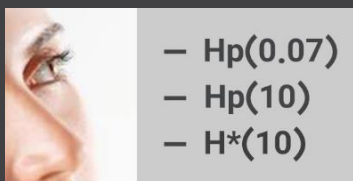




Innovator In Spectroscopy Equipment

# PD2319



- Hp(0.07)
- Hp(10)
- H\*(10)



## PERSONAL DOSIMETER MODEL PD2319

www.cfp.co.ir



PD2319  
Alpha, Beta and Gamma



CATA-



DOSIMETERS



FREE DOWN-

# PERSONAL DOSIMETER

## MODEL PD2319

### Features

- Designed for field use to measure all types of ionizing radiation and collection of the x-ray, gamma, beta and alpha emitting sources in three types
- Geiger-Mueller (GM) detector
- CsI(Tl) Scintillator detector
- Extreme sensitivity to alpha, beta, gamma & x-rays
- High sensitivity and uniform response
- Background radiation measurement
- Compact design with low weight
- Highly integratable
- Dosimeter-to-PC communication
- High resistance to impacts and vibration, dust moisture and electromagnetic interference
- Being robust and suitable for use in challenging conditions
- Ready for field operation
- Wide temperature range
- Durable, versatile
- Easy to use and low maintenance
- Simple and compact design
- Cost effective

### RUGGED DESIGN

### MEASURE ALL TYPES OF IONIZING RADIATION

### X-RAY, GAMMA, BETA AND ALPHA



## Description

The PD2319 from Control Farayand Pasargad (CFP) is a highly sensitive radiation dosimeter designed for various environmental conditions based on Geiger-Mueller (GM) detector. The PD2319 has three versions. This personal dosimeter in type 1, capable of detecting gamma & x-rays radiation, in type 2 detecting beta, gamma radiation source and type 3 of PD2319 has the ability to detect alpha, beta and gamma simultaneously.

The PD2319 senses ionizing radiation by means of a Geiger-Mueller (GM) tube. The tube is fully enclosed inside the instrument. When ionizing radiation or a particle strikes the

tube, it is sensed electronically and monitored by a computer. Radiation is measured in counts in a time interval, as configured in data-collection software. The end of the GM tube has a thin mica window. This mica window is protected by the screen at the end of the sensor. It allows alpha particles to reach the GM tube and be detected. The mica window will also sense low energy beta particles and gamma radiation that cannot penetrate the plastic case or the side of the tube.

Note: Some very low energy radiation cannot be detected through the mica window. The tube is fragile and physical damage to the window is not covered by the warranty.



## Specifications

UNIT:PD2319				
Type	Personal dosimeter (portable)			
Version type	Type 1	TYPE2	Type 3	Type 4
Energy detection	Gamma and X-ray		Beta, Gamma	Alpha, Beta, Gamma
Input(s)				
Port	USB remote read and write			
Output(s)				
Output	No output signal			
Control(s)				
USB	Set and read all data			
Power	Push turn on and long press 3 sec turn off			
KEY	Three push button function key (thumb activated)			
Indicator(s)				
LED battery status	Green color (full), Red Color (charging)			
LED alarm & sign	Green (LOW) – Yellow (MID) – RED (HI)			
Buzzer	Available			

Display				
Type	Full color LED Display			
Size	2.4", 320 × 240 pixels			
Performance				
Energy range (Gamma)	0.1 –3MeV	0.02 –3MeV	0.02 –3MeV	0.02 –3MeV
Energy range (Beta)	Not detect		100 - 3500keV	100 - 3500keV
Energy range (Alpha)	Not detect		Not detect	3.5 - 5.5MeV
Measurement range (Gamma)	0.01 - 10Sv/h	1 - 10Sv/h	1 - 10Sv/h	1 - 10Sv/h
Measurement range (Beta)	Not detect		1μSv/h - 0.1Sv/h @ <sup>90</sup> Sr	1μSv/h - 0.1Sv/h @ <sup>90</sup> Sr
Measurement range (Alpha)	Not detect		Not detect	1μSv/h - 10mSv/h @ <sup>241</sup> Am
Accuracy	+/- 10%	+/- 20%	+/- 20%	+/- 20%
Continuous run time				
In normal conditions	≥12 h			
In economy mode	≥24 h			
Detector				
Beta, Gamma, and X-ray detector	CsI(Tl) & GM	2 type GM	2 type GM	2 type GM
Radiation measured	Gamma and X-ray		Beta, Gamma	Alpha, Beta, Gamma
Data Acquisition and Analysis				
OS	Built in Windows 7 or higher versions			
Software	PD2319 (SOFTWARE)			
Battery				
Type	Li-ion			
Batter life	12hour full load –smart mode 24hour			

## Application

- Security control
- Nuclear medicine (x-rays, CT scans, etc.)
- Research activities in radioecology and radiology
- Nuclear industry
- Roentgenology and radiotherapy
- Individual radiation and protection
- Accelerator sites
- Measure background radiation
- Dose monitoring of population
- Counts/interval vs. distance and shielding studies
- Half-life determination (counts/interval vs. time)
- Radiation protective measures in case of nuclear disasters
- Health physics (for contamination monitoring on surfaces, clothing and objects etc.)
- Scientific research

## Electrical, Mechanical and Environmental

Unit:PD2319				
Type	Personal dosimeter (portable)			
Version type	Type 1	Type 2	Type 3	Type 4
Electrical				
Power required	1W			
Physical				
Dimensions (L × W × H)	172 x 70 x 55 (mm)			
Weight	760gr			
Protection class	IPX6			
Mechanical	عکس مکانیکی گذاشته شود			
Environmental				
Storage temperature	10°C to 40°C			
Operating temperature	-10°C to 50°C			
Relative humidity	10 to 80%			

## Software and user interface

### Device GUI

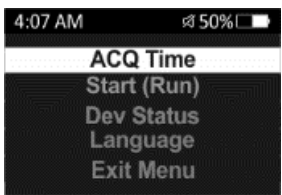
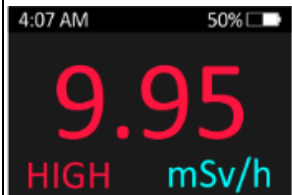

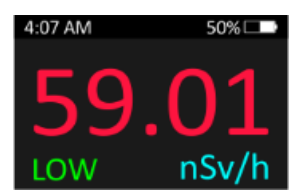
PD2319 dosimeter can be used standalone using the companion 2.4 inch display. In the following we see the most important window in the device GUI.

Figure 1: shows the name of various windows in the GUI.

Figure 2: present a measurement with high CV which makes it unreliable (in this manner the color of CV becomes red)

Figure 3: present a measurement with medium CV (in this manner the color of CV becomes yellow)

Figure 4: present a measurement with low CV which makes it reliable and precise (in this manner the color of CV becomes green)

			
Figure 1	Figure 2	Figure 3	Figure 4

PD2319GUI

This sensor can be used with PC and tablet interfaces and the data collection PD2319 software

### PC software

PD2319 (SOFTWARE)

Input /Output (Using PD2319 software)





USB

Data Output formats





CSV, TXT

## Ordering info





### PD2319 (X & Gamma) standard package includes

Part #	Image	Description
PD2319 (X & Gamma) main		PD2319 for X & Gamma
ACCE2319001 (X & Gamma)		Box with foam inserted (1 Pack)
ACCE2319002 (X & Gamma)		CD user guide (1 Pack)
ACCE2319003* (X & Gamma)		Guaranty (one year)

### PD2319 (Beta & Gamma) standard package includes





Part #	Image	Description
PD2319 (Beta & Gamma) main		PD2319 for beta and Gamma
ACCE2319001 (Beta & Gamma)		Box with foam inserted (1 Pack)
ACCE2319002 (Beta & Gamma)		CD user guide (1 Pack)
ACCE2319003* (Beta & Gamma)		Guaranty (one year)

### PD2319 (Alpha, Beta & Gamma) standard package includes

Part #	Image	Description
PD2319 (Alpha, Beta & Gamma) main		PD2319 for Alpha, Beta and Gamma
ACCE2319001 (Alpha, Beta & Gamma)		Box with foam inserted (1 Pack)
ACCE2319002 (Alpha, Beta & Gamma)		CD user guide (1 Pack)
ACCE2319003* (Alpha, Beta & Gamma)		Guaranty (one year)

\* =we stand behind our products. We guarantee your satisfaction in the quality of our instruments by providing a complete one-year warranty covering any defect of workmanship, material, and/or design. If our products do not perform, we will provide complete repair and/or replacement. for guaranty conditions, please refer to manual device (PD2319 - Manual)

### Optional accessories and services

Part #	Image	Description
ACCE2319004		USB to micro USB cable for PC connection
ACCE2319005		Protective hard case for PD2319
ACCE2319006		Installation
ACCE2319007		Training

ACCE2319008\*\*



Re-Calibration (interval) services.  
1year factory maintenance suggested, not required

\*\* = The proper maintenance & calibration of your instruments is critical to ensure proper performance & accuracy. for Re-calibration (interval) services, please call with CFP company (021- 46045383)







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