

MGA LS 040 / 133, RL 120 / 120-80, RLS 133

Sensor- and radiating loops

Magnetic field tests , MIL-STD 461 a. o.

- For tests according to MIL-STD 461
- Available in different versions:

MGA LS 040: Loop sensor

MGA RL 120: Radiating loop

MGA RL 120-80: Radiating loop

MGA LS 133: Loop sensor

MGA RLS 133: Radiating loop / loop sensor



MGA RL 120

Suitable as an accessory for
the magnetic field generator
MGA 1033!



MGA LS 040



MGA LS 133



MGA RLS 133

Overview

The MIL-STD-461 standard defines three different loops for emission measurements and immunity tests for the frequency range from 30 Hz to 100 kHz.

Numerous standards refer to these loops (some with extended frequency range), such as the EMC factory standards of most automotive manufacturers or ISO 11452-8.

Key facts

- Available in diameters from 40 mm to 200 mm
- From 20 to 80 windings depending on the coil selection
- Recommended as accessory for the magnetic field generator / analyzer MGA 1033!



MGA LS 040 / 133, RL 120 / 120-80, RLS 133

Sensor- and radiating loops

Technical data					
Article	Loop sensor LS 040	Loop sensor LS 133	Radiating loop RL 120	Radiating loop RL 120-80	Sensor/Radiating loop RLS 133
Standard	MIL-STD-461 RS101	MIL-STD-461 RE101	MIL-STD-461 RS101	MIL-STD-461 RS101	magnetic field tests
Ø-Winding body Ø-Outer	40 mm	133 mm	120 mm 140 mm	120 mm 200 mm	133 mm
Material housing	POM	POM	POM	POM	POM
Shielding	electrostatic	electrostatic	-	-	electrostatic
Winding wire	7-41 mm litz wire	7-41 mm litz wire	2 mm copper wire	2 mm copper wire	0.25 mm litz wire
Number of - windings - layers	51 1	36 4	20 4	80 5	36 4
Distance to EUT	5 cm	7 cm	5 cm	5 cm	10 cm / 5 cm
Connector on the coil	Speakon	Speakon	4 mm MC socket	4 mm MC socket	Speakon
Cable connector	XLR	XLR	4 mm MC plug	4 mm MC plug	XLR / 4 mm MC plug
Coil factor (50 mm)	-	-	76.3 1/m	299 1/m	138.5 1/m
Correction factor	see calibration certificate (50 Ω / 600 Ω / 1 MΩ)	see calibration certificate (50 Ω / 600 Ω / 1 MΩ)	-	-	see calibration certificate (50 Ω / 600 Ω / 1 MΩ)
DC resistor	~ 4,5 Ω	~ 10 Ω	~ 0.04 Ω	~ 0.21 Ω	~ 1.2 Ω
Inductance	~ 130 µH	~ 375 µH	~ 86.5 µH	~ 1.33 µH	~ 345 µH
Rated current	-	-	16 A	16 A	5 A
Resonant frequency	-	-	> 1.8 MHz	> 300 kHz	> 0.9 MHz
Frequency range	10 Hz – 1 MHz	10 Hz – 1 MHz	DC – 500 kHz	DC – 1 kHz	DC / 10 Hz - 500 kHz
Connecting cable	microphone cable	microphone cable	litz wire 2 x 1.5 mm ²	litz wire 2 x 1.5 mm ²	microphone cable litz wire 2 x 1.5 mm ²
Opt. accessories			Hall sensor	Hall sensor	
Scope of delivery: Calibr. certificate	cable, 3 m	cable, 3 m 3 x white plastic screw	cable, 3 m	cable, 3 m	2x cable, 3 m



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Sensor- and radiating loops

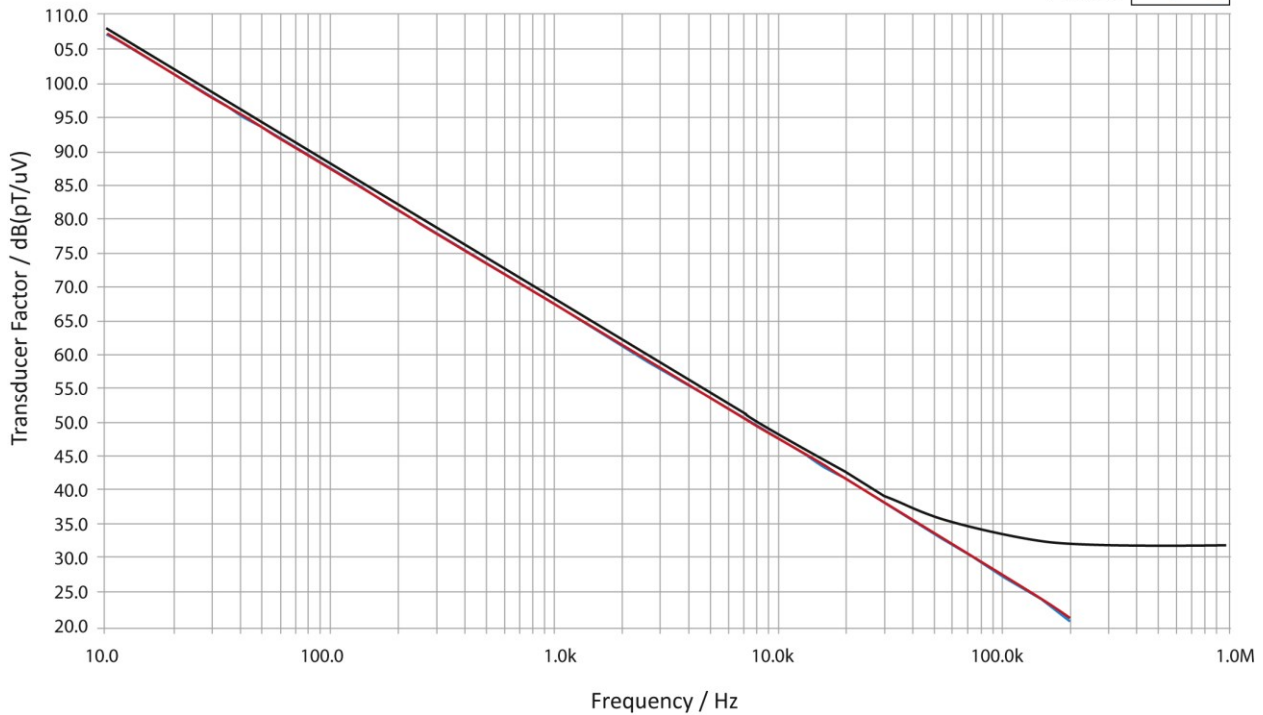
Technical data: LS 040 Typical course of the conversion measure

Loop Sensor Calibration (Transducer Factor dB (pT/uV))

Date: 08.03.2010

S.-No.: 2023134

50 Ohm 
600 Ohm 
1 MOhm 



Technical data: RL 120 Typical course of the coil factor

Radiating Loop Calibration

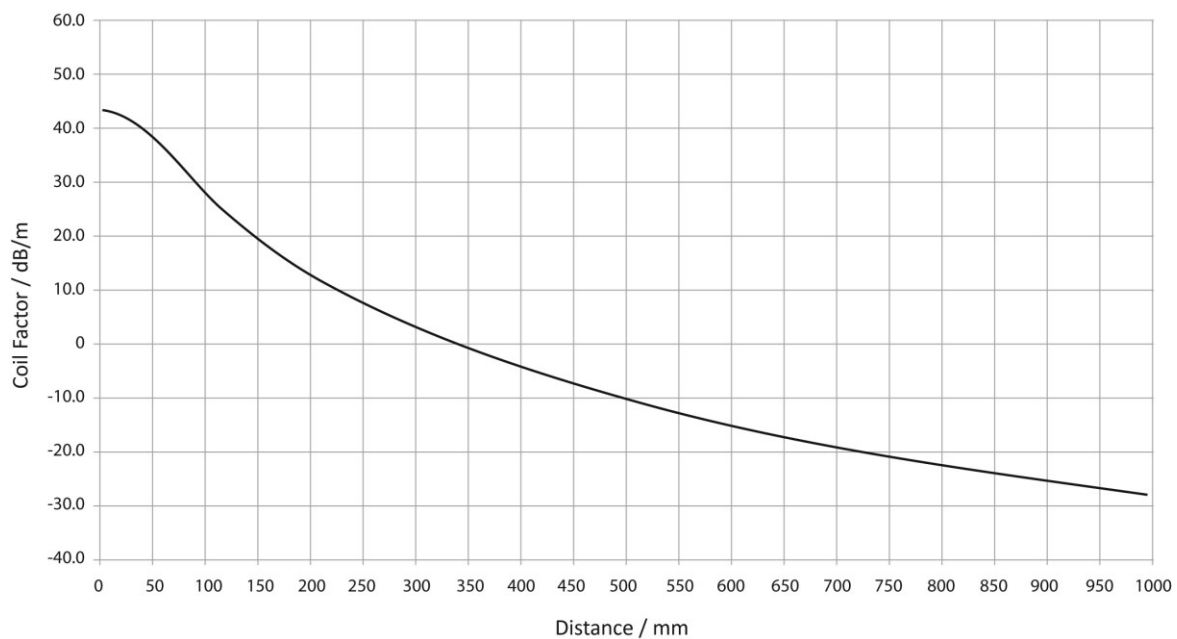
Date: 08.03.2010

S.-No.: 2021133

Resistance: 0.04 Ohm

Inductance: 86.4 uH

Coil factor (50 mm): 73.7 l/m



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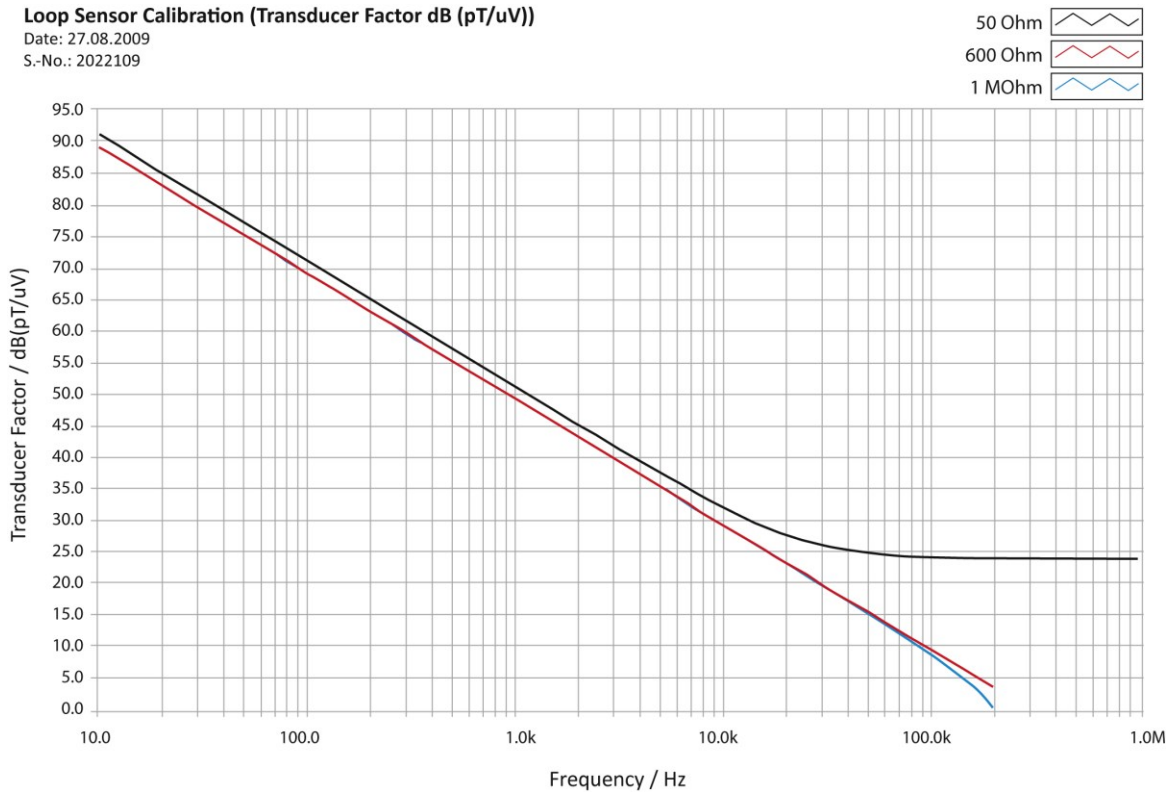
Sensor- and radiating loops

Technical data: LS 133 Typical course of the conversion measure

Loop Sensor Calibration (Transducer Factor dB (pT/uV))

Date: 27.08.2009

S.-No.: 2022109

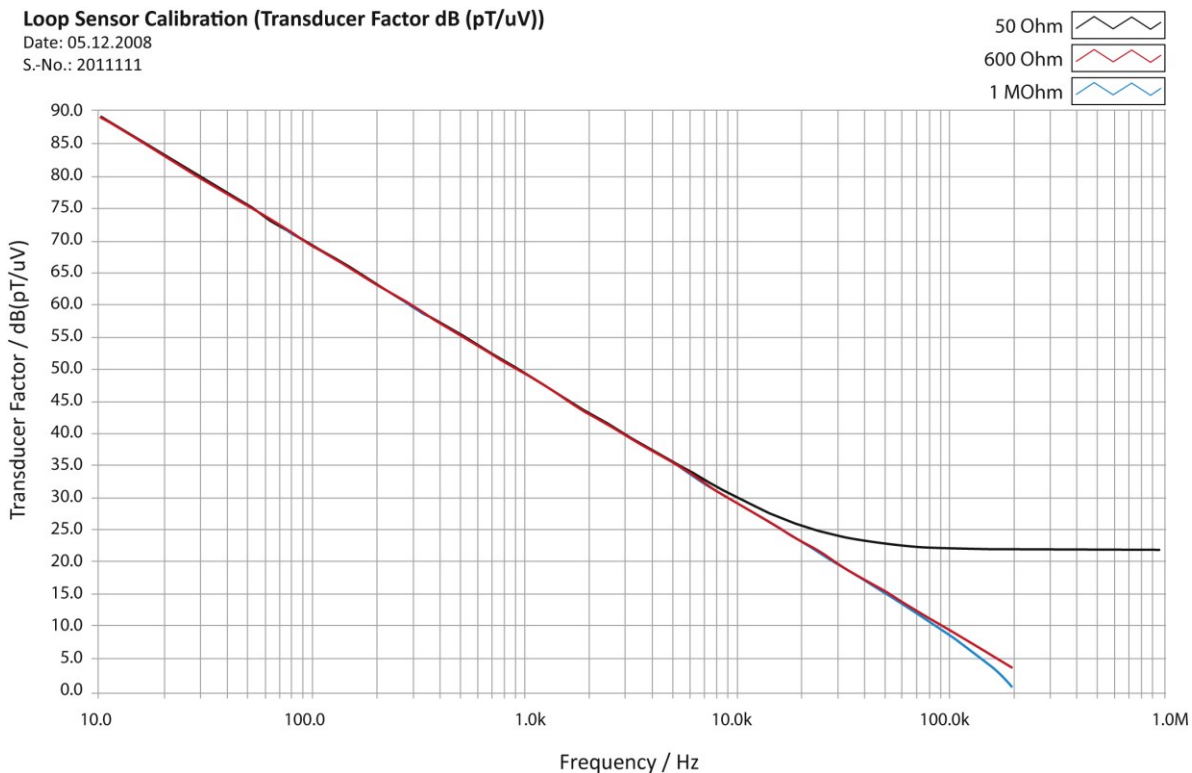


Technical data: RLS 133 Typical course of the conversion measure

Loop Sensor Calibration (Transducer Factor dB (pT/uV))

Date: 05.12.2008

S.-No.: 2011111



All information regarding appearance and technical data correspond to the current state of development at the time of release of this data sheet. We reserve the right to make technical changes. 112404

