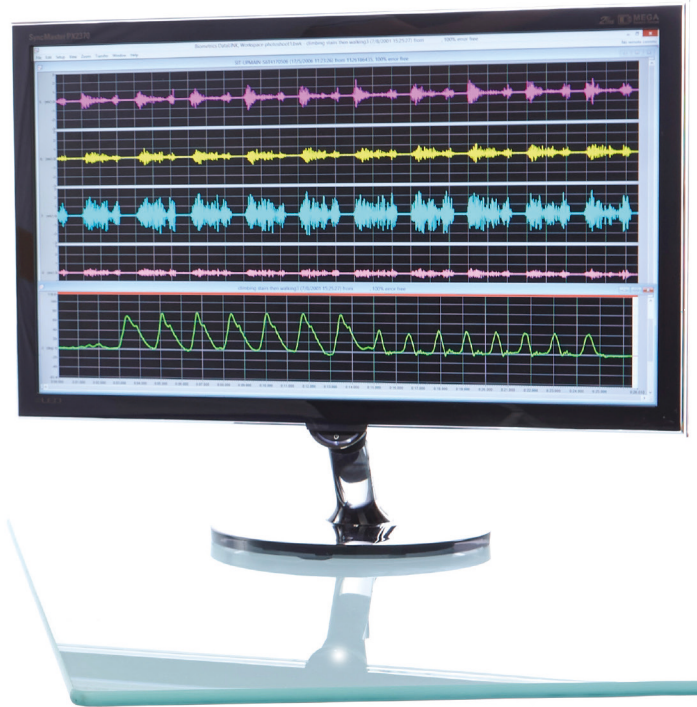




**Biometrics Ltd**



↔ **DataLOG** ↔

**PORTABLE SYSTEMS**

MOVEMENT ANALYSIS

EMG

DATA ACQUISITION

## PORTABLE SYSTEMS

Portable Systems are comprehensive packages of sensors and instrumentation for static and dynamic measurements in a clinical setting, a research center, or at any remote location such as an office, factory workplace or sports field.

All the Portable Systems include DataLOG portable data acquisition units and may be easily enhanced at any time with the addition of other sensors/instruments.



### ↔DataLOG↔

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](http://biometricsltd.com/datalog)



## 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](http://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 $\mu$ V	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.

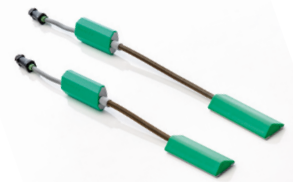
 [biometricsltd.com/goniometer](http://biometricsltd.com/goniometer)



# 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](http://biometricsltd.com/goniometer)



## SPECIFICATIONS

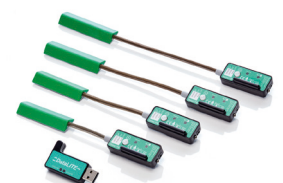
JOINT	SENSOR	MEASURED OUTPUT
Wrist	SG65	Flexion/extension, radial/ulnar deviation
Wrist (large)	SG75	Flexion/extension, radial/ulnar deviation
Elbow	SG110	Flexion/extension
Knee	SG150	Flexion/extension
Hip	SG150	Flexion/extension, abduction/adduction
Back	SG150/B	Flexion/extension/lateral flexion
Neck	SG110	Flexion/extension/lateral flexion
Forearm	Q150	Pronation/supination
Neck	Q110	Axial rotation
Transducer type	Strain gauge	
Life <sup>1</sup>	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](http://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.



## 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](http://biometricsltd.com/switches)

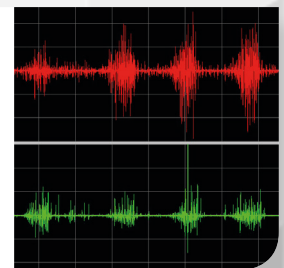


## MANAGEMENT & ANALYSIS SOFTWARE

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.

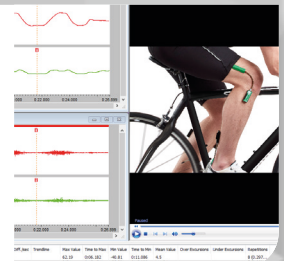
The software includes a dynamic link library for real-time transfer to third-party applications compatible with Windows 8 & 10.

 [biometricsltd.com/analysis-software](http://biometricsltd.com/analysis-software)



## VIDEO SYNCHRONIZATION

The Biometrics Analysis 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.



# PORTABLE SYSTEMS

8 Channel Goniometer System	PS800
1 x Data Acquisition Unit	DataLOG MWX8
1 x Management & Analysis Software	V10
7 x Twin-Axis Electrogoniometers *	2 x SG65, SG110, SG150, 1 x SG110/A
8 x Interconnecting Leads	4 x J1000, 4 x J1500
1 x Double Sided Tape (10/pack)	T10
1 x Event Marker	IS3LED
1 x Optical Synchronization Record Start/Stop	IS4LED
1 x Contact Switch Assembly	FS4

8 Channel EMG System	PS850
1 x Data Acquisition Unit	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
1 x Event Marker	IS3LED
1 x Optical Synchronization Record Start/Stop	IS4LED
1 x Contact Switch Assembly	FS4

16 Channel EMG System	PS1650
2 x Data Acquisition Unit	DataLOG MWX8
1 x Management & Analysis Software	V10
16 x EMG Sensors	SX230-1000
2 x EMG Earthing Strap	R606
2 x EMG Sensor Tape (350/pack)	T350
1 x Event Marker	IS3LED
1 x Optical Synchronization Record Start/Stop	IS4LED

\* Choice of sizes available

 [biometricsltd.com/systems-portable](http://biometricsltd.com/systems-portable)

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.

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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8 Channel Goniometer & EMG System	PS900
1 x Data Acquisition Unit	DataLOG MWX8
1 x Management & Analysis Software	V10
8 x Twin-Axis Electrogoniometers *	2 x SG65, SG110, SG110/A, SG150
1 x Torsiometer	Q110
8 x Interconnecting Leads	4 x J1000, 4 x J1500
1 x Double Sided Tape (10/pack)	T10
1 x Event Marker	IS3LED
1 x Optical Synchronization Record Start/Stop	IS4LED
1 x Contact Switch Assembly	FS4
8 x EMG Sensors	SX230-1000
1 x EMG Earthing Strap	R606
1 x EMG Sensor Tape (350/pack)	T350

16 Channel EMG & Goniometer System	PS1800
2 x Data Acquisition Unit	DataLOG MWX8
1 x Management & Analysis Software	V10
16 x EMG Sensors	SX230-1000
2 x EMG Earthing Strap	R606
2 x EMG Sensor Tape (350/pack)	T350
1 x Event Marker	IS3LED
1 x Optical Synchronization Record Start/Stop	IS4LED
1 x Record Output LED (use for video synchronization)	IS5LED
1 x 16 Channel Synchronization Cable	SL100
8 x Twin-Axis Electrogoniometers *	2 x SG65, SG110, SG110/A, SG150
1 x Torsiometer	Q150
16 x Interconnecting Leads	4 x J1000, 4 x J1500
2 x Double Sided Tape (10/pack)	T10
1 x Contact Switch Assembly	FS4



ISO 13485:2016  
EN ISO 13485:2016  
Certificate no. GB05/66471

