



BTG-01 BOREHOLE GAMMA PROBE

DESCRIPTION

The BTG-01 is a fully digital gamma probe that integrates four different energy windows of gamma rays over a time of 0.5 seconds. The four windows are calibrated to the four windows:

❖ Total Count	= 0.10 - 3.00 MeV
❖ Potassium (K_{40})	= 1.37 - 1.57 MeV
❖ Uranium (Bi_{214})	= 1.66 - 1.86 MeV
❖ Thorium (Tl_{208})	= 2.40 - 2.80 MeV

The standard detector used in the gamma probe is a 25mm by 76 mm crystal (1"x 3" CsI). Larger sizes are available and are listed under options.

The four-channel gamma probe is designed for use with all standard IFG logging systems that include the BIN-04 digital data interface, 4 conductor logging cable and the data acquisition software.

The probe is controlled by an on-board microprocessor that transmits the four channel digital data along the logging cable to the surface console (BIN-04) for the re-formatting and the transfer to a microcomputer.

The microcomputer and the acquisition software (DAS) display and record the data in real time. Up to a total of 20 different parameters can be viewed during logging, in either graphic or numeric format. The recording format is in continuous or incremental mode.

Post processing software (PC-LOG) is available to process the recorded data. For this process the probe can be calibrated for window stripping, dead time corrections and to compute the energy concentration in parts per million (ppm).



BTG-01 BOREHOLE GAMMA PROBE

SPECIFICATION	
Detector Types	Nal crystal, resolution 7.5% Csl crystal, resolution 9.5% BGO crystal, resolution 15.5%
Detector Sizes	25mm x 76mm 19mm x 76mm
Sample Period	0.5 second, software selectable
Window Channels	Total Count = 0.10 - 3.00 MeV Potassium (K ₄₀) = 1.37 - 1.57 MeV Uranium (Bi ₂₁₄) = 1.66 - 1.86 MeV Thorium (Tl ₂₀₈) = 2.40 - 2.80 MeV
Other	Single point resistance
Probe Housing	Stainless steel
Maximum Depth	2000 meters
Connection	4-pin connector (Gearhardt Owen)
Temperature Range	Storage; -35 to +70°C Operating: 0 to +70°C
Output	10mA current loop, 4800 baud
Supply Voltage	24 VDC @ 0.2 (at probe header)
Dimensions	40mm diameter x 120 cm long
Weight	3.5 kg

OPTIONS:

Larger diameter detectors are available on special order. The larger detector sizes increase the probe diameter to:

38mm x 76mm Detector	Probe diameter = 52 mm	Weight = 4.5 kg
50mm x 76mm Detector	Probe diameter = 65 mm	Weight = 5.6 kg
76mm x 76mm Detector	Probe diameter = 90 mm	Weight = 8.0 kg