EPHD22302

High Temperature LaBr3(Ce) Scintillation Detector
(Energy spectrum measurement while drilling)

1.Overview

EPHD22302 detector is a scintillation detector while drilling. It integrates $LaBr_3$(Ce) scintillator, high temperature PMT and high linear voltage divider circuit. The unique design ensures the stable performance of the detector in high temperature vibration environment.$LaBr_3$(Ce) is a new type of scintillator. Compared with the traditional NaI (Tl) scintillator, $LaBr_3$(Ce) has the advantages of better pulse amplitude resolution, higher detection efficiency for high energy ray, fast decay time and better temperature characteristic.It is mainly used to measure formation elements in oil logging.

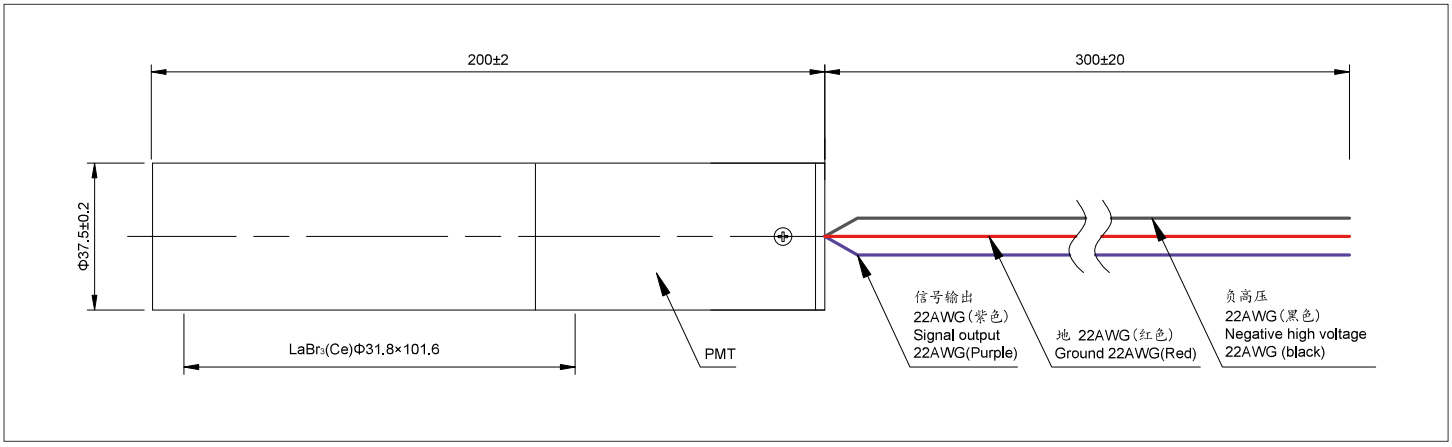
2.Specifications

Detector diameter (mm)	Φ37.5
Detector length (mm)	200
Scintillator size (mm)	Φ31.8 ×101.6
Pulse amplitude resolution[1] 25℃ Max.	7%
High temperature and normal temperature counting rate deviation [2] 150℃ Max.	3%
Diamagnetism [3]（Geomagnetism）25℃ Max.	1%
High temperature life[4] Min.	400
Output pulse amplitude change induced by vibration[1] [5] Max.	5%
Vibration induced Pulse amplitude resolution change[1] [5] Max.	Two percentage points
Vibration[6]	20g rms，50Hz～1000Hz
Shock	500g，0.5ms
Operating temperature[7](℃)	+25~+150
Storage temperature[7](℃)	-30~+70

- Test with ^{137}Cs
- Tested in natural gamma environment
- The detector is respectively placed in 6 directions of X+, X-, Y+, Y-, Z+ and Z-, and the output pulse amplitudes of the 6 directions are obtained through test in sequence，taking X+ as the reference, the other 5 directions is compared with the reference amplitude, and the maximum value of the change of the 5 directions relative to the reference amplitude is calculated
- The time it takes for the detector to work continuously after preheating at high temperature of 150℃, and the output pulse amplitude of the detector decreases by half relative to the initial value
- Change in vibration state relative to non-vibration state
- Resonance frequency ≥ 1000Hz
- Tempreature change rate during detector operation and storage≤3℃/min
- The detector can only be operated under negative high voltage conditions, the maximum high voltage is 1800V

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

- EPHD22302



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