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LUMINANCE ACCESSORY

PL1.RF-100

USER'S MANUAL

Table of contents

1. INSTRUMENT CHARACTERISTICS

Accessory **PL1.RF-100** is device that change illumination meter into luminance one. It makes extra equipment of luxmeter **L-100** or radiometer-photometer **RF-100**. Probe is guided to co-operation with all measure probes that consider luminance measure mode (for example. **G.L-100**, **G.BLH-100** etc.). Operating complexity and low price make alternative solution for more expensive classic luminance meters .

After installing on measure probe accessory **PL1.RF-100** and selecting from instrument menu luminance mode, meter directly displays value and unit of measured value ($cd \cdot m^{-2}$, $W \cdot m^{-2} \cdot sr^{-1}$). Measure may be triggered from instrument or directly from luminance accessory after connecting it with meter through suitable cable.

1.1. Designations

On accessory grip handle manufacturer allocate:

- manufacturer designation,
- type of instrument,
- value of measure field angle,
- serial number.

1.2. Technical data

- Measure field angle: 1°
- Lens: 100mm, ≤ f/2,5
- Focusing range 1m ÷ ∞
- Calibration error: ±1% (relative to probe)
- View-finder: „back-sight" type.
- Possibility to attach on typical photographic stand.
- Remaining parameters relative from measure probe, publicize on it's specification.

1.3. Mechanical data

Illustration 1 introduce luminance accessory.
Main elements:

- lens assuring object surface with measure probe detector optical coupling.

- Leans focus ring,
- view-finder („back-sight" type)
- display surface location marker, from what distance must be measured in case when allocating instrument in field of measurement require precise positioning,
- measure trigger key,
- connection sockets.

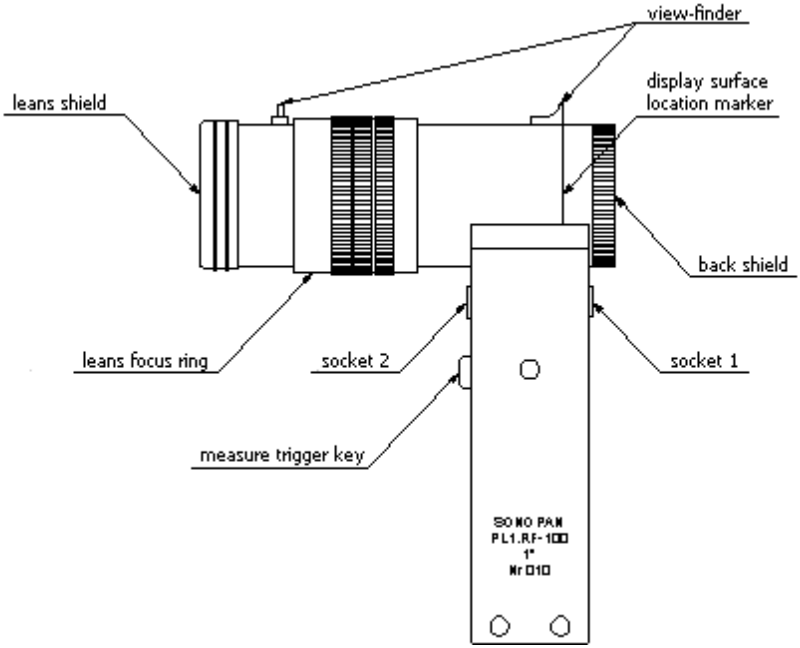

Illustration 1. Luminance accessory mechanical view.

2. LUMINANCE MEASURE

2.1. Installing accessory

To install accessory it is necessary to :

- unscrew ring from measure probe at reception field side,
- unscrew back accessory shield,
- screw measure probe to accessory,
- take off leans shield,
- estimate distance from measured surface and set it by leans focus ring,

- allocate accessory-probe in measure field looking at surface through view-finder.

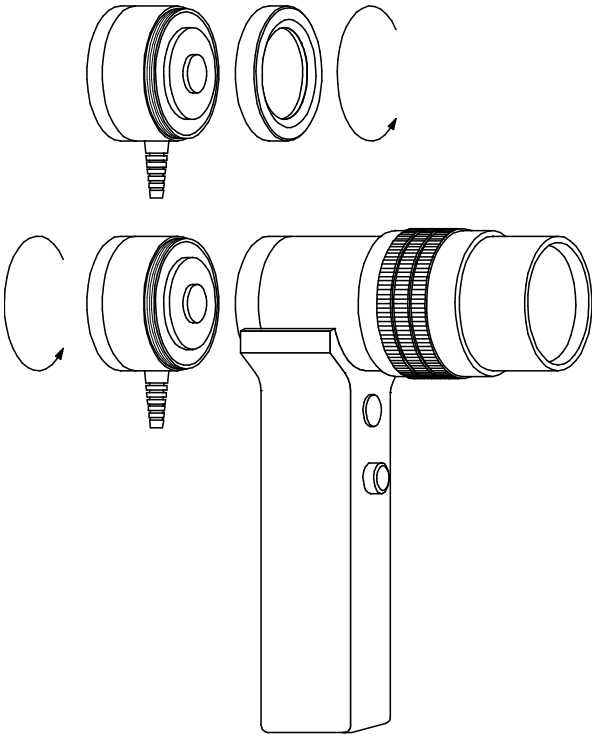

Illustration 2. Installing luminance accessory on measure probe.

Illustration 3 Proper position of view-finder when looking at measure surface.

2.2. Measure surface

Relationship between diameter of measure field D and distance L marked on focus ring scale:

L [m]	D [mm]	L [m]	D [mm]
1	13,6	2,5	40
1,2	17,2	3	49
1,4	20,7	4	66
1,6	24,2	6	101
1,8	27,7	10	171
2	31,2		

View-finders type „back-sight" does not assure precise definition of measure field. Besides individual aiming skills parallax error due translation of leans and view-finder axis must be added.

To define measure surface precise it's recommended to:

- place accessory in stiff stand,
- unscrew back shield (visible little eyelet is known as field diaphragm),
- looking at field diaphragm trough loupe with magnification at least ×6 sharp corners must be seen, picture inside field diaphragm is measured surface,
- by leans focus ring set sharp vision for measure object; in case when surface has small contrast measure distance from measure surface to display surface location marker (Illustration 1.) and set it on leans,
- connect measure probe.

2.3. Measure procedure

Before starting measure it is necessary to set in luxmeter/radiometer-photometer unit luminance meter mode and setting value of measurement field angle to 1°. From this moment light signal in probe reception field will be transformed thought algorithms from irradiation/illumination units to luminance units. Setting other measurement field angles will cause bad meter results.

Measurement is started through suitable steer unit key, identically like in case irradiation/illumination intensity measurements. It's possible to trigger measurement directly from accessory. In this case it's necessary to connect accessory together with instrument through cable shipped with accessory. This cable connects "socket 1" (Illustration.1) of accessory with socket „Supply/PC" of instrument. In this case RS-232 interface cable can be con-

nected through “socket 2” of accessory. In order to fulfill electromagnetic requirements instruments L-100/RF-100 cable, must be that one of 1,4 m length shipped together with accessory.

3. EXPLOITATION RECOMMENDATION

- It's forbidden to expose instrument on falls, shakes neither on any other factors that might produce mechanistically damages.
- The protection of measurement probe should be removed only for duration of the measurement, protecting the optical element of the field of the reception against the smudge of dirt.
- Object-glass luminance accessory can be cleaned from dust by small soft clean brush or stream of compressed air. Product in spray that operate similar to compressed air use with caution. They must be kept vertical during the cleaning process .
- User should hold the glass element of the luminance accessory's in absolute cleanness from the side of attached measuring probe, because the possible smudge of dirt has influence on values of the measurement. Cleaning optical element can be done through soft material damped with clean alcohol.
- Instrument should be kept and transported in factory container.
- Accessory can be mounted only on those probes, that luminance mode was predicted. In other case instrument (steer unit) will does not allow to setup it.
- After measurement with accessory is finished, it is necessary to screw back disconnected measure probe ring. It will assure proper measure illumination / irradiation intensity.

4. WARRANTY AND REPAIRS

Luminance accessory **PL1.RF-100** is shipped with one year warranty from day of purchase. It does not require special exploitation exceptions excluding exploitation recommendations manufacturer's warning signs.

All sort of repairs are achieved by manufacturer.