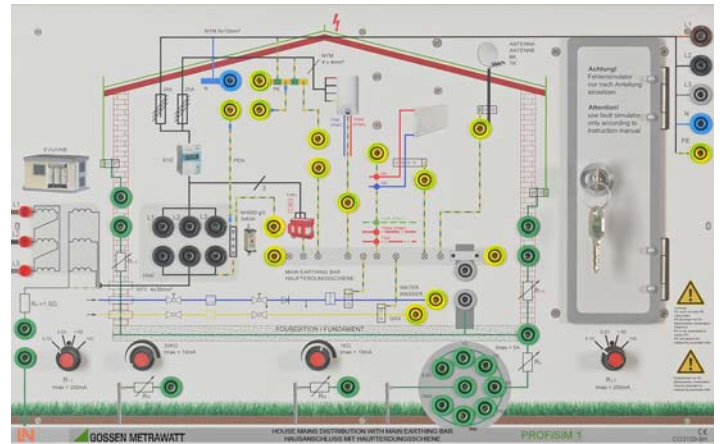


PROFISIM 1

Installation Board: “Service Line with Main Grounding Busbar” for Fault Simulation for Measurements per IEC 60364-6 (DIN VDE 0100-600) and EN 50110 (DIN VDE 0105-100)

3-349-895-03
2/8.16

- Service line with main grounding busbar
- External and internal lightning protection
- Earthing measurements
- TN/TT systems
- Simulation of faults via 12 switches
- Single and double fault circuit
- Lockable fault switching panel
- Console-like housing
- Can be used as a benchtop device or in an experimentation frame



Applications

Target groups:

Training personnel (electricians):

- Teachers
- Trainers
- Instructors
- Laboratory supervisors

Learners:

- Trainees
- Students
- Apprentices

Content

- Simulation of a building service line with main fuse
- Simulation of external and internal lightning protection
- Main grounding busbar with all important equipotential bonding cables and earth strips
- Implementation of various mains systems (TT, TN)
- Preparation of test reports in accordance with DIN VDE 0100

Description

The installation board functions as a compact building service line with main grounding busbar for consumer systems including an fault simulator.

It's used primarily for training sessions and project work covering all aspects of “testing systems in accordance with DIN VDE 0100-600”.

The board is equipped with all of the necessary modules of a building supply line including an extended main grounding busbar for the implementation of testing and fault options.

Applicable Regulations and Standards

IEC 61010-1/ DIN EN 61010-1/ VDE 0411-1	Safety requirements for electrical equipment for measurement, control and laboratory use – General requirements
IEC 60364-6 DIN VDE 0100-600	Low-voltage electrical installations – Part 6: Tests
EN 50110 DIN VDE 0105-100	Operation of electrical installations – Part 100: General requirements
EN 60529 VDE 0470-1	Test instruments and test procedures Degrees of protection provided by enclosures (IP code)

PROFISIM 1

Installation Board: "Service Line with Main Grounding Busbar" for Fault Simulation for Measurements per IEC 60364-6 (DIN VDE 0100-600) and EN 50110 (DIN VDE 0105-100)

Technical Data

Simulation of a Building Installation

- Simulation of external lightning protection:
R1, R2 = 0.1 Ω , 0.2 Ω , 1.0 Ω , ∞ , I_{max.} = 200 mA
- Earth simulation:
RE = 0.5 Ω , 1.0 Ω , 2.0 Ω , 5.0 Ω , 10 Ω , 50 Ω , 100 Ω , I_{max.} = 5 A
- Simulation of the auxiliary earth electrode: RH = 0 ... 1 k Ω , I_{max.} = 10 mA
- Simulation of the earth probe: RS = 0 ... 50 k Ω , I_{max.} = 10 mA
- Simulation of the operational earth electrode: RB = 1.5 Ω , I_{max.} = 10 A
- Connection panel for downstream sub-distributors of a consumer system

Fault Simulation

Fault simulator with 12 fault options via switches



No.	Fault Description	Comment
1	Interruption of the equipotential bonding cable from the main grounding busbar to the water pipe	R = ∞
2	Contact resistance in the equipotential bonding cable from the main grounding busbar to the gas pipe	R = approx. 4 Ω
3	Interruption of the equipotential bonding cable from the main grounding busbar to the heater	R = ∞
4	Contact resistance in the equipotential bonding cable from the main grounding busbar to the continuous-flow water heater	R = approx. 3 Ω
5	Insulation resistance, L1-PE	RL1-PE = approx. 780 k Ω
6	Insulation resistance, L2-PE	RL2-PE = approx. 780 k Ω
7	Insulation resistance, L1-PE and L3-PE	RL1-PE = approx. 780 k Ω , RL3-PE = approx. 440 k Ω
8	Voltage-dependent insulation resistance	When measured with a multimeter resistance is OK. When measured with a VDE tester with rising test voltage a voltage dip occurs at approx. 300 V. > Overvoltage protection type 3
9	Protective conductor resistance in PEN conductor too high	RPE = approx. 5.6 Ω
10	Protective conductor resistance, output, plate	RPE = approx. 3.0 Ω
11	Loop impedance too high	ZL1-PE = approx. 5.6 Ω
12	Loop impedance too high	ZL1-PE = approx. 5.6 Ω , ZL3-PE = approx. 8.6 Ω

Connection Values

Mains connection	16 A CEE plug
Connector cable	Approx. 2.5 m
Nominal voltage	3 x 230/400 V
Frequency	50/60 Hz
Protection category	I

Mechanical Design

Dimensions	297 x 456 x 80 mm
Weight	Approx. 2.2 kg
Inputs/outputs	4 mm safety sockets

Ambient Conditions

Ambient temperature	Max. +35 °C
Relative humidity	Max. 60%, condensation is ruled out

Scope of Delivery

Installation board
Operating instructions
Test specification
Short circuit jumpers
Keys for fault simulator

Order Information

Designation	Type	Article Number
Installation board	PROFISIM 1	M560A
Case for PROFISIM 1/2	PROFISIM case	Z560A

PROFISIM case with PROFISIM 1



Edited in Germany • Subject to change without notice • PDF version available on the Internet

 GOSSEN METRAWATT

GMC-I Messtechnik GmbH
Südwestpark 15
90449 Nürnberg, Germany

Phone: +49-911-8602-111
Fax: +49 911 8602-777
e-mail info@gossenmetrawatt.com
www.gossenmetrawatt.com