

OPERATING INSTRUCTIONS

DIGITAL WAVEFORM MONITOR FOR AUTOMOTIVE ALTERNATORS



Digital Waveform Monitor

Simple visual diagnosis of Alternator faults is possible with this mobile digital oscilloscope. Can be used for Alternators on-vehicle, or on- test bench.

Available in 2 versions - with integral re-chargeable battery or with mains adaptor. Simple connections to vehicle or test bench positive and negative battery terminals to obtain signals. Auto ranging scales and trace freeze facility. Large backlit LCD display for easy reading in all light conditions

Dimensions: Width 260mm Depth 170mm Height 150mm
Power Supply: 12V DC via integral battery or 230VAC via mains adaptor
Ambient Temperature: 0 to 50 degrees centigrade

DIGITAL WAVEFORM MONITOR

CONTROLS

ON/OFF SWITCH

This is located at the rear of the instrument and combines the function of on/off with an overload trip. If the overload trip operates, wait a few minutes before attempting to reset the device.

CONTRAST

Located at the top left of the front panel this control should be used to obtain the best display in the current ambient lighting conditions. Note that the ideal setting for this control will vary with both ambient lighting and temperature, therefore it is normal for regular adjustments to be made to this control.

MODE

The default setting for the monitor is 'auto-ranging' and the waveform 'live'. Pressing this button (located below the contrast control) momentarily will 'freeze' the current display. A second momentary press will return the display to 'live'. To change the monitor range to 1.0V 'fixed' press and hold the button for a few seconds. The 'freeze' feature can be used in this mode as before and the unit can be returned to 'auto-ranging' by a second press and hold operation.

INPUT TERMINALS

These should be connected to the unit under test, red to the positive and black to the negative terminals. The maximum permitted DC voltage on these terminals is 48V. The unit is designed for monitoring the AC ripple present in an automotive alternator's DC output. **Connecting the monitor to any other source may cause irreparable damage.**

USAGE

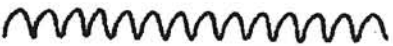






ON - VEHICLE

Ideally, connect the monitor to the vehicle alternator terminals, alternatively, if these are not accessible, to the battery terminals. With the engine running at fast idle (so that the alternator warning light is extinguished), apply some load to the alternator by switching on the headlights and/or the rear window heater. The monitor should now display the output waveform of the alternator. Refer to the chart at the end of this section for the diagnosis of this waveform.

TEST BENCH

Ideally, connect the monitor to the alternator terminals, alternatively, if these are not accessible, to the bench battery terminals. With the alternator spinning at above cut - in speed (so that the cut - in indicator light is extinguished), apply some load to the alternator. The monitor should now display the output waveform of the alternator. Refer to the chart at the end of this section for the diagnosis of this waveform.

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Alternator Waveforms (typical examples)	Fault
	O.K. (no fault)
	stator
	rotor
	slip ring
	regulator
	rectifier
	diode

POWER SUPPLIES

MAINS OPERATED VERSION

The unit should be operated with the mains adapter supplied plugged into the 'jack' at the rear of the unit. **No attempt should be made to use other than the adapter supplied by Brise Fabrications as this may cause irreparable damage to the unit.**

RECHARGEABLE VERSION

This unit incorporates a sealed lead - acid rechargeable battery and may be used as a portable monitor, recharging the battery as required or on an overnight basis via the 'jack' at the rear of the unit. The monitor may also be used, connected to the charger supplied, with the battery being continuously float charged. The charger supplied is designed to cope with usage in the above manner, **connecting any other charger or mains adapter to the monitor will damage the battery and/or cause irreparable damage to the monitor.**

WARNING

Any attempt to power either version from the circuit under test will cause irreparable damage to the monitor.

CLEANING

Note that the front panel of the monitor is acrylic. The unit may be cleaned using a damp cloth but no solvents should be used as these may affect this panel. The unit must not be immersed in any way.