

◆ ACPR resistivity gamma logging tool while drilling

COSL ACPR is a LWD instrument integrating electrical resistivity and natural gamma measurement together, which could measure the strength and resistivity of the natural gamma rays in the formation in real time, and is of great application significance in reservoir evaluation and real-time geo-steering drilling accurately.

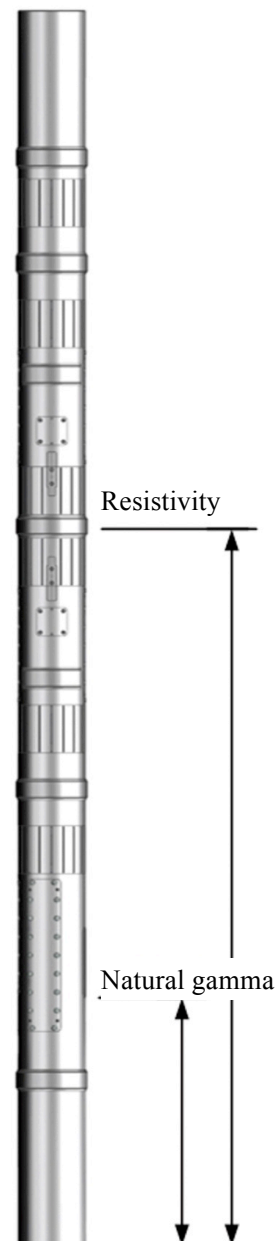
- It integrates the resistivity and natural gamma measurement together, with compact structure, reliable and robust performance
- Feature with double-frequency, dual source, coil system of symmetrical structure, with multiple probing depths and high longitudinal resolution
- Adopt symmetrical measurement mode, reduce the impact of changes in environmental factors on measurement effectively
- The measuring circuit is featured with low power consumption, and high reliability;
- The measuring system is equipped with automatic temperature drift correction function;
- Equip with automatic correction software for borehole effect and complete interpretation, correction chart, with accurate and reliable results;
- The instrument has been tested and experimented strictly, with correct response, stable and reliable.

Resistivity measurement indicators

- Resistivity with 2MHz phase differences
 - $0.1 \sim 2000(\text{ohm-m})$
 - $\pm 0.6\%(0.1 \sim 50 \text{ ohm-m})$
 - $\pm 0.3 \text{ mS/m}(\text{higher than } 50 \text{ ohm-m})$
- Resistivity with 2MHz amplitude ratio
 - $0.1 \sim 500(\text{ohm-m})$
 - $\pm 0.8\%(0.1 \sim 25 \text{ ohm-m})$
 - $\pm 0.45 \text{ mS/m}(\text{higher than } 25 \text{ ohm-m})$
- Resistivity with 400KHz phase differences
 - $0.1 \sim 1000(\text{ohm-m})$
 - $\pm 1.35\%(0.1 \sim 25 \text{ ohm-m})$
 - $\pm 0.5 \text{ mS/m}(\text{higher than } 25 \text{ ohm-m})$
- Resistivity with 400KHz amplitude ratio
 - $0.1 \sim 200(\text{ohm-m})$
 - $\pm 2\%(0.1 \sim 10 \text{ ohm-m})$
 - $\pm 6 \text{ mS/m}(\text{higher than } 10 \text{ ohm-m})$

Natural gamma measurement index

- Measuring range
 - $0 \sim 500(\text{API})$
- Measurement accuracy
 - $\pm 3 \text{ API @ } 100 \text{ API}$
- Longitudinal resolution
 - $172 \text{ mm}(6.8")$



Working environment

- Maximum working temperature
 - 150 °C
- Maximum working pressure
 - 20000 psi
- Maximum drilling rate (ROP)
 - 54 m/hr(5 s/per sample)
 - 108 m/hr(2.5 s/per sample)
- Existing dimensions
 - 6.75"
 - 8.00"

