# EPHD15703

(Counting while drilling)

## 1.Overview

EPHD15703 scintillation detector (while drilling) is a high temperature resistant and vibration-resistant scintillation detector for measuring azimuthal gamma. This product integrates high temperature anti-vibration NaI (Tl) crystal, PMT and voltage divider circuit, high temperature and high voltage power supply and signal processing circuit. It can directly output scintillation counting pulse signal (TTL), and 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) ····· Φ19
- Detector length (mm) ····· 349
- Scintillator size (mm) ····· Φ13 ×102
- Input voltage (V) ····· 18～48
- Input current Max. (mA) ····· 13 (24V Input voltage)
- Output signal (Negative TTL) ····· +5V Relative to ground 5μs～10μs
- High temperature and normal temperature counting rate deviation [1] Max. ····· 5%
- Counting rate change induced by vibration Max. $s^{-1}$ ····· √BASE[2]
- High temperature life[3] Min. (h) ····· 400
- Vibration[4] ····· 15g rms，50Hz～1000Hz
- Shock ····· 500g，0.5ms
- Operating temperature[5] (℃) ····· -30～+175
- Storage temperature[5] (℃) ····· -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 when the detector operates at 175°C with a 10% change in the output counting rate relative to the initial value
- Resonance frequency ≥1000Hz
- Tempreature change rate during detector operation and storage≤3°C/min

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

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