

RHINO PRESSURE TRANSDUCERS



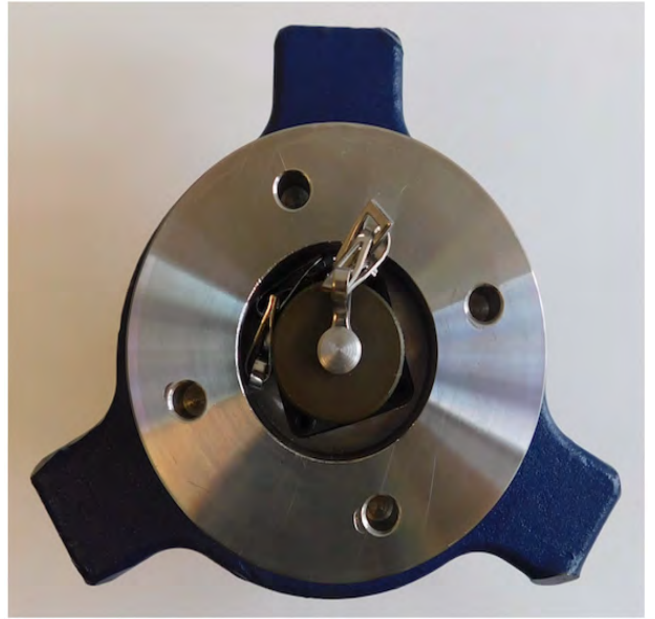
Compatible with ALL MWD Surface Systems, Rhino Pressure Transducers offer noise isolating technology to help your positive pulse measurement while drilling tool get to deeper depths with better decode, quality and telemetry confidence. With its rugged one piece design the Rhino Pressure Transducer will work on any hammer union stand pipe fitting.

FEATURES

- **RUGGED ONE PIECE DESIGN** Built for the toughest Rig Site Environments
- **NOISE ISOLATING TECHNOLOGY** Made for AC Top Drive Rigs and Conventional Rotary Rigs
- **1 YEAR WARRANTY** Parts and Labor included

OPERATING PARAMETERS

Pressure Ranges	0-10,000 psig
Amperage	4 - 20 mA
Voltage	8 - 30 V
Operating Temperature	-40 to 175F
Compatible With All MWD Surface Systems	



▶ Linear Pulser Driver (350°F)



The latest generation of our Linear Pulser Driver is built even tougher than before with improved power utilization and even more advanced features.

It can operate most pulser mechanical sections and many firmware parameters can be adjusted to ensure full compatibility with your system.

Advanced firmware features such as servo poppet recalibration and travel distance recovery can be enabled to prevent jamming down-hole and improve pulser survivability.

FEATURES

- ✓ Rugged and dependable field proven design, temperature rated up to 350°F
- ✓ Advanced power optimization with an idle current draw of 7mA
- ✓ Advanced logging features with performance memory and diagnostics
- ✓ Digital/Analog controls and programmable operating parameters such as automatic servo poppet re-calibration and smart servo motor control features
- ✓ Connects directly to any gamma probe reducing the length of the tool

▶ Vibration Monitoring Tool

Extend the down-hole lifespan of tools and reduce vibration damage resulting in premature failures.

The Vibration Monitoring Tool (VMT) can accurately measure and record shock and vibration in the full range of dynamic motion. Onboard memory stores high density readings for detailed post-well logs and real-time data can be transmitted to the surface using generic variables.

Real-time telemetry can be configured to display exact shock and vibration values or just severity flags with adjustable thresholds. Changes can then be made to optimize drilling parameters before severe damage occurs to the MWD tool or Bottom Hole Assembly.



FEATURES

- ✓ 3-axis accelerometer with +/- 100g range, sampling rates up to 660Hz and vibration frequency response from 2Hz to 80Hz
- ✓ Over 600 hours of logging memory with user adjustable sampling periods
- ✓ Optional software package can display graphical representation of shock and vibration data on the MWD computer
- ✓ Optimize drilling parameters and maximize BHA down-hole longevity

▶ Flow Switch

Designed to replace legacy electronic flow switches or operate as a standalone module.

Our rugged electronic switch detects flow by monitoring vibration using a 3-axis sensor. Once flow is detected, the component will apply 5V on the flow line.



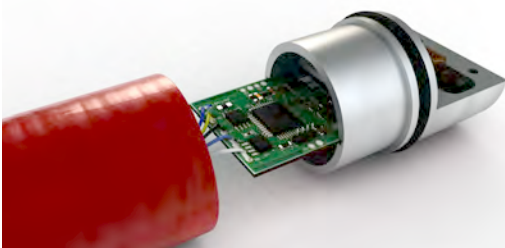
FEATURES

- ✓ Rugged and dependable field proven design
- ✓ Adaptive sensitivity and configurable delays
- ✓ Less than 2mA current draw
- ✓ Temperature rated up to 300°F, survivable up to 350°F

▶ MWD Power Monitoring System

The M-Power Component Management suite is a complete logging system for down-hole lithium batteries.

Each battery contains an on-board chip that logs detailed power usage statistics as well as shock, vibration and temperature data. Detailed logs can be downloaded from the battery chip after use down-hole and graphing software allows users to generate plots for post-well analysis.



FEATURES

- ✓ No power is consumed while the battery is sitting idle on the shelf.
- ✓ Logging memory capacity of over 200 circulating hours.
- ✓ Measures: battery capacity, current draw, voltage, temperature, 2-axis shock and vibration data.
- ✓ Configurable real-time telemetry

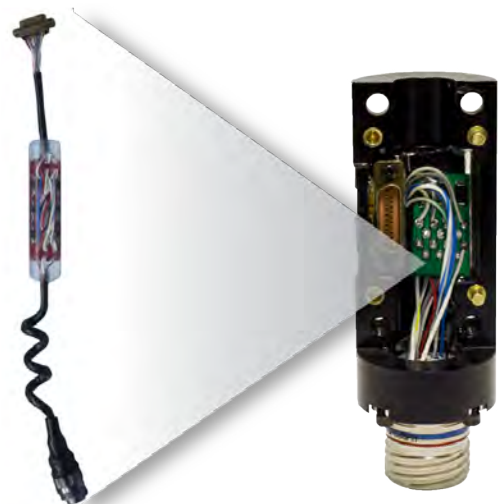
▶ Transorb

Customizable Protection for your MWD System

Designed to replace legacy electronic transorbs with solid current spike protection. Completely customizable for any wiring configuration and mounting system.

FEATURES

- ✓ Temperature rated up to 300°F, survivable up to 350°F



SHOP AND FIELD TEST EQUIPMENT

▶ MWD TESTER



The MWD Tester allows technicians to accurately diagnose and function test pulser and gamma modules on the bench without assembling an entire tool string.

Verify real-time gamma counts and flow line voltage on a bright OLED display.

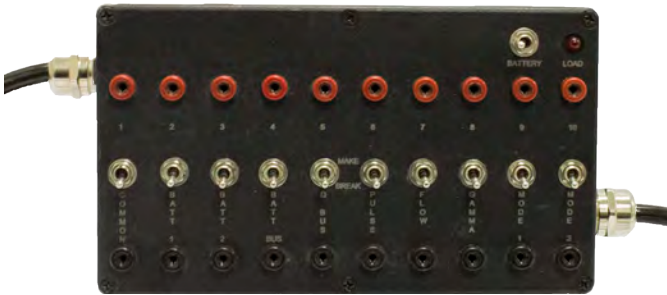
▶ AUTOMATIC LINE TESTER



This incredibly useful device performs a complete line ring-out and high voltage insulation test of interconnects, cables and wiring assemblies up to 15 lines.

What normally can take a shop technician minutes to do is done in only seconds.

▶ BREAKOUT BOX



The breakout box is built with quality components and comes field ready. Read and switch up to ten standard MWD tool lines with this integrated testing solution. Can be configured to work with any type of connector.

A necessity for every MWD kit.

▶ TRANSDUCER TESTER



Check the functionality of your standpipe pressure sensors and cables with this all-in-one transducer assembly testing system. It is easy to use and ensures the function and calibration of pressure sensors. Pressure values are viewable in PSI on a bright LED display.

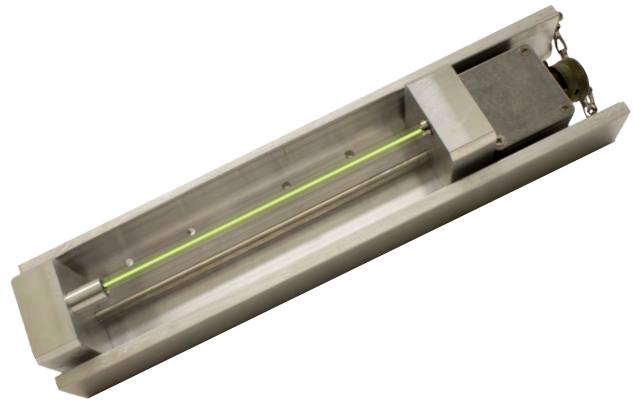
▶ MWD FLOW SIMULATOR



The MWD Flow Simulator allows you to test an assembled MWD string & surface system functionality in the shop and in the field. The system provides pump flow on/off states using the flow line.

The device electrically generates a 2000psi signal that emulates standpipe pressure for input into a your mud pulse receiver.

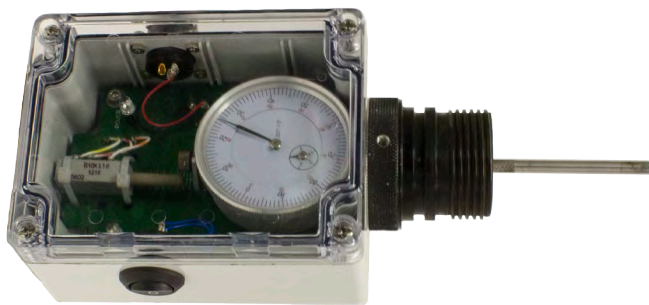
▶ OPTICAL PULSE SENSOR



The Optical Pulse Sensor allows technicians to measure the physical plate movement of a *top mounted pulser* and deliver a signal which can be decoded by a surface system.

The chassis is made with aluminum so it is light and durable making it easy to function test a complete tool string on the well site.

▶ MECHANICAL PULSE SENSOR



The Mechanical Pulse Sensor measures the physical servo poppet movement of a bottom mounted pulser and delivers a signal which can be decoded by the mud pulse receiver.

Perform a true function test by mechanically decoding telemetry data on the surface.

90
DAY
LIMITED
WARRANTY
ON ALL PARTS AND
EQUIPMENT