basic insulation rating:	10 kV d.c.
Safety specification:	IEC61010-31:2008 The clips are therefore touch proof when closed.
CAT rating:	600 V a.c. CAT IV
Cable details:	5 kV and 10 kV test leads
Lead lengths available:	3 m, 10 m and 15 m
Insulation rating:	12 kV d.c. (Marked on cable)
Cable type:	Flexible dual insulated silicon (inner insulation layer coloured white to highlight damage)

Part numbers:

To fit all MIT and S1 5 kV and 10 kV instruments:

3 m (10 ft) 1002-534
5 m (16 ft) 1002-645
8 m (26 ft) 1002-646
10 m (33 ft) 1002-647
15 m (50 ft) 1002-648

These test leads may also be supplied in none standard lengths to suit a particular application.

Please contact Megger for a quotation. Minimum order quantities may apply.

APPLICATION NOTES:

These clips are designed for clamping on larger diameter test pieces. The insulation is designed only to protect the user from the output of Megger 5 kV and 10 kV (set below 10 kV) insulation resistance testers.

The clips cannot in any circumstance be relied on to protect the user from live systems above 600 V a.c. in a CAT IV environment, or 1000 V a.c. in a CAT III environment.

LARGE TEST CLIP 15 kV

Clip details:	
Dimensions:	208 (L) X 240 (closed) mm
Jaw opening:	28 mm diameter max
Number in set:	3
Double insulation rating:	7.5 kV d.c.
Basic insulation rating:	15 kV d.c.
Safety specification:	IEC61010-31:2008 The clips are therefore touch proof when closed.
CAT rating:	1000 V a.c. CAT IV
Cable details:	15 kV test leads
Lead lengths available:	3 m, 5m, 10 m and 15 m
Insulation rating:	15 kV d.c. (Marked on cable)
Cable type:	Flexible dual insulated silicon (inner insulation layer coloured white to highlight damage)

Part numbers:

To fit all MIT and S1 15 kV instruments

3 m (10 ft) 1002-949
5 m (16 ft) 1005-259
10 m (33 ft) 1005-260
15 m (50 ft) 1005-261

These test leads may also be supplied in none standard lengths to suit a particular application.

Please contact Megger for a quotation. Minimum order quantities may apply.

APPLICATION NOTES:

These clips are designed for clamping on larger diameter test pieces. The insulation is designed only to protect the user from the output of Megger 15 kV (set below 10 kV) insulation resistance testers.

The clips cannot in any circumstance be relied on to protect the user from live systems above 1000 V a.c. in a CAT IV environment.

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MEDIUM TEST CLIP

Clip details:	
Dimensions:	139 (L) X 73 (closed) mm
Lead lengths available:	3 m, 10 m and 15 m
Jaw opening:	18 mm diameter max
Number in set:	3
Double insulation rating:	3 kV d.c.
Basic insulation rating:	6 kV d.c.
Safety specification:	IEC61010-31:2008 The clips are therefore touch proof when closed
CAT rating:	600 V a.c. CAT IV
Cable details:	5 kV and 10 kV test leads
Lead lengths available:	3 m, 10 m and 15 m
Insulation rating:	12 kV d.c. (Marked on cable)
Cable type:	Flexible dual insulated silicon (inner insulation layer coloured white to highlight damage)
Cable details:	15 kV test leads
Lead lengths available:	3 m and 10 m
Insulation rating:	6 kV d.c. (Marked on cable)
Cable type:	Flexible dual insulated silicon (inner insulation layer coloured white to highlight damage)

Part numbers:

To fit all MIT and S1 5 kV and 10 kV instruments:

3 m (10 ft) 1002-531
5 m (16 ft) 1002-641
8 m (26 ft) 1002-642
10 m (33 ft) 1002-643
15 m (50 ft) 1002-644

To fit all MIT and S1 15 kV instruments:

3 m (10 ft) 1005-262
10 m (16 ft) 1005-263

These test leads may also be supplied in none standard lengths to suit a particular application.

Please contact Megger for a quotation. Minimum order quantities may apply.

APPLICATION NOTES:

These clips are designed for clamping on larger diameter test pieces but where space is at a premium. The insulation is designed only to protect the user from the output of Megger 5 kV, 10 kV and 15 kV (set below 6 kV) insulation resistance testers.

The clips cannot in any circumstance be relied on to protect the user from live systems above 600 V a.c. in a CAT IV environment, or



COMPACT TEST CLIP

Clip details:	
Dimensions:	58 (L) X 25 (closed) mm
Lead lengths available:	3 m, 10 m and 15 m
Jaw opening:	18 mm diameter max
Number in set:	3
Double insulation rating:	None
Basic insulation rating:	None
CAT rating:	Not applicable
Cable details:	
Lead lengths available:	3 m, 10 m and 15 m
Insulation rating:	12 kV d.c. (Marked on cable)
Cable type:	Flexible dual insulated silicon (inner insulation layer coloured white to highlight damage)

Part numbers:

To fit all MIT and S1 5 kV and 10 kV instruments

3 m 8101-181
8 m 8101-182
15 m 8101-183

APPLICATION NOTES:

These clips are designed for clamping on test pieces where access is limited. There is no insulation on these clips.

Extreme care must be taken to avoid electric shock when connecting/disconnecting due to the bare metallic clips.

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CONTROL CIRCUIT TEST SET

Clip details:	
Dimensions:	58 (L) X 25 (closed) mm
Jaw opening:	20 mm dia max (clip)
Number in set:	2
Double insulation rating:	1 kV d.c.
CAT Rating:	600 V a.c. CAT III
Probe details:	
Number in set:	2
Double insulation rating:	1 kV d.c.
CAT Rating:	600 V a.c. CAT IV
Cable details:	
Lead length:	3 m
Insulation rating:	1 kV d.c.
Cable type:	Flexible double insulated silicon (inner insulation layer white to highlight damage

Part number:

To fit all MIT and S1 5 kV and 10 kV instruments
6220-822
To fit all MIT and S1 15 kV instruments
1005-264

APPLICATION NOTES:

These clips are designed for testing low voltage circuits with test voltages up to 1 kV. The insulation is designed only to protect the user from the output of Megger 5 kV and 10 kV insulation resistance testers set to a maximum output voltage of 1 kV.

Do not use this lead set at voltages above 1 kV.

FUSED PROBE AND CLIP TEST LEAD SET

Clip details:	
Dimensions:	90 (L) X 41 (closed) mm
Jaw opening:	20 mm dia max (clip)
Number in set:	2
Double insulation rating:	1 kV d.c.
CAT Rating:	600 V a.c. CAT IV
Probe details:	
Number in set:	2
Double insulation rating:	1 kV d.c.
CAT Rating:	600 V a.c. CAT IV
Cable details:	
Lead length:	1.25 m
Insulation rating:	1 kV d.c.
Cable type:	Flexible double insulated silicon (inner insulation layer coloured white to highlight damage
Fuse rating:	FF500 mA 50 kA see notes below

Part number:

To fit all MIT and S1 5 kV and 10 kV instruments
1002-913
To fit all MIT and S1 15 kV instruments
1005-265

APPLICATION NOTES:

This fused probe and clip leadset is designed for testing low voltage circuits with test voltages up to 1 kV. The leadset is GS38 compliant, fitted with FF500 mA 50 kA fuses, which allows voltage measurements to be made in safety when using the user selectable voltage measuring range on any MIT or S1 5 kV to 10 kV instruments.

These clips are designed for testing low voltage circuits with test voltages up to 1 kV. The insulation is designed only to protect the user from the output of Megger 5 kV, 10 kV and 15 kV insulation resistance testers up to a maximum instrument test voltage of 1 kV.

The clips cannot in any circumstance be relied on to protect the user from live systems above 600 V a.c. in a CAT IV environment, or 1000 V a.c. in a CAT III environment.

It is important to check fuse continuity before and after a test

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COMPACT TEST CLIP WITH 5 KV OR 10 KV SCREENED CABLE

Clip details

Dimensions:	58 (L) X 25 (closed) mm
Jaw opening:	18 mm diameter max
Number in set:	3
Double insulation rating:	None
Basic insulation rating:	None
CAT rating:	Not applicable

Cable details:

Lead lengths available:	5 kV rated 3 m, 15 m 10 kV rated 3 m, 10 m, 15 m
Insulation rating:	5 kv or 10 kV d.c.
Cable type:	Flexible screened PVC

Part numbers:

To fit all MIT and S1 5 kV and 10 kV instruments

5 kV rated 3 m 6220-835
5 kV rated 15 m 6311-080
10 kV rated 3 m 6220-834
10 kV rated 10 m 6220-861
10 kV rated 15 m 6220-833



LARGE TEST CLIP WITH 15 KV SCREENED CABLE

Clip details

Dimensions:	208 (L) X 140 (closed) mm
Jaw opening:	28 mm diameter max
Number in set:	2
Double insulation rating:	7.5 kV d.c.
Basic insulation rating:	15 kV d.c.
CAT rating:	1000 V CAT IV

Cable details:

Lead lengths available:	15 kV rated 3 m, 10 m, 15 m, 20 m
Insulation rating:	15 kV d.c.
Cable type:	Flexible screened PVC

Part numbers:

To fit all MIT and S1 15 kV instruments

3 m 1005-266
10 m 1005-267
15 m 1005-268
20 m 1005-269

SCREENED TEST LEAD APPLICATION NOTES:

Relative motion between unshielded long leads for a D.C. test causes a variation in capacitance between them. This in turn causes very low frequency currents to flow, creating interference with the D.C. being measured. In addition induced current from nearby cables or radiated noise from corona around HV bushings can interfere with measurements causing unstable readings. This can be greatly reduced by using a screened lead set. The positive (red) test lead is not screened as it is usually connected to ground. The negative (black) lead is shielded with the shield connected to the guard terminal. Induced currents flow to the guard terminal and are therefore not measured.

Note: The shielded test lead cannot remove capacitive induced currents from the system. For example, overhead lines moving in the wind can still result in capacitive currents being impressed on the insulation measurement. The effect will be seen as a slow variation in reading. However, this effect can be removed from the measurement by selecting one of the four averaging filters on the S1-1568.

The screened test lead set consists of:

- A black/negative test lead that has been screened. The screen is connected to the guard terminal of the instrument and terminated with a bare clip.
- A red/positive test lead that is not screened. Normal practice means that the positive lead is connected to ground (usually to limit the effects of electro-endosmosis), meaning any induced noise current goes straight to earth and not into the instrument.

For more details about test leads and a selection chart detialing their instrument comptability, please see app note HVTestleads_AN_en_V02

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ORDERING INFORMATION

Description	Order Code
Medium test clip leads for all MIT and S1 5 kV and 10 kV instruments	
3 m lead set, medium size insulated clips (MIT515 and MIT525 only)	1002-531
3 x 5 m with medium insulated clips	1002-641
3 x 8 m with medium insulated clips	1002-642
3 x 10 m with medium insulated clips	1002-643
3 x 15 m with medium insulated clips	1002-644
Medium test clip leads for all MIT and S1 15 kV instruments	
3 m lead set, medium size insulated clips (3 x leads)	1005-262
10 m lead set, medium size insulated clips (3 x leads)	1005-263
Large test clip leads for all MIT and S1 5 kV and 10 kV instruments	
3 m leadset x 3, large insulated clips (MIT1025 only)	1002-534
3 x 5 m with large insulated clips	1002-645
3 x 8 with large insulated clips	1002-646
3 x 10 m with large insulated clips	1002-647
3 x 15 m with large insulated clips	1002-648
Large test clip leads for all MIT and S1 15 kV instruments	
3m leadset x 3, large 15 kV insulated clips (MIT1525 only)	1002-949
5 m lead set, large size insulated clips (3 x leads)	1005-259
10 m lead set, large size insulated clips (3 x leads)	1005-260
15 m lead set, large size insulated clips (3 x leads)	1005-261
Compact test clip leads for all MIT and S1 5 kV and 10 kV instruments	
COMPACT, BARE TEST CLIP: Lead length: 3 m	8101-181
COMPACT, BARE TEST CLIP: Lead length: 5 m	8101-182
COMPACT, BARE TEST CLIP: Lead length: 15 m	8101-183

Description	Order Code
Control circuit test set for all MIT and S1 5 kV and 10 kV instruments	
CONTROL CIRCUIT TEST SET	6220-822
Control circuit test set for all MIT and S1 15 kV instruments	
Control circuit test lead set (2 x leads, 3m)	1005-264
Fused probe and clip test lead set for all MIT and S1 5 kV and 10 kV instruments	
Fused test probe and clip lead set	1002-913
Fused Probe and clip test lead set for all MIT and S1 15 kV instruments	
Fused test lead set with probes and clips (2 x leads, 1.25m)	1005-265
Compact test clip with screened lead set for all MIT and S1 5 kV instruments	
1 x 3 m, wtih 5 kV screened un-insulated small clips	6220-835
1 x 15 m, with 5 kV screened un-insulated small clips	6311-080
Compact test clip with screened lead set for all MIT and S1 10 kV instruments	
3 m, 10 kV screened un-insulated small clips	6220-834
10 m, 10 kV screened un-insulated small clips	6220-861
15 m, 10 kV screened un-insulated small clips	6220-833
Compact test clip with screened lead set for all MIT and S1 15 kV instruments	
3 m, 15 kV screened, large size insulated clips, supplied in carry holdall	1005-266
10 m, 15 kV screened, large size insulated clips, supplied in carry holdall	1005-267
15 m, 15 kV screened, large size insulated clips, supplied in carry holdall	1005-268
20 m, 15 kV screened, large size insulated clips, supplied in carry holdall	1005-269

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