GMR Surface Magnetic Resonance

Boasting a rich array of sophisticated features and proprietary technology, GMR elevates surface magnetic resonance geophysics, delivering superior performance and data quality in an ever-expanding range of environments and applications.

Deep Multi-Channel Surface NMR

- Designed from the ground up for multi-channel capabilities
- Highest output power
- Greatest depth of investigation
- Shortest dead-time
- Proven ruggedness worldwide
- Accurate for deep or shallow imaging

Multi-Channel Hardware that Delivers

Designed from the ground up to capture the advantage of multi-channel processing, sophisticated GMR hardware provides unmatched performance and superior results. Advanced electronics with wideband receive capabilities are packaged in a modular design with an emphasis on reliability, safety, and performance. The GMR features the highest power output, the fastest switching, and the most flexible multi-channel architecture† on the market. These advantages translate directly into enhanced imaging capabilities with improved detection of deeper, shorter, and smaller magnetic resonance signals.

GMR Surface Magnetic Resonance

SPECIFICATIONS

540V DC/DC Converter

PERFORMANCE SPECS:

- Max bus voltage: 540V DC
- Charge current: 1A
- Capacitance: 0.054 F
- Power supply: two 12V batteries

SAFETY FEATURES:

- Auto-shut down for safety in case of improper connection
- Analog voltage meters on panel

OPTIONS:

- Two DC/DC converters can be used in parallel

4800V Standard Transmitter or 6000V XHV Transmitter

PERFORMANCE SPECS:

- Standard output: 4800V ($9600V_{pp}$), 600A, 25As
- XHV output: 6000V ($12{,}000V_{pp}$), 800A
- Ultra-short dead-time: <5ms
- Four full-duplex Tx/Rx channels
- Wideband receiver noise <300pV/rt(Hz)
- Pulse sequences with phase cycling:
  - FID (T_2*)
  - 4-Phase & Crush-Recovery (T_1)
  - Spin echo & CPMG (T_2)
  - Adiabatic sweeps†
- Supports transmit and receive on the same loop, or on separated loops

SAFETY FEATURES:

- Auto-shutdown in case of improper connection
- Environmentally-rated connectors with no-touch contacts

OPTIONS:

- Expandable to 8 or 12 channels

16µF Tuning Unit

SAFETY FEATURES:

- Auto-shutdown in case of improper connection
- Transmitter operates only when tuning lid is securely closed and shuts down if opened

OPTIONS:

- Expansion 16µF tuning unit for up to 32µF capacitance (suggested for low Earth latitudes)

Four-Channel 4800V Tx/Rx Expansion Module

Adds Four Fully-Functional Tx/Rx Channels

Four-Channel Reference Sensor Module

Adding Four Synchronized Receive Channels

High-Voltage Surface Cables

Environmentally Rated Connectors

† Protected by US Patents: US 7,986,143 B2; US 8,451,004 B2; US 8,581,587 B2; US RE43,264 E; US 10,145,915 B2.

Additional Patents: EP 1 651 974 B1; US 9,599,688 B2; US 9,551,807 B2; US 9,588,068 B2; US 10,302,733 B2.

CE Certified.

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