

AC/DC CURRENT PROBE OPERATOR'S MANUAL

INTRODUCTION

The AC/DC Current Probe is an accessory which will allow your multimeter or oscilloscope to measure electrical current up to 280 amperes peak DC/AC, with a frequency response up to 150 kHz. When measuring current with the probe, there is no need to break a circuit or to affect the isolation.

APPLICATION PROCEDURE

1. Connect any measuring device with a minimum input impedance of 10k ohms to the BNC connector labeled "TO OSCILLOSCOPE."
2. Plug the power supply (included) into the connector labeled "24 VAC." The red "POWER" LED will light to indicate the probe is "ON" and is receiving power.
3. Insert wire to be measured into the opening on the current probe box, observing the current flow indicated by the arrow on the top of the box.

SPECIFICATIONS

ELECTRICAL

I_{PN}	Primary nominal r.m.s. current	200	A
I_P	Primary current, measuring range	0 .. ± 300	A
R_M	Measuring resistance	R _{M min} R _{M max}	
	with ± 15 V @ ± 200 A _{max}	5 33	Ω
I_{SN}	Secondary nominal r.m.s. current	200	mA
K_N	Conversion ratio	1 : 1000	
V_C	Supply voltage (± 5 %)	± 15	V
I_C	Current consumption	20 + I _S	mA
V_d	R.m.s. voltage for AC isolation test, 50 Hz, 1 mn	6 ¹⁾	kV
		1 ²⁾	kV

ACCURACY - DYNAMIC PERFORMANCE DATA

X_G	Overall accuracy @ I _{PN} , T _A = 25°C	± 0.5	%
ε_L	Linearity	< 0.1	%
I_O	Offset current @ I _P = 0, T _A = 25°C	Typ Max	
I_{OT}	Thermal drift of I _O + 20°C .. + 50°C	± 0.50	mA
t_r	Response time ³⁾ @ 90 % of I _{PN}	< 1	μs
di/dt	di/dt accurately followed	> 50	A/μs
f	Frequency bandwidth (- 1 dB)	DC .. 150	kHz
	Output noise	< 0.002	mA
	Magnetization after excursion @ ± I _{PN}	< 0.01	mA
	Crossing distortion	negligible	
	Matching specification + 20°C .. + 50°C	≤ 0.01	mA

GENERAL DATA

T_A	Ambient operating temperature	+ 20 .. + 50	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
R_S	Secondary coil resistance @ T _A = 50°C	30	Ω
m	Mass	200	g
	Captured conductor size, maximum	0.75	inches
	Standards ⁴⁾	EN 50178	

Notes: 1) Between primary and secondary + shield. 2) Between secondary and shield. 3) With a di/dt of 100A/ μs. 4) A list of corresponding tests is available.