

Features

- Digital interface
- High sensitivity crystal — Photomultiplier tube design
- Rugged design for use in high shock and vibration environments
- Axial and transverse 50 Gee accelerometers for vibration monitoring

Applications

- Evaluation of downhole strata in drilling and logging applications
- Evaluation of downhole vibration and shock magnitudes

The Model 751 Natural Gamma Sensor measures the background gamma radiation occurring in well bores. The sensor detects the presence of porous petroleum reservoirs (for example, sands and limestones), which are generally less radioactive than nonporous strata (such as shales).

The 751 sensor can be used as either a standalone system or in conjunction with the Model 760 or 850 directional sensors. Communication with the 751 is by means of a bi-directional TTL serial port. To achieve high gamma sensitivity, a 1 inch diameter by 5.75 inches long scintillation crystal is used to detect gamma rays.

The 751 sensor also has two 50 Gee vibration sensors to monitor drilling-induced vibration and shock. The vibration sensors are oriented to measure axial and lateral shock and vibration.



Model 751

Natural Gamma Sensor



PHYSICAL

Outside Diameter (O.D.)	1.250" (31.75 mm)
Length	approx. 18.31" (465.074 mm) depending upon connector configuration
Weight	1.95 lbs (884.5 g)
Scintillation Crystal	1" dia. (25.4 mm) x 5.75" (146.05 mm) long, in Stainless Steel case
Photomultiplier Tube	Hamamatsu
Main Connector	MDM9PH003P (ITT Cannon)

ELECTRICAL

Input Voltage Range	+15 V to +30 V
Current Draw	90 mA @ 15 V, 45 mA @ 30 V
Logic Level	TTL / CMOS
Baud Rate	User Programmable up to 9600 Baud
Protocol	User Selectable, ASCII or Binary

ENVIRONMENTAL PERFORMANCE

Shock	1000 g 1 ms half sine wave
Vibration	10 g rms, 50 - 250 Hz
Accuracy	±0.5%
Thin-Bed Resolution	6" (152.4 mm), in 8" (203.2 mm) diameter hole
Operating Temperature Range	0°C to 150°C
Storage Temperature Range	-25°C to +160°C

Specifications within this document are subject to change without notice.

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