PYROMETER UPGRADE PRECISE TEMPERATURE MEASUREMENTS FOR OPTIMAL PROCESS MANAGEMENT

Process uniformity and repeatability depend on precise temperature measurements to manage the heating of wafers during the epitaxy deposition process. Properly functioning pyrometers are critical instruments for measuring the temperature and providing feedback to the heating power management algorithms.

The EpiPro 5000 systems are well known in the epitaxy market for their process control and flexible process capabilities that allows for simplified recipe management and excellent thickness and resistivity results. Temperature accuracy is critical in achieving this.

BENEFITS OF PYROMETER UPGRADES:

- Systems are upgraded to the most advanced versions of pyrometer and logic available

- Pyrometers that are obsolete pose a costly risk if they fail

- A scheduled upgrade will avoid unscheduled downtime when a pyrometer replacement is required

- Repeatable batch-to-batch temperature measurements enhances production output

- THERMCO-EPITAXY Service personnel have the experience required to upgrade the hardware and logic and to verify optimal performance

Thermco Systems have thermal process tools designed with your emerging technologies in mind

THE PRODUCT

When the pyrometer must be replaced, THERMCO-EPITAXY offers a single-range thermometer that senses the heat sign al from the susceptor at 1um wavel ength. The operating range is 600—1300°C. This pyr ometer can replace previous pyrometer generat ions on all EpiPro 5000 series tools.

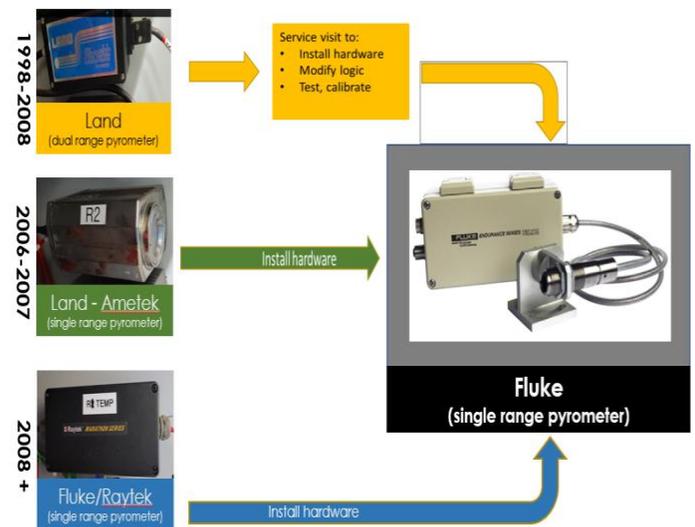|	Land (Dual ranges)	Land (Dual ranges)	Raytek-Fluke (Single ranges)	Fluke (Single ranges)
Availability	Discontinued	Discontinued	Discontinued	Current
Output	Non-linear	Linear	Linear	Linear
Temperature range	600-800°C 800-1300°C	600-1600°C	600-1300°C	600-1300°C
Ramp	Linearized by software	Linearization not required	Linearization not required	Linearization not required
Technology	Old	Current	Current	Current

THE PRODUCT

To replace your thermometer, it is necessary to determine your current thermometer configuration. Contact THERMCO-EPITAXY Spares Group to verify which thermometer was shipped with your tool.

- If your system has a single-range
- Raytek/Fluke pyrometer, then it is a direct replacement (plug and play).
- If your system has a sin gle-range Land pyrometer, then the pyrometers in both R1 and R2 must be upgraded to single-range thermometers and the system logic updated on your system by the THERMCO-EPITAXY Service Group.
- If your system has a dual-range Land pyrometer, then the pyrometers in both R1 and R2 must be upgraded to single-range pyrometers and the system logic updated on your system by the THERMCO-EPITAXY Service Group.

HISTORY

EpiPro 5000 systems were originally shipped from the factory with two types of pyrometers:

- Single-range thermometer (Land)
- Dual-range thermometer (Land, Raytek/Fluke) Systems shipped in 2008 and earlier were equipped with dual-range thermometers, and after 2008 with the single range thermometer. The algorithms in the control software that manage closed-loop heating system have been optimized to give the same performance in both versions for the required temperature range.

CONTACT US

To upgrade or replace your pyrometer, contact Thermco Epitaxy at sales@thermco-epitaxy.com