



CERTIFICATE OF CALIBRATION

Rogowski Current Waveform Transducer

Power Electronic Measurements

Type **CWTMini HF06B**
 Serial Number **34213-6390**
 Specified Sensitivity **50.0** mV/A
 Peak Current rating **0.12** KA
 Coil Length **300** mm

EQUIPMENT USED FOR CALIBRATION

- [A] An oscillator and power amplifier providing a sinusoidal current to a multi-turn excitation coil. The current is monitored by [B].
- [B] A Pearson Current Monitor. Model 411 having a UKAS calibration certificate, sensitivity nominally 100mV/A. S/N **141616**
- [C] Digital Multimeter: Keithley Instruments Ltd. Model 2000. S/N **1036070**

CALIBRATION PROCEDURE

The current source [A] excites a multi-turn excitation coil. The Rogowski coil is looped through the excitation coil such that the test current is approximately central in the Rogowski loop.

The current source [A] provides **5A rms** to a **4** turn excitation coil.

The Rogowski coil is looped **1** time[s] through the excitation coil.

Number of turns through [B]: **2** Turn[s]

The measured voltage from [B]: **1.0070** V rms

The current is measured by [B] and by the Rogowski Transducer. [C] is used to compare the measurements.

Frequency	4KHZ	A rms
Corresponding transducer current	20.0	V rms
Rogowski transducer voltage (as received)	N/A	V rms

which is / is not within the specified tolerance ($\pm 1\%$) of its correct value.

The measured Rogowski transducer voltage after calibration is **1.000** V rms which corresponds to the specified sensitivity.

ACCURACY

- (i) Where the digital voltmeter [C] is used only to compare two substantially equal voltages, the accuracy of [C] is not relevant. Taking into account the specified uncertainty of the [B] calibration, the typical drift of the [B] calibration over one year and the error in adjusting the Rogowski transducer voltage to match its correct value, the estimated accuracy for the calibrated sensitivity value is $\pm 0.2\%$.
- (ii) Where voltage equality cannot be achieved, the uncertainty of [C] causes the estimated accuracy of calibration to increase to $\pm 0.3\%$.
- (iii) If the position of the current is moved within the Rogowski loop, (but not directly adjacent to the ferrule), the measured voltage will differ from its calibrated value by not more than, typically, $\pm 2\%$.

Calibration performed by  Date **12 February 2016**