The **Induced Polarisation IPG38 sonde** uses four electrodes in Wenner array configuration to provide measurement of apparent formation chargeability and resistivity. The sonde induces a current through the formation by applying a high DC voltage to the outer two electrodes. The current flows through the electrolytes in the formation fluids in pore spaces surrounding non-conducting mineral grains. Sulphides and other metallic mineral grains which are conductors develop a charge separation or polarisation, which increases as the inducing current flows. When the inducing current is turned off, the formation retains a voltage due to polarisation, which gradually decays. This voltage is sensed on the two central electrodes. The area under voltage decay curve (UA and UB) is integrated by the sonde microprocessor to give a measure of the formation polarization or chargeability. When the outer electrodes are energised, the voltage that appears at the centre electrode pair is also measured (UE), and is used to compensate the chargeability value for the effects of borehole resistivity.

The **Induced Polarisation IPG38 sonde** main features are:

- Indication of mineralization in ore prospecting
- Qualitative permeability studies in water and oil prospecting
**IPG38**  
**INDUCED POLARIZATION SONDE FEATURES**

**TECHNICAL SPECIFICATIONS**

- **Length:** 2.79m  
- **Diameter:** 38mm  
- **Weight:** 7kg  
- **Max. Operating Temp:** 70°C  
- **Max. Operating Pressure:** 200bar  
- **Power Supply:** 70 to 100Vdc; 6W

**WIRELINE**

- **Cable Type:** Any standard wireline - coaxial, mono or multi-conductors  
- **Automatic cable selection and switching**  
- **Logger Compatibility:** eMindLogger / RG Micrologger

**SENSOR ARRAY**

- **Electrodes Spacing:** 40cm (Wenner Array)  
- **Number of Electrodes:** 4 (A-M-N-B)  
- **RA Measuring Range:** 0 to 35kΩ  
- **IP Range:** 0 to 100% (dimensionless quantity)  
- **Measurement Period:** 220msec/polarity; >440msec for a complete cycle  
- **Natural Gamma Detector:** NaI(TI) scintillation crystal; 50mm x 25mm  
- **Measuring Range:** 0 to 65000cps

**MEASUREMENT FUNCTIONS**

- Natural Gamma  
- Apparent Resistivity  
- Induced Polarization  
- Area under Excitation  
- Area under Decay #1 and #2