



NEPtune

LayTec's NEPtune is a multiwavelength reflectometer especially designed to measure in-situ the end point during wet etching in BEOL processes like under bump metallization (UBM) and copper pillar integration.

Features

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- Automatic and reproducible end point detection in stacks of metal films
 - Modular concept with multiple measurement heads
 - Displaying real-time reflectance during etching at multiple positions across the wafer
 - Stand-alone control software running on embedded controller in base unit

Benefits

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- Assessment of wafer process uniformity in real-time
 - Displaying of end point history from run to run for SPC and process optimization
 - Enables tighter process specifications
 - Improvement of Cost of Ownership through shorter etching cycles, savings on chemicals and process time

**Communication /
integration**

- NEptune base unit sends SPC data and reflectance values to the etching tool via TCP / IP
- NEptune base unit receives analog process start trigger from etching tool

Electrical connections

- RJ 45 Ethernet: permanent connection to etching tool computer and temporary connection to service notebook
- TRIAD 5-pin socket: connection to service notebook / computer during setup and maintenance (temporary, requires a special RS-422 / USB interface cable)
- RJ 45 Ethernet connection for daisy chaining (from base unit to measurement head, between measurement heads)
- 9-pin D-sub (F) connector – “etch start” trigger from system to base unit

Power consumption

- Power supply 24 V with adaptor cable to M12 connector
- Typical current consumption 0.4 A
- Max. current consumption 1 A (depending on number of measurement heads connected)

Operating conditions

- 10 °C - 35 °C ambient temperature
- Relative humidity: 0 - 95 % non-condensing

**Electronic control unit
(base unit)**

- Dimensions: 194 mm x 115 mm x 56 mm
- Weight approx. 530 g

Optical head

- Dimensions: (341 - 471) mm x 131 mm x 65 mm
- Weight approx. 1000 g

Specifications are subject to further technical development and may differ from those given in the data sheet. In certain cases, performance may be limited by reactor type and/or growth conditions. Please consult our technical sales team to see how LayTec metrology can best serve your specific application.

For further information please contact:

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Developed,
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