Line Impedance Stabilization Network

EM5040DT

（9kHz～30MHz/100A，50uH）

Shenzhen Zhiyong Electronics Co., Ltd.

Preface

To safely use this machine and avoid personal injury or device loss, please read this instruction manual carefully and strictly follow the safety cautions below. Our company will not be responsible for any injury or loss caused by violating the instruction.

Manual annotation will use the following symbols to distinguish.

This symbol means it is harmful to the machine and human body; you must strictly follow the instruction manual to operate.

Warning In the case of wrong operation, the user risk injury. The content under this mark records the relevant matters needing attention to avoid such dangers.

Notice The user may have suffered minor injuries and material damage while with the wrong operation, to avoid such situation, note the matters needing attention.

Note This symbolizes important note about how to use the machine.

This product is designed according to the international EMC standard, so, theoretically there will be relatively large leakage current. If the ground condition is bad, there could be deadly electric shock. Thus, the company requires the users to check the following tips:

- **The device must be well grounded (There are grounding points on the sides and back of the device)**
- **The electric environments of many users have bad grounding, but users don't know. This is critically dangerous so the company require the users to have double protection: users must install isolation transformer. Users can buy it from the market.**
- **Do not open the case or try to connect lines during operation. Do not use the LISN in damp or explosive environment. Please keep the device surface dry and clean before operating.**
- **Must make sure the product is used in the rating voltage/ current range.**
- **If there's anything wrong with the product, please contact us immediately. Do not open the shell and try to repair the device to avoid unwanted accident.**

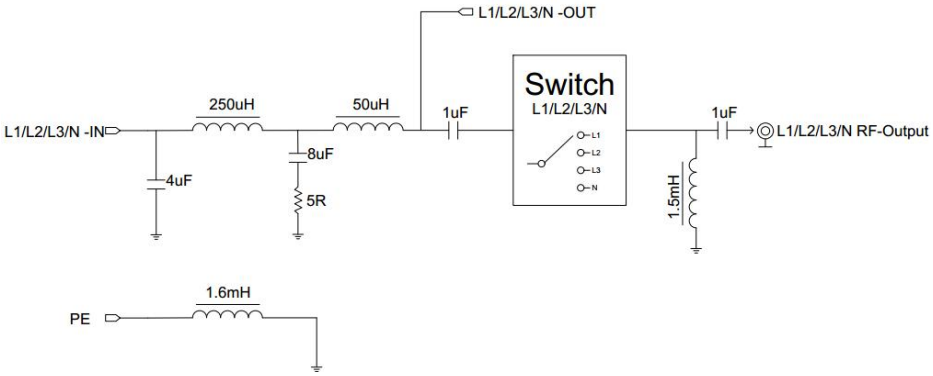
1. Summary

EM5040DT is a kind of (50uH+5Ω) ||50Ω Type V Three Phase LISN (Line Impedance Stable Network). This product can provide stable impedance between EUT and reference ground in the RF range of 9kHz-30MHz and insulated the circuit under test from the useless signal from the electric network, coupling only the disturbance voltage of the EUT to the input connector of the Test Receiver. EM5040DT's performance is in accordance with the CISPR16-1-2: 2006 Standard and can be used for measuring conducted disturbance voltage of three-phase equipment. EM5040DT has standard BNC output connector and 50Ω output impedance, and it can match the equipment such as Test Receiver or Spectrum Analyzer of any brand.

2. Electrical Specification

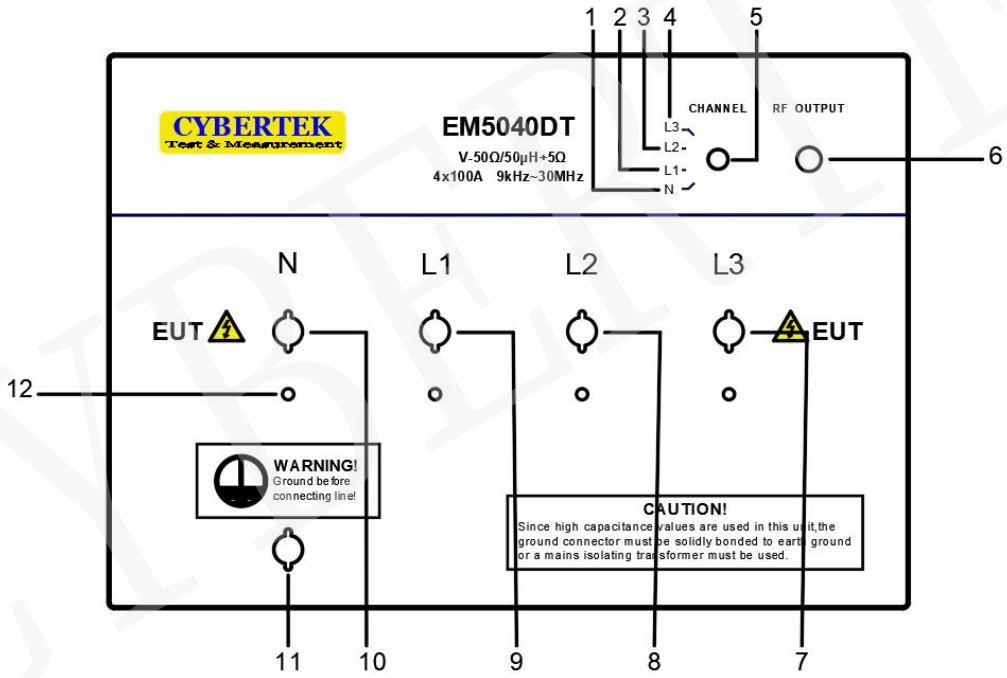
Frequency range	9kHz—30MHz
Simulated impedance	(50uH+5Ω) ||50Ω Type V
Test line and phase number	Three phases four lines (L1/L2/L3/N)
Phase voltage/frequency range	0～240VAC / 50～60Hz ±5%
DC voltage range	0～375V DC
Power supply input/output connector	10mm bolt
Output current	Rated 100A(In environment with good ventilation and convention)
Grounding protection	Bottom metal plate grounding Front/back panel 10mm bolt grounding
Output connector	Standard 50Ω BNC female，
Operating temperature range	0℃～45℃
Storage temperature	-20℃～70℃
Safety standard	In accordance with EN61010-1
Dimensions(L*W*H)	446mm×446mm×319mm
Weight	29kg

3. Basic Theory



4. EM5040DT Product Introduction

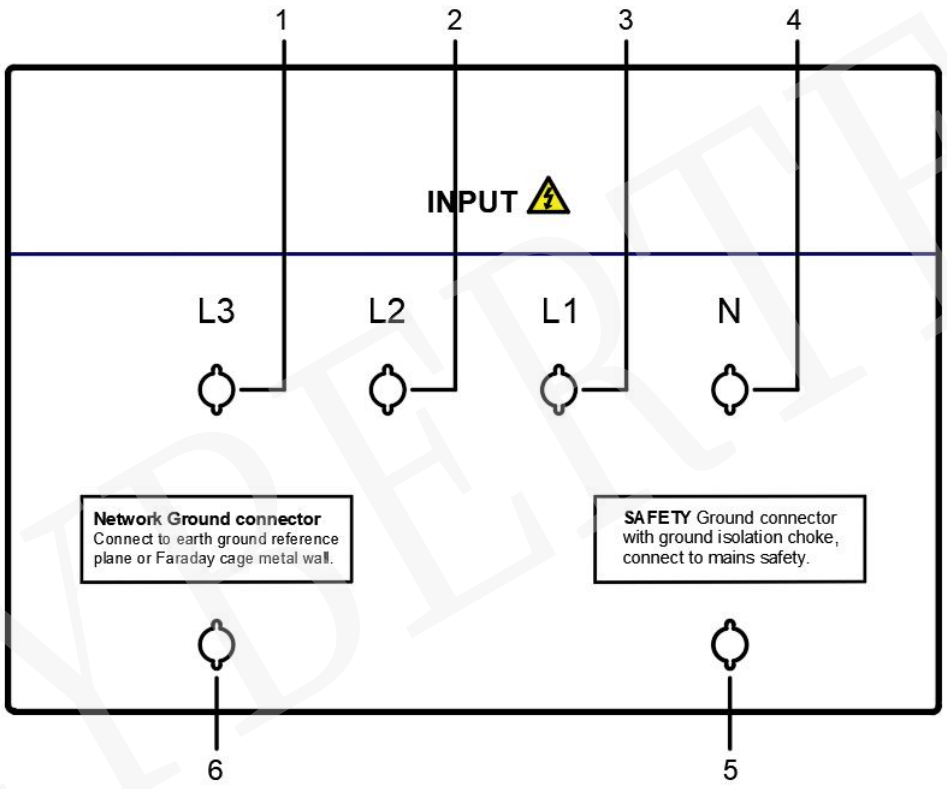
4.1 EM5040DT Front Panel Instruction



- 1. N phase RF OUTPUT gear: Selects N phase disturbance signal as current output.
- 2. L1 phase RF OUTPUT gear: Selects L1 phase disturbance signal as current output.
- 3. L2 phase RF OUTPUT gear: Selects L2 phase disturbance signal as current output.
- 4. L3 phase RF OUTPUT gear: Selects L3phase disturbance signal as current output.
- 5. Selector: select output signal of the RF OUTPUT connector between N, L1, L2, and L3.
- 6. RT OUTPUT connector: Standard BNC RF female socket with no limiter, please use along with our limiter EM5010A to protect your receiver.

- 7. (EUT) power supply connector: L3 phase power supply connector for EUT, the bolt diameter is 10mm.
- 8. (EUT) power supply connector: L2 phase power supply connector for EUT, the bolt diameter is 10mm.
- 9. (EUT) power supply connector: L1 phase power supply connector for EUT, the bolt diameter is 10mm.
- 10. (EUT) power supply connector: N phase power supply connector for EUT, the bolt diameter is 10mm.
- 11. GND terminal: The bolt diameter is 10mm for grounding protection.
- 12. Reference Ground connector: 4mm socket for the calibration of this device.

4.2 EM5040DT Back Panel Instruction



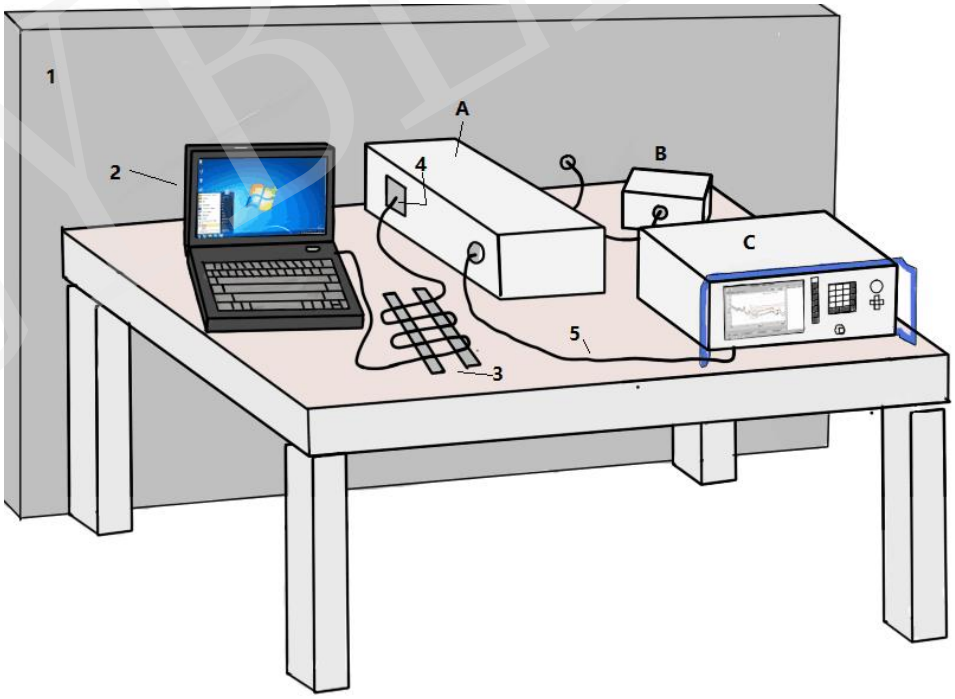
- 1. Power input connector: L3 phase power supply input connector, the bolt diameter is 10mm.
- 2. Power input connector: L2 phase power supply input connector, the bolt diameter is 10mm.
- 3. Power input connector: L1 phase power supply input connector, the bolt diameter is 10mm.
- 4. Power input connector: N phase power supply input connector, the bolt diameter is 10mm.
- 5. GND terminal: the bolt diameter is 10mm and provide grounding protection.
- 6. PE GND terminal: the bolt diameter is 10mm and is in series connection with a inductor to the shell. Using this terminal can decrease external ground wire interference entering the measurement ground

5. Constructing Conduction Test Platform

Please read the instruction manual carefully to learn safety tips and measure according to correct steps.

This product is designed according to the international EMC standard, so, theoretically there will be relatively large leakage current. If the ground condition is bad, there could be deadly electric shock. Thus, the company requires the users to check the following tips:

- **The device must be well grounded (There are grounding points on the sides and back of the device)**
- **The electric environments of many users have bad grounding, but users don't know. This is critically dangerous so the company require the users to have double protection: users must install isolation transformer. Users can buy it from the market.**
- **Do not open the case or try to connect lines during operation. Do not use the LISN in damp or explosive environment. Please keep the device surface dry and clean before operating.**
- **Must make sure the product is used in the rating voltage/ current range.**
- **If there's anything wrong with the product, please contact us immediately. Do not open the shell and try to repair the device to avoid unwanted accident.**



Item	Instruction
1	Metal plate not smaller than 2m*2m
2	EUT
3	Folding method when the length of the power supply cable exceeds 1m
4	Power supply connector of the EUT
5	Output shielding cable
A	LISN
B	Isolation transformer
C	Receiver

6. Packing List

Packing List	
LISN	1
RF cable	BNC (male) 2m
BNC female to N male	1
Instruction manual	1
Warranty card	1
Test report	1

CYBERTEK

SHENZHEN ZHIYONG ELECTRONICS CO., LTD

Addr： Room A1702, Building 4, TianAn Cyber Park, HuangGe North Road, LongGang District, ShenZhen City, China

Tel: +86-400 852 0005 / +86-755-86628000

Q Q: 400 852 0005

Fax: +86)0755-8662 0008

Email: cybertek@cybertek.cn

Url: http://www.cybertek.cn

Published in China, June 1, 2023