

LEM~flexII

RR3330-SD AC Current Probe Instructions

Item No. 041723

INTRODUCTION

The RR3330-SD probe can be used to measure AC current up to 3000A when used with a DMM, oscilloscope, or other recording or display device. The flexible measuring head allows current measurements on conductors that are hard to reach or inaccessible using typical clamp-on current probes

The RR3330 provides a low-voltage, (3V), output proportional to the current being measured. Three selectable ranges provide direct readings for 30A, 300A, and 3000A full scale

BATTERY INSTALLATION

⚠ *Never replace batteries with flexible measuring head installed on conductor to be tested.*

Remove screw holding the electronics enclosure together. The RR3330-SD requires (2) 9 volt batteries for operation

MEASURING CURRENT WITH THE RR3330

⚠ *Read safety section of instructions before operating this product.*

⚠ *Ensure conductor to be tested is deenergized*

Connect the output of the electronics to the VOLTS input of the DMM or other data recording device. This requires the use of shrouded male banana-to-male banana cables

Wrap the flexible measuring head around the conductor to be tested, close coupling. Energize circuit under test. For most accurate measurement, center the flexible head around conductor. Locate coupling away from nearby conductors

OPERATION

Select the AC VOLTS range on the DMM (or other device)

Switch Position	DMM Reading	Measured Current
Off	0	0
3000A	3V	3000A
300A	3V	300A
30A	3V	30A

To activate unit, move switch button from forward position to cover the word "off". In this position, with three zeros exposed, the unit is set for 3000 Amp range. To change ranges to 300A or 30A, simply move the button so the appropriate range appears. If current range is unknown, select the 3000A range.

BATTERY STATUS

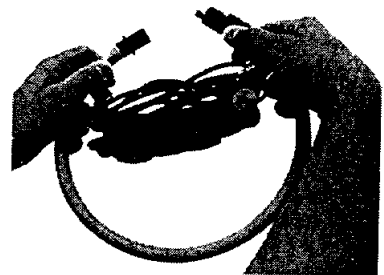
Battery status is indicated by an LED that is exposed when the switch is moved from the "OFF" position. This LED will flash when the unit is activated. The length of time the LED flash is lit will increase as battery life decreases. *Momentary* lighting of LED indicates batteries are *good*. *Continuous* lighting of LED indicates *low* battery, replace batteries soon. *No* lighting of LED indicates batteries are *dead*, replace immediately

STORAGE

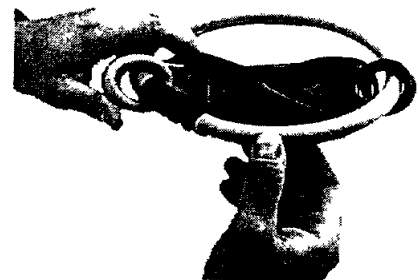
The LEM-flexII integrator electronics enclosure features a pivot loop that can be extended to provide a bail for the interconnecting cable and the measurement head. The following diagram shows how to store the unit



Extend pivot loop, wrap connecting cable around enclosure in "figure eight" as shown



Thread latch end of measurement head through pivot loop



Thread cap end of head through cable, close coupling

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SAFETY

The following symbols appear on the products



Attention! Refer to Manual



Double/Reinforced Insulation



Battery Installation



Read all instructions completely before using this product.

To avoid electric shock

- Use caution during installation and use of this product, high voltages and current may be present in circuit under test
- This product must be used only by qualified personnel practicing applicable safety precautions
- Wear protective clothing and gloves as required
- Do not install this product on live conductors
- Always deenergize circuit under test before installing flexible measuring head Always inspect the electronics unit, connecting cable, and flexible measuring head for damage before using this product
- Do not use product if damaged
- Always use cables rated IEC 1010-1, 600V Cat III to interconnect electronics unit to display device
- Never use this product to measure electrical conductors above 600V.
- Always connect electronics unit to display device **before** installing flexible measuring head
- Never change batteries while measurement head is installed on conductor

SPECIFICATIONS

Input & Scaling	Three switch selectable ranges 30 A / 300 A / 3000A AC full scale
Output	100mV / 10mV/ 1mV per A 3 0VAC RMS F S or 6 2VAC RMS (max) via banana jacks (Load > 1000 Ohms)
Frequency Range	1Hz to 20kHz
Phase angle error	< ± 0.5° maximum 45-65Hz
Accuracy	± 1.0% of full scale (45-65 Hz)
Linearity	± 0.2% of reading (20% - 100% of full scale)
Position Sensitivity	Less than ± 2.0% F S (bus ≥ 1" from coupling)
Ext Field Effects	Less than ± 1.0% F S (bus ≥ 8" from head)
Noise	< 2 mV RMS on 300 / 3000 ranges < 8 mV RMS on 30A range
Power	Two 9V alkaline batteries (> 100 hours of operation) LED power status indicator
Control Switch	Range Selection and Power On/Off
Operating Temp	Head -4 to 194° F (-20 to 90° C) Electronics 32 to 158° F (0 to 70° C)
Safety Rating	Pollution Degree 2 Flame Retardant UL 94 V-0 rated Max working voltage 600VAC Hi-Pot Tested 5550VAC for 1minute, surface to output without breakdown Double Insulation
EMI/RF Susceptibility	30A range will not recover when RF of frequencies >216MHz are present The output will self-recover when RF is removed (EN 50082-1, Criterion C)
Electrostatic Discharge	An ESD event may cause a deviation of 1% The output will self-recover (EN 50082-1, Criterion A)
Measuring Head	
Bend radius	1.5 in minimum (38.1 mm)
Cable Diameter	0.5625 in (14.3 mm)
Coupling Dia	0.875 in (22.2 mm)
Dimensions	Length (Open) 24 in (610 mm) Window O D 8.3 in round (210 mm) Window I D 7.0 in round (178 mm)
Weight	0.4 lb (0.18 kg)
Connecting Cable	78.7 in long (2.0 m)
Electronics Enclosure	
Dimensions	1.5 H X 2.0 W X 7.5 L in (9.6 L with Pivot Loop extended) 38.1 H X 50.8 W X 190.5 L mm (243.4 L pivot loop extended)

MAINTENANCE



Do not use the RR3330 if damaged.

Always inspect the electronics unit, connecting cable, and flexible measuring head for damage before use.

To avoid electric shock, keep the RR3330-SD clean and free of surface contamination. Use Isopropyl Alcohol to clean the electronics unit and measuring head

Make sure the flexible measuring head, connecting cable, and electronics enclosure are dry before further use

WARRANTY

This product is warranted to be free from defects in material and workmanship for a period of eighteen (18) months from the date of shipment.

Correction shall be in the form of repair or replacement of the defective items or components, freight paid by the customer both ways. Such correction shall constitute a fulfillment of all LEM DynAmp, Inc liabilities in respect to said items and components. In no event shall LEM DynAmp, Inc be liable for consequential damage.