



# **INSTRUCTION MANUAL**

## **RADIATION PROBE**

<b>MODEL</b>	01-00006A
	01-00007A
	01-00008A
	01-00009A
	01-00010A
	01-00030A
	01-00031A
	01-00033A
	01-00043A
	01-00050A

**NOISE LABORATORY CO., LTD.**

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Noise Laboratory Co., Ltd. shall have no liability for any trouble resulting from the remodeling or modification of this product.

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# 1 APPLICATION FORM FOR INSTRUCTION MANUAL

We place an order for an instruction manual.

**Model:** 01-000

**Applicant:**

Company name: \_\_\_\_\_

Address: \_\_\_\_\_

Department: \_\_\_\_\_

Person in charge: \_\_\_\_\_

Tel No.: \_\_\_\_\_

Fax No.: \_\_\_\_\_

Cut off this page "application form for instruction manual" from this volume and keep it for future use with care.

When an INSTRUCTION MANUAL is required, fill in the above Application Form and mail or fax it to your nearest sales agent of Noise Laboratory or Noise Laboratory.

Your sales agent:

**NOISE LABORATORY CO., LTD.**  
1-4-4 CHIYODA, CHUO-KU, SAGAMIHARA-CITY, KANAGAWA PREF. 252-0237 JAPAN  
TEL +81-42-712-2051 FAX +81-42-712-2050

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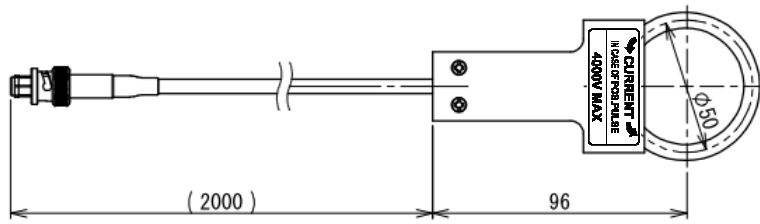


### 3 GENERAL DESCRIPTION

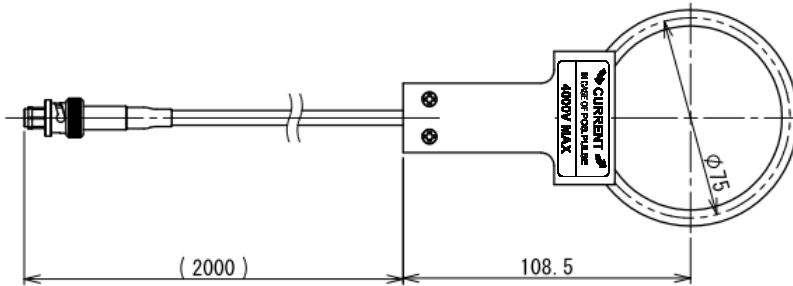
Connected to the INS Impulse Noise Simulator, Radiation Probe gives radiated interference to the circuit, PC board or unit to be tested, allowing the user to know where are the parts or blocks which are sensitive to radiated noise.

**※ For the safety precautions, warranty terms and so on, refer to the relevant section of the manual of your simulator.**

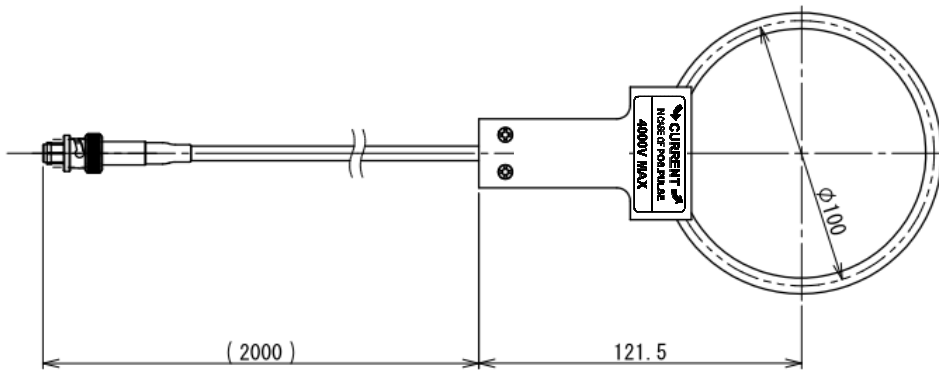
## 4 APPEARANCE



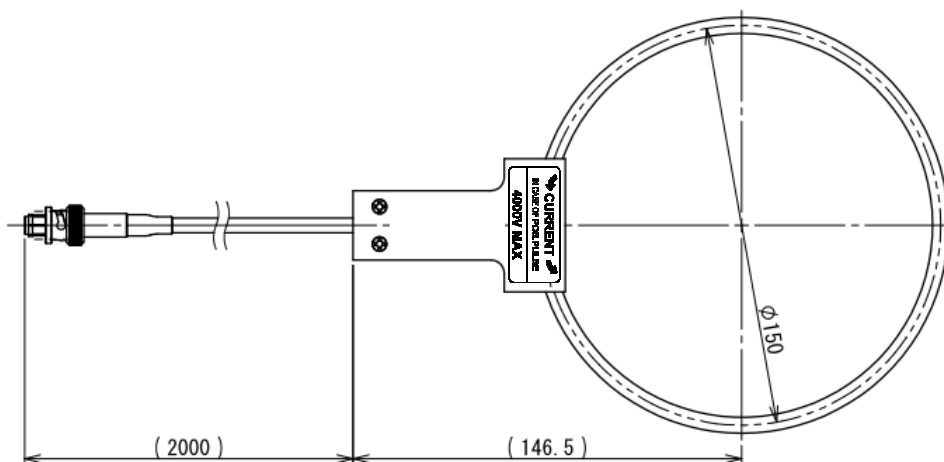
MODEL : 01-00006A Loop diameter :  $\phi 50$ mm



MODEL : 01-00007A Loop diameter :  $\phi 75$ mm

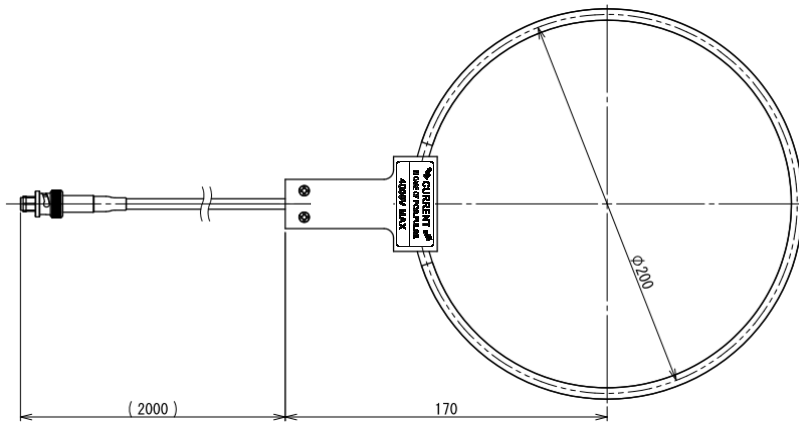


MODEL : 01-00008A Loop diameter :  $\phi 100$ mm

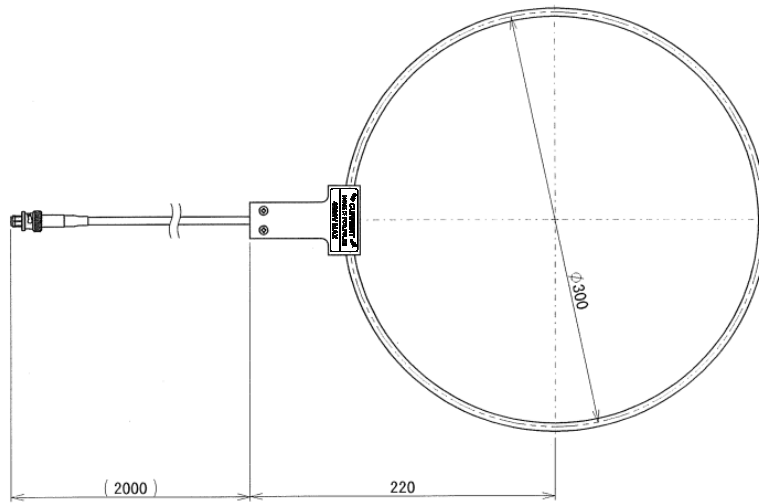


MODEL : 01-00009A Loop diameter :  $\phi 150$ mm

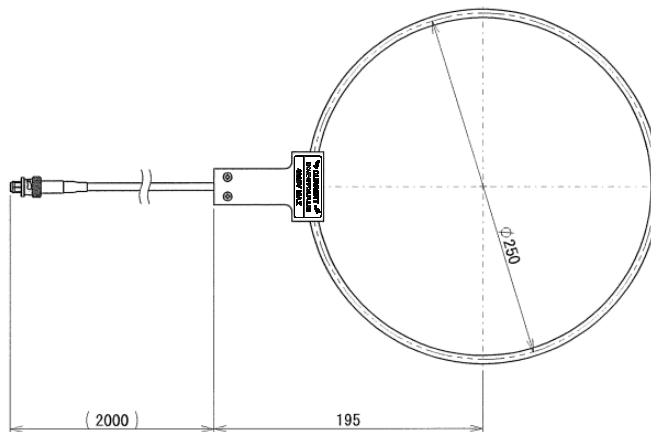




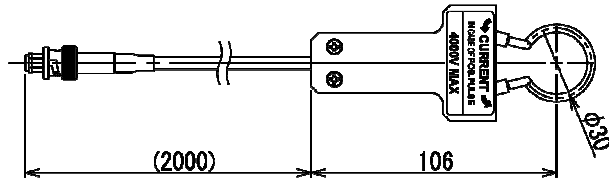
MODEL : 01-00010A Loop diameter :  $\phi$  200mm



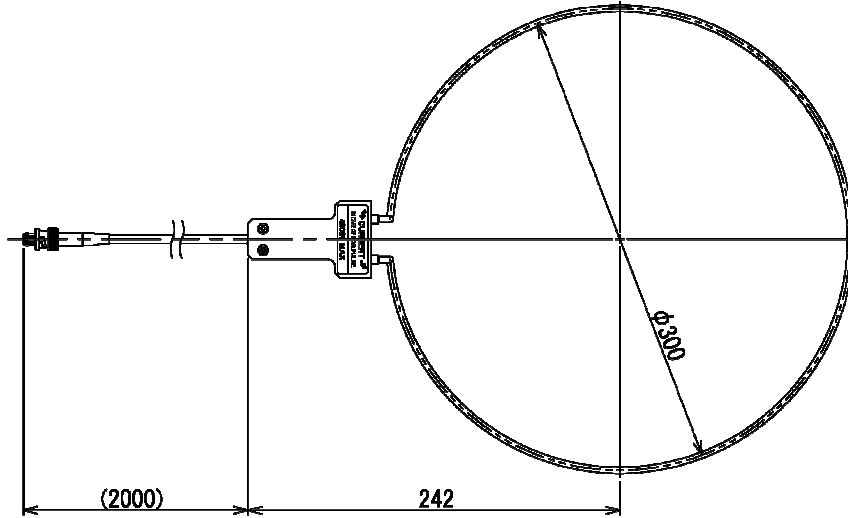
MODEL : 01-00030A Loop diameter :  $\phi$  300mm



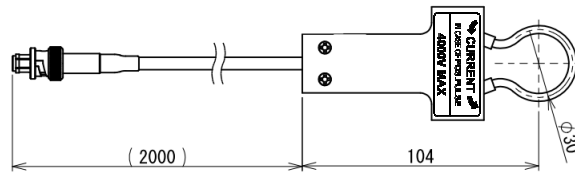
MODEL : 01-00031A Loop diameter :  $\phi$  250mm



MODEL : 01-00033A Loop diameter : L type  $\phi$  30mm



MODEL : 01-00043A Loop diameter : L type  $\phi$  300mm



MODEL : 01-00050A Loop diameter :  $\phi$  30mm

## 5 SPECIFICATIONS

Table Specifications of this product

Parameters	Specifications	Note
Input voltage	$\pm 4000V$ MAX	
Input pulse width	50ns ~ 1 $\mu$ s	
Loop diameter	01-00006A : $\phi$ 50 mm 01-00007A : $\phi$ 75 mm 01-00008A : $\phi$ 100 mm 01-00009A : $\phi$ 150 mm 01-00010A : $\phi$ 200 mm 01-00030A : $\phi$ 300 mm 01-00031A : $\phi$ 250 mm 01-00033A : L type $\phi$ 30mm 01-00043A : L type $\phi$ 300mm 01-00050A : $\phi$ 30 mm	
Cable length	Approx. 2m	
Weight	Loop diameter $\phi$ 50mm : Approx. 175g Loop diameter $\phi$ 150mm : Approx. 200g	
HV Coaxial Connector	NMHV	Noiseken original

### (NOTICE)

- Connect the radiation probe with Impulse Noise Simulator (INS series).
- This radiation probe is originally designed for INS-4300 series, INS-AX series, 400L, 4001 (both 2kV and 4kV types) , INS-4020/4040 and INS-AX2 series. A conversion connector (Model:02-00034A) is required when it is used with INS-400 series (Model: INS-410, 420, 420A, etc.).

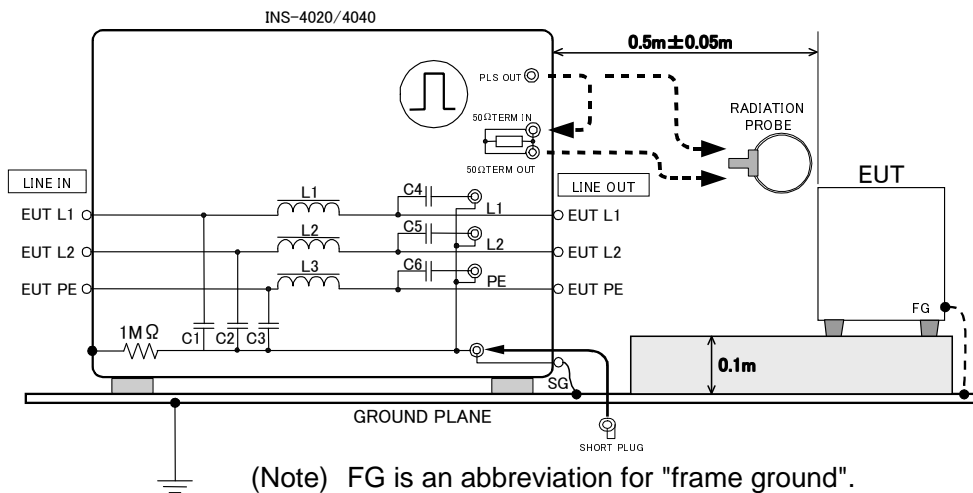
### Coaxial cable and high-voltage coaxial connector

The high-voltage coaxial cable (incorporated in the simulator) and high-voltage coaxial connector (external) are consumable supplies. Check the high-voltage coaxial cable and high-voltage coaxial connector with an insulation-resistance tester every half-year or when they are used for about 200 hours. When the performance drops below DC1000V/100M $\Omega$ , change them for new ones.

## 6 OPERATION

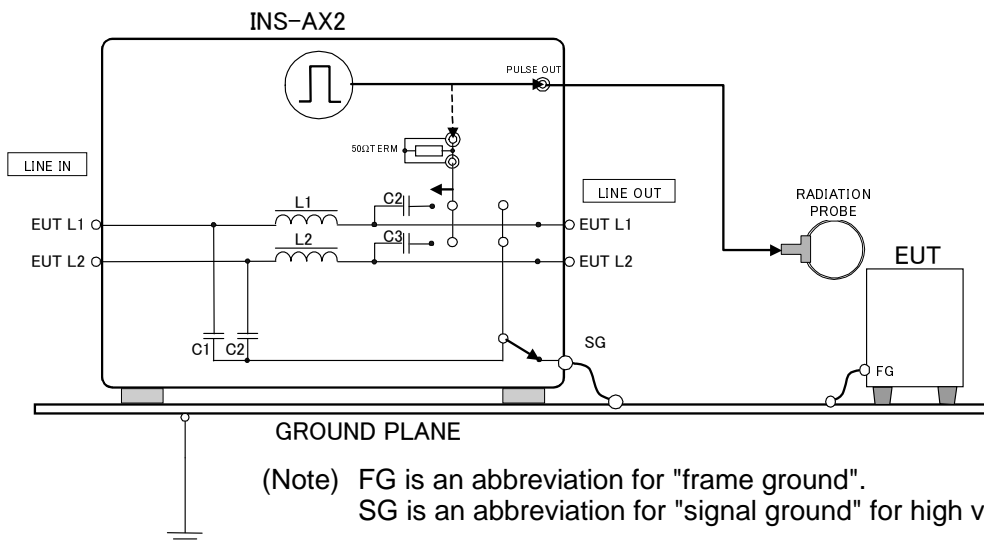
- ① As shown in the figure, connect the connector of the radiation probe to the PULSE OUT or 50Ω TERM OUT connected to the PULSE OUT via TERM IN terminal. These different connections generate different pulse waveforms and amplitudes.
- ② Turn on the simulator power.
- ③ Select the desired output voltage, polarity, pulse width and repetition frequency by setting the controls of the simulator.
- ④ Move the probe loop to locate the point where the radiation from the probe can invite the degradation in the operational performance of the specimen.
- ⑤ Change the setting of the output voltage, polarity, pulse width and repetition and repeat the procedures of sections ④.

The obtained data will help you to develop and incorporate effective protective measures to ensure adequate immunity from radiated interference.



(Note) FG is an abbreviation for "frame ground".  
SG is an abbreviation for "signal ground" for high voltage pulses.

Test set-up by using INS-4020/4040



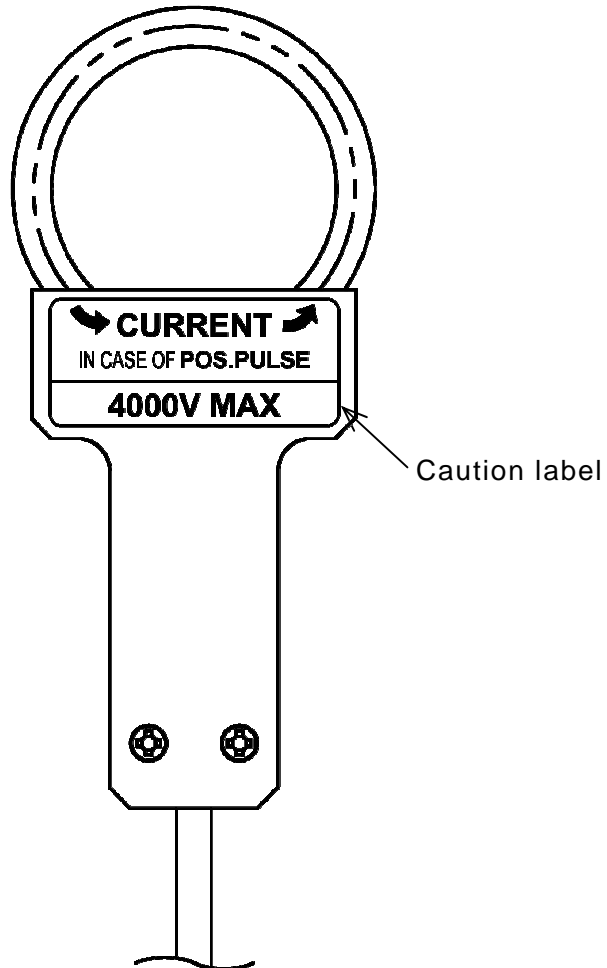
(Note) FG is an abbreviation for "frame ground".  
SG is an abbreviation for "signal ground" for high voltage pulses.

Test set-up by using INS-AX2 Series

**NOTE**

In case of positive pulse on Impulse Noise Simulator, The loop current direction is indicated by arrow in the following figure.

When a negative pulse is applied, the loop current flows opposite.



## 7 WARRANTY

### Servicing terms

The following terms are applicable to servicing by Noise Laboratory Co., Ltd., (hereafter referred to as the Company) provided to maintain the intended performance of its products.

1. **Scope**  
The following terms shall apply only to products made by the Company.
2. **Technical servicing fee**  
In the event of a failure of a product within the warranty period (see warranty section), the Company will repair a product without charge. After the warranty expires, repairs will be billed at a nominal cost.
3. **Ownership of defective parts**  
Any defective part exchanged under the Company's servicing belongs to it.
4. **Limited liability**  
In the event that damages resulting from servicing by the Company are intentional or caused by negligence, the Company will pay the cost but at the purchase value of the relevant product maximum. But, notwithstanding the foregoing, the Company shall not be responsible for any incidental or consequential damages of any nature, including without limitation thereof loss of would-be profit or compensation demanded from a third party
5. **Refusal to offer servicing**  
The company may not accept a repair order in the following cases:
  - More than 5 years have passed since the product discontinued
  - More than 8 years have passed after delivery
  - Required component for servicing already discontinued and no alternative is available.
  - Product changed, repaired or remodeled without obtaining a prior permission from the Company.
  - Product severely damaged to the extent it has lost its original form

## Limited warranty

Noise Laboratory Co., Ltd. (hereafter referred to as the Company) warrants its products to be free from defects in materials and workmanship under normal use and service for a period of one year from date of delivery. In the event of failure of a product covered by this warranty, the Company will repair the product or may, at its option, replace it in lieu of repair without charge.

Notwithstanding the foregoing, the Company shall not be responsible for any incidental or consequential damages of any nature, including without limitation thereof loss of would-be profit or compensation demanded from a third party. This warranty is valid only in Japan.

### 1. Scope

This warranty shall only apply to products made by the Company.

### 2. Period

One year from date of delivery. The warranty may be valid in 6 months after servicing if the same failure on the same component has repeated.

### 3. Exclusions

The followings are exclusions from this warranty:

- Consumable parts (including HV relay)
- Failure caused by misuse, neglect, accident or abnormal conditions of operation
- Failure caused by remodeling on the user side without prior permission from the Company
- Failure caused by servicing by unauthorized personnel by the Company
- Failure due to force majeure including but not limited to, acts of God, fire, war, riot, rebellion and others
- Failure due to shock or drop in or after transit
- Failure due to operation in environment being out of ambient specifications.
- A unit shipped to overseas.

## 8 MAINTENANCE

1. When repair, maintenance or internal adjustment of the unit is required, a qualified service engineer takes charge of such work.
2. Maintenance on the user side is restricted to the outside cleaning and functional check of the unit.
3. When checking or replacing the fuse, turn off the switch of the unit and disconnect the plug socket beforehand.
4. When cleaning the unit, turn off the switch of this unit and the connected equipment and disconnect the plug socket beforehand.
5. Avoid using chemicals for cleaning. Otherwise, the coating of the unit may peel off or the sight glass may be broken.
6. Do not open the cover of this unit.



## 9 NOISE LABORATORY SUPPORT NETWORK

- If a symptom that seems a trouble is found, check the symptom against the following check sheet and inform the model name and serial Number of the product together with the symptom to Noise Laboratory or our nearest sales agent in your area.
- When the product is returned to Noise Laboratory, write the state of the trouble, contents of your request, model name and serial number in a repair order, pack the product and repair order sheet in the former package or equivalent suitable for transit, and send them back.

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