



LAS 6120 **RADIATING LOOP ANTENNA & SENSOR SET** **(25 Hz) 9 kHz TO 150 kHz**



LAS 6120 Loop Antenna Set

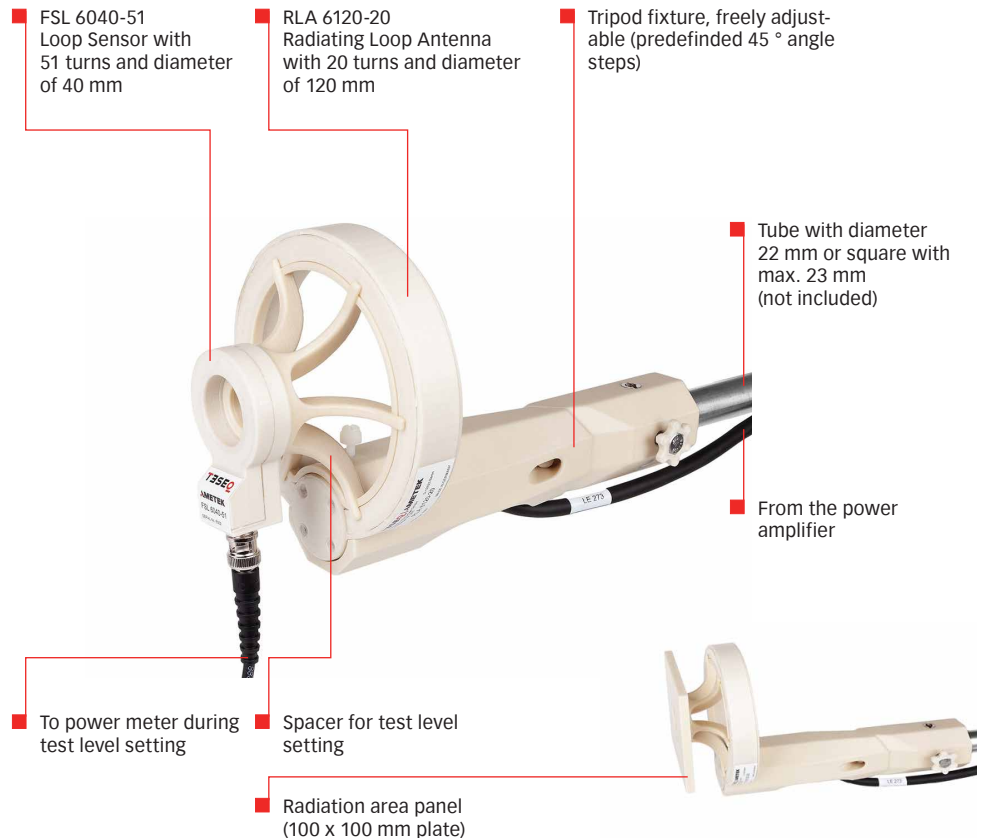
LAS 6120 is a loop antenna set designed to generate and verify magnetic fields in close proximity to test the immunity of electrical equipment exposed to RF fields as required by the IEC 61000-4-39, IEC 60601-1-2 and MIL-STD-461 RS101 standards.

The LAS 6120 antenna set consists of a radiating loop antenna RLA 6120-20, field sensor loop FSL 6040-51 and a current sensor CSP 9160A, and guarantees the required distance of 50 mm needed to comply with the standard requirements.

FSL 6040-51 loop sensor with a diameter of 40 mm, offers electrostatic shielding and is supplied with the correction factor.

CSP 9160A is a clamp on probe used for verification of r.m.s current measurement as defined in the standard.

- (25 Hz) 9 kHz to 150 kHz range
- Generate and verify magnetic fields
- Loop set including RLA 6120-20 radiating loop antenna, FSL 6040-51 field sensor loop, and CSP 9160A current sensor
- Meets requirements of IEC 61000-4-39 and IEC 60601-1-2
- RLA 6120-20 and FSL 6040-51 can be used for MIL-STD-461 RS101



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RLA 6120-20, view to the connectors



FSL 6040-51 front and side view



CSP 9160A

Technical specifications

RLA 6120-20 Radiating Loop Antenna

Frequency range	25 Hz to 150 kHz
Conversion factor	75.6 (current to magnetic field, example: 1 A generates 75.6 A/m or $9.5 \cdot 10^{-7}$ pT/A)
Test distance	50 mm
Current	≤ 15 A (range DC to 150 kHz)
Loop diameter	120 mm
No. of turns	20
Wire diameter	approx. 2 mm, AWG12
Connector type	4 mm safety banana socket
Dimensions (W x H x D):	135 mm x 148 mm x 48 mm
Weight	approx. 360 g

FSL 6040-51 Field Sensor Loop

Frequency range	25 Hz to 150 kHz
Loop diameter	40 mm
No. of turns	51
Wire diameter / type	approx. 0.07 mm / 7 strand, 41 AWG
Connector type	BNC, 50 Ω
Correction factor	see calibration data
Dimensions (W x H x D):	51 mm x 90 mm x 25 mm
Weight	approx. 45 g

CSP 9160A Current Sensor

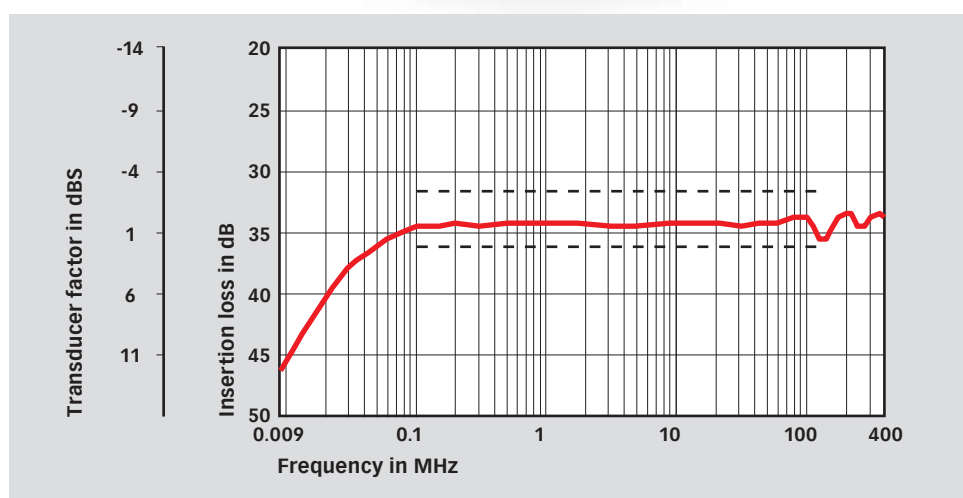
Frequency range:	9 kHz to 250 MHz
Insertion loss:	34 dB \pm 2 dB (50 Ω system, 100 kHz to 120 MHz) typical \pm 1 dB, see also the graphs
Transfer impedance, transducer factor:	as given in the graphs
Insertion impedance:	$< 1 \Omega$
Signal output:	BNC socket
Max. primary current (aperture)	50 A _{RMS} (CW), DC – 60 Hz 1.5 A _{RMS} (CW), 9 kHz - 250 MHz
Window diameter (aperture):	25.4 mm
Dimensions (L x H x W) in mm:	105 x 80 x 38
Weight:	approx. 525 g
Dimensions of the storage case in mm:	260 x 70 x 210
Weight:	approx. 350 g

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CSP 9160A Typical transducer factor and insertion loss, --- limit



Environment specifications

Classification	Indoor use only
Operation temperature	0 °C to +40 °C
Storage and transport temperature	-10 °C to +60 °C
Relative humidity	up to 90 % (no moisture condensation)

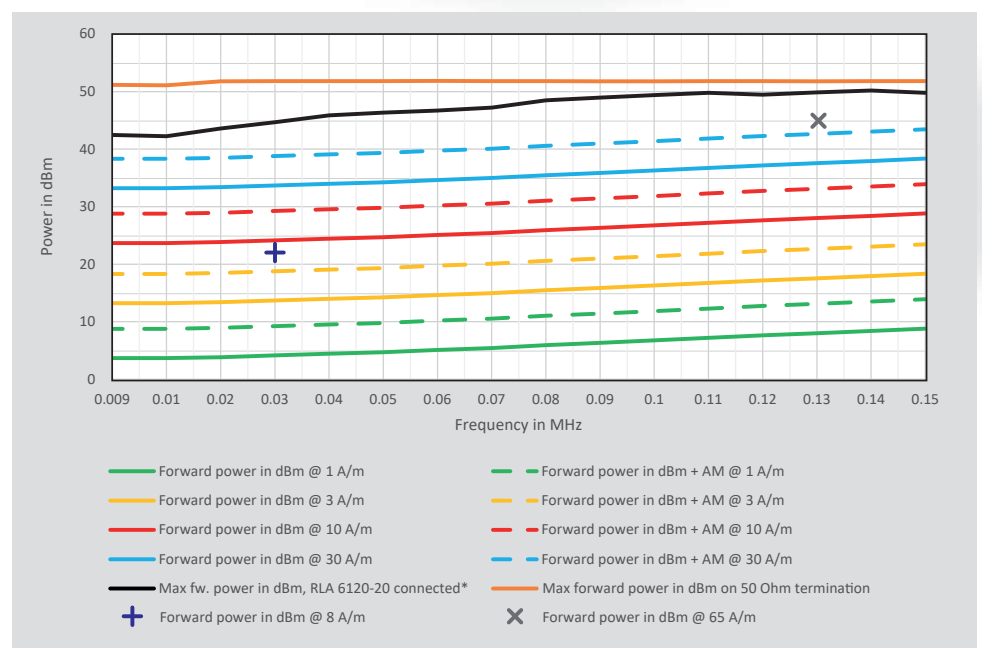
Mechanical dimensions of the LAS 6120

Dimensions (W x H x D):	350 mm x 125 mm x 275 mm
Weight:	approx. 2.0 kg

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Example for typical power requirements using NSG 4070C-LFCP



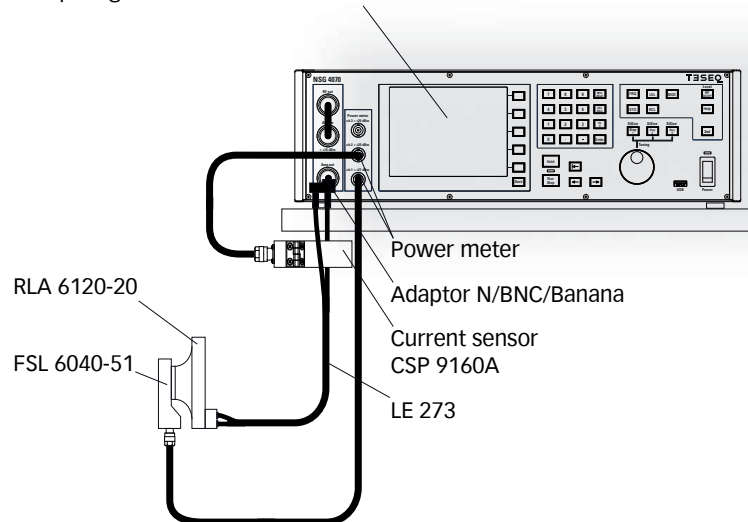
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RADIATING LOOP ANTENNA & SENSOR SET

(25 Hz) 9 kHz TO 150 kHz

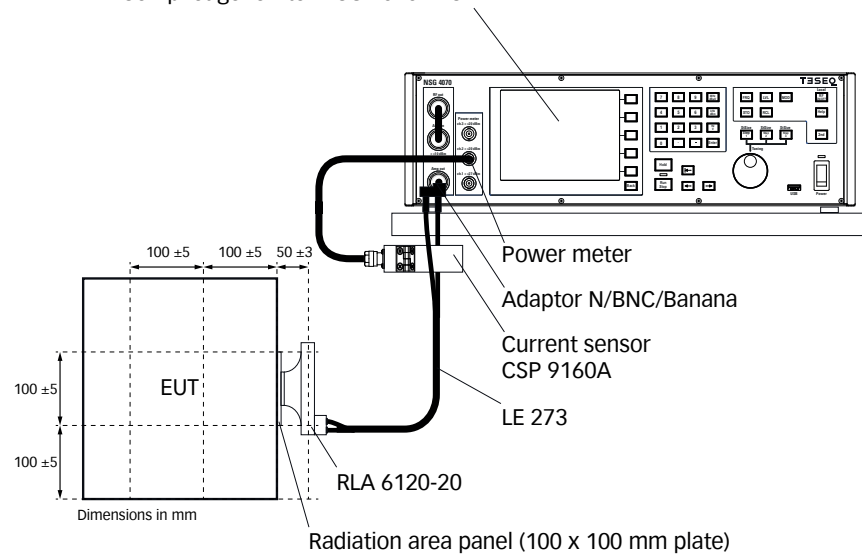
Set up example for test level setting

Compact generator NSG 4070-LFCP



Set up example for testing

Compact generator NSG 4070-LFCP



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LAS 6120 Loop Antenna Set in transport case (partly shown)

Model No. and options

Part number	Description
258280	LAS 6120 Loop antenna set (25 Hz) 9 kHz to 150 kHz, includes RLA 6120-20 (radiating loop antenna), spacer, radiation area panel (100 mm x 100 mm plate), TPF 6120 (tripod fixture), FSL 6040-51 (field sensing loop antenna), CSP 9160A (current sensor), LE 273 (two wire cable, with 4 mm banana plugs, 3 m), 2x RF cable (BNC(m)-BNC(m) 1 m, RG58), 2x N-BNC adaptor, banana to BNC adaptor, user manual and ISO 17025 traceable calibration certificate (scope of calibration FSL 6040-51 and CSP 9160A)
258260	RLA 6120-20 Radiating Loop Antenna 25 Hz to 150 kHz
258293	TPF 6120 Tripod fixture for RLA 6120-20
258276	FSL 6040-51 Field Sensing Loop antenna 25 Hz to 150 kHz
97-258276	FSL 6040-51-TC Traceable calibration (ISO 17025), order only with the device
98-258276	FSL 6040-51-ACC Accredited calibration (ISO 17025)
347-050	CSP 9160A Current sensor probe, 9 kHz to 250 MHz, CISPR 16-1-2, in storage case
97-347-050	CSP 9160A-TC Traceable calibration (ISO17025)
98-347-050	CSP 9160A-ACC Accredited calibration (ISO17025)
252075	PCJ 9160 Calibration jig for CSP 9160
252052	PCJ 9201B Calibration jig for current probes, meets ISO 11452-4 ,RTCA/DO-160 section 20, MIL-STD-461 and IEC/EN 61000-4-6
252090	FIX MDP 4070 Positioning fixture for MD 4070, MDC 4070, MDP 4070, CSP 9160 in PCJ 9201

AMETEK CTS Europe GmbH
Landsberger Str. 255 · 12623 Berlin · Germany
T +49 30 56 59 88 35 F +49 30 56 59 88 34
customer@cts.ametek.com
www.ametek-cts.com

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