

# REFLEX EZ-SHOT™

## Electronic Single Shot



The Reflex EZ-SHOT is a single shot instrument designed to identify the deviation of boreholes. The Reflex EZ-SHOT is a totally self contained instrument that is controlled via an integrated keypad membrane and an LCD display.

### Key Features & Benefits

- Easy to use
- Single shot and orientation capabilities
- Accurate electronic measuring principle
- Fast operation, in all directions
- On site access to survey data
- Stores 50 most recent surveys

### Seven parameters in one single shot

The Reflex EZ-SHOT is a single shot instrument, which quickly provides information about the borehole. The instrument measures seven parameters in one single shot: azimuth, dip, roll angle relative gravity, roll angle relative magnetic north, temperature, magnetic field strength and magnetic dip angle. As soon as the instrument has been retrieved from the borehole, results can be read on the integrated display without an external computer.

### Accurate

Reflex EZ-SHOT is a magnetic and gravimetric instrument of high precision. Three fluxgate magnetometers measure the local geomagnetic field and provide the horizontal component – the azimuth – relative to magnetic north. Three extremely accurate accelerometers provide the vertical component – the dip – and the rotation relative gravity.

Like all magnetic instruments, the Reflex EZ-SHOT has to be placed at a safe distance from any magnetic interference during operation, to be able to provide reliable survey data. Unlike many other instruments, the Reflex EZ-SHOT includes a Quality Check function that uses a predetermined magnetic threshold to highlight survey data that is out of range.

### Running Gear

The Reflex EZ-SHOT fits most standard commercial running gear. This means that existing equipment can be used and costs are kept down. Running gear from Reflex may also be used – survey kits, landing collars and orientation equipment.

### Survey kits

Reflex can provide survey kits in two standard configurations – 36 and 38 mm. Survey kits include a pressure barrel with heavy-duty brass walls and a triple O-Ring seal to prevent ingress of drilling fluid. The top sub has a T-slot hanger, which holds the instrument securely. The 38 mm bottom sub has a spring bull nose, acting as a shock absorber.

Survey kits also include three non-magnetic aluminium extension rods, which are used to distance the instrument from magnetic interference caused by the barrel and rod string.



## Economical

The Reflex EZ-SHOT is inexpensive to own and operate, as it has been specifically designed to be robust, reliable and easy to use. The Reflex EZ-SHOT is totally self-contained, with integrated electronics, control panel and batteries. No cables, battery charging, external computer, regular maintenance, or moving parts to wear and tear. Low power consumption in combination with a long-life lithium battery pack, allows many years of normal use between battery replacements. Annual calibration, which also includes preventive maintenance, performed by Reflex's skilled personnel ensures trouble free operations for many years.

## Running Gear

Reflex provides a range of running gear to suit all standard mineral exploration applications that includes sizes from BQ to PQ wireline and conventional. A variety of attachment methods are catered for and these include Pin Spear, E-Box or E-Pin, Wireline Swivel and Overshot. Custom sizes can be arranged by speaking to your local Reflex office.

## Orientation equipment

Orientation equipment is needed to orientate the EZ-SHOT with the Bottom Hole Assembly. The orientation mule shoe assembly and the orientation bull plug are compatible with both survey kits, and are available from Reflex sales offices.

# Reflex EZ-SHOT Technical Specifications



Reflex EZ-SHOT	
<b>Dimensions</b>	Outer diameter 31.7 mm Length 846 mm Weight 2 kg
<b>Operating Features</b>	Single shot Orientation Azimuth and dip Azimuth quality check Magnetic profile Thermal profile
<b>Range and typical error</b>	Azimuth 0-360° ±0.5° Dip ±90° ±0.2° Roll angle, relative gravity 0-360° ±0.2° Roll angle, relative magnetic N 0-360° ±0.5° Temperature -40 to +85 °C ±1 Magnetic field strength 0-100,000 nT ±50 nT Magnetic dip angle ±90° ±0.4°
<b>Timer</b>	Survey start delay selectable from 1-1,000 min 1 minute increments
<b>Temperature rating</b>	Total range -20°C to +85°C Highest accuracy achieved between 0°C & +60°C Shock rating 6,000 g, 0.5 ms, ½ sine Pressure rating 2,250 psi (16 MPa) (36 mm pressure barrel) 6,000 psi (41 MPa) (38 mm pressure barrel)
<b>Battery</b>	Internal Lithium TCL, 7.2 V, 2.7 Ah 10 years service life (2,500 surveys of 1 hour each)
<b>Electronics</b>	Tri-axial solid state accelerometers Tri-axial solid state fluxgate magnetometers
<b>Memory</b>	Memory capacity 50 surveys
<b>Optional Software</b>	Reflex SProcess

## Rental, Sales & Support

Reflex is a leading global manufacturer of survey and orientation instruments for drill holes. Its product portfolio includes a complete program of borehole surveying instruments for mining, tunnelling, construction, and other geotechnical applications. Reflex is established in all major markets; the Americas, Africa, Europe and Asia Pacific. The success of Reflex is based on its leading innovative technology, customer focus and a network of local service centres world wide.

## Contacts

**Reflex Asia Pacific**  
T +61 (0) 8 9445 4020  
**Reflex North America**  
T +1 (705) 235 2169  
**Reflex South America**  
T +56 (2) 589 9300  
**Reflex Africa**  
T +27 (0) 11 864 3467

**Reflex Europe**  
T +44 1273 483 700  
reflex@imdexlimited.com  
www.reflexinstruments.com

