

Materials List for:

# A Strain Gauge Monitor (SGM) for Continuous Valve Gape Measurements in Bivalve Molluscs in Response to Laboratory Induced Diel-cycling Hypoxia and pH

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## Materials

Name	Company	Catalog Number	Comments
Campbell CR 10x data logger	Campbell Scientific, Logan, Utah		Or other data logger. At Campbell the CR 10X has been replaced with the CR 1000
Campbell CR 10x multiplexer	Campbell Scientific, Logan, Utah		Data logger needs to have space for 12 channels
Dsub connector male crimp pins	TE Connectivity	205089-1	pins for gape sensor leads
PCA tape	Micro Measurements Corp, NC		To seal the strain gauge
Duro Quick Gel	Ace Hardware		Superglue
SG13/1000-LY43 or LY41	Omega Engineering Inc., Stamford, CT		Strain gauges
32 AWG (7/40) teflon Alpha wires	AlphaWire, Elizabeth, NJ	2840/7	Sensor cables, different colors are available
1/16" heat shrink tubing	Qualtek	B01A3QKKO6	To seal the leads of the sensor cable
Weller WES51 Analog Soldering Station	Amazon		Lots of soldering, need a good soldering iron. <a href="https://www.amazon.com/Weller-WES51-Analog-Soldering-Station/dp/B000BRC2XU/ref=sr_1_23?s=hi&amp;ie=UTF8&amp;qid=1505654295&amp;sr=1-23&amp;keywords=soldering+iron">https://www.amazon.com/Weller-WES51-Analog-Soldering-Station/dp/B000BRC2XU/ref=sr_1_23?s=hi&amp;ie=UTF8&amp;qid=1505654295&amp;sr=1-23&amp;keywords=soldering+iron</a>
Rosin Soldering Flux Paste	Amazon		Needed for soldering
60-40 Tin Lead Rosin Core Solder Wire	Amazon		Needed for soldering
Aquarium sealant	Home Depot		Attach sensors to bivalve
PC Laptop			Any old PC to run Campbell gape program
heat gun	Amazon		shrink shrink tubing
Drill	Hardware store, Amazon		for twisting wires to make sensor cables
AC to DC power module	Acopian	DB15-30	Wheatstone bridge power supply
Potentiometer	Clarostat	733A	Wheatstone bridge nulling
isolating BNC connector	Sterren Electronics	"200-148	Wheatstone bridge output for multimeter
Fused AC receptical panel module	Adam technologies	IEC-GS-1-200	Wheatstone bridge power supply connector
976 ohm 1% resistor	Vishay Dale	CMF50976R00FHEB	Wheatstone bridge resistor

1 kohm 1% resistor	Vishay Dale	CMF501K0000FHEB	Wheatstone bridge resistor
Potentiometer scale dial	Kilo International	462	10 turn dial for nulling potentiometer
DB25 male panel connector	TE connectivity	1757819-8	Data logger connector on Wheatstone bridge
DB25 female panel connector	TE connectivity	1757819-8	Sensor connector to Wheatstone bridge
perforated circuit board	Vector electronics	64P44WE	circuit board for mounting of bridge components
enclosure	Hammond Manufacturing	1444-29	Enclosure for sensor readout electronics