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TECHNICAL INSTRUCTION

WIRING DETAILS FOR ALL GONIOMETERS AND TORSIOMETERS CONNECTING TO INSTRUMENTS NOT SUPPLIED BY BIOMETRICS LTD.

GENERAL

Each channel of all Biometrics Ltd Goniometers and Torsiometers consist electrically of a Full Wheatstone Bridge arrangement. The passive half of the bridges are housed within the sensors fixed plastic endblock. This is electrically screened to aid signal to noise ratio. With all twin axis sensors the two bridges have one common. Referring to the table below note the difference in bridge input and output impedance. To prolong battery life the sensors may be energised with as little as +1.0 Vdc, though 1.5 to 2.0 Vdc is preferable.

USE OF CABLE TYPE NO. A1500

Push the black socket of the interconnect cable onto the mating black plug of the goniometer, ensuring that the polarisation marks are aligned before insertion. The plug and socket are self latching and should NOT be separated by pulling on either cable. To separate hold the plastic body of the plug and socket in each hand and pull.

The free end of the interconnect cable has 4 coloured PVC coated conductors and a screen braid.

Colour		Description
red	-	+ve supply
green	-	supply ground or common
yellow	-	+ve output differential volts
blue	-	-ve output differential volts

For all goniometers the maximum permissible d.c. supply voltage is 5.0 volts.
Current 4mA / supply volt nominal.

Goniometer sensitivity: 10µv/degree angle/supply volt.
If a goniometer is energised with 5 volts d.c. and bent through an angle of 100º, the differential output will be
0.005 volts.

When used with instrumentation systems not supplied by Biometrics Ltd, no guarantee of unit performance can be given.

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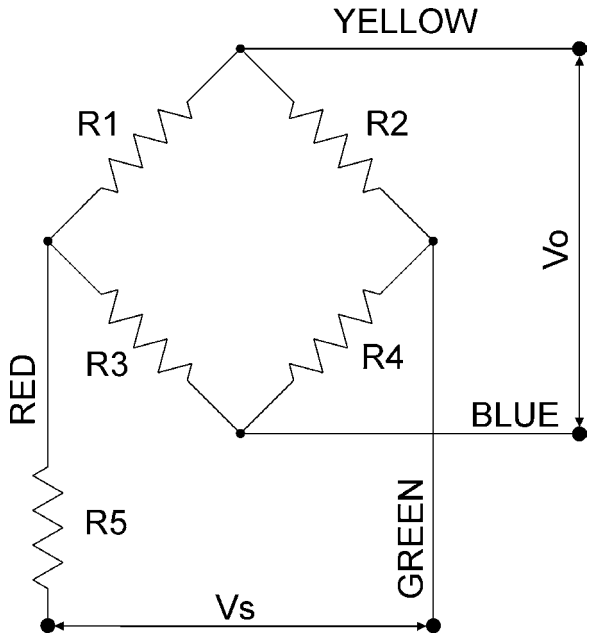
WARNING
THE USER SHOULD INSURE THAT WHATEVER SYSTEM THE GONIOMETER IS CONNECTED TO COMPLIES WITH ALL RELEVANT MEDICAL AND/OR ELECTRICAL SAFETY STANDARDS. IN PARTICULAR, ANY RESULTING MEDICAL SYSTEM MUST COMPLY TO EUROPEAN MEDICAL ELECTRICAL SAFETY STANDARD EN60601-1 1990.



Vo: Output Voltage (differential)
Vs: Supplied Voltage

Referring to the above schematic the following table shows the resistor values for the various sensor types.

Resistor values

Type no.	R1 / R2	R3 / R4	R5
F35	67	11300	80
SG65	115	11300	20
SG75	110	11300	17
SG110	60	11300	145
SG150	80	11300	120

All values in ohms.
Tolerance +/- 10%