

4METER

An instrument for determination of the **actual level** of sources required for an effective medical therapy.



Key Functions

- 1. Blue light irradiance measurement:
- verify irradiance of photo therapy devices during preventive maintenance and normal use
- 2. O₂ measurement:
- verify purity of O₂ sources (tank, generator, wall) during preventive maintenance
- verify mechanical blender and other blender during preventive maintenance
- leak search inside device and along external tubes during repair and equipment inspection
- 3. Pressure measurement:
- verify pressure at Y connector during use
- 4. Flow measurement:
- verify flow output of CPAP, Hi-flow and ventilators during preventive maintenance
- 5. High pressure measurement:
- verify hospital gas sources and check them for fluctuations
- 6. Temperature and humidity measurement:
- verify the temperature uniformity of the radiant warmers
- check temperature and humidity inside the incubators

Light Irradiance Sensor

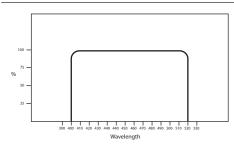
- spectral response chosen to match wavelength used for jaundice treatment
- two sided measurement for convenient measurement of double sided phototherapy devices such as the MTTS Firefly

Displays/Indicators

- touch screen liquid-crystal display (LCD)
- alarms: low battery, system failure, out of measurement
- results 'freeze'
- bandwidth estimator
- absolute and relative irradiance measurement
- multi-point mode



Light Sensor Spectral Response



Dimensions and Weight

Height	148 mm
Width	73 mm
Depth	17 mm
Weight	200 g

Performance Specifications

Application - LED and blue fluorescent phototherapy light sources; using the lightmeter for halogen phototherapy results

in a minor but not considerable error
- Various gas sources used for respiratory therapy

LIGHT SENSOR

Spectral response 400-520nm

Measurement range single side 0.1 – 150.0 µ

single side 0.1 – 150.0 µW/cm²/nm double side 0.1 – 300.0 µW/cm²/nm

 $\begin{array}{lll} \text{Resolution} & 0.1 \, \mu\text{W/cm}^2/\text{nm} \\ \text{Cosine characteristics} & \pm 2\% \ @ \ 30 \ \text{degree angle} \\ & \pm 7\% \ @ \ 60 \ \text{degree angle} \\ & \pm 25\% \ @ \ 80 \ \text{degree angle} \\ \end{array}$

Accuracy +/- 3% of reading

OXYGEN SENSOR FiO₂ 21-100%

FLOW SENSOR flow 0-120 lpm, bi-directional

MANOMETER pressure 0-100 cm H₂O

HIGH PRESSURE SEN. pressure ±100 psi

TEMP/HUMIDITY SEN. temperature 5-60°C humidity 0-100% RH

Battery Specification

Type 2xAAA 1.5V Alkaline, Non-rechargeable

Lifetime Up to 120h operating time Maximum usage time when fully

charged 4 hours

Environmental Specification

 $\begin{array}{ll} \text{Operation Temperature} & 10^{\circ}\!\text{C to } 40^{\circ}\!\text{C} \\ \text{Storage Temperature} & 0^{\circ}\!\text{C to } 50^{\circ}\!\text{C} \\ \text{Operation Atmospheric Pressure} & 70 - 106 \text{ kPA} \\ \text{Storage Atmospheric Pressure} & 70 - 106 \text{ kPA} \\ \end{array}$

Operation Humidity 30 – 90% RH non condensing Storage Humidity 5 – 90% RH non condensing

Sealing IP3X

Drop/Shock 1m onto hard surface, meets or exceeds IEC standards

Standards

ISO 13485:2016 IEC 61010-1:2010 IEC 61326-1:2012

Ordering Information and Servicing

ORDERING INFO ITEM ORDER NO Lightmeter LM-800 Main Unit Oxygen meter LM-800-020 Flow meter LM-800-030 LM-800-040 Manometer LM-800-050 High pressure meter Temperature/Humidity meter LM-800-060 Rechargeable batteries LM-800-070 and charger Storage case LM-800-080

Calibration Required Every 2 years after delivery date; return to MTTS for calibration

No customer serviceable parts; return to MTTS for service

MTTS

Parts

MEDICAL TECHNOLOGY TRANSFER AND SERVICES Co., LTD ISO 13485: 2016 Certified Company

For more information or to place an order please contact us at:

info@mtts-asia.com

https://mtts-asia.com

No 26, Lane 41 An Duong Vuong Street Phu Thuong Ward, Tay Ho District Hanoi, Vietnam

Distributor:

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