FLUKE®

323/324/325

Clamp Meter

Users Manual

May 2012 Rev.1, 06/15

LIMITED WARRANTY AND LIMITATION OF LIABILITY

This Fluke product will be free from defects in material and workmanship for two years from the date of purchase. This warranty does not cover fuses, disposable batteries, or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Fluke's behalf. To obtain service during the warranty period, contact your nearest Fluke authorized service center to obtain return authorization information, then send the product to that Service Center with a description of the problem.

THIS WARRANTY IS YOUR ONLY REMEDY. NO OTHER WARRANTIES, SUCH AS FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSED OR IMPLIED. FLUKE IS NOT LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

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11/99

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Introduction

The Fluke 323/324/325 Clamp Meter (the Product) measures ac and dc voltage, ac current, resistance, and continuity. The 324 and 325 can also measure capacitance and contact temperature. The 325 can also measure dc current and frequency. Note that the 325 is shown in all of the illustrations. For temperature measurement, you must use the included K-Type Thermocouple.

⚠⚠Warning

Read "Safety Information" before you use the Product.

How to Contact Fluke

To contact Fluke, call one of the following telephone numbers:

- Technical Support USA: 1-800-44-FLUKE (1-800-443-5853)
- Calibration/Repair USA: 1-888-99-FLUKE (1-888-993-5853)
- Canada: 1-800-36-FLUKE (1-800-363-5853)
- Europe: +31 402-675-200

Safety Information

A **Warning** identifies conditions and procedures that are dangerous to the user. A **Caution** identifies conditions and procedures that can cause damage to the Product or the equipment under test.

Table 1 tells you about symbols used on the Product and in this manual.

⚠⚠Warning

To prevent possible electrical shock, fire, or personal injury:

- **Use the Product only as specified, or the protection supplied by the Product can be compromised.**
- **Use only correct measurement category (CAT), voltage, and amperage rated probes, test leads, and adapters for the measurement.**
- **Do not touch voltages > 30 V ac rms, 42 V ac peak, or 60 V dc.**
- **Carefully read all instructions.**
- **Hold the Product behind the tactile barrier. See Clamp Meter, item ①.**
- **Do not exceed the Measurement Category (CAT) rating of the lowest rated individual component of a Product, probe, or accessory.**
- **Do not measure current while the test leads are in the input jacks.**
- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **Limit operation to the specified measurement category, voltage, or amperage ratings.**
- **Do not work alone.**

- **Do not apply more than the rated voltage, between the terminals or between each terminal and earth ground.**
- **Comply with local and national safety codes. Use personal protective equipment (approved rubber gloves, face protection, and flame-resistant clothes) to prevent shock and arc blast injury where hazardous live conductors are exposed.**
- **Replace the batteries when the low battery indicator shows to prevent incorrect measurements.**
- **The battery door must be closed and locked before you operate the Product.**
- **Measure a known voltage first to make sure that the Product operates correctly.**
- **Remove all probes, test leads, and accessories that are not necessary for the measurement.**
- **Only use probes, test leads, and accessories that have the same measurement category and voltage rating as the Product.**
- **Keep fingers behind the finger guards on the probes.**

- **Connect the common test lead before the live test lead and remove the live test lead before the common test lead.**
- **Remove all probes, test leads, and accessories before the battery door is opened.**
- **Do not use the Product if it is damaged.**
- **Disable the Product if it is damaged.**
- **Do not use the Product if it operates incorrectly.**
- **Do not use test leads if they are damaged. Examine the test leads for damaged insulation, exposed metal. Check test lead continuity.**
- **Before each use, examine the Product. Look for cracks or missing pieces of the clamp housing. Also look for loose or weakened components. Carefully examine the insulation around the jaws. See Clamp Meter, item ②.**
- **Examine the case before you use the Product. Look for cracks or missing plastic. Carefully look at the insulation around the terminals.**
- **Read all safety Information before you use the Product.**

- **Remove batteries to prevent battery leakage and damage to the Product if it is not used for an extended period.**
- **Remove batteries to prevent battery leakage and damage to the Product if is to be stored above its operating temperature.**
- **Do not use a current measurement as an indication that a circuit is safe to touch. A voltage measurement is necessary to know if a circuit is hazardous.**

⚠Caution

To avoid possible damage to the Product or to equipment under test, use a thermocouple rated for the temperatures to be measured. The Product is rated for -10.0 °C to +400.0 °C and 14 °F to 752 °F. The included type-K thermocouple is rated to 260 °C.

Symbols

Table 1. Symbols

Symbol	Meaning	Symbol	Meaning
~	AC (Alternating Current)	⏚	Earth
⎓	DC (Direct Current)	≂	AC and DC Current
CE	Conforms to European Union directives.	⚠	WARNING. RISK OF DANGER.
	Battery		Consult user documentation.
⧈	Double insulated	⚠	WARNING. HAZARDOUS VOLTAGE. Risk of electric shock.
	Certified by CSA Group to North American safety standards.		Conforms to relevant Australian standards.
	Certified by TÜV SÜD Product Service.		Application around and removal from uninsulated hazardous live conductors is permitted.

Table 1. Symbols (cont.)

Symbol	Meaning	Symbol	Meaning
CAT II	Measurement Category II is applicable to test and measuring circuits connected directly to utilization points (socket outlets and similar points) of the low-voltage MAINS installation.	CAT III	MEASUREMENT CATEGORY III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.
CAT IV	MEASUREMENT CATEGORY IV is applicable to test and measuring circuits connected at the source of the building's low voltage MAINS installation.		Conforms to relevant South Korean EMC Standards.
	This product complies with the WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste.		

Note

The Measurement Category (CAT) and voltage rating of combinations of test probes, test probe accessories, current clamp accessories, and the Product is the LOWEST rating of individual components.

How to Clean the Product

Regularly wipe the case with a damp cloth and weak detergent.

⚠ Caution

To prevent damage to the Product, do not use abrasives or solvents to clean the Product case.

To clean the Product Jaw:

1. Examine the jaw mating surface to make sure it is clean. If there is unwanted material (including rust), jaw closure will not be correct and there will be measurement errors.
2. Open the jaws and clean the clamp metal ends with a lightly oiled cloth.

Specifications

Maximum voltage between any Terminal and Earth Ground	600 V
Range	
323	400.0 A
324, 325	(40.00, 400.0) A
Batteries	2 AAA, NEDA 24A, IEC LR03
Operating Temperature	-10 °C to +50 °C
Storage Temperature	-30 °C to +60 °C
Operating Humidity	Non Condensing (≤10 °C) ≤90 % RH (at 10 °C to 30 °C) ≤75 % RH (at 30 °C to 40 °C) ≤45 % RH (at 40 °C to 50 °C) (Without Condensation)
Operating Altitude	2000 meters
Storage Altitude	12,000 meters
Size (L x W x H)	(207 x 75 x 34) mm

Weight

323.....265 g

324.....208 g

325.....283 g

Safety.....IEC 61010-1, Pollution Degree 2
IEC 61010-2-032: CATIV 300V / CATIII 600V
IEC 61010-2-033:CAT IV 300V / CAT III 600V

IP Rating .....IEC 60529: IP30, non-operating

Electromagnetic Compatibility (EMC)

International IEC 61326-1: Portable, Electromagnetic Environment, IEC 61326-2-2

CISPR 11: Group 1, Class A

Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.

Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.

Korea (KCC) Class A Equipment (Industrial Broadcasting & Communication Equipment)

Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

USA (FCC) 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.

Temperature Coefficients.....Add 0.1 x specified accuracy for each degree C above 28 °C or below 18 °C

Resolution

323 .....0.1 A

324, 325 .....(0.01, 0.1) A

Accuracy

323, 325 .....2.0 % ±5 digits (45 – 65 Hz)

2.5 % ±5 digits (65 – 400 Hz)

324 .....1.5 % ±5 digits (45 Hz to 400 Hz)

Note

Add 2 % for position sensitivity.

DC Current with Jaw (325)

Range ..... (40.00, 400.0) A
Resolution ..... (0.01, 0.1) A
Accuracy ..... 2.0 % ± 5 digits

AC Voltage

Range ..... 600.0 V
Resolution ..... 0.1 V
Accuracy (45 Hz– 400 Hz) ..... 1.5 % ± 5 digits

DC Voltage

Range ..... 600.0 V
Resolution ..... 0.1 V
Accuracy ..... 1 % ± 5 digits

Resistance

Range
- 323, 324..... (400.0, 4000) Ω
- 325..... (400.0, 4000, 40000) Ω

Resolution ..... (0.1, 1, 10) Ω
Accuracy ..... 1 % ±5 digits

Continuity Beeper

323 .....≤70 Ω

324/325 .....≤30 Ω

Capacitance (324, 325)

Range.....(100.0, 1000) µF

Resolution .....(0.1, 1) µF

Accuracy .....1 % ±4 digits

Frequency with Jaw (325)

Range.....5.0 to 500.0 Hz

Resolution .....0.1 Hz

Accuracy .....0.5 % ±4 digits

Trigger Level .....5 to 10 Hz, ≥10 A

10 to 100 Hz, ≥5 A

100 to 500 Hz, ≥10 A

Contact Temperature (324, 325)

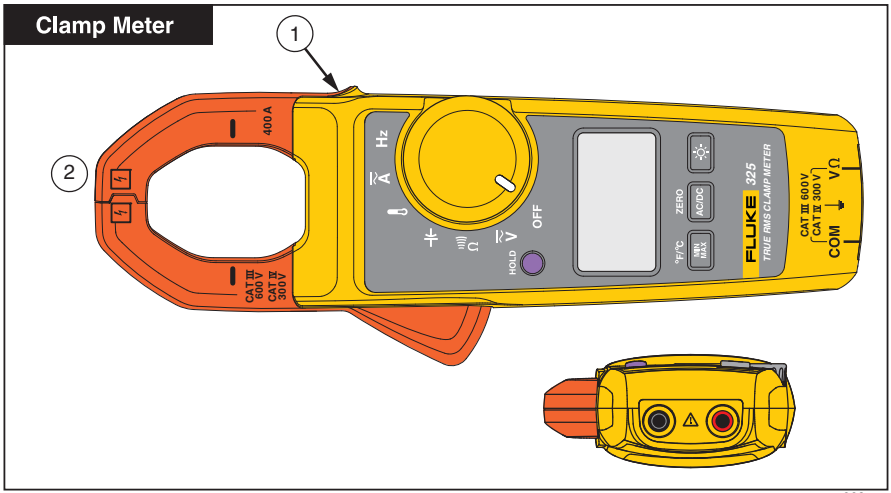
Range.....-10.0 °C to 400.0 °C

Resolution .....0.1 °C

Accuracy .....1 % ±8 digits

Note: Temperature uncertainty (accuracy) does not include error of the thermocouple probe.

The Meter



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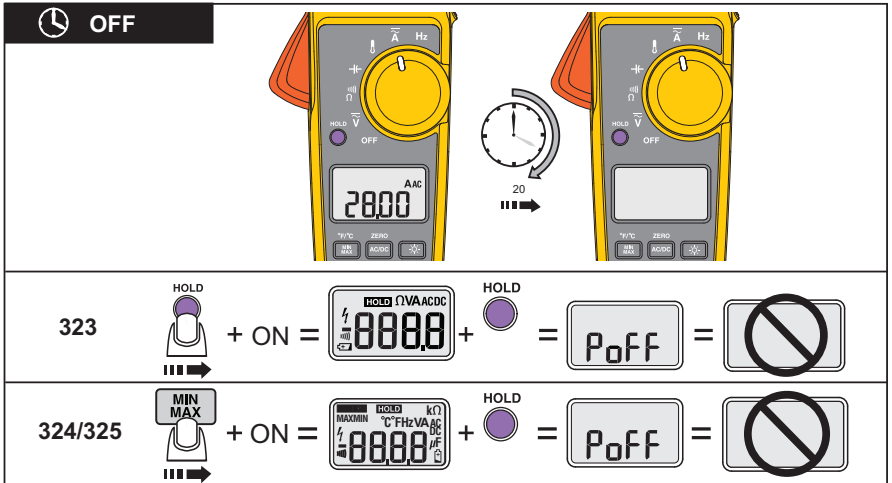
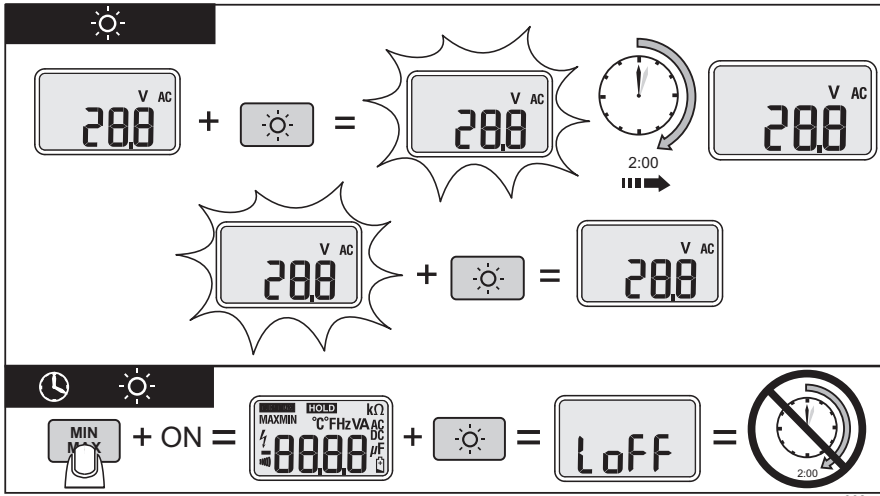

OFF
Hz
HOLD
OFF
ZERO
20
323
HOLD
+ ON =
HOLD
=
OFF
=
324/325
MIN
MAX
+ ON =
HOLD
=
OFF
=

gtq001.eps



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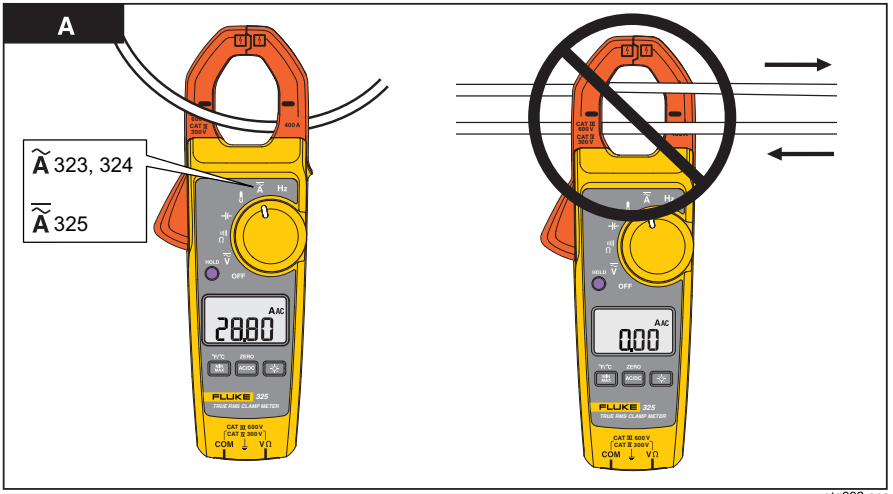
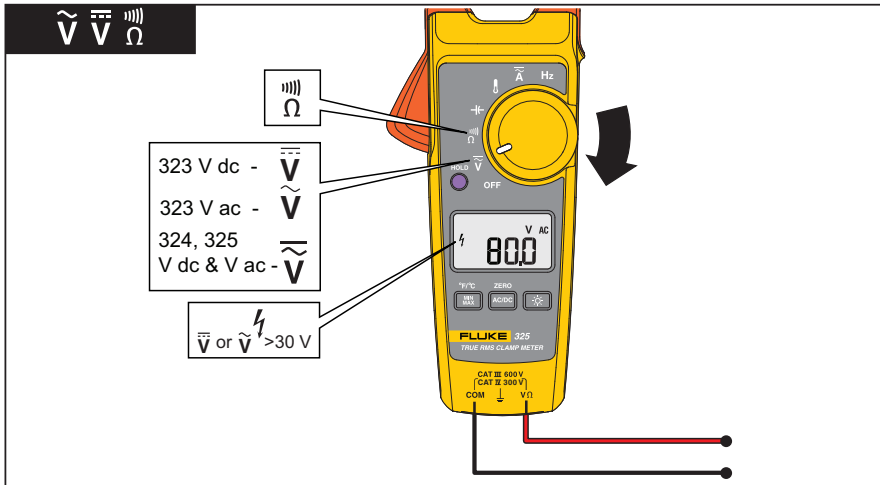
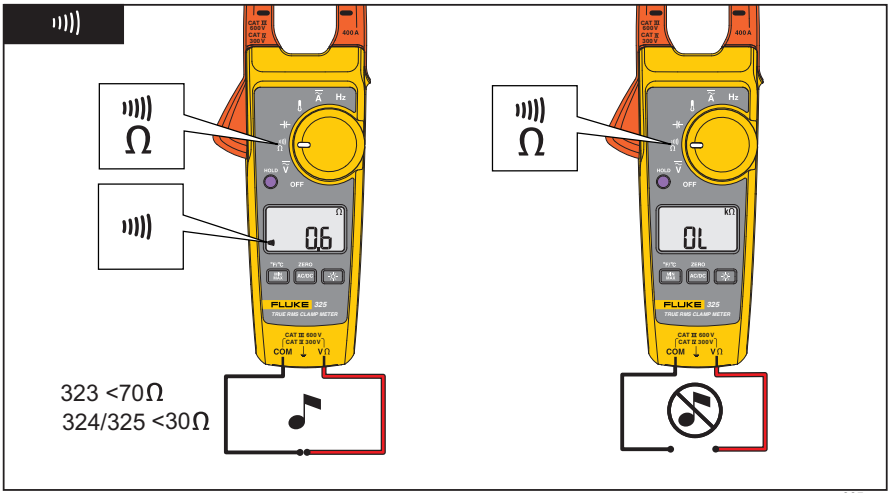

A
Ã 323, 324
Ã 325
FLUKE 325
TRUE RMS CLAMP METER
FLUKE 325
TRUE RMS CLAMP METER

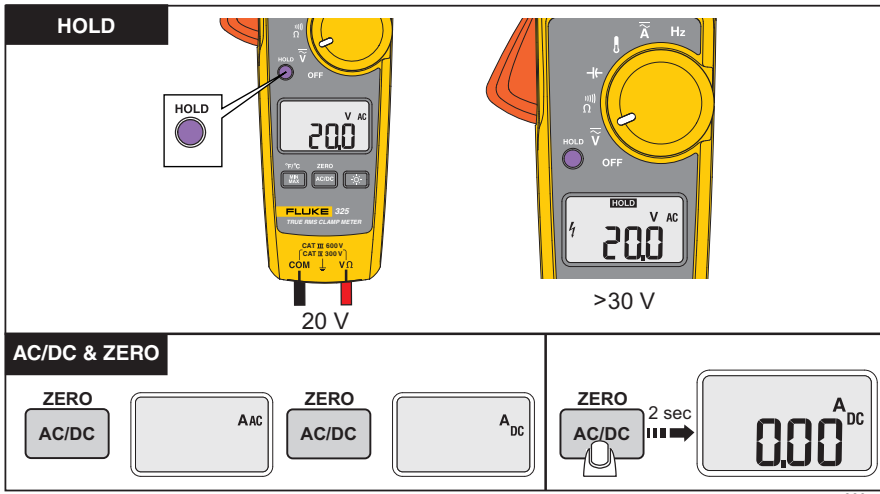
gtq003.eps


323 V dc -
323 V ac -
324, 325
V dc & V ac -
or >30 V
OFF
80.0
V AC
FLUKE 325
TRUE RMS CLAMP METER
CAT III 600 V
CAT II 300 V
COM
VΩ

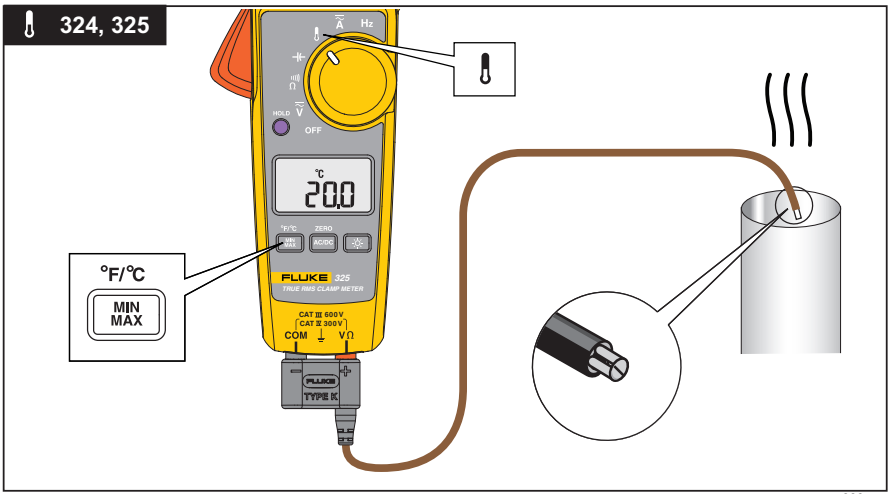
gtq004.eps


Ω
Ω
0.6
0L
kΩ
HOLD
OFF
ZERO
AC/DC
FLUKE 325
TRUE-RMS CLAMP METER
CAT III 600 V
CAT II 1000 V
COM
VΩ
323 <70Ω
324/325 <30Ω

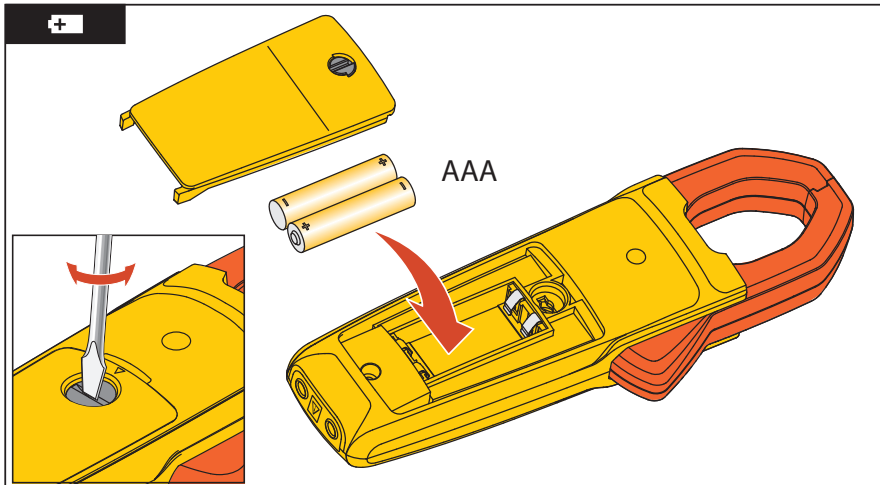
gtq005.eps


HOLD
HOLD
OFF
V AC
20.0
FLUKE 325
20 V
HOLD
Hz
OFF
HOLD
V AC
20.0
>30 V
AC/DC & ZERO
ZERO
AC/DC
AAC
ZERO
AC/DC
ADC
ZERO
AC/DC
2 sec
ADC
0.00

gtq006.eps


324, 325
°F/°C
MIN
MAX
HOLD
OFF
20.0
FLUKE 325
TRUE RMS CLAMP METER
CAT III 600 V
CAT II 300 V
COM
TYPE K

gtq009.eps



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