



## 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.

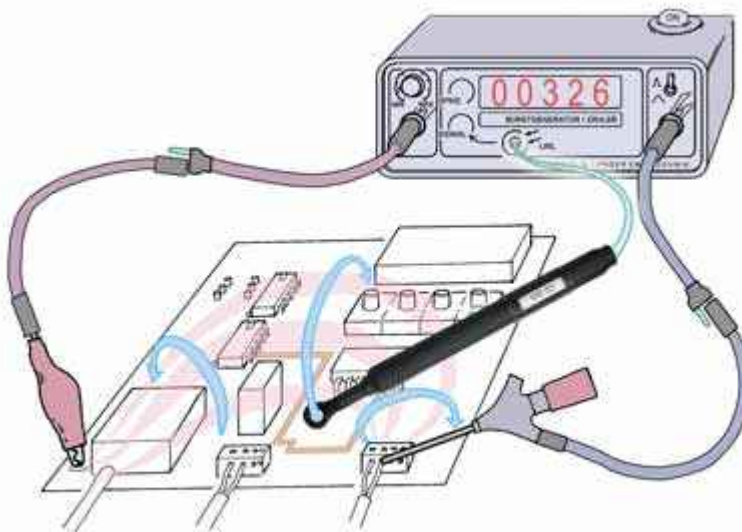
## Scope of delivery

- |                                  |                                   |
|----------------------------------|-----------------------------------|
| 1x SGZ 21, Burst Generator       | 1x S21, Optical Sensor (10 Mbps)  |
| 1x BS 02, Magnetic Field Source  | 1x BS 04DB, Magnetic Field Source |
| 1x BS 05D, Magnetic Field Source | 1x BS 05DU, Magnetic Field Source |
| 1x ES 00, E-Field Source         | 1x ES 01, E-Field Source          |
| 1x ES 02, E-Field Source         | 1x ES 05D, E-Field Source         |
| 1x ES 08D, E-Field Source        | 1x MS 02, Magnetic Field Probe    |
| 1x E1 acc, Accessories           | 1x NT FRI EU, Power Supply Unit   |
| 1x E1 case, System Case          | 1x E1 m, E1 Set User Manual       |

## Technical parameters

|                               |                     |
|-------------------------------|---------------------|
| <b>S21 optical sensor</b>     |                     |
| Transmission range            | DC...10 Mbps        |
| Optical fibre connector       | 2.2 mm Ø            |
| Supply voltage                | (3-5) V             |
| Current input                 | 10 mA               |
| <b>SGZ 21 burst Generator</b> |                     |
| 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



SGZ 21 burst generator

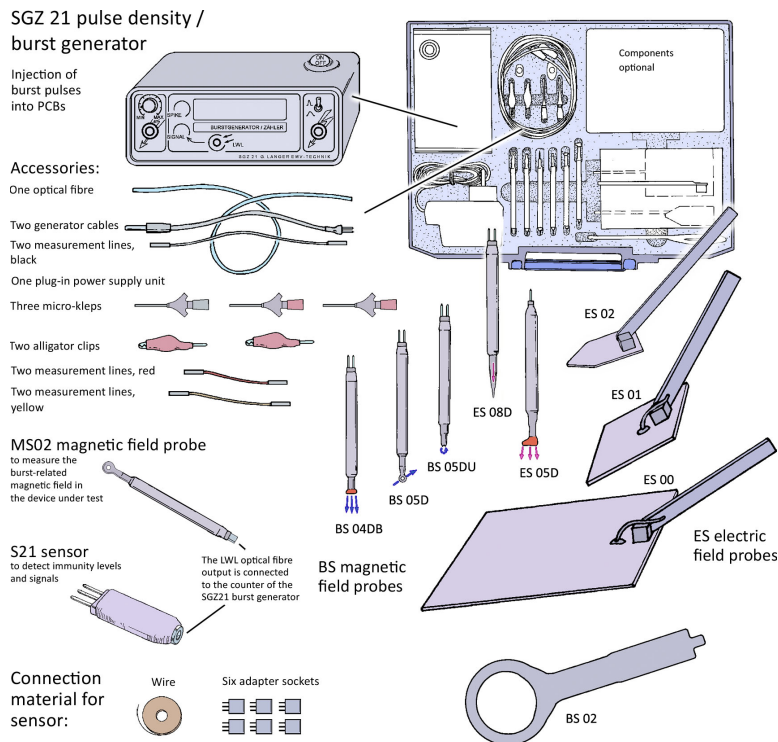
BS 04 DB magnetic field source

Optical fibre

S21 sensor

The image displays a variety of electronic test equipment and accessories. At the top left is a black rectangular device labeled 'Burstgenerator / Counter SGZ 21' by 'LANGER EMV-Technik'. It features a digital display, a 'SPRKE' knob, a 'SIGNAL' knob, and a 'LEVEL' knob. To its right is a black power supply unit with a coiled cable and a three-pronged plug. Below the generator are several black cables of different lengths and types. In the center, there are two pairs of yellow and black cables, and a single red and black cable. To the right of these are two black rectangular modules, each labeled 'ES 01', with cables attached. Below these modules is a black probe labeled 'ES 02'. At the bottom left, there are several small black components, possibly connectors or pins, and a small circular component. At the bottom center, there are two red and black cables. At the bottom right, there is a large black loop-shaped component labeled 'ES 02' and a black cable with a connector.

## Exploded view drawing E1



## Application with MSA 02 magnetic field probe from the S2 set

