RADIOMETER 485

sglux UV SENSORS

UV Radiometer for Calibration of Modbus-RTU based sensors

GENERAL PROPERTIES

The Radiometer 485 is a battery-powered measuring instrument with integrated calibration capabilities. It consists of a display unit, sensor cables and a calibrated reference sensor.

Two sensors can be connected directly to the two sensor sockets. Any sglux sensor with Modbus-RTU via RS-485 can be connected to the radiometer. In principle, Modbus-RTU compliant sensors from other manufacturers can be operated as well (but may need some customization).

The display shows live measurements of both sensors. If a reference sensor is connected together with a duty sensor, the latter can be quickly calibrated at the same measuring point.

This device is self-contained and does not require a power supply or a computer for operation.

The device starts up very quickly and is ready for use immediately. The built-in battery allows for long periods of use without recharging.

The radiometer can receive further features on customer request, for instance:

- changing interface settings (baud rate, parity, device address)
- support for Modbus-RTU over RS-485 from other suppliers
- internal calibration process logging, readout of calibration history, live data logging to PC
- display of customer specific units
- dosage measurements

BASIC USAGE

The radiometer has two operating modes: 'Measurement' and 'Calibration'.

In Measurement mode, one duty sensor and one reference sensor can be connected, with live measurements displayed independently for each sensor.

In Calibration mode, a reference sensor and a duty sensor (that requires calibration) must be connected. First, place the reference sensor in the duty sensor slot (in front of the radiation source) and take a reference irradiance measurement. Secondly, the duty sensor is placed in the same slot and calibration is initiated by pressing a button. Once the calibration has finished successfully, the duty sensor will show the actual reading using the new calibration.

SPECIFICATION HANDHELD DEVICE

Porperty	Value	Unit
Model	Radiometer 485	
Interface	RS-485	
Protocol	Modbus-RTU	
Compatible sensors	All sglux sensors with Modbus-RTU over RS-485 interface	
Display size	2.0" LCD	
Power Supply	via USB-C	
Battery	integrated rechargeable Lithium battery	
Operating time on battery	up to 24h	h
Dimensions	143 x 90 x 30 (L x W x H)	mm
Weight (without cables)	300	g
Country of Origin	Germany	

Operating conditions	Value	Unit
Operating Temperature	-5 … +50	°C
Storage Temperature	-15 … +55	°C
Relative Humidity	≤ 90	%
Operating Voltage (connected to USB-C)	5	V
Operating Current, during charging / if fully charged	1000 / 100	mA

SPECIFICATION REFERENCESENSOR

Porperty	Value
Repeatability	0.1% of the measured value (valid for measured values >= 0.5% of the measuring range end value)
Calibration measurement uncertainty	7% (k=2)
Calibration interval	12 months
Sensitivity range	220 - 280 nm
Aperture	160°

ORDERING INFORMATION

The following information is required for configuration:

1. The type of radiation source used
2. Typical working distances from the radiation source
3. The measurement range or some application or evaluation criteria to define it
4. desired unit of measurement for the display

If you do not have all the necessary information, we will be happy to assist you with our expertise in selecting the optimal configuration.