

PMG-2 PORTABLE PROTON GRADIOMETER

PMG-2 Proton Gradiometer is a very sensitive portable magnetometer designed for precise measurement of the intensity of the total-field vector or gradient of the Earth's magnetic field



APPLICATIONS:

Mineral Exploration
Archeology
Ferrous Ordnance Detection
Buried Pipes Location
Environmental Studies

FEATURES:

High Resolution
Excellent Accuracy
Profile/Base Station Measurement
Wide Range of the Measured Field
Large Internal Non-volatile Data Memory
Vertical or Horizontal Grad. Configuration
GPS Connection Optional

SPECIFICATIONS:

Field Strength Range:	20,000 ÷ 100,000 nT (gammas)
Absolute Accuracy:	±1 nT
Resolution:	0.1 nT
Gradient Range:	1,000 nT/m
Measurement Time:	2 s (maximum)
Data Memory:	24,500 readings
Display:	LCD graphic 160 x 104
Keyboard:	16 keys, membrane type
Interface:	USB 2.0
Power Source:	lead-acid (Pb) battery 12 V/3.4 Ah
Battery Life:	5,000 readings in GRAD operation
Temperature Range:	-10°C to +60°C
Dimensions:	Console 230 x 80 x 170 mm Sensor ø 80 x 200 mm
Weight:	Console 3.2 kg incl. battery Sensor 0.7 kg

STANDARD COMPONENTS:

Console with Built-in Battery
Two Sensors with Six Sensor Sticks
Anchor Ring with Ropes & Tent Pins
Harness, Battery Charger
Transport Case & Instruction Manual
Communication SW on CD



DESCRIPTION OF OPERATION:

Proton Gradiometer PMG-2 is a portable instrument intended for ground measurement of the absolute value of the magnetic induction vector of the Earth's magnetic field by measuring the frequency of the precession of hydrogen nuclei protons.

Data recording is fully automated. In survey applications actual position coordinates are recorded either by automated incrementation or by operator entry commands. The gradiometer can be powered by external power source, namely in the base station mode.

The PMG-2 allows measuring in three modes:

SINGLE MODE - is used in a profile magnetic survey with one sensor. It detects the absolute value of the magnetic field in the location of the sensor.

GRAD MODE - in this mode two sensors are used. The magnetic induction vector in the locations of both sensors are measured simultaneously. The horizontal or vertical gradient of the magnetic field between two sensors is determined by subtraction.

AUTO MODE - allows repeated measurement with one sensor in set time intervals. Both the starting time and the time interval can be set prior to the measurement. This mode is used for measuring diurnal variations of the Earth's magnetic field.



The results of the measurements can be stored in an internal protected memory. The recorded data are not lost when instrument is switched off or when the battery is removed. The data can be transferred to the computer using supplied communication software.