



Biometrics Ltd



DELUXE SYSTEM

MOVEMENT ANALYSIS

EMG

DATA ACQUISITION

DELUXE SYSTEM

The Deluxe System combination of sensors and instrumentation provides the advantage of true portability using the DataLOG, yet also real-time display and analysis using the DataLINK, with up to 8 channels of data collection per instrument.

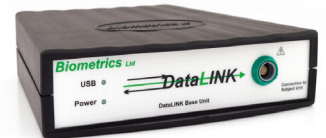
Ideal for research facilities and educational establishments - multiple instruments allow concurrent data acquisition by multiple users.



↔DataLINK↔ & ↔DataLOG↔

DataLINK is a general purpose programmable data acquisition system allowing the user to collect both analog and digital data from a wide variety of wired sensors. Sensors connect to a small, lightweight subject unit with programmable instrumentation amplifiers and power supplies for energizing the sensors, sampling and converting the inputs into a digital output.

The small, lightweight, battery operated DataLOG incorporates a color graphics LCD, joystick, micro SD card, and wireless Bluetooth link to the PC, providing real-time data transfer and display. The DataLOG can be worn on the arm or leg in addition to the traditional belt/waist placement. Data is automatically backed up to the Micro SD card providing complete peace of mind. DataLOG can also be used as an independent portable data recorder. The data is stored on the Micro SD card for later download and analysis.



biometricsltd.com/datalog

biometricsltd.com/datalink

EMG SENSOR

The EMG sensor (SX230) provides excellent quality of signal and ease of use. Unique to the design is the amplifier's Input Impedance of > 10,000,000 M Ohms. What this means in practice is that little or no skin preparation and no conducting gels are required, yet the quality of the record signal is absolutely superb for both static and dynamic applications. Various bandwidths are available to suit individual user requirements.

biometricsltd.com/surface-emg-sensor



SPECIFICATIONS

Electrodes	Integral dry reusable	Supply Voltage	+3.50 to +10.0 Vdc
Gain	1000 (100 also available)	CMRR @ 60 Hz (dB)	> 96 dB
Bandwidth	20 - 460 Hz	Input Impedance	> 10,000,000 Ohms
Noise	< 5 µV	Mass	5 g (excluding cable & plug)
Cable	Highly flexible grade, length 1.25 m (custom lengths on request)	Additional Bandwidths	5 - 480 Hz 5 - 1000 Hz



ELECTROGONIOMETERS

For over 30 years, the Biometrics Electrogoniometer has been the gold standard for dynamic joint angle measurement in fields such as biomechanics, ergonomics, gait analysis and sports science.

Robust, lightweight and flexible the 'SG' series twin-axis Electrogoniometers are ideal for quick, accurate measurements in up to two planes of movement. For example, a single goniometer on the wrist will dynamically measure both flexion/extension and radial/ulnar deviation.

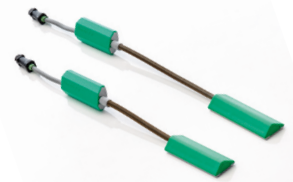
 biometricsltd.com/goniometer



TORSIOMETERS

Biometrics Ltd 'Q' series single-axis Torsiometers are designed for measurement of rotations in one plane, e.g. forearm pronation/supination of neck axial rotation. If a Torsiometer is bent nominally in planes X-X or Y-Y the output remains constant.

 biometricsltd.com/goniometer



SPECIFICATIONS

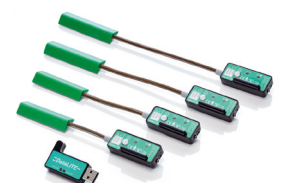
JOINT	SENSOR	MEASURED OUTPUT
Wrist	SG65	Flexion/extension, radial/ulnar deviation
Wrist (large)	SG75	Flexion/extension, radial/ulnar deviation
Elbow	SG110	Flexion/extension
Knee	SG150	Flexion/extension
Hip	SG150	Flexion/extension, abduction/adduction
Back	SG150/B	Flexion/extension/lateral flexion
Neck	SG110	Flexion/extension/lateral flexion
Forearm	Q150	Pronation/supination
Neck	Q110	Axial rotation
Transducer type	Strain gauge	
Life ¹	600,000 cycles typical	
Accuracy	± 2° measured over a range of ± 90°	
Repeatability	1° measured over a range of 90°	



WIRELESS ELECTROGONIOMETERS

Using the same technology as our world standard Electrogoniometer for dynamic joint angular measurements - DataLITE wireless Goniometers incorporate a wireless transmitter to send data to the computer for display, analysis and transfer to custom applications in real-time.

  biometricsltd.com/wireless-sensors



EVENT MARKERS

An event marker allows time marks to be superimposed on the recorded data and enables the operator to highlight specific events during data collection.



OPTICAL SYNCHRONIZATION

The same function as an event marker but with a LED built into the hand held switch for use to activate start recording for precise synchronization with camera based motion analysis systems.



RECORD OUTPUT LED

Used for video synchronization, the IS5LED is an indicator LED switch which illuminates when the DataLOG starts or stops recording data.



CONTACT ASSEMBLY SWITCH

An assembly of four Force Sensing Resistor Sensors (FSRs) each on 1.5 meters of cable, for use as switches to indicate contact e.g. heel and toe strike or palmer contact. The sensors are thin and robust and are usually placed inside the subject's shoe or glove for convenience.

 biometricsltd.com/switches

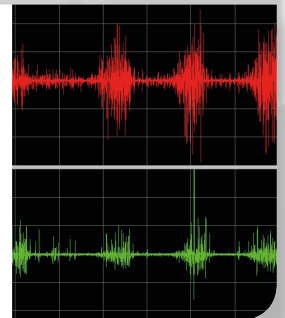


MANAGEMENT & ANALYSIS SOFTWARE

Biometrics Management and Analysis Software for is a comprehensive tool for EMG, Electrogoniometer and associated sensor analysis including real-time data analysis as the data is collected. The software includes a dynamic link library for real-time transfer to third-party applications compatible with Windows 8 & 10.

The software can display video files and fully time synchronize them with data collected during a recording. The video does not have to start or stop at the same time as the recording as they can easily be synchronized after capture.

 biometricsltd.com/analysis-software



DELUXE SYSTEM

Deluxe System	DS3000
1 x DataLOG	MWX8
1 x Management & Analysis Software	V10
8 x EMG Sensors	SX230-1000
1 x EMG Earthing Strap	R606
1 x EMG Sensor Tape (350/pack)	T350
2 x Event Markers	1 x IS2LED, 1 x IS3
1 x Optical Synchronization Record Start/Stop	IS4LED
1 x Record Output LED (use for video synchronization)	IS5LED
1 x DataLINK	DLK900
1 x DLK900 Analogue/Digital Output Cable	R2000i
9 x Twin-Axis Electrogoniometers *	2 x SG65, SG110, SG110/A, SG150, SG150/B
1 x Torsiometer	Q150
8 x Interconnecting Leads	4 x J1000, 4 x J1500
1 x Double Sided Tape (10/pack)	T10
1 x Contact Switch Assembly	FS4

* Choice of sizes available



Biometrics Ltd manufactures variations of DataLOG and DataLINK (sensors and instruments) for Data Acquisition which are CE marked medical devices in Europe, independently certified to Safety Standard of the International Electrotechnical Commission IEC 60601-1:2005 + A1:2012 and BS EN 60601-1:2006 + A1:2013, conforming to the European Medical Device Directive 93/42/EEC as amended by Directive 2007/47/EC, conforming to the council Directive relating to Electromagnetic Compatibility by the application of BS EN 60601-1-2.

Other variations are available as non medical devices.

 biometricsltd.com/systems-deluxe

Biometrics Ltd maintains to the highest standard a Quality Management System that is independently accredited to ISO 13485:2016 and EN ISO 13485:2016.

The Quality Management system has been in continuous operation for over 15 years and is independently audited by SGS on an annual basis. The scopes of the certifications include: Design, development, manufacture, sales, installation and service of computerized physiological data capture, evaluation documentation and exercise systems.

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