

MGA 1030

Magnetic field generator and analyser

DC - 250 kHz



- ◆ EN 55103-1 + 2, EN 61000-4-8, Automotive, MIL-STD a.o.
- ◆ Field strengths up to 1000 A/m
- ◆ Generation and measurement of magnetic fields from DC up to 250 kHz
- ◆ Additional – Sensor coils, Helmholtz coils, Test adapter

Introduction

The compact magnetic field generator and analyzer MGA 1030 allows susceptibility tests against magnetic fields from DC up to 250 kHz according the standard EN 55103-2 (product standard for professional audio, video and light control techniques) and there measurement according to EN 55103-1.

More EMC tests are possible according the standards below:

- | | | |
|----------------------|-------------------------------|---------------------------------|
| - IEC / EN 61000-4-8 | - SAE J 1113-2, SAE J 1113-22 | - GM W 3097 |
| - ISO 11452-8 | - Ford ES-XW7T-1A278-AC | - MIL-STD-461 E/F RS 101, CS101 |
| - PSA B21 7110 | - DC – 11224, DC 1014 | - and similar standards |

Furthermore magnetic field measurements acc. MIL-STD-461 E/F RE101, CE101 are possible.

Benefits

- ◆ **Components:**
Three independent module
 - signal generator DC – 250 kHz
 - a power amplifier - 800 W output maximum, DC – 1 MHz bandwidth
 - a spectrum analyzer 16 Bit, 1 MSPS sampling rate

All 3 units can be used as a stand-alone unit.
- ◆ **Additional equipment:**
Our company also provides many different coils and loop sensors which are ideally suited for the described tests. Not only our own equipment can be used with the MGA 1030, but also user defined coils. A calibration mode is included in the software to complement the magnetic test system with any further equipment.
- ◆ **Self-calibration:**
Using an ultra-stable voltage source self-calibration correction values are stored in an internal EEPROM. Any voltage signal or voltage measurement device is calibrated as a self-calibration process automatically in about a minute.

Technical Data - MGA 1030

Analyzer:

Frequency range	DC – 250 kHz
Input impedance (Analyzer)	1 MOhm / 50 Ohm switchable
Input voltage max.	100 V continuous, 10 V at 50 Ohm
Shunts (current input)	10 mOhm / 1 Ohm / 100 Ohm
Input current max.	20 A

Generator:

Frequency range	DC – 250 kHz
Output impedance	50 Ohm
Signal	Sin wave / square wave / triangular / DC
Amplitude	0 – 10 V AC, -10 V to + 10 V DC
Resolution	12 Bit (2,5mV), switchable -20 dB attenuator

Amplifier:

Frequency range	DC – 1 MHz
Output current	16 Arms
Output voltage	50 V rms / 75 V DC
Distortion (DC–100 kHz, load 4 Ohm)	0,10 %

Standard - Basis:

EN 55103-1	product standard for professional audio, video and light control techniques part 1 - emission
EN 55103-2	product standard for professional audio, video and light control techniques part 2 - susceptibility
EN 61000-4-8	power frequency magnetic field immunity test

Additional / Order description

◆ MGA_1033	Magnetic field generator and analyzer, 16A, single unit 1030 serie
◆ MGA_1034_1030-16/SYS	Magnetic field test system complete, 16A, incl. 3-axis Helmholtz coil 50/28
◆ MGA_2014_HCS_125-75	Helmholtz coil 1 axis, dimension 1,25 m x 1,25 m, distance 0,75 m
◆ MGA_2025_HCST_50-28	Helmholtz coil 3 axis, dimension 0,50 m x 0,50 m, distance 0,28 m
◆ MGA_2019_VT-20	Variable transformer for short-term fields acc. IEC/EN 61000-4-8
◆ MGA_2011_RLS_133	Radiating / loop sensor 133 mm acc. to EN 55103-1/2, incl. 2 x 3m cable
◆ MGA_2013_BC-500	Radiating loop 50 cm, acc. to EN 55103-2, A 3.1, including cable
◆ MGA_2015_B1	Common mode test adapter acc. to EN 55103-2, Fig. B.1
◆ MGA_2016_B2	Calibration network acc. to EN 55103-2, Fig. B.2
◆ MGA_2017_B4	Current transducer incl. correction network acc. to EN 55103-2, Fig. B.4
◆ MGA_2023_LS_040	Loop sensor 40 mm acc. to MIL-STD-461E RS101, incl. 3m cable
◆ MGA_2021_RL_120	Radiating loop 120 mm acc. to MIL-STD-461E RS101, incl. 3m cable
◆ MGA_2022_LS_133	Loop sensor 133 mm acc. to MIL-STD-461E RE101, incl. 3m cable