



Installation Tester and DMM Kits

Kit Contents:

Part Number	Kit Contents
FLUKE-1652C-CLAMPKIT	FLUKE 1652C Installation Tester and Fluke 323 Clamp Meter UK Kit
FLUKE-1652C05-CLAMPKIT	FLUKE 1652C Installation Tester and Fluke 323 Clamp Meter EU Kit
FLUKE-1653B-CLAMPKIT/D	FLUKE 1653B Installation Tester and Fluke 324 Clamp Meter UK Kit
FLUKE-1653B02-CLAMPKIT/D	FLUKE 1653B Installation Tester and Fluke 324 Clamp Meter EU Kit
FLUKE-1654B-CLAMPKIT/D	FLUKE 1654B Installation Tester and Fluke 325 Clamp Meter UK Kit
FLUKE-1654B02-CLAMPKIT/D	FLUKE 1654B Installation Tester and Fluke 325 Clamp Meter EU Kit
FLUKE-117/TL175/SB	Fluke 117 Digital Multimeter, TL175 Test Lead Set and SB Bluetooth Speaker

See below for individual parts datasheets.

Contact Information:

www.Farnell.co.uk

www.Newark.com

www.Fluke.com

FLUKE®

Fluke 117

Electrician's Multimeter

with Non-Contact Voltage

Technical Data



Compact true-rms meter for commercial applications

The Fluke 117 is the ideal meter for demanding settings like commercial buildings, hospitals and schools. The 117 includes integrated non-contact voltage detection to help get the job done faster.

Features include:

- **VoltAlert™ technology** for non-contact voltage detection
- **AutoVolt** automatic ac/dc voltage selection
- LoZ: helps prevent false readings due to ghost voltage
- Large white LED backlight to work in poorly lit areas
- True-rms for accurate measurements on non-linear loads
- Measures 10 A (20 A overload for 30 seconds)
- Resistance, continuity, frequency and capacitance
- Min/Max/Average to record signal fluctuations
- Compatible with optional magnetic hanger (ToolPak™) for hands free operation
- CAT III 600 V safety rated

General specifications

Accuracy is specified for 1 year after calibration, at operating temperatures of 18 °C to 28 °C, with relative humidity at 0 % to 90 %.

The accuracy specifications take the form of:
 $\pm ([\% \text{ of reading}] + [\text{counts}])$

Maximum voltage between any terminal and earth ground	600 V
Surge protection	6 kV peak per IEC 61010-1 600 V CAT III, Pollution Degree 2
Fuse for A input	11 A, 1000 V FAST Fuse (Fluke PN 803293)
Display	Digital: 6,000 counts, updates 4/sec
Bar graph	33 segments, updates 32/sec
Operating temperature	-10 °C to + 50 °C
Storage temperature	-40 °C to + 60 °C
Battery	9 volt Alkaline, NEDA 1604A/IEC 6LR61
Battery life	400 hours typical, without backlight

Actual size



Accuracy specifications

Measurement	Range	Resolution	Accuracy ± ([% of reading] + [counts])
DC millivolts	600.0 mV	0.1 mV	0.5 % + 2
DC volts	6.000 V	0.001 V	0.5 % + 2
	60.00 V	0.01 V	
	600.0 V	0.1 V	
Auto volts	600.0 V	0.1 V	2.0 % + 3 (dc, 45 Hz to 500 Hz) 4.0 % + 3 (500 Hz to 1 kHz)
AC millivolts ¹ true-rms	600.0 mV	0.1 mV	1.0 % + 3 (dc, 45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
AC volts ¹ true-rms	6.000 V	0.001 V	1.0 % + 3 (45 Hz to 500 Hz) 2.0 % + 3 (500 Hz to 1 kHz)
	60.00 V	0.01 V	
	600.0 V	0.1 V	
Continuity	600 Ω	1 Ω	Beeper on < 20 Ω off > 250 Ω; detects opens or shorts of 500 μs or longer.
Ohms	600.0 Ω	0.1Ω	0.9 % + 2
	6.000 kΩ	0.001 kΩ	0.9 % + 1
	60.00 kΩ	0.01 kΩ	
	600.0 kΩ	0.1 kΩ	
	6.000 MΩ	0.001 MΩ	
	40.00 MΩ	0.01 MΩ	1.5 % + 2
Diode test	2.000 V	0.001 V	0.9 % + 2
Capacitance	1000 nF	1 nF	1.9 % + 2
	10.00 μF	0.01 μF	
	100.0 μF	0.1 μF	
	9999 μF	1 μF	
	100 μF to 1000 μF		1.9 % + 2
	> 1000 μF		5 % + 20
Lo-Z capacitance	1 nF to 500 μF		10 % + 2 typical
AC amps true-rms (45 Hz to 500 Hz)	6.000 A	0.001 A	1.5 % + 3
	10.00 A	0.01 A	
	20 A overload for 30 seconds max.		
DC amps	6.000 A	0.001 A	1.0 % + 3
	10.00 A	0.01 A	
	20 A overload for 30 seconds max.		
Hz (V or A input) ²	99.99 Hz	0.01 Hz	0.1 % + 2
	999.9 Hz	0.1 Hz	
	9.999 kHz	0.001 kHz	
	50.00 kHz	0.01 kHz	

Notes:

¹ All ac voltage ranges except Auto-V/LoZ are specified from 1 % to 100 % of range. Auto-V/LoZ is specified from 0.0 V. Because inputs below 1 % of range are not specified, it is normal for this and other true-rms meters to display non-zero readings when the test leads are disconnected from a circuit or are shorted together. For volts, crest factor of ≤ 3 at 4000 counts, decreasing linearly to 1.5 at full scale. AC volts is ac-coupled. Auto-V LoZ, and ac mV are dc-coupled.

² Frequency is ac coupled, 5 Hz to 50 kHz for ac voltage. Frequency is dc coupled, 45 Hz to 5 kHz for ac current.

Ordering information

Fluke-117 Electrician's
Multimeter with
Non-Contact Voltage

Included

TL75 Test leads, holster, User's manual and 9 V battery (installed).



Fluke. Keeping your world
up and running.™

Fluke Corporation

PO Box 9090, Everett, WA USA 98206

Fluke Europe B.V.

PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:

In the U.S.A. (800) 443-5853 or

Fax (425) 446-5116

In Europe/M-East/Africa (31 40) 2 675 200 or

Fax (31 40) 2 675 222

In Canada (800)-36-FLUKE or

Fax (905) 890-6866

From other countries +1 (425) 446-5500 or

Fax +1 (425) 446-5116

Web access: <http://www.fluke.com>

©2006 Fluke Corporation. All rights reserved.
Specifications subject to change without notice.
Printed in U.S.A. 10/2006 2634028 D-EN-N Rev B

FLUKE®

New Fluke TL175 TwistGuard™ Test Leads Twist. Test.

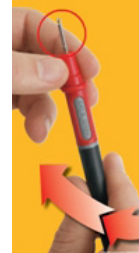
TL175 TwistGuard™ Test Leads offer:

- Patented TwistGuard™ extendable tip shroud that meets new electrical safety requirements to reduce tip exposure while providing the versatility needed for most measurements
- New WearGuard™ lead wire wear indicator. Each test lead is covered by two layers of silicone insulation; inner contrasting color is exposed when the leads are nicked, scuffed, or otherwise damaged and in need of replacement
- Double insulated silicone leads. TL175 withstands high temperatures and remains flexible in cold temperatures
- Extra-heavy strain relief on both probe-end and plug-end, tested beyond 30,000 bends without failure
- Universal input plugs compatible with all instruments that accept standard 4 mm shrouded banana plugs
- Probes always show correct category rating for tip exposure being used
- TL175E also available. Includes removable 4 mm lantern tips for versatility
- Conforms to EN61010-031:2008
- Ratings: CAT II 1000 V, CAT III 1000 V, CAT IV 600 V, 10 A max., Pollution Degree 2
- Environmental ratings: -20 °C to 55 °C, altitude: 2000 m

The new Fluke TL175 TwistGuard™ Test Leads are the only test leads in the world with adjustable length test tips for use in different measurement environments. By simply twisting the test lead the user can change the exposed probe tip length from 19 mm to 4 mm.



TwistTest



TL175 TwistGuard™ Test Leads



Reduce tip exposure for accurate placement



Extreme strain relief tested to withstand over 30,000 bends



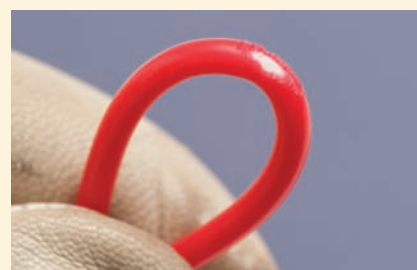
Increase tip exposure for CAT II probing



Universal plugs compatible with all 4 mm shrouded inputs



Reduce tip exposure for CAT III testing



WearGuard™ indicator shows insulation damage

Regulation requirements

On March 1st 2011 a new European safety standard EN 61010-031 for test leads and accessories has become valid. This new standard affects test leads and accessories, for all kind of test instruments, i. e. multimeter, clamps, insulation testers, ...

Two of the major requirements of this standard are:

- 1.) For CAT III and CAT IV rated accessories the conductive metal parts must be below 4 mm
- 2.) Requirement about duration of the insulation of the test leads, either by a wear indicator or double insulation after lifetime wear

The new test lead Fluke TL175 are fully compliant to this new regulation, and allows you to use the accessory in CAT III and CAT IV environments.

Fluke. *Keeping your world up and running.®*

Fluke Europe B.V.
P.O. Box 1186
5602 BD Eindhoven
The Netherlands
Web: www.fluke.eu

For more information call:
In Europe/M-East/Africa +31 (0)40 2 675 200
or Fax +31 (0)40 2 675 222

Fluke (UK) Ltd.
52 Hurricane Way
Norwich, Norfolk
NR6 6JB
United Kingdom
Tel.: (020) 7942 0700
Fax: (020) 7942 0701
E-mail: industrial@uk.fluke.nl
Web: www.fluke.co.uk

©2010, 2011 Fluke Corporation.
Specifications subject to change without notice.
Pub_ID: 11774-eng

Modification of this document is not permitted without written permission from Fluke Corporation.

Ordering information

Model

TL175 TwistGuard™ Test Leads,
2mm dia probe tips

TL175E TwistGuard™ Test Leads,
2mm dia probe tips with
4mm adapters