RWG100 ROTOR FLUX PROBE CALIBRATOR AND WAVEFORM SIMULATOR

The RWG100 rotor flux probe waveform simulator

The **Rowtest RWG100** is a custom signal generator which generates a range of waveforms typical of those obtained from the **magnetic flux probes** installed in many **large 2-pole electricity generators. The signals from** these probes are used to check **rotor windings** for shorted turns.

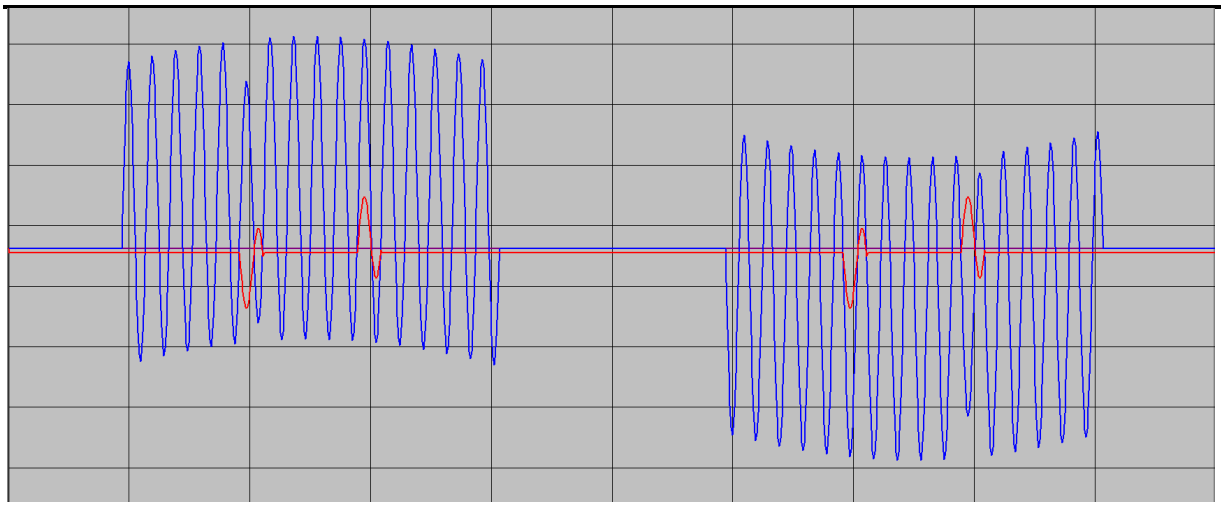
The primary use of the **RWG100** is for **calibrating rotor magnetic flux probe measurement systems.** It does this by generating **accurate simulated flux probe waveforms** with **exact percentage fault levels** which are used as input signals for these measurement systems. This allows the test equipment to be checked for errors before carrying out flux probe tests.

It can also be used to demonstrate the **flux probe measurement technique** for detecting **shorted turns** in **cylindrical rotor windings** and also to provide **accurate waveforms** for testing.

The unit contains **8 pre-programmed search coil waveforms** typical of both **healthy** and **faulty** rotor windings. A **further 8 waveforms** can be programmed into the unit by customers using the **custom software** supplied with the unit. The waveforms can be set to simulate both **50 and 60 Hz** rotation frequencies and can be re-programmed from a PC via a custom USB/RS232 cable and custom software (supplied).

A synchronised **reference output waveform** which simulates a **rotor shaft pulse** is also generated. Both of these waveforms are available as outputs on the front panel of the unit and can be used to demonstrate or check the accuracy of commercial rotor flux measurement equipment. The reference pulse is particularly useful for triggering an oscilloscope to display a stable waveform.

The supplied software can be used to generate **accurate waveforms for faults of specified magnitudes** in the coils of rotors having between 6 and 10 coils per half-winding for either **Radial** or **Tangential** flux probe coils. The waveforms can be displayed and plotted on a PC and the **delay and sum (subtract)** method can be used to display the **nulled** waveform as shown in the next figure .



Simulated radial flux coil waveform for an 8 coil rotor with a 20% short in coil 6

In the figure above, the **flux probe** waveform is shown in **BLUE** with the **nulled** waveform shown in **RED**.

The RWG100 is supplied with a full set of waveform generating, plotting and programming software together with an external 5V PSU, oscilloscope leads and instruction manuals.

SPECIFICATIONS

Power input: 5V DC via standard USB A connector on rear panel.

Output 1: Simulated flux waveform: BNC connector on front panel. 0 - 8V p-p variable.

Output 2: Simulated shaft reference pulse: BNC connector on front panel (+5V)

Waveform selection: 8-way rotary switch and 2-way toggle switch on front panel

Simulated Rotation Frequency: 50 or 60Hz.selectable by toggle switch.

Program input: 9-way D connector on rear panel and custom USB/RS232 cable (supplied)

Software: Set of waveform generation, plotting and programming software on CD.

Manuals: Set of printed software and hardware instruction manuals and on CD

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