

FLEXISHOT

The flexible borehole survey system for Surveyors, Drillers and Geophysicists.

FLEXI-SHOT™ is a unique high accuracy electronic surveying instrument designed to meet three major demands of drill-hole data acquisition. The system is modular in design and can be used in either Single-Shot or Multishot Mode with any conventional type of non-magnetic running gear (including PeeWee) for the purpose of taking surveys or making orientations. In this mode the user can select the use of either a Monel Sensor or Timer for surveys. In the real time Data-Online mode it can be used to directly Orientate down-hole motors and wedges, or perform down-hole Magnetometer logging across the zone of interest.

FLEXI-SHOT™ allows the user to interface with the instrument via the on board keypad / buttons or a PSION™ 'Workabout' computer during all Single-shot applications, or via the PSION™ only, for Multi-Function Online applications.



FLEXI-SHOT™ instruments provide direct LCD readout of the survey data, system status and quality checking parameters.

- ***Inc.*** Inclination in degrees (hole angle, in mining or oilfield convention).
- ***Azi.*** Azimuth (hole direction in degrees magnetic).
- ***GTF.*** Gravity Tool Face (roll relative to high-side of the hole).
- ***MTF.*** Magnetic Tool Face (Steering angle relative to Magnetic North).
- ***Gtot.*** Gravity total (total G acting on the probe during survey).
- ***Btot.*** Magnetic Flux total (total B on probe during survey, identifies anomalies)
- ***BatV.*** Voltage at the probe as provided by the battery pack.
- ***Temp.*** Temperature of the tool, (used by software to calculate survey results).

Simply select and individually obtain the above parameters via the LCD. Just press the 'Green Next' button and move to the required survey information or survey application. Press the 'Red Set' button to activate the selection. There is no need for complicated instruction manuals, although a helpful users guide is provided. It couldn't be easier!

DATAFLOW MEASUREMENT

DATAFLOW MEASUREMENT SYSTEMS LIMITED

Tel: (44) 01684 438089, Fax (44) 01684 438089, EM: enquiries@dataflowonline.co.uk

Connect a **PSION™ 'Workabout'** computer to the LCD data port, and download the values displayed by the LCD and the following additional data:

- **Depth.** Survey Measured Depth (MD value in-put by the surveyor).
- **Gx.** Gravity vector acting in the X-plane.
- **Gy.** Gravity vector acting in the Y-plane.
- **Gz.** Gravity vector acting in the Z-plane.
- **TFO.** Toolface offset in-put for Tee-Slot orientation (SSP/MFP mode).
- **Bx.** Magnetic Vector acting in the X-plane.
- **By.** Magnetic Vector acting in the Y-plane.
- **Bz.** Magnetic Vector acting in the Z-plane.
- **MagDip** Magnetic Dip Angle (Angle of mag-flux acting on fluxgate).
- **Date** Date at which survey data was stored in the **PSION™**.
- **Time** Time at which the survey data was stored in the **PSION™**.
- **Name.** Name of Operator (Surveyor in-put SSP/MFP mode).
- **Serial No.** Serial Number of the **FLEXI-SHOT™** instrument used.

FLEXI-SHOT™ surveys, provide the most comprehensive data set known to the industry. These results meet with the requirements and demands of high accuracy borehole position measurement as required by surveyors, survey and orientation data as required by directional drillers and geomagnetic information used by geophysicists to determine the presence of off-hole magnetic anomalies.



DATAFLOW MEASUREMENT

DATAFLOW MEASUREMENT SYSTEMS LIMITED

Tel: (44) 01684 438089, Fax (44) 01684 438089, EM: enquiries@dataflowonline.co.uk

Process the survey results with the PSION™ Workabout and calculate the Drill-hole:

- **Reduced Level (TVD).** **Total Vertical Depth at the point of survey.**
- **Northing (Latitude).** **Distance North (or South) from the origin.**
- **Easting (Departure).** **Distance East (or West) from the origin.**

Print directly, the survey and geophysical results, observe and analyze the data.

Store the survey results in the Drillhole File as a subdirectory of the Project Folder. Append to the files with new surveys from any number of projects.

Transfer the data to Drillog™. View and Plot the drill-hole surveys in Plan, Section and 3D. Print and project trajectories based on drilling trends and parameters.

Select the instrumentation and running gear that best suits your application. A comprehensive range of standard and application specific running gear is available to suit all types of operational requirements. No matter whether the survey application is up, down or horizontal, specialized running gear is available from your support centre.

FLEXI-SHOT™ instrumentation with Orientation Mule-shoe and top sub Tee-Head Orientation Hanger.



Quality check the FLEXI-SHOT™ is performing to specification using the PSION™ 'Workabout' SSP/MFP QA software. Use the Magnetic Field Match (MFM) function to quality check survey results.

DATAFLOW MEASUREMENT

DATAFLOW MEASUREMENT SYSTEMS LIMITED

Tel: (44) 01684 438089, Fax (44) 01684 438089, EM: enquiries@dataflowonline.co.uk



FLEXI-SHOT™ brings to the industry, unrivaled functionality and technical specification. Utilising industry proven tri-axial magnetic and gravitational sensors, it surpasses any other similar commercially available instruments. Obtain and record more than 13 survey parameters, 3 system status checks and various job details with each survey taken.

<i>Instrument Measurement</i>	<i>Range</i>	<i>Typical Accuracy</i>
<i>Azimuth (Azi)</i>	<i>0-360°</i>	<i>±0.5° (Inc>20°, Mag Dip <70°)</i>
<i>Inclination (Inc)</i>	<i>0-180° (or +/-90°)</i>	<i>±0.1°</i>
<i>Gravity Tool Face (GTF)</i>	<i>0-360°</i>	<i>±0.1°</i>
<i>Magnetic Tool Face (MTF)</i>	<i>0-360°</i>	<i>±0.5° (Inc>20°, Mag Dip <70°)</i>
<i>Magnetic Field (Btot)</i>	<i>0-95,000nT</i>	<i>±50nT</i>
<i>Temperature (LCD module)</i>	<i>-10°C to 90°C</i>	<i>±1°C</i>
<i>Temperature (without LCD)</i>	<i>-10°C to 125°C</i>	<i>±1°C</i>

<i>Environmental</i>	<i>Range/Value</i>	<i>Comment</i>
<i>Shock</i>	<i>1000g, 1/2 sine 1ms</i>	
<i>Vibration</i>	<i>20g rms 5-500Hz</i>	
<i>Pressure Rating</i>	<i>18000 psi</i>	<i>Standard 1.375" running gear</i>

<i>Dimensions</i>	<i>Value</i>	<i>Comment</i>
<i>Instrument OD</i>	<i>30.0mm</i> <i>or 27.0mm option (1.062")</i>	<i>With PC Comms Link</i> <i>Not available with PC Link</i>
<i>Instrument Length</i>	<i>102.0mm</i>	<i>With 'C' Battery Pack</i>
<i>Instrument Weight</i>	<i>900.0mm</i> <i>3.25Kg</i>	<i>With 'AA' Battery Pack</i> <i>With 'C' Battery Pack</i>

Customer Support is available through your **FLEXI SHOT™** Supply Centre or Dataflow Measurement Systems Ltd:

Dataflow Measurement Systems Ltd, UK
Tel +44 (0)1242 621453, Fax: +44 (0)1242 621594.
Em: enquiries@dataflowonline.co.uk
Regional Representatives:

Australia / Far East :
Surtech Systems Pty Ltd. Perth WA :
Tel 61 (0) 89 403 6225, Fax : +61 (0) 89 307 21340.
Em : enquiries@surtech.com.au

DATAFLOW MEASUREMENT

DATAFLOW MEASUREMENT SYSTEMS LIMITED

Tel: (44) 01684 438089, Fax (44) 01684 438089, EM: enquiries@dataflowonline.co.uk