

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

The Model 751 can be used either as a standalone system or with the Model 760 or Model 850 Directional Sensors. Communication with the Model 751 is accomplished using a bidirectional TTL serial port. To achieve high gamma sensitivity, a scintillation crystal is used to detect gamma rays.

The Model 751 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 (OD)	1.25" (31.75 mm)
Length	Approximately 18.31" (465.07 mm), depending on connector configuration
Weight	1.95 lb (884.50 grams)
Photomultiplier Tube	Hamamatsu Model 3991A
Main Connector	MDM9PH003P (ITT Cannon)
Mating Connector	MDM9SH003L (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	
Offset versus Temperature	< 5 nT/°C (<0.05 mG)
Range	±65 µT (±0.65 G), ±100 µT optional
Scale Stability	0.05% full-scale/°C
Linearity	±0.1% full-scale
PERFORMANCE	
Accuracy	±5%
Thin Bed Resolution	6" (152.4 mm) in an 8" (203.2 mm) diameter hole
Range	0 - 511 API counts/second (30 second intervals)

Specifications are subject to change without notice.