

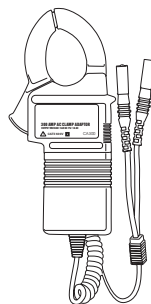
User's Guide

EXTECH

INSTRUMENTS

Model CA310

300A AC Current Clamp-on MultiMeter Adaptor



Introduction

Congratulations on your purchase of the Extech CA310 300 Amp AC Clamp-On MultiMeter Adaptor. With this clamp adaptor an AC current can be safely measured by simply clamping around a single conductor. The adaptor outputs an AC mV signal that is proportional to the measured AC current. The DMM mV reading (times 10) is equivalent to the value of the AC current. Careful use of this device will provide years of reliable service.

Specifications

Sensor type	Induction coil
Measurement Range	0.1 to 300 Amps AC
Adaptor Output	10mV AC output to DMM per 1A AC measurement
Frequency range	50/60Hz
Working voltage	600V CAT II (IEC 1010-1)
Maximum output impedance	45 Ω
Accuracy	$\pm (3.0\% + 10\text{mV})$ for readings less than 50A $\pm (2.0\% + 5\text{mV})$ for readings greater than 50A
Temperature coefficient	0.2 times the specified accuracy per $^{\circ}\text{C} < 18^{\circ}\text{C}$ or $> 28^{\circ}\text{C}$
Jaw size	1.2" (30mm)
Operating Conditions	32 to 122 $^{\circ}\text{F}$ (0 to 50 $^{\circ}\text{C}$) < 80% RH
Dimensions/Weight	3.2 x 6.1 x 1.4" (80 x 156 x 35mm); 7.8 oz. (220g)

NOTE: Accuracy is specified for a period of one year for ambient conditions 64 $^{\circ}\text{F}$ to 84 $^{\circ}\text{F}$ (18 $^{\circ}\text{C}$ to 28 $^{\circ}\text{C}$) < 80% RH.

Safety

Safety Symbols



This symbol, adjacent to another symbol or terminal, indicates the user must refer to the manual for further information.



This symbol indicates that double insulation is used.

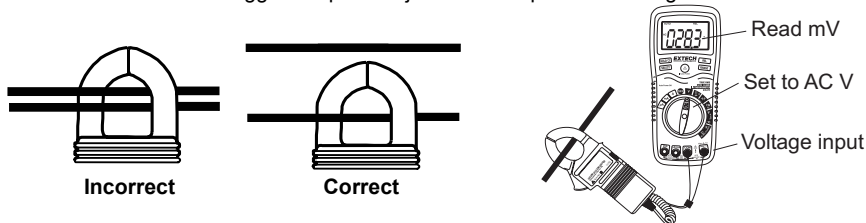
WARNING: This indicates that a potentially hazardous condition which, if not avoided, could result in death or serious injury.

Safety Precautions

1. **WARNING:** Improper use of this meter can cause damage, shock, injury or death. Read and understand this manual before operating the meter.
2. Inspect the condition of the test leads and the meter itself for any damage before operating the meter. Repair or replace any damage before use.
3. Do not use on non-insulated conductors at voltages greater than 250VAC rms or DC.

AC Current Measurements

1. Set the DMM to the **AC mV** range or to a low AC voltage range.
2. Connect the RED test lead to the DMM '+' Voltage terminal and the BLACK lead to the '-' COM terminal.
3. Press the Jaw Trigger to open the jaw and clamp around a single conductor.



4. Read the voltage on the DMM display and then divide this reading by 10 to get the current reading in Amps (10mV AC per 1A of AC current).
Refer to the TABLE below for examples of interpreting the DMM display:

Note: Do not apply voltage to the clamp adaptor's test leads

Note: For small currents, use the RELATIVE function (if available) on the DMM with no wire clamped to zero the meter and improve accuracy.

Interpreting the DMM display			
DMM AC Range	Current	DMM Display	Display ÷ 10 = A
V range	300A	03.00 V	0.300
mV range	199A	1990 mV	199
mV range	20A	200.0 mV	20
mV range	2A	20.00 mV	2

Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at www.extech.com (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.



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