

## 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\_2023\_LS040**



*Radiating loop*  
**MGA\_2021\_RL120**

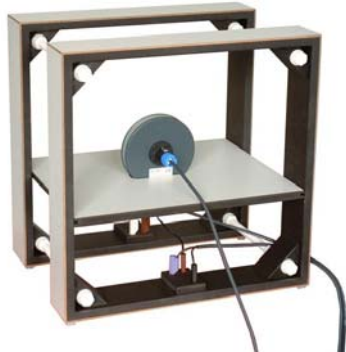


*Radiating Loop / Loop Sensor*  
**MGA\_2022\_RLS133**

Type	Loop sensor <b>MGA_2023_LS040</b>	Radiating loop <b>MGA_2021_RL120</b>	Loop sensor <b>MGA_2022_LS133</b>	Loop sensor / radiating loop <b>MGA_2011_RLS133</b>
<b>Mechanical Data</b>				
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 mm <sup>2</sup> 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
<b>Electrical Data</b>				
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
<b>General Data</b>				
Connecting cable	Microphone cable	Litz wire 2 x 1.5mm <sup>2</sup>	Microphone cable	Microphone cable / Litz wire 2 x 1.5mm <sup>2</sup>

## 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\_2024\_HCS\_50-28**  
with loop sensor MGA\_2022\_RLS\_133



Triaxial Helmholtz coil  
**MGA\_2025\_HCST\_50-28**

Type	Helmholtz Coil MGA_2024_HCS_50-28	Helmholtz Coil MGA_2014_HCS_125-75	Helmholtz Coil MGA_2025_HCST_50-28
<b>Mechanical Data</b>			
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
<b>Electrical Data</b>			
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 [ $\Omega$ ] (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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