

USB PHOTOELECTRIC PLETHYSMOGRAPH

User's Manual



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Description:

The photoelectric plethysmograph is utilized to measure the rapidly occurring relative changes in pulse blood volume. The photoelectric plethysmograph utilizes a photosensitive cell to measure light reflected or passed through the tissue segment where the monitor is placed. The light source used produces a light in the infrared range (7000 to 9000 Angstroms). The light in this frequency is scattered by red blood cells so the amount of light reaching the photo sensor is related to the amount of blood through which it passed before reaching the sensor. The sensor can be placed on the same side of the monitoring site as the light, in which case the amount of light reflected back is measured (Handler, Mark & Kraphol, Donald, 2007).



Connecting the Plethysmograph:

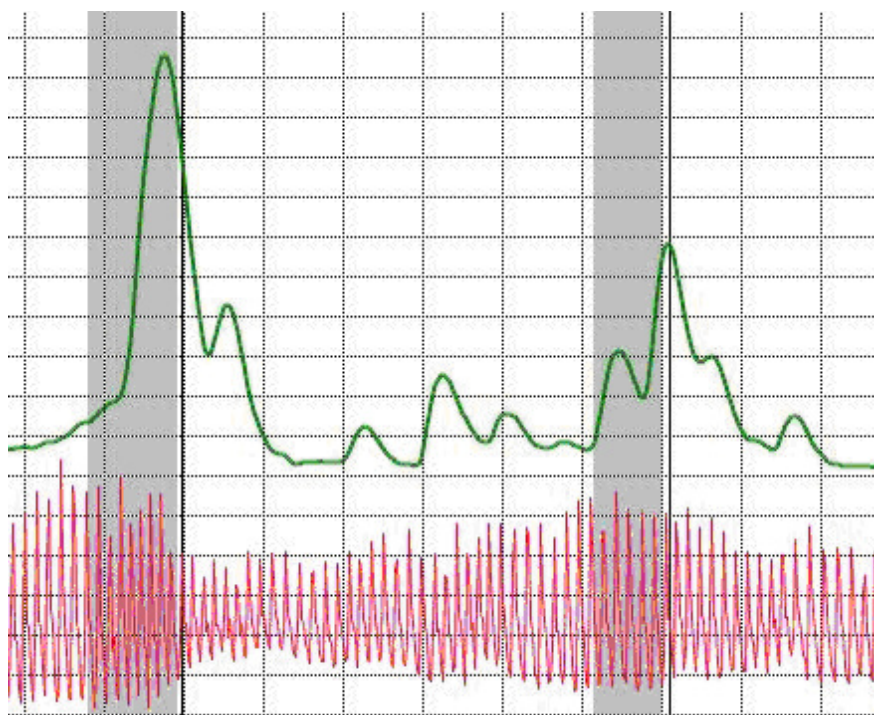
A clamp-like device houses both the light source and the sensor, and the assembly is placed on the finger or the thumb. The Plethysmograph has one primary connector that plugs into any of the auxiliary inputs on the LX4000. To turn on the Auxiliary input, open the Lafayette Instrument Co. LXSoftware and go to “Tools” > “Preferences” and choose the Auxiliary input that the Plethysmograph is plugged into, and click on “enable sensor trace”. After enabling sensor trace, turn on the hardware by pressing the button on the in-line switch box. The red light will indicate that the hardware is working properly.



Examiners should begin each examination with an acquaintance test to ensure that the pulse wave is recorded at the proper amplitude (about 3/4 inch) and that the tracing is not erratic. Some adjustment and experimentation may be required to find the optimal recording site on the hand. The sensor is sensitive to movement, therefore examinees must keep their hands still during testing. It is recommended that, after every use, the sensor be cleaned with a clean dry cotton cloth by gently wiping the inside (Handler, Mark & Kraphol, Donald 2007).

Note: Unlike the cardio, the trace for the PLE will not show a rise for deception, but rather a compression.

Chart with plethysmograph and electrodermal sensor tracing displayed simultaneously.



References:

Handler, Mark and Kraphol, Donald., The Use and Benefits of the Photoelectric Plethysmograph in Polygraph Testing (2007, APA Journal)

Ordering Information:

All phone orders must be accompanied by a hard copy of your order. All must include the following information:

- 1) Complete billing and shipping addresses
- 2) Name and department of end user
- 3) Model number and description of desired item(s)
- 4) Quantity of each item desired
- 5) Purchase order number or method of payment
- 6) Telephone number

DOMESTIC TERMS

There is a \$50 minimum order. Open accounts can be extended to most recognized educational institutions, hospitals and government agencies. Net amount due 30 days from the date of shipment. Enclose payment with the order; charge with VISA, MasterCard; or pay COD. We must have a hard copy of your order by mail or fax. Students, individuals and private companies may call for a credit application.

INTERNATIONAL PAYMENT INFORMATION

There is a \$50 minimum order. Payment must be made in advance by: draft drawn on a major US bank; wire transfer to our account; charge with VISA, MasterCard; or confirmed irrevocable letter of credit. Proforma invoices will be provided upon request.

RETURNS

Equipment may not be returned without first receiving a Return Goods Authorization Number (RGA).

When returning equipment for service, please call Lafayette Instrument to receive a RGA number. Your RGA number will be good for 30 days. Address the shipment to: Lafayette Instrument Company, 3700 Sagamore Parkway North, Lafayette, IN 47904, U.S.A. Shipments cannot be received at the PO Box. The items should be packed well, insured for full value, and returned along with a cover letter explaining the malfunction. Please also state the name of the Lafayette

Instrument representative authorizing the return. An estimate of repair will be given prior to completion ONLY if requested in your enclosed cover letter. We must have a hard copy of your purchase order by mail or fax, or repair work cannot commence.

WARRANTY

Lafayette Instrument guarantees its equipment against all defects in materials and workmanship to the ORIGINAL PURCHASER for a period of one (1) year from the date of shipment, unless otherwise stated. During this period, Lafayette Instrument will repair or replace, at its option, any equipment found to be defective in materials or workmanship. If a problem arises, please contact our office for prior authorization before returning the item. This warranty does not extend to damaged equipment resulting from alteration, misuse, negligence or abuse, normal wear or accident. In no event shall Lafayette Instrument be liable for incidental or consequential damages. There are no implied warranties or merchantability of fitness for a particular use, or of any other nature. Warranty period for repairs or used equipment purchased from Lafayette Instrument is 90 days.

DAMAGED GOODS

Damaged equipment should not be returned to Lafayette Instrument prior to thorough inspection.

When a shipment arrives damaged, note damage on delivery bill and have the driver sign it to acknowledge the damage. Contact the delivery service, and they will file an insurance claim. When damage is not detected at the time of delivery, contact the carrier and request an inspection within 10 days of the original delivery. Please call the Lafayette Instrument Customer Service Department for a return authorization for repair or replacement of the damaged merchandise.



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