

POLARIZATION MEASUREMENT MODULE PMD002/POL

Spatial polarizer rotation type polarization/extinction ratio measurement module, suitable for polarization measurement of optical fibers, LDs, VCSELs.

Polarization measurement module **PMD002/POL** is the polarization/extinction ratio measurement module of the spatial polarizer rotation method. It directly measures the polarization state of the collimated incident light. In addition, the output polarization state of optical fibers and laser diodes can be measured by using an objective lens.

[Features]

- Possible to measure polarization/extinction ratio with high speed, resolution, reproducibility.
- High angle accuracy is achieved by rotation of polarizer controlled by pulse rotation stage.
- Objective lens can be attached. Spatial light measurement of fibers, various lasers, VCSEL, etc. is also possible.
- Large diameter beam can be measured. (Up to $\phi 10$ mm collimated light can be measured.)

[Summary of specifications]

- Measurement method: Spatial polarizer rotation method
- Spectral range
 - for 400~700nm: PMD002/POL VIS
 - for 600~1100nm: PMD002/POL NIR
 - for 900~1700nm: PMD002/POL IR (under development)
- Input power level and extinction ratio measurement range

Input power	Range of Extinction ratio
0.01~0.1(mW)	20(dB)
0.1~1(mW)	30(dB)
1~4(mW)	40(dB)

- Extinction ratio measurement reproducibility: ± 0.5 (dB)
- Extinction ratio display resolution: 0.01(dB)
- Target luminous flux diameter: Max. 10mm ϕ (collimated beam)
- Angle coverage: 360°
- Minimum angle resolution: approx. 0.09°
- Measurement angle resolution: approx. $\pm 0.5^\circ$ (use fitting)
- Attenuation: By ND filter (One can be inserted into the sensor head)

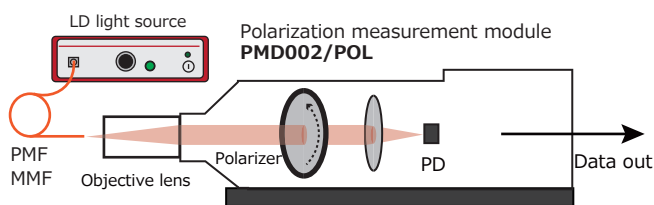
[Standard component]

- Sensor head: 1
- Control unit: 1
- Measurement software: **Optometrics POL basic**

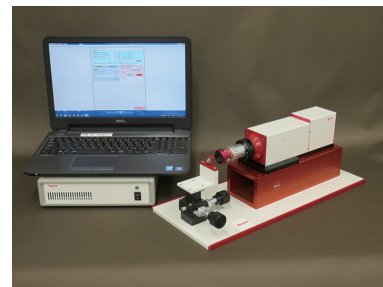
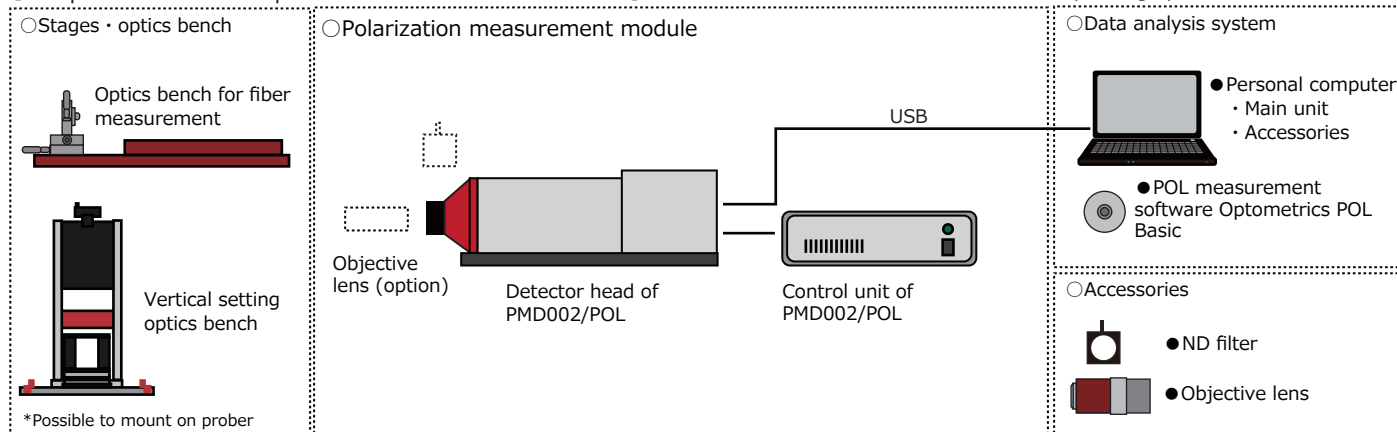
[Option]

- Optics bench
- Objective lens
- ND filter

[System configuration example Polarization/extinction ratio measurement of multi-mode fiber]



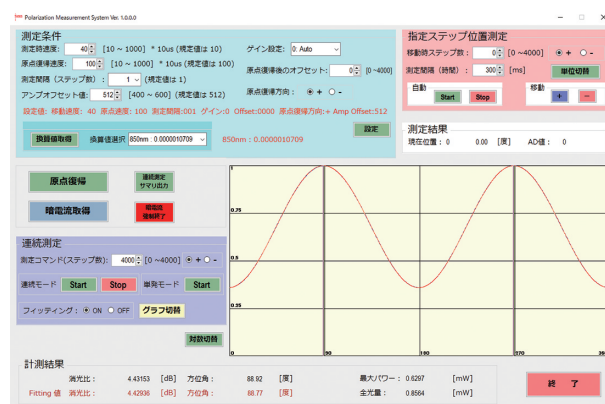
[Component selection of polarization measurement module]



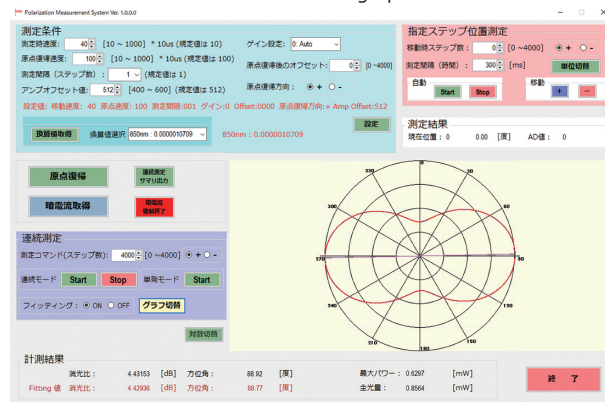
[Software function]

POL measurement software **Optometrics POL basic** (Functions)

- Measurement parameter: Extinction ratio, Azimuth, Total incident power, Azimuth power
- Function: Graph display, Azimuth extinction ratio vs power display, Fitting, Measurement condition setting
- Data storage and output: Graph data, Output of graph data (csv format)



○Polarization graph



○Azimuth vs power graph