

## Online PN Detection Probe

## SM510

### Features

- It can judge the wide range of resistivity of silicon materials: 20 mΩcm - 3000 Ωcm
- Fast detection speed: less than 0.1s
- Measuring spot: ~10-20mm (diameter depends on test distance)
- Laser excitation depth: ~5μm
- PN model of any shape sample
- Non-contact inspection:
- The detection distance depends on the conductivity and surface
- e.g. The material detection distance of 10 Ωcm with a smooth surface is about 20 mm
- Data transmission mode: TTL output (5V and 3.3V compatible)
- Add a dedicated communication box, you can output test results through RS485 or Ethernet/Portable, contactless PN checker

### Application

- Sorting of photovoltaic silicon wafers
- Polysilicon purification/ingot, chip, cell production, direct to monocrystalline
- Measure monopolysilicon samples of any shape

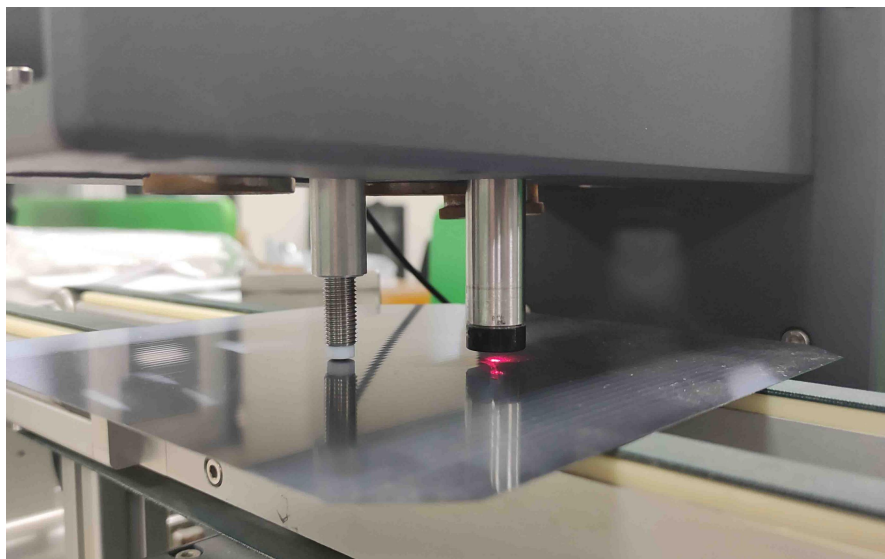
### Description

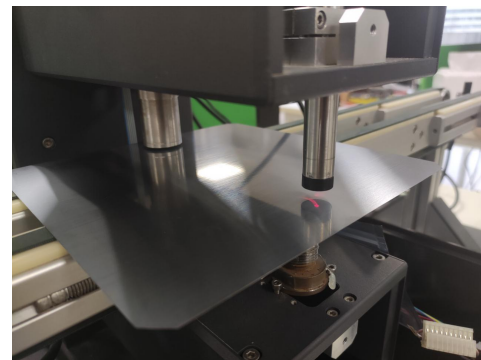
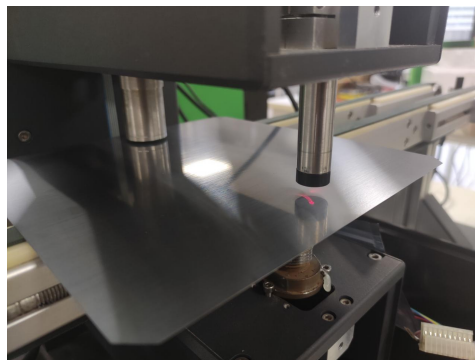
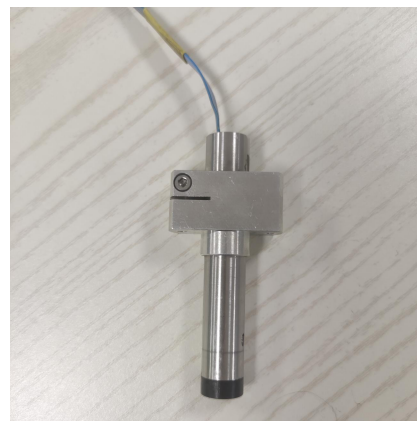
SM510 is a non-contact, rapid detection of PN type detection sensor.

SM510 uses the surface optical voltage method to measure the PN type of the semiconductor. The method uses a chopper laser to reduce the surface barrier. The change in barrier induced by light exposure is measured by a surface-coupled capacitance probe, and the output high and low levels indicate whether the semiconductor being tested is P-type or N-type. Thus, high speed non-contact detection of PN type is realized.

The SM510 has excellent stability and sensitivity to meet industrial applications, making it the right-hand man in the field of industrial sorting. At present, it has been widely used in photovoltaic silicon separator.

Model	Instructions
SM510	PN type in-line detection probe
SM510-C485	PN probe + RS485 communication box
SM510S-CLAN	PN probe + Ethernet communication box





## Performance

Number	index	parameter
1	Resistivity range	20 mΩcm - 3000 Ωcm
2	Detection speed	<0.1s
3	Maximum output power	400mW
4	Average output power	200mW (50% power factor)
5	Fluctuation of pulse	410μs
6	Beam divergence	0.5 radians
7	Measure the spot	~10-20mm (diameter depends on test distance)
8	Laser excitation depth	~5μm
9	Detection distance	1mm~20mm
10	Data transfer method	TTL output (5V and 3.3V compatible), add a dedicated communication box, you can output test results via RS485 or Ethernet



SM510-C485 with RS485 communication box

