COOKNELL ELECTRONICS LTD

PICOAMMETER, TYPE CP10A

INTRODUCTION

The picoammeter CP10A is a small mains powered instrument for measuring DC currents with 10 full scale ranges of $1.0x10^{-3}$ to $1.0x10^{-12}$A.

A front panel LCD has a full scale reading of 10.00 and a rear panel socket provides access to a voltage proportional to input current. A front panel control enables the output to be offset by ±100mV to facilitate driving unipolar V → F converters. A rear panel mounted 'D' socket provides indication of range, status and power for a remote indicator. A front panel switched output smoothing control provides risetimes of 100μ sec to 300m sec in 8 positions with a 1, 3, 10 sequence. The backlit LCD brilliance is front panel adjustable.

SPECIFICATION

At 20°C and after 10 min settling period and output offset nulled.

Error and Stability

Range (FSD)	Error % Int. DPM	Error % Analogue Out	Temp Coef. PPM/°C	Stability typ. ± % per annum
$10x10^{-4}$	1.5	1	±50	0.1
$10x10^{-5}$	1.5	1	±60	0.1
$10x10^{-6}$	1.5	1	±50	0.1
$10x10^{-7}$	1.5	1	±60	0.1
$10x10^{-8}$	2.5	2	±150	0.2
$10x10^{-9}$	2.5	2	±160	0.2
$10x10^{-10}$	2.5	2	±150	0.2
$10x10^{-11}$	2.5	2	±160	0.2
$10x10^{-12}$	3.5*	3*	-1000 typical	0.5
$10x10^{-13}$	3.5*	3*	-1000 typical	0.5

* This does not include the error due to residual current.

Virtual Earth Potential

Initial	within 20μV
With temperature	±10μV/°C
With time	±50μV per 12 months
With signal	10μV

Residual current

$2x10^{-14}$A max

Output Smoothing Risetime (10-90%)

100, 300μSec, 1, 3, 10, 30, 100, 300mSec

Input

Connector	BNC front panel mounted - standard rear panel mounted - option

Outputs

Analogue Out

Connector	BNC rear panel mounted
Output Resistance	50Ω
Scaling	±10.00V for $\pm10.00x10^{-x}$ A input

Digital

Connector	9pole 'D' socket
Range Indication	4 line TTL/CMOS active low
Supply ON	1 line TTL/CMOS active low
Overload	1 line TTL/CMOS active low
+24V (nom)	supply for remote indicator

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Overload

An audible warning is activated when the input signal exceeds approx 120% of FS.

Overload Withstand

Range $10x10^{-4}$ & $10x10^{-5}$	100V DC or RMS ac continuous
All other ranges	250V DC or RMS ac continuous

Power

Voltage	230V ±15% OR 115V ±15% selectable via internal switch 48 - 440 Hz, 15VA max
Connector	IEC filtered plug

ACCESSORIES SUPPLIED

1 off 2M Mains lead with fused 5A plug
1 off mating “DIGITAL” 9 pole ‘D’ plug
1 off maintenance manual

ACCESSORIES AVAILABLE

Remote indicator

Comprises DPM with 10.00 full scale and LEDs to indicate range and status.
19” racking unit with half width blanking plate.

DIMENSIONS

Rack Mounting	1/2 width 3U highx220mm deep.
Free Standing	210x120x220mm deep
Weight	2.5kg

Unit Price **2010.00GBP**

