Loop Sensor / Radiating Loops

For immunity tests radiating loops are necessary to generate magnetic fields. Suitable loops are available. Measuring emissions require loop sensors which can also be ordered from our company.

Loop Sensor
MGA_LS 040

Radiating loop
MGA_RL 120

Radiating Loop / Loop Sensor
MGA_RLS 133

Type	Loop sensor MGA_LS 040	Radiating loop MGA_RL 120	Loop sensor MGA_LS 133	Loop sensor / radiating loop MGA_RLS 133
Mechanical Data				
Diameter	40 mm	120 mm	133 mm	133 mm
Body material	PVC	MDF	MDF	MDF
Wire	7-41 Litz wire	2.0 mm copper wire	7-41 Litz wire	0.25 mm² Litz wire
Number of turns	51	20	36	36
Number of layers	1	4	4	4
Shielding	Electrostatic	none	Electrostatic	Electrostatic
Distance to EUT	5 cm	5 cm	7 cm	10 cm / 5 cm
Connector at coil	Speakon	4 mm MC socket	Speakon	Speakon
Connector at cable	XLR	4 mm MC plug	XLR	XLR / 4 mm MC plug
Coil factor (50 mm)	---	76,3 1/m	---	138,5 1/m
Electrical Data				
Correction factor	see calibration sheet (50 Ω / 600 Ω / 1MΩ)	---	see calibration sheet (50 Ω / 600 Ω / 1MΩ)	see calibration sheet (50 Ω / 600 Ω / 1MΩ)
DC resistance	~ 4,5 Ω	~ 0,05 Ω	~ 10 Ω	~ 1,1 Ω
Inductance	~ 130 µH	~ 120 µH	~ 340 µH	~ 340 µH
Resonant frequency	---	> 1.8 MHz	---	> 0.9 MHz
Frequency range	10 Hz - 1 MHz	DC - 500 kHz	10 Hz - 1 MHz	DC / 10 Hz - 500 kHz
Nominal current	---	15 A	---	5 A
General Data				
Connecting cable	Microphone cable	Litz wire 2 x 1.5mm²	Microphone cable	Microphone cable / Litz wire 2 x 1.5mm²

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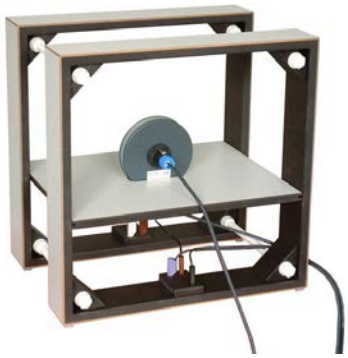
Helmholtz Coils

Several Helmholtz coils are available for susceptibility tests. Our company also offers tri-axial Helmholtz coils which are suitable for MGA1030. To achieve 1000 A/m at 1 kHz, it is absolute necessary to use our Helmholtz coils and an optional compensation board.



*Helmholtz coil **MGA_HCS_50-28** with loop sensor MGA_RLS_133*

*Triaxial Helmholtz coil **MGA_HCST_50-28***

Type	Helmholtz Coil MGA_HCS_50-28	Helmholtz Coil MGA_HCS_125-75	Helmholtz Coil MGA_HCST_50-28
Mechanical Data			
Number of axes	1	1	3
Dimension [cm]	50	125	50 / 46 / 42
Number of turns (per coil)	22 + 4	40 + 10	22 + 4
Coil separation [cm]	28	75	28
Electrical Data			
Coil factor [m^{-1}] (typical)	65.9 / 11.2	47.5 / 10.3	X-axis: 66.1 / 11.3 Y-axis: 67.8 / 11.8 Z-axis: 69.1 / 12.2
Total resistance DC [Ω] (typical)	0.63 / 0.15	9.8 / 2.0	X-axis: 0.58 / 0.10 Y-axis: 0.53 / 0.09 Z-axis: 0.48 / 0.08
Total inductance [mH] (typical)	1.73 / 0.07	16.4 / 1.0	X-axis: 1.73 / 0.07 Y-axis: 1.52 / 0.06 Z-axis: 1.33 / 0.05
Resonant frequency [kHz]	> 150 kHz	> 150 kHz	> 150 kHz
Rated current [A]	16	5	16
Short term current [A]	20	7	20

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