

### Description

The GSM-9 is a lightweight one gamma proton precession magnetometer based on Overhauser effect\* and designed primarily for hand held and base station operations.

The instruments power consumption has been minimized and enormous number of readings can be obtained from internal battery pack or a small solar panel can keep rechargeable batteries charged indefinitely, eliminating entirely any need for external power except sunshine.

Ruggedized, wide temperature range Liquid Crystal Display allows for easy reading in bright sunlight and an all-metal package ensures lasting use in rough field conditions.

Flexible design of electronics enables a wide selection of cycling speeds and other necessary features for almost universal Earth's field measurements, and complete selftest feature ensures reliable operation and early warning of instrument malfunction due to interferences like excessive field gradient, power line or other electromagnetic radiation, or internal breakdown.



### Features

- 1 gamma resolution and accuracy, 0.5 gamma optional
- Worldwide range
- High gradient tolerance
- Excellent visibility of the display in any ambient light
- Display stays active between readings
- **WORLD'S LIGHTEST AND MOST COMPACT 1 GAMMA PROTON PRECESSION MAGNETOMETER**
- External trigger and digital output standard, analog output optional
- Rugged, all-metal package
- No-lock indication
- Polarize indication
- 0.5W maximum power consumption in cycling mode
- Solar panel charges internal batteries
- Alternatively, a set of lithium batteries good for over 250,000 readings or D-size Alkaline batteries (external pack) 150,000 readings
- Shoulder and/or belt strap for easy carrying
- Sensor back pack for hand-free operation optional
- Nonmagnetic battery pack optional
- Custom modifications available

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\* Polarization of a proton rich liquid of the sensor is achieved by adding a "free radical" to it and irradiating it by RF magnetic field. Strong proton precession signals are generated with modest RF power.

## Specifications

RESOLUTION:	1 gamma or 0.5 gamma optional
ACCURACY:	1 gamma over operating range
RANGE:	20,000 - 100,000 gamma in 23 overlapping steps
GRADIENT TOLERANCE:	Up to 5000 gamma/meter
OPERATING MODES:	MANUAL PUSH-BUTTON, new reading every 1.85 sec., display active between readings CYCLING, push-button initiated, 1.85 sec. period (optional) SELFTTEST cycle, push-button controlled, 7 sec. period
OUTPUT:	VISUAL: 5 digit 1 cm (0.4") high Liquid Crystal Display, visible in any ambient light DIGITAL: Multiplied precession frequency and gating pulse, 0.5 gamma resolution ANALOG: 0-99 gamma (optional)
EXTERNAL TRIGGER:	Permits externally triggered cycling with periods longer than 1.85 sec. (cycling faster than once per sec. optional)
POWER REQUIREMENTS:	10-18VDC 1W per reading, 3mA standby current
POWER SOURCE:	INTERNAL: 12V 0.45 Ah NiCd rechargeable battery, 15,000 readings between chargings ALTERNATIVELY: Disposable Lithium battery pack (internal), good for over 250,000 readings - 10 D size Alkaline batteries good for over 150,000 readings EXTERNAL: 12-18V; variety of battery packs available
BATTERY CHARGER:	Solar panel 14V 0.5W nominal power in full sunlight, others optional
OPERATING TEMPERATURE:	-40 to +55C
DIMENSIONS:	CONSOLE: 15 x 8 x 15 cm (6 X 3 1/4 X 6") SENSOR: 13 x 6.5cm dia (5 1/4 x 2 1/2" dia) STAFF: 175 cm (70") extended, 53 cm (21") collapsed or sectional 45 cm (18") per section
WEIGHT:	2.7 kg (6 lb) complete, 2.3 kg (5 lb) in back-pack mode
STANDARD PACKAGE:	CONSOLE, with batteries, solar panel, carrying harness SENSOR, with cable and connector STAFF, collapsible, or sectional 4 sections
STANDARD ACCESSORIES:	MANUAL, CARRYING CASE
GUARANTEE:	15 Months from the date of shipping

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