



MFO 6502 AUTOMATIC POWER LINE FREQUENCY MAGNETIC FIELD



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 6502 is an auxiliary device for the Modula system and provides fully automatic power line magnetic field tests. It is connected via the system cable to the Modula system and is fully embedded in the configuration management, the software control and the report mechanism.

The unit consists of a programmable low impedance power amplifier boxed in a sturdy aluminum housing fitted with convenient handles. It is used to drive magnetic loop antennas type INA 702 or INA 701. Other magnetic loops with similar specifications and known antenna factors may be used instead.

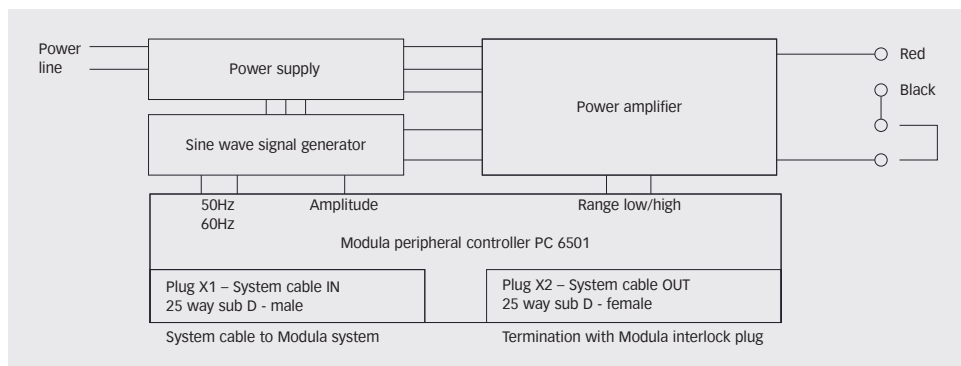
The resulting magnetic fields depend on the antenna used. 50 and 60 Hz magnetic fields up to 40 A/m can be generated with the antenna INA 702.

The use of a power amplifier provides the advantage of reduced size and weight and allows for 50 and 60 Hz testing irrespective of the local power network.

All the required parameters to run an automatically controlled test can be set either by the Modula handheld controller or by means of WinModula software from PC. Once the individual antenna factor has been entered, the system calculates the necessary drive parameters to achieve the set field strength at the antenna loop.

The WinModula test library has been extended to cover the IEC/EN 61000-4-8 tests as well as the power frequency magnetic field tests specified by the generic standards and a considerable number of product standards.

Block diagram



- Integrated function unit to Modula system
- Magnetic field test with 50 or 60 Hz up to 40 A/m
- Complies with IEC/EN 61000-4-8

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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)
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:	Software driven
Instrument supply:	Universal power supply 100 to 250 VAC, 47 to 63 Hz
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:	4.2 kg (9.3 lbs) approx.
Control cable:	Modula system cable, 2 m (79") (included in delivery)
Modula system requirements:	Master controller revision 2 (copper interface) Master controller firmware 1.17 or higher MHC software, ModPDA version 2.30 or higher WinModula version 2.30 or higher