

MODEL 1089 MK III CHECKTRODE®



UFI
545 Main Street, Suite C-2
Morro Bay, CA 93442

Introduction

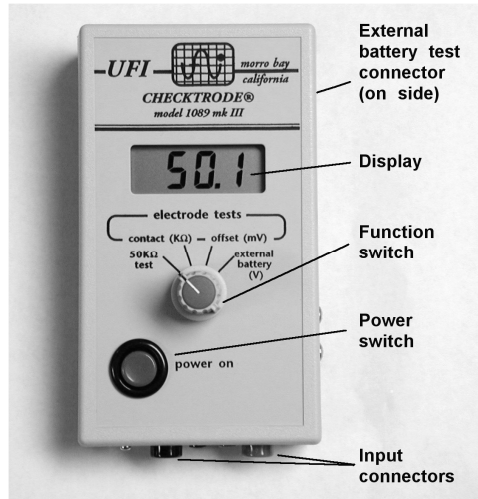
The Checktrode® may be used for the following purposes:

- To test integrity of electrode/skin contact in physiological and/or bio-electrical data acquisition systems;
- To test integrity of electrode leads in such systems;
- To test functionality of electrodes themselves;
- To test external batteries in physiological monitoring systems.

Controls and connectors

Power switch

Push button to turn on the Checktrode®. Power remains on for about 3 minutes, then turns off automatically.



- **offset (mV)** displays potential generated by a pair of electrodes when connected to body. This "offset potential" reflects purity of metals in the electrodes: the lower the reading, the higher the purity. Readings that vary wildly or exceed 10 mV usually indicate severe electrode problems.
- **external battery (V)** reads voltage of a battery connected to external battery test connector on right side of Checktrode®. A 1 KΩ load is connected across battery terminals for this reading.

Function switch positions

- **50 KΩ test** connects precision 50 KΩ resistor to the Checktrode® inputs. Display reads 49.5 to 50.5 (KΩ) when Checktrode® is working properly.
- **contact (KΩ)** displays contact impedance between electrodes from 0 to 199.9 KΩ. A "1" indicates impedance exceeds 199.9 KΩ.

Using the Checktrode®

To check electrode contact integrity:

- prepare electrode sites – abrade skin and use a conductive gel for good electrical contact with skin;
- attach electrodes to subject;
- connect electrode leads to input jacks;
- press power switch until it clicks on, then set function switch to **50 KΩ test**.
- Display reads 49.5 to 50.5 (KΩ) if Checktrode® is working properly.
- *replace battery if reading is not 49.5 - 50.5.*

- set function switch to **contact (K Ω)**. Display indicates electrode-skin contact impedance. High impedance correlates with inadequate skin preparation. Recordings often will be marred by noise from electrode lead motions.
- Various readings indicate the following:
 - 5 K Ω or less** – **excellent** skin prep: proceed with recording and expect good results.
 - 5 – 10 K Ω** -- **good** skin prep, but expect some noise in the recording.
 - 10 – 30 K Ω** -- **fair** skin prep. Contact impedance may decrease with time, but for best recording quality, electrodes should be removed and skin re-prepped.
 - Above 30 K Ω** -- **bad** skin prep. Even slight patient motion will cause. Electrodes *must* be removed and skin re-prepped.

To check integrity of an electrode lead:

- connect plug end to *red* electrode input jack;
- press power switch until it clicks on, then set function switch to **contact (K Ω)**;
- connect electrode end of lead to snap connector on bottom panel of Checktrode®. Display should read 00.0 and not change.
- A reading that changes with lead motion indicates an intermittent open circuit in lead.

To check offset potential

- prepare electrode sites — abrade skin and use a conductive gel for good electrical contact with skin;
- attach electrodes to subject;
- connect electrodes for test to input jacks;
- press power switch until it clicks on, then set function switch to **offset (mV)**.
- Display shows potential in millivolts generated by electrode-body half-cell. Reading should be 10 mV or less.
- *Replace electrodes* if reading is higher.

To check voltage of an external battery

- Set function switch to **external battery (V)**;
- press power switch until it clicks on;
- connect battery for test to battery test connector located on Checktrode® right side.
- Display shows battery voltage under light load (1 K Ω).

Warranty and repair

All UFI instruments are warranted against defects in materials and workmanship to the original purchaser for a period of one year from the date of original purchase. This warranty is void if our inspection shows the equipment has been tampered with; or installed at variance with factory-designated procedures; or has been subjected to negligence, misuse, or accident beyond normal usage; or has had the serial number altered, defaced, or removed.

All questions regarding the warranty should be directed to:

Customer Service Department
UFI
545 Main Street, Suite C-2
Morro Bay, CA 93442
Email: ufi@ufiservingscience.com

No third party, including any dealer or agent, is authorized to assume any liability for UFI.

When corresponding or communicating with UFI concerning your equipment, please include the model and serial numbers.

UFI instruments and transducers are subject to continuous improvement. We reserve the right to modify any design or specification without notice and without incurring any obligation.

ALL UFI TRANSDUCERS AND ELECTRODES ARE COVERED BY OUR EXCLUSIVE "LIFELINE® WARRANTY" AS OUTLINED BELOW

If your UFI transducer, electrode, or electrode tester ceases to operate--regardless whether the cause is accidental, intentional, or whatever---**return it to us**. We will repair it or replace it with a new one for a minimal handling charge, as listed below:

Model 1010, 1010C	\$25.00
Model 1020, 1020EC, 1020FC, 1110	\$25.00
Model 1030, 1040, 1070, 1081FT	\$50.00
Model 1081 & 1081 SNP	\$11.00
Model 1089 MK II & MK III	\$65.00
Model 1130, 1131, 1132	\$35.00

Prices subject to change

9-29-10