

***Biometrics* Ltd**

TECHNICAL SPECIFICATIONS

PINCHMETER type no. P200

HAND DYNAMOMETER type no. G200

MYOMETER type no. M550

FORCEPLATE type no. FP3

FORCEPLATE type no. FP4

Including instructions on connecting the sensors to
instrumentation not supplied by Biometrics Ltd.

***Biometrics* Ltd**

Gwent
NP11 7HZ
UK

Tel: +44 1495 200800
Fax: +44 1495 200806
E-mail: sales@biometricsltd.com
Website: <http://www.biometricsltd.com>

PO Box 340
Ladysmith
VA 22501
USA

Tel: 804 448 2520
Fax: 804 448 0021

North American toll free: 800 543 6698

WARNINGS

1. In general when connecting these sensors to any instrument the user must ensure that all appropriate electrical safety regulations are complied with.
2. In a medical application the user must ensure that all appropriate medical regulations are complied with. Any resulting system must conform to IEC601-1-1:1992 (Collateral Standard: Safety Requirements For Medical Electrical Systems).
3. No more than 10.0 Vdc must be supplied to the sensors or damage will result.
4. All 5 instruments are designed to be used in compression only. Under no circumstances should the instruments be used in tension otherwise damage will result.
5. Biometrics Ltd accepts no liability, or consequential liabilities for the loss, or effects of loss or corruption of data caused when using these instruments.

SPECIFICATIONS

PINCHMETER

PART NO. P200

Overall diameter	48.0 mm
Diameter of button	18.0 mm
Overall height	7.0 mm
Material	stainless steel
Mass	65g
Calibration	compression only
Rated load (RL)	50 lbs or 22.68 Kg
Accuracy	better than +/- 0.5 % RL
Input impedance	900 Ω
Output impedance	700 Ω
Supply voltage maximum	10.00 Vdc
Supply voltage minimum	1.00 Vdc
Sensitivity	1.50 mV/V differential output
Output with no load	+/- 10% RL
Current	1 mA / V
Full Wheatstone Bridge arrangement	
Output socket	direct connection to cable H2000 or H2000FW

DYNAMOMETER PART NO. G200

Mechanical configuration based on Jamar style dynamometer

Mass	550g
Calibration	compression only
Rated load (RL)	200 lbs or 90.72 Kg
Accuracy	better than +/- 1.0 % RL
Input impedance	200 Ω
Output impedance	200 Ω
Supply voltage maximum	10.00 Vdc
Supply voltage minimum	1.00 Vdc
Sensitivity	1.50 mV/V differential output
Output with no load	+/- 10% RL
Current	3.5 mA / V
Full Wheatstone Bridge arrangement	
Output socket	direct connection to cable H2000 or H2000FW

MYOMETER PART NO. M550

Mass	220g
Calibration	compression only
Rated load (RL)	110.23 lbs or 50.0 Kg
Accuracy	better than +/- 1.0 % RL
Input impedance	360 Ω
Output impedance	360 Ω
Supply voltage maximum	10.00 Vdc
Supply voltage minimum	1.00 Vdc
Sensitivity	1.50 mV/V differential output for RL
Output with no load	+/- 10% RL
Current	2.7 mA / V
Full Wheatstone Bridge arrangement	
Output socket	direct connection to cable H2000 or H2000FW

FORCEPLATE**PART NO. FP3**

Overall dimensions	200 x 125 x 14 mm
Material	black anodized aluminium
Mass	790g
Calibration	compression only
Rated load (RL)	100Kg or 220lb
Accuracy	better than +/- 0.5 % RL
Input impedance	100 Ω
Output impedance	90 Ω
Supply voltage maximum	10.00 Vdc
Supply voltage minimum	1.00 Vdc
Sensitivity	1.50 mV/V differential output
Output with no load	+/- 10% RL
Current	10 mA / V
Full Wheatstone Bridge arrangement	
Output socket	direct connection to cable H2000 or H2000FW

FORCEPLATE**PART NO. FP4**

Overall dimensions	250 x 125 x 22 mm
Material	black anodized aluminium
Mass	1560g
Calibration	compression only
Rated load (RL)	250Kg or 550lb
Accuracy	better than +/- 0.5 % RL
Input impedance	100 Ω
Output impedance	90 Ω
Supply voltage maximum	10.00 Vdc
Supply voltage minimum	1.00 Vdc
Sensitivity	1.50 mV/V differential output
Output with no load	+/- 10% RL
Current	10 mA / V
Full Wheatstone Bridge arrangement	
Output socket	direct connection to cable H2000 or H2000FW

OPTION 1 for products P200, G200, M550, FP3 or FP4

Use of cable H2000FW (7 pin)

Instructions for connecting the Biometrics' P200, G200, M550, FP3 or FP4 to instrumentation not manufactured by Biometrics Ltd using cable type no. H2000FW.

The Output cable H2000FW is designed specifically to allow the user to interface the P200, G200, M550, FP3 or FP4 to instrumentation other than that supplied by Biometrics Ltd, where the user requires flying wires.

cable	flexible grade PVC,
cable length	2.0 m (custom lengths on request)
input plug	direct connection to P200, G200, M550, FP3 or FP4
output	flying wires with colours as below

WIRE COLOUR	DESCRIPTION
RED	Supply Volts
BLACK	Common or Ground
BROWN	differential output +ve
ORANGE	differential output -ve

OPTION 2 for products P200, G200, M550, FP3 or FP4

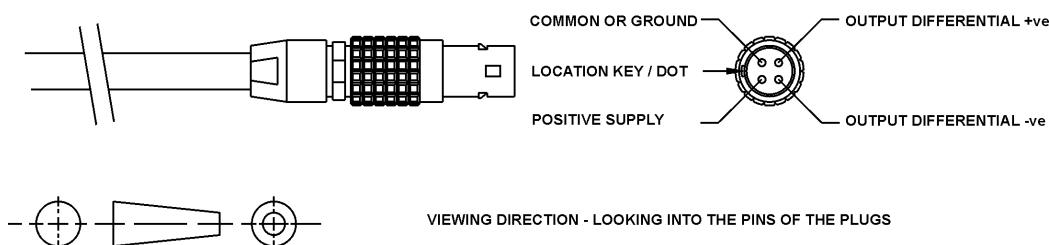
Use of cable H2000

Instructions for connecting the Biometrics' P200, G200, M550, FP3 or FP4 to instrumentation not manufactured by Biometrics Ltd using cable type no. H2000.

The Output cable H2000 is designed specifically to allow the user to interface the P200, G200 or M550 to instrumentation other than that supplied by Biometrics Ltd, where the user prefers to use a 4 way Lemo plug.

cable	flexible grade PVC,
cable length	2.0 m (custom lengths on request)
input plug	direct connection to P100, G100 or M500
output plug	Lemo type no. FGGOB304CLAD35
or	ODU type no. S10LOC-T04MFDO-3200
	4 way (see below for connection schematic)

CONNECTION DETAILS for cable H2000 output plugs



EXAMPLES OF SENSOR ELECTRICAL OUTPUT.

Example of Dynamometer G200 output:-

i.e. if the unit is supplied with 5.00 Vdc and a mechanical load applied of 100 lbs the differential output will change by + 3.75 mV or +0.00375 V.

Example of Pinchmeter P200 output:-

i.e. if the unit is supplied with 5.00 Vdc and a mechanical load applied of 10 lbs the differential output will change by + 1.50 mV or +0.00150 V.

Example of MyoMeter M550 output:-

i.e. if the unit is supplied with 5.00 Vdc and a mechanical load applied of 25 lbs the differential output will change by + 1.701 mV or +0.001701 V.

Example of ForcePLATE FP3 output:-

i.e. if the unit is supplied with 5.00 Vdc and a mechanical load applied of 75 Kg the differential output will change by + 5.625 mV or +0.005625 V.

Example of ForcePLATE FP4 output:-

i.e. if the unit is supplied with 5.00 Vdc and a mechanical load applied of 150 Kg the differential output will change by + 4.500 mV or +0.00450 V.

ENVIRONMENT

Units not to be subject to autoclave sterilising techniques

Operating temperature range	+10 °C to +40°C
Storage temperature range	-10 °C to +50°C
Operating humidity range	30% to 75%
Storage humidity range	10% to 100%
Atmospheric pressure range	operation 500 hPa to 1060 hPa storage 700 hPa to 1060 hPa