

The Gamma Ray and CCL sensors are part of our Production Logging Suite and are primarily used for correlation and some other particular applications.

## DESCRIPTION



The Gamma Ray portion has a Sodium Iodide Scintillation Crystal coupled with a photo multiplier tube to measure incident gamma radiation. When the Scintillation Crystal is struck by a gamma ray it generates a photon that passes to the first stage of the photo multiplier tube (PMT). The PMT has several amplification stages, each at a considerable voltage difference with the previous one. A weak electron avalanche created in the first stage with the incidence of a photon will originate a considerable avalanche in the last stages of the PMT. The electronic section of the Gamma Ray measures the avalanche pulses per unit time and passes the information to the Telemetry.

The CCL has two powerful Samarium Cobalt magnets to focus their magnetic field into the windings of a detection coil. Minor changes in the magnetic flux caused by changes in the metal configuration of the pipe around the tool will cause changes in the electro magnetic force (emf) generated in the windings of the coil. The electronic section of the CCL measures the emf changes and passes the information to the telemetry.

## APPLICATIONS

- Depth correlation in casing or tubing
- Location of casing or tubing damage
- Confirmation of perforation depths or intervals

# SPECIFICATIONS

DHT – Down Hole Telemetry	
<b>General Specifications</b>	
Maximum Pressure	15,000 PSI (100 MPa)
Maximum Temperature	350 °F (177 °C)
Diameter	1-3/8 Inches (35 mm)
Length	34.92 Inches (88.7 cm)
Maximum Logging Speed	150 Ft./min
<b>Hardware Features</b>	
Gamma Ray Detector Type	Scintillation
Gamma Ray Detector Range	0 – 10,000 API
Casing Collar Locator Detector Type	Electromagnetic
Manufacturer	Spartek Systems