



EpiTT FaceT

LayTec's EpiTT FaceT for GaAs laser facet coating is an in-situ spectroscopic metrology tool especially designed for accurate temperature measurement during MBE passivation of GaAs laser facets in conjunction with real-time passivation layer thickness sensing.

Features

Temperature measurement

- Determination of the laser stack temperature during cleaning and passivation in a range from room temperature to 400 °C (accuracy $\pm 2K$)
- Embedded control software enables multi-stack sensing on rotating platens

Passivation layer thickness measurement

- Real-time determination of the passivation layer thickness during growth on the laser facets
- Typical range 0 – 30 nm (accuracy ± 0.3 nm)

Electronic control unit

- Tungsten lamp (9W); typical life-time (according to manufacturer): 6.000 h, adjustment-free lamp unit for quick replacement reduces downtime
- Embedded Beckhoff CX computer for real-time data analysis
- 2048 pixel CCD detector array, 630 nm - 1100 nm
- Data interfacing to MBE system

**Communication /
integration**

- Integrated metrology tool communicating with the MBE control software (depending on software)
- Display of temperature and passivation layer (e.g.; ZnSe) thickness via alphanumeric display of embedded computer
- Output of temperature and thickness via various interfaces possible:
 - 4 - 20 mA
 - 0 - 10 V
 - EtherCAT
 - ModBus
 - Synchronization to the platen rotation and multi-stack configuration
- Other interfaces and field buses on request

**Optical head**

- Fiber optical head, customized to the specific MBE chamber

Operating conditions

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

**Size and weight
of parts**

- Dimensions of controller body: 430 mm x 350 mm x 180 mm (4 HU)
- Weight of controller: ~ 12 kg

**Electrical connections /
power consumption**

- 110 V / 240 V mains
- Typical consumption 50 W
- RJ 45 Ethernet connection for access via remote desktop
- D - SUB 15-pin hardware interface to MBE system
- 4 - 20 mA interface(s) for temperature and (optional) passivation layer thickness output
- Optional: other inputs and customer-specific interfaces upon request

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:

LayTec AG

Seesener Str. 10-13
10709 Berlin, Germany

Tel.: +49 (0)30 89 00 55-0
Fax: +49 (0)30 89 00 55-180
Email: info@laytec.de
Web: laytec.de



Developed,
manufactured,
qualified in Germany.