



MFO 6501 MANUAL POWER LINE FREQUENCY MAGNETIC FIELD



- Complies with IEC/EN 61000-4-8
- Magnetic field test with up to 130 A/m
- 50/60 Hz frequency selection
- Stand alone test solution

Electronic devices containing components sensitive to magnetic fields need to be tested for immunity to electromagnetic fields. Product standards define the applicability of such tests and specify the field strength. The basic standard IEC/EN 61000-4-8 describes the test methods for magnetic fields with powerline frequencies.

The MFO 6501 provides – together with a magnetic field antenna INA 701, 702 or 703 – a stand alone test solution to IEC/EN 61000-4-8 and all the derived product standards. No additional hardware is required (except, a simple multimeter).

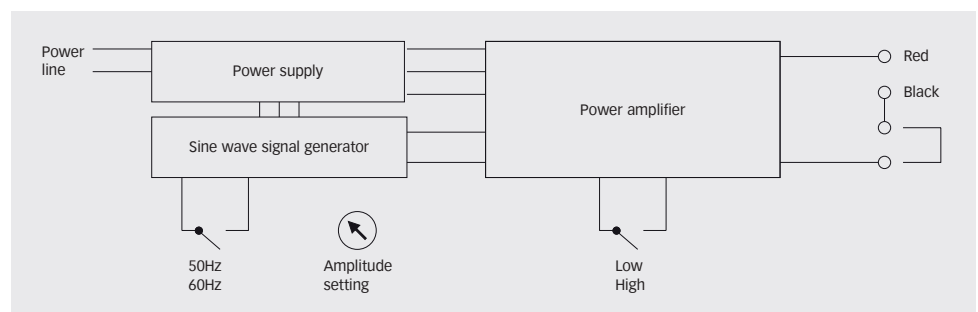
The unit consists of a programmable low impedance power amplifier boxed in a robust aluminum housing fitted with convenient handles. It is used to drive magnetic loop antennas type INA 701, 702 or 703.

The maximum strength of the magnetic field depends of the magnetic loop used. The MFO 6501 is able to generate 50 and 60 Hz magnetic fields up to 130 A/m.

This power amplifier design has a number of advantages compared with arrangements using step-down transformers and variable transformers: reduced size, reduced weight, short-circuit proof, 50 and 60 Hz testing irrespective of the local power network, convenient one box solution and an excellent price/performance ratio.

The MFO 6501 is easy to operate: A toggle switch to select the frequency (50 or 60 Hz), a switch to select the amplifier range and a rotary knob to adjust the magnetic field strength. A general purpose multimeter can be fitted into the current path to the antenna for accurate field strength setting.

Block diagram



MFO 6501

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Technical specifications

With magnetic antenna loop INA 701:	
Field strength, low range:	0.08 to 0.4 A/m (80 to 400 mA drive current)
High range:	0.2 to 3.6 A/m (200 mA to 4.1 A drive current)
With magnetic antenna loop INA 702:	
Field strength, low range:	0.8 to 4 A/m (80 to 400 mA drive current)
High range:	2 to 40 A/m (200 mA to 4.1 A drive current)
With magnetic antenna loop INA 703:	
Field strength, low range:	2.7 to 13.6 A/m (80 to 400 mA drive current)
High range:	6.8 to 130 A/m (200 mA to 4.1 A drive current)
Total harmonic distortion (THD):	<8% for levels 1 to 4, <3.5% at max. output
Test frequency:	Selectable 50 and 60 Hz \pm 3%
Magnetic field adjustment:	Manually, by rotary button
Instrument supply:	Universal power supply 100 to 250 VAC, 47 to 63 Hz, power on/off switch and 3.15 A slow-blow fuse
Connection to antenna:	Universal safety laboratory sockets (connecting cable supplied with INA 701, 702) or cable INA 3251 (INA 703).
Connection for multimeter:	Universal safety laboratory sockets
Operating temperature	5 to 40°C
Overload protection:	Temperature sensor
Dimensions L x W x H:	380 x 195 x 180 mm (15 x 7.7 x 7.1")
Weight:	4 kg (8.8 lbs) approx.

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691-037B May 2015