



Compass Directional Guidance, Inc.

Your Source for Reliable & Modular MWD Technology Systems

14427 Interdrive West, Houston, TX 77032 • Ph. 281-442-7484 • Fax 832-230-2145 • www.compass-mwd.com

TECHNICAL DATA SHEET

Solenoid Pulsar

The Solenoid Pulsar generates a sequence of pressure increment pulses in the circulating system, enabling the transmission of MWD data recorded downhole to surface.

The tool is fully retrievable and replaceable, which saves rig time by eliminating pipe trips for directional equipment.

Features

- Simple to operate under a wide range of flow rates
- Operable in lost circulation material concentrations of 10 lb/bbl medium nut plug

Solenoid Pulsar Specifications	
Min Flow Rate	75 gpm (8 L/sec) in water
Max Flow Rate	1100 gpm (67 L/sec) in water
Max Operating Temp	175° C (350° F)
Max Hydrostatic Pressure	20,000 PSI (137.9 MPa)
Operating Voltage	20-29V
Nominal Current	24mA
Shock	1000 g / 0.5 millisecond
	25g RMS 30-500 Hz Random
Vibration	30g 50-300 Hz Sine
Mud Sand Content	Less than 1% recommended
Poppet Force (Push/Pull)	Open & Close Force 75 lb



Description

The method associated with the reproducible pulses occurs when a pulsar is manipulated in an upward and downward direction by a combination of the solenoid activation of a bidirectional poppet (to redirect the fluid flow from the pressure reservoir to and from a sliding pressure chamber) and associated upper and lower flow connecting channels.

The valve is urged toward a closed position by drilling fluid pumped through the drill string. A larger force is required to open the valve than to hold it open. Current supplied to the solenoid to open the valve is thereafter reduced to a value sufficient to hold the valve open. The solenoid is de-energized to close the valve.