



LANGER E1 Set Immunity Development System Installation Guide

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LANGER E1 Set Immunity Development System



Short description

The E1 is a set of EMC tools used for EMI suppression in printed circuit boards during the development phase. The developer can use the E1 set to quickly identify the causes of burst and ESD interference. This allows the developer to design suitable measures to solve the causes of the interference. It can also be used to test the effectiveness of the measures taken. The E1 test set-up is small and fits easily on a developer's desk. The E1 set user manual describes EMC mechanisms and provides detailed descriptions of basic measuring strategies for interference suppression in printed circuit boards. The E1 set includes a generator to generate burst and ESD disturbances.

Scope of delivery

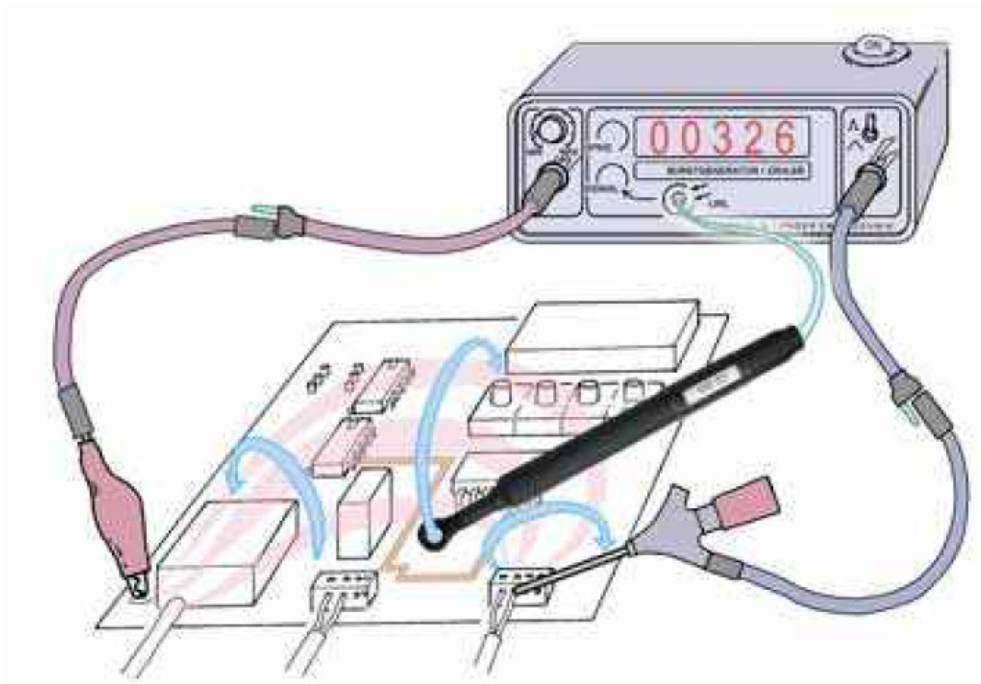
- 1x SGZ 21, Burst Generator
- 1x BS 02, Magnetic Field Source
- 1x BS 05D, Magnetic Field Source
- 1x ES 00, E-Field Source
- 1x ES 02, E-Field Source
- 1x ES 08D, E-Field Source
- 1x E1 acc, Accessories
- 1x E1 case, System Case
- 1x S21, Optical Sensor (10 Mbps)
- 1x BS 04DB, Magnetic Field Source
- 1x BS 05DU, Magnetic Field Source
- 1x ES 01, E-Field Source
- 1x ES 05D, E-Field Source

- 1x MS 02, Magnetic Field Probe
- 1x NT FRI EU, Power Supply Unit
- 1x E1 m, E1 Set User Manual

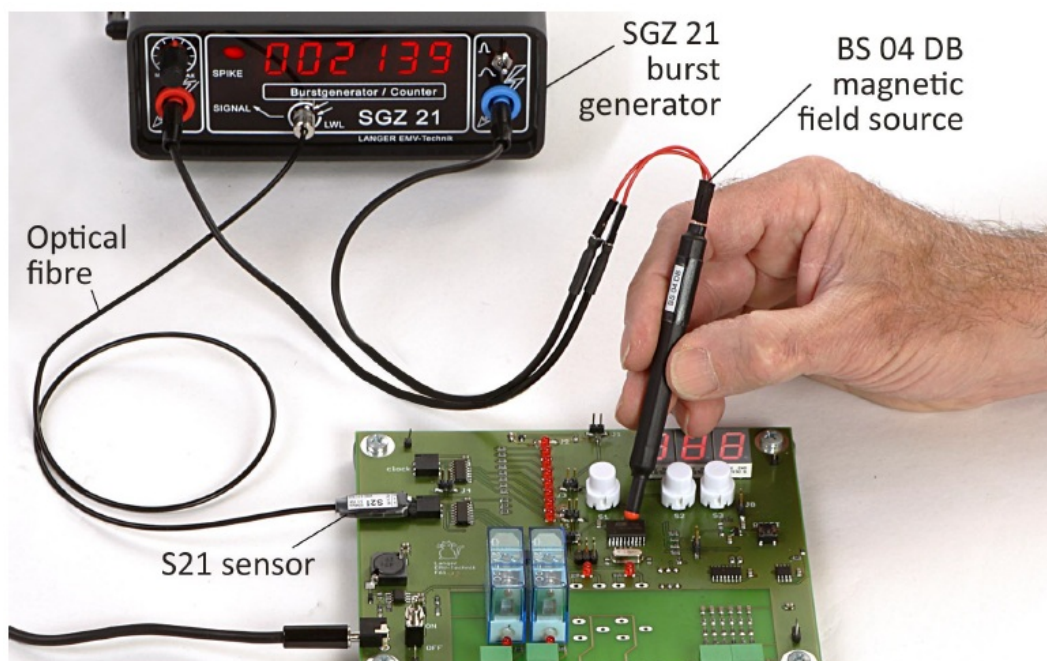
Technical parameters

S21 optical sensor	
Transmission range	DC...10 Mbps
Optical fibre connector	2.2 mm Ø
Supply voltage	(3-5) V
Current input	10 mA
SGZ 21 burst Generator	
Pulse parameter	
Rise time	ca. 2 ns
Tail time	ca. 10 ns
Peak values	ca. 0...1500 V
Optical input	
Optical fiber	2.2 mm
Max. frequency	5 MHz
Min. pulse width	100 ns
Supply voltage	12 V / 200 mA
Sizes (L x W x H)	(154 x 100 x 62) mm

Measuring principles



Application with BS 04 DB



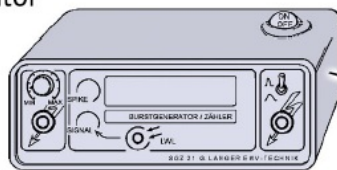
Scope of delivery E1



Exploded view drawing E1

SGZ 21 pulse density / burst generator

Injection of
burst pulses
into PCBs



Accessories:

One optical fibre

Two generator cables

Two measurement lines, black

One plug-in power supply unit

Three micro-kleps

Two alligator clips

Two measurement lines, red

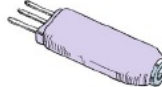
Two measurement lines, yellow

MS02 magnetic field probe

to measure the
burst-related
magnetic field in
the device under test



S21 sensor
to detect immunity levels
and signals



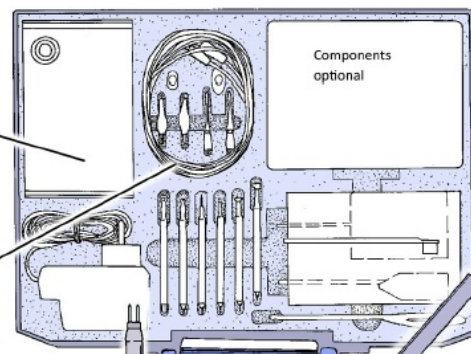
The LWL optical fibre
output is connected to
the counter of the
SGZ21 burst generator

Connection
material for
sensor:



Wire

Six adapter sockets



Components
optional

ES 02

ES 01

ES 00

ES electric
field probes

BS magnetic
field probes

BS 04DB

BS 05D

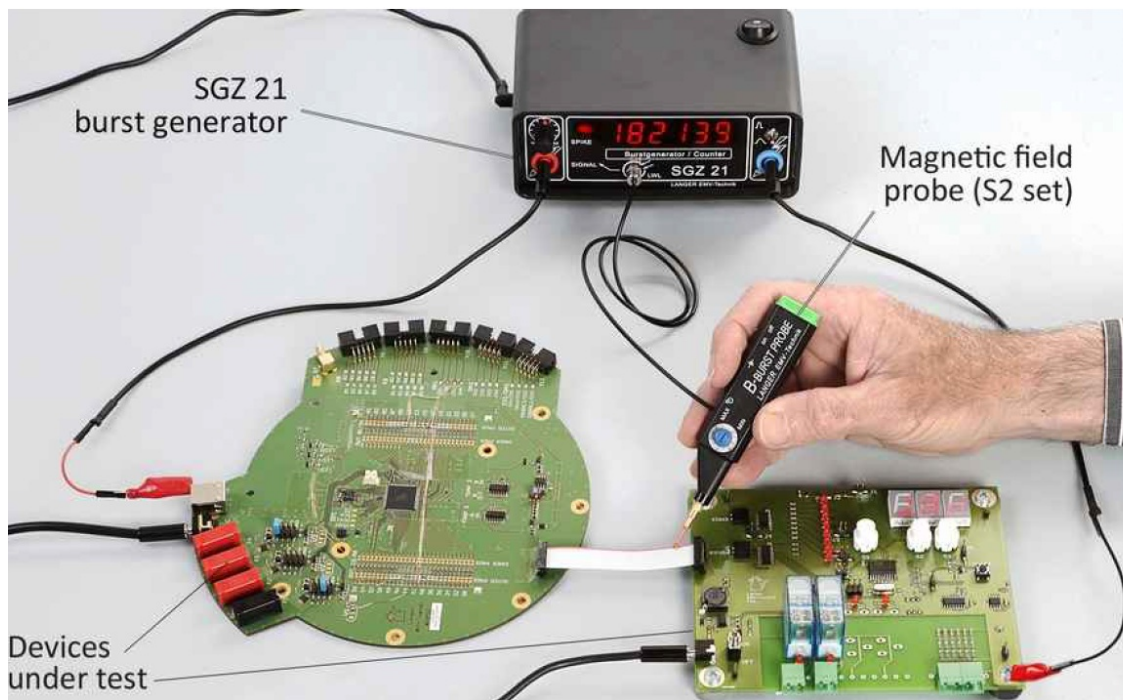
BS 05DU

ES 08D

ES 05D

BS 02

Application with MSA 02 magnetic field probe from the S2 set



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Documents / Resources

	LANGER E1 Set Immunity Development System [pdf] Installation Guide SGZ 21, BS 02, BS 05D, ES 00, ES 02, ES 08D, S21, BS 04DB, BS 05DU, ES 01, ES 05D, MS 02, NT FRI EU, E1 Set Immunity Development System, E1 Set, Immunity Development System, Development System
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References

- emv.de
- [Langer EMV](#)
- [Langer EMV](#)
- [User Manual](#)

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