E2 set

TS 23 Immunity Development System



Short description

The E2 set is a system of EMC tools for pre-compliance immunity testing of assemblies and electronic devices. It is used for troubleshooting and vulnerability analysis of electronics across all system levels.

A key application is the analysis of electronic designs that have failed EMC immunity compliance tests and require redesign or optimization.

Another important use case is the pre-compliant testing during early development stages. This enables engineers to identify potential weaknesses early and significantly reduce the risk of failing formal EMC compliance tests.

The E2 set allows reproduction of typical failure modes observed in immunity testing, including fast transient disturbances (burst, IEC 61000-4-4) and electrostatic discharge (ESD, IEC 61000-4-2).

It enables engineers to determine both the coupling mechanism (magnetic field or electric field) and the exact location of the interference on the device under test (DUT). Design modifications can be immediately evaluated for effectiveness using the E2 Set.

The test set-up is compact and designed for use directly at the engineer's workbench.

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E2 set

TS 23 Immunity Development System

LANGER EMV-Technik

Scope of delivery

1x TS 23, Pulse Generator
1x MA 33-L, Magnetic Base Adapter for Resistive Coupling (left)
1x DEA, Diff-to-Single-Ended Adapter
3x DE6, Differential Injector
1x BS 02-h, Magnetic Field Source
1x BS 04DB-d, Magnetic Field Source
1x BS 05DU-h2, Magnetic Field Source
1x ES 02, E-Field Source
1x ES 08D-h, E-Field Source
1x NT FRI EU 24V, Power Supply Unit
1x LWL Ø 2.2 mm 1.5 m, Optical Fiber Single 1.5 m
1x E2 case, System Case
1x E2 m, E2 set User Manual
1x GP 10, Ground Plate E2 set
1x MA 33-R, Magnetic Base Adapter for Resistive Coupling (right)
3x DE2, Differential Injector
1x MS 101, Magnetic Field Probe
1x BS 03-d, Magnetic Field Source
1x BS 04DB-h2, Magnetic Field Source
1x ES 01, E-Field Source
1x ES 05D-h, E-Field Source
1x ES 10D-h, E-Field Source
1x S25, Optical Sensor (50 Mbps)
1x E2 acc, Accessories
1x E2 qg, TS 23 set Quick Guide

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Technical parameters

TS 23 Pulse Generator	
Pulse parameter	
Rise time	1.5 ns
Max. Pulse voltage	2.2 kV (adjustable)
Repetition frequency	1.5 kHz (adjustable)
Polarity	+/- (adjustable)
Operating Modes	Continuous, Ramp, Pulse Groups, Boost, External Trigger
Optical input	
Optical fiber	2.2 mm
Max. frequency	5 MHz
Min. pulse width	100 ns
Supply voltage	24 V / 1 A DC
Sizes (L x W x H)	(160 x 200 x 75) mm
S25 Optical Sensor	
Transmission range	DC ... 50 Mbps
Optical fibre connector	2.2 mm
Supply voltage	(3 - 5) V
Current input	30 mA

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E2 set - Scope of Delivery



E2 set - Scope of Delivery with Product Designation



Content:

No	Description	Type	Qty
1	Pulse Generator	TS 23	1
2	Ground Plate	GP 10	1
3	Magnetic Base Adapter	MA 33	2
4	Differential Injector	DE2; DE6	6
5	Diff-to-Single-Ended Adapter	DEA	1
6	Magnetic Field Sources	BS 02h; BS 03-d; BS 04DB-d; BS 04DB-h2; BS 05DU-h2	5
7	E-Field Sources	ES 01; ES02; ES 05D-h; ES 08D-h; ES 10D-h	5
8	Magnetic Field Probe	MS 101	1
9	Optical Sensor	S21	1
10	Optical Fiber	LWL	1
11	Accessories	Cable; Kleps; Adapter	
12	Power Supply Unit	NT FRI EU	1
13	User Manual		1
14	Quick Guide		1
15	System Case		1

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