



## **BWG-01 GAMMA PROBE**

### **DESCRIPTION**

The BWG-01 gamma probe contains the 1”X3” CSI detector. The probe has a 40-mm diameter non-magnetic non-conductive housing, which is pressure rated to 3,000 meters. The probe is controlled by an on-board microprocessor that samples the four energy windows within the 0 to 3MEV energy range.

The four windows are calibrated to:

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

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

The gamma probe is designed for use with all standard IFG logging systems that include the BIN-04, BIN-05, BIN-07 digital data interface, 4 conductor logging cable and the data acquisition software. The probe is controlled by an on-board microprocessor that transmits all the 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 formats can be selected to be continuous or in incremental mode.

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



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<b>SPECIFICATION</b>	
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
Window Channels	Total Count = 0.10 - 3.00 MeV Potassium (K <sub>40</sub> ) = 1.37 - 1.57 MeV Uranium (Bi <sub>214</sub> ) = 1.66 - 1.86 MeV Thorium (Tl <sub>208</sub> ) = 2.40 - 2.80 MeV
Probe Housing	Stainless steel
Maximum Depth	3000 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	48 VDC @ 0.2 (at probe header)
Dimensions	40mm diameter x 200 cm long
Weight	3.6 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