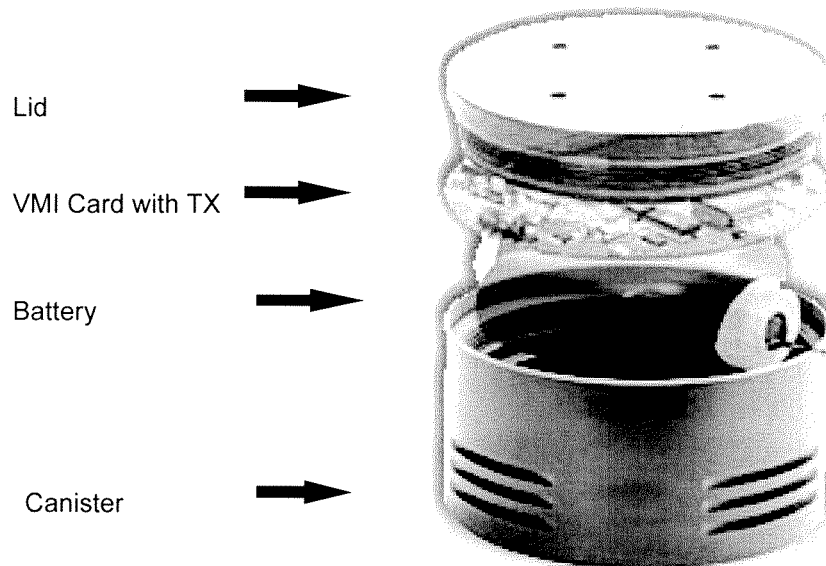


Operational description:

The G4 Groundhog® consists of several main components. These are the thermoplastic canister with lid, lithium battery power source, main VMI (vehicle magnetic imaging) processor card and the wireless transmitter.



Canister and Lid: Molybdenum disulfide filled nylon thermoplastic material machined with wall thickness of 0.6 in, overall diameter is 6 in. Lid is threaded and uses two silicon o-rings to build a water tight seal.

VMI Card with TX: The main PCB controls the VMI sensors, power management, short term storage of collected data and control of the RF transmitter.

Battery: Lithium Thionyl Chloride battery pack , 4 D cell shrink pak, capacity is 72 Ah. 3.6 VDC nominal

Active electrical components:

Main PCB (VMI Card)

Analog Section– Channel A

S1	GMR Sensor 1	
U9	MAX417CSA	Low power analog amplifier
U11	LT1017CS8	Low power analog comparator
U6-A	M74HC132D	NAND Gate

Analog Section– Channel B

S2	GMR Sensor 2	
U12	MAX417CSA	Low power analog amplifier
U11	LT1017CS8	Low power analog comparator
U6-B	MC74HC132D	NAND Gate

Digital Section

U1-A	MC68HC711E9CFN2	Microprocessor with 8MHz crystal based clock
U6-C	MC74HC132D	NAND Gate
U4 A-D	CD4066BM	Bilateral Switch
U5 A-D	CD4066BM	Bilateral Switch
U8-A	DS1305EN	Real Time Clock Chip with 32.768 KHz crystal