

# MFG 40-100

## FOR 50/60 HZ MAGNETIC FIELD TESTING



### FOR TESTS ACCORDING TO ...

- › EN 61000-4-8
- › EN 61000-6-1
- › EN 61000-6-2
- › IEC 61000-4-8

### MFG 40-100 - MAGNETIC FIELD GENERATOR

The manual operated magnetic field generator MFG 40-100 is a standard accessory to generate in conjunction with a magnetic loop a magnetic field. The MFG 40-100 provides a convenient means of generating and adjusting the current to flow through one of the magnetic field loops, like MFC 30 or MFC 300. It is required for magnetic field testing for fields up to 130 A/m. It complies with the requirements of IEC 61000-4-8 and can be used as a stand alone instrument.

### HIGHLIGHTS

- › As per IEC 61000-4-8
- › Integrated sine wave generator and amplifier
- › Manual stand-alone solution for 50/60 Hz-magnetic fields
- › Specified for inductive loads
- › Max. 40 A/m with MFC 30, 130 A/m with MFC 300
- › Range selection High/Low
- › Integrated overload protection

### APPLICATION AREAS

-  INDUSTRY
-  RESIDENTIAL

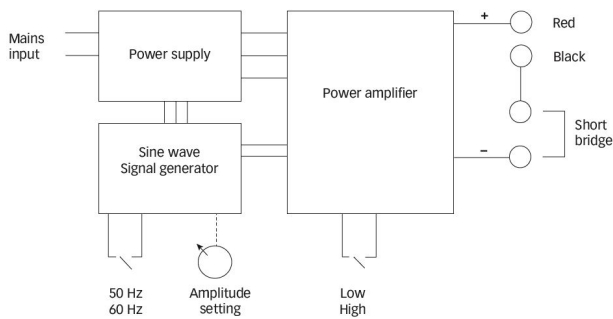
**TECHNICAL DETAILS**

**CIRCUIT DIAGRAM MFG 40-100**

The MFG 40-100 includes a power supply as well as a sine wave signal generator to generate a 50 or 60 Hz-signal. To adjust the test-level an external ampere meter (not included in delivery) is required.

A High/Low-range selector at the likewise integrated amplifier allows to finetune the test level at low magnetic field strengths.

The required magnetic-field-frequency can be selected with a separate switch. 4 mm safety banana plugs has to be used to connect the loop antenna.



**CURRENT REQUIRED IN LOOP ANTENNA**

The field generated through the loop antenna is directly proportional to the current flowing through it. Use the external multimeter to adjust the required current.

$$H = C_f \times I$$

Where H is the generated field, C<sub>f</sub> the coil factor, I the current flowing through the loop.

Standard level	Field in the loop A/m	Current required for loop antenna	
		MFC 30 C <sub>f</sub> = 9,8	MFC 300 C <sub>f</sub> = 34
1	1	0,102 A	N/A
2	3	0,306 A	0,088 A
3	10	1,02 A	0,294 A
4	30	3,06 A	0,882 A
x	40(max)	4,08 A	1,18 A
x	130	N/A	3, 82 A

**MFG 40-100**

**TECHNICAL DETAILS**

Magnetic field adjustment	Manually via potentiometer
Range Low	80 to 400 mA into MFC 30 (C <sub>f</sub> 9,8) allows 0,8 to 4 A/m 80 to 400 mA into MFC 300 (C <sub>f</sub> 34) allows 2,7 to 13,6 A/m
Range High	200 to 4,1 A into MFC 30 (C <sub>f</sub> 9,8) allows 2 to 40 A/m 200 to 4,1 A into MFC 300 (C <sub>f</sub> 34) allows 6,8 to 130 A/m
Dimensions	195 x 180 380 mm
Weight	4 kg
Connections	Mains supply in socket (C14) Sockets for DVM, 4 mm safety banana sockets Power out via 4 mm safety banana sockets
Supply voltage	Wide-range power-supply 90 to 240 VAC
Power consumption	< 150 W
Operating temperature	5° - 40° C 41° - 104° F
Overload protection	By temperature sensor on power stage
Total harmonic distortion (THD)	< 8% (nominal < 3,5% at full range)
Frequency	Selectable 50 and 60 Hz +/- 3%
Operating position	Laying or standing on a work bench, or for more permanent applications, it can be wall mounted
Suitable loads	MFG 40-100 is designed to drive INDUCTIVE LOADS ONLY, such as multi-turn magnetic field loops. Connecting capacitive loads will destroy the instrument

TECHNICAL DETAILS

ACCESSORIES

LOOP ANTENNA	
MFC 30	<p>Multi-turn magnetic field loop</p> <ul style="list-style-type: none"> <li>- 1 turn, with pulse plug (included in delivery of MFC 30)</li> <li>- 11 turns, with power plug (included in delivery of MFC 30)</li> </ul> <p>Max. field strengths of 40 A/m (continuous)</p> <p>4 mm safety banana plugs, connection cables to MFG 40-100 included</p>
MFC 300	<p>Multi-turn magnetic field loop</p> <ul style="list-style-type: none"> <li>- 1 turn</li> <li>- 5 turns</li> <li>- 37 turns</li> </ul> <p>Max. field strengths of 130 A/m (continuous)</p> <p>Requires INA 2141 impedance box when used in combination with Profline system NSG 1007</p> <p>Round 4 pole connector.</p> <p>Interconnection cable to MFG 40-100 optional available (INA 3251)</p> <p>Interconnection cable to Profline/NSG 1007 optional available (INA 3250), requires additional impedance box INA 2141</p>

# COMPETENCE WHEREVER YOU ARE



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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.