

## 1. Overview



EPHD19903 scintillation detector (while drilling) is a high temperature resistant and vibration-resistant scintillation detector for measuring azimuth gamma. It integrates high temperature anti-vibration NaI (TI) crystal, high temperature PMT assembly, high temperature and high voltage power supply and processing circuit, which can directly output TTL signal. The unique design ensures the stable performance of the detector in high temperature vibration environment. This product has the advantages of simple and convenient use, high reliability and not easy to damage. It is mainly used to determine azimuth gamma in oil logging environment for geological steering.

## 2. Specifications

▶ Detector diameter (mm)	Φ34.5
▶ Detector length (mm)	391
▶ Scintillator size (mm)	Φ25.3 × 153
▶ Input voltage (V)	20~28
▶ Input current Max. (mA)	22@24V
▶ Output signal (Negative pulse)	+5V Relative to ground, 5μs ~ 10μs
▶ High temperature and normal temperature counting rate deviation <sup>1)</sup> Max. (%)	5%
▶ Counting rate change induced by vibration <sup>1)</sup> Max. (s <sup>-1</sup> )	√BASE <sup>2)</sup>
▶ High temperature life <sup>3)</sup> Min.	400
▶ Vibration <sup>4)</sup>	Random 20grms, 50Hz~1000Hz
▶ Shock	500g@0.5ms
▶ Operating temperature <sup>5)</sup> (°C)	-30 ~ +175
▶ Storage temperature <sup>5)</sup> (°C)	30 ~ +70

● Tested in natural gamma environment

● BASE: The average counting rate of continuous acquisition for 300s when the detector operates in non-vibration state

● High temperature life: Total time accumulated in high temperature operation after high temperature operation (175°C) of scintillation detector, whose output counting rate changes by ≤10%

● Resonance frequency ≥1000Hz

● Temperature change rate during detector operation and storage ≤3 C/min

## 3. Overall dimensions and connection methods (unit: mm)

● EPHD19903

