User's manual of operation

KIND-pro

Notes;

・ **KIND-pro is an educational radiation (Gamma, X-ray) survey meter.**

・ **KIND-pro is not used in the radiation controlled area officially.**

・ **KIND-pro has lithium ion battery built-in. In case of abnormal heating, please refrain from its use.**

・ **KIND-pro will not work correctly where electromagnetic waves, micro waves, etc. generated. Please refrain from its use in such places.**

・ **KIND-pro does not have waterproofing function.**

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Overview

CsI(Tl) scintillator

LED

Button
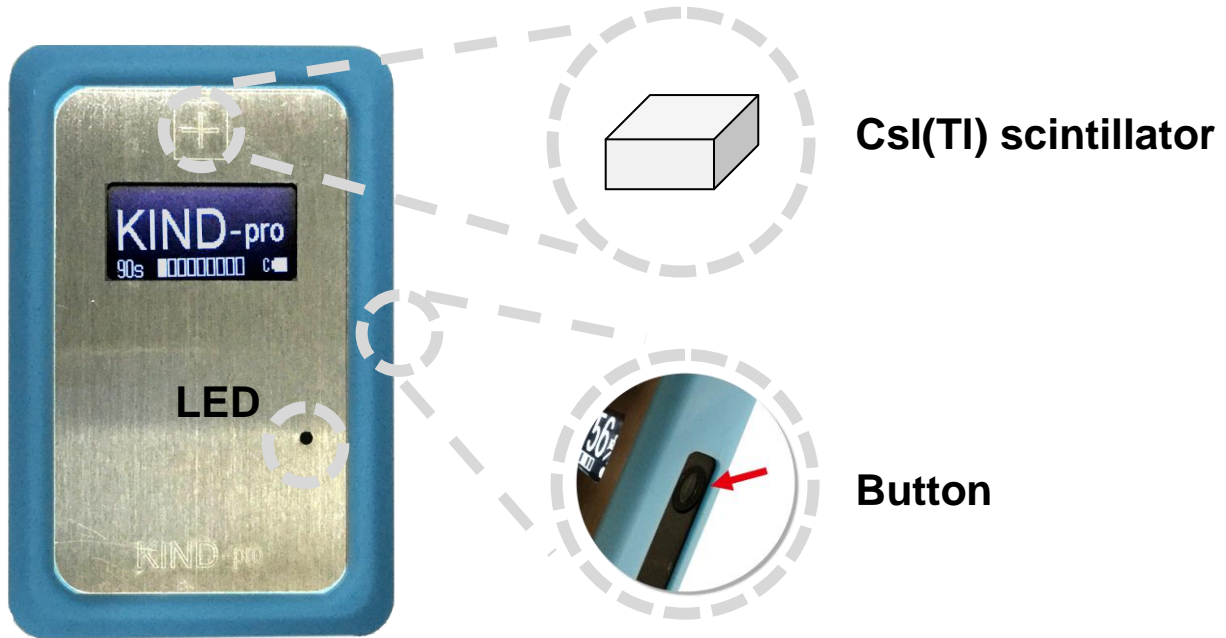
Display mode:

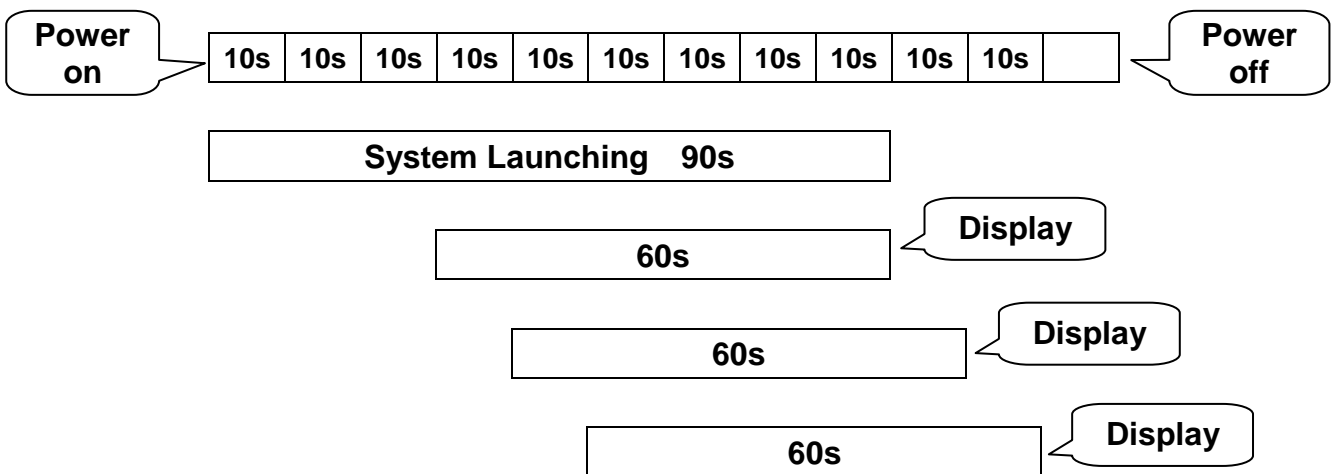|	
Moving Average Mode	**Values updated based on most recent 1 minute every 10 seconds are displayed in the unit of µSv/h (micro-Sievert per hour).**
Sampling Mode	**Values updated based on most recent 10 seconds every 10 seconds are displayed in the unit of µSv/h (micro-Sievert per hour).**
µSv/h (START/STOP) Mode	**Values in the unit of µSv/h (micro-Sievert per hour) are displayed 60 seconds later after the button is pressed.**
CPM (START/STOP) Mode	**Values in the unit of CPM (count per minute) are displayed 60 seconds later after the button is pressed.**

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Moving Average Mode

Button

Short press
Sound On / Off

Long press
Power On / Off

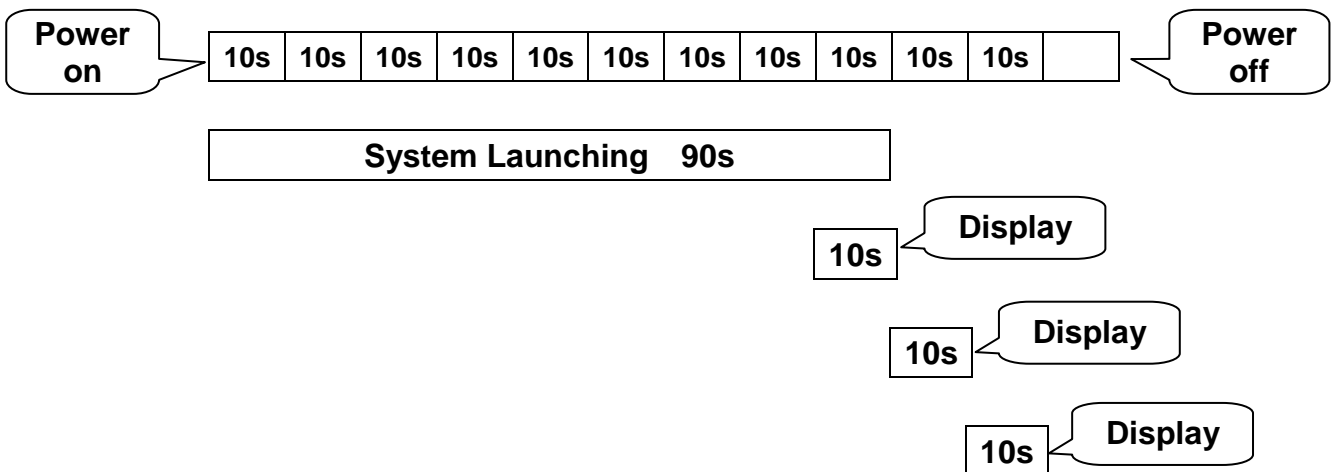| SOUND & LED	ON		OFF	
COIN BATTERY	WITH		WITHOUT	
REMAINING BATTERY	75～100%	50-75%	25-50%	0-25%
TIME		6 blocks are provided in a row. A white block shifts to the next right side every 10 seconds.		

Power on	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s	10s		Power off

System Launching   90s

60s	Display

60s	Display

60s	Display

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Sampling Mode

Button

Short press Sound On / Off

Long press Power On / Off

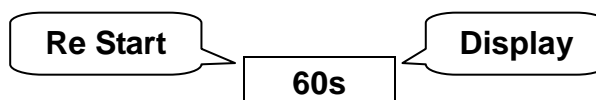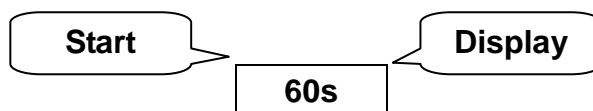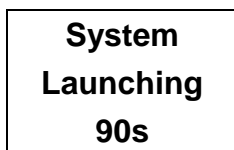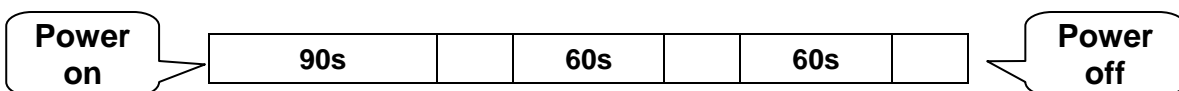| SOUND & LED	ON		OFF	
COIN BATTERY	WITH		WITHOUT	
REMAINING BATTERY	75～100%	50-75%	25-50%	0-25%
TIME		Passage of 10 seconds is graphed with a bar. The bar counts up from empty to full every 10 seconds.		

Power on → | 10s | 10s | 10s | 10s | 10s | 10s | 10s | 10s | 10s | 10s | 10s | ← **Power off**

System Launching   90s

10s — **Display**

10s — **Display**

10s — **Display**

μSv/h (START/STOP) Mode

Short press
(Re) START
Long press
Power On / Off

Button

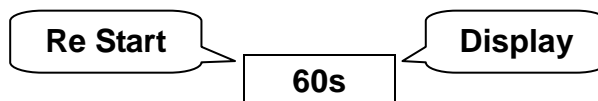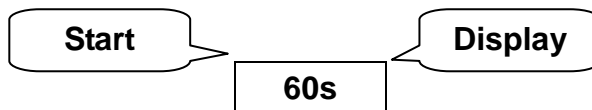| COIN BATTERY	[battery icon] WITH		[battery icon] WITHOUT	
REMAINING BATTERY	75～100%	50-75%	25-50%	0-25%
TIME	60s [bar]	Passage of 1 minute is graphed with a bar. The button pressed, the bar starts to count up till 60 seconds.		

Power on → | 90s | 60s | 60s | | ← **Power off**

System Launching 90s

Start → 60s ← **Display**

Re Start → 60s ← **Display**

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CPM (START/STOP) Mode

167 CPM

60s

Short press
(Re) START
Long press
Power On / Off

Button

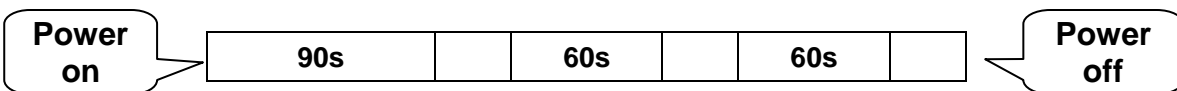| COIN BATTERY		WITH		WITHOUT
REMAINING BATTERY	75～100%	50-75%	25-50%	0-25%
TIME	**60s**	Passage of 1 minute is graphed with a bar. The button pressed, the bar starts to count up till 60 seconds.		

Power on	90s	60s	60s		Power off

System Launching 90s

Start — **60s** — **Display**

Re Start — **60s** — **Display**

How to Change Display Mode

Any display mode of KIND-pro can be set by the PC software. The PC software runs on Windows7, Windows8.X, Windows10. An USB cable with mini-B terminal connects KIND-pro and PC.
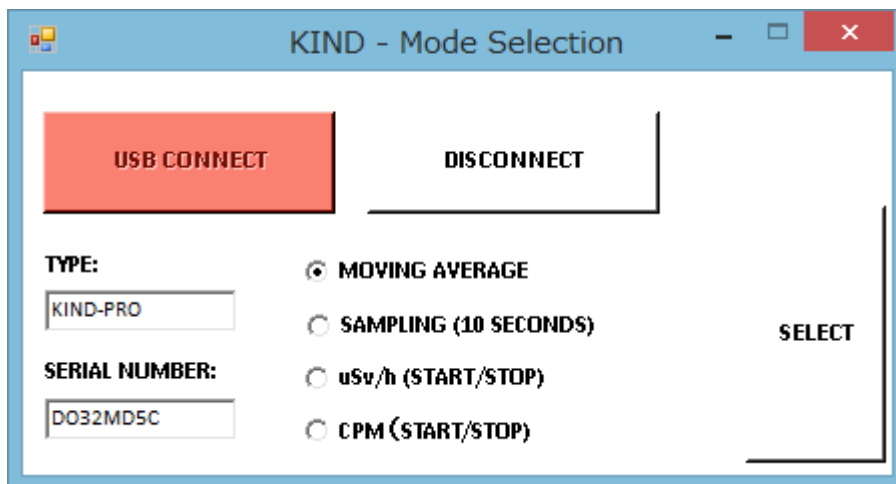
Additional Functions

1. DATA LOGGER

Connecting KIND-pro to PC, log data of radiation dose rate is transferred for PC. Without manual input, time sequential results in CSV format is available in the connected PC.

For example, you can associate the logged results and the location information then plot the values on a map. This facilitates curriculums involving ICT and radiation education.

2. SIMPLE CALIBRATION

The kit of "SIMPLE CALIBRATION"

'Simple Calibration' enables to check that the indicated values of KIND-pro are not too much different from 1 cm dose equivalent rate. But, it is not the same as the official calibration (e.g. JCSS and JIS).

It facilitates a new concept of calibration for radiation education. To run 'Simple Calibration', the kit of 'Simple Calibration' needs to be prepared.

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Specifications

Sensing	**Gamma, X-ray**
Energy Range	**100 - 3,000 keV**
Sensor Type	**CsI(Tl) Scintillator + Photodiode**

Range	**(Survey Meter Mode)**
	  0.001 µSv/h - 30.00 µSv/h
	(Count per Minute)
	  0 - 99,999 Counts

Accuracy	**Below 15% (Cs-137 referenced)**
Sensitively	**Above 800 CPM/µSv/h (Cs-137 referenced)**
Item Size	**95mm x 60mm x 17mm**
Item Weight	**100g**
Material	**ABS Plastic + Stainless Panel**
Protector	**Blue Silicon Cover**
Display Type	**Mono OLED**
Display Resolution	**128 x 64 dots**
Display Size	**1.4 inch**
Sound	**Magnetic Buzzer**
Button	**1 Smart Button**

Power Supply	**(Internal, Rechargeable)**
	  Li-Polymer, 3.7V 550mAh
	(One time, Replaceable)
	  CR2430 Lithium x 2, Coin Cell

Battery Life	**(Internal, Rechargeable)**
	  - 30 hour (Sound Off)
	(One time, Replaceable)
	  - 10 hour (Sound Off)
	*Below 0.500 µSv/h, 25 degrees Celsius

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