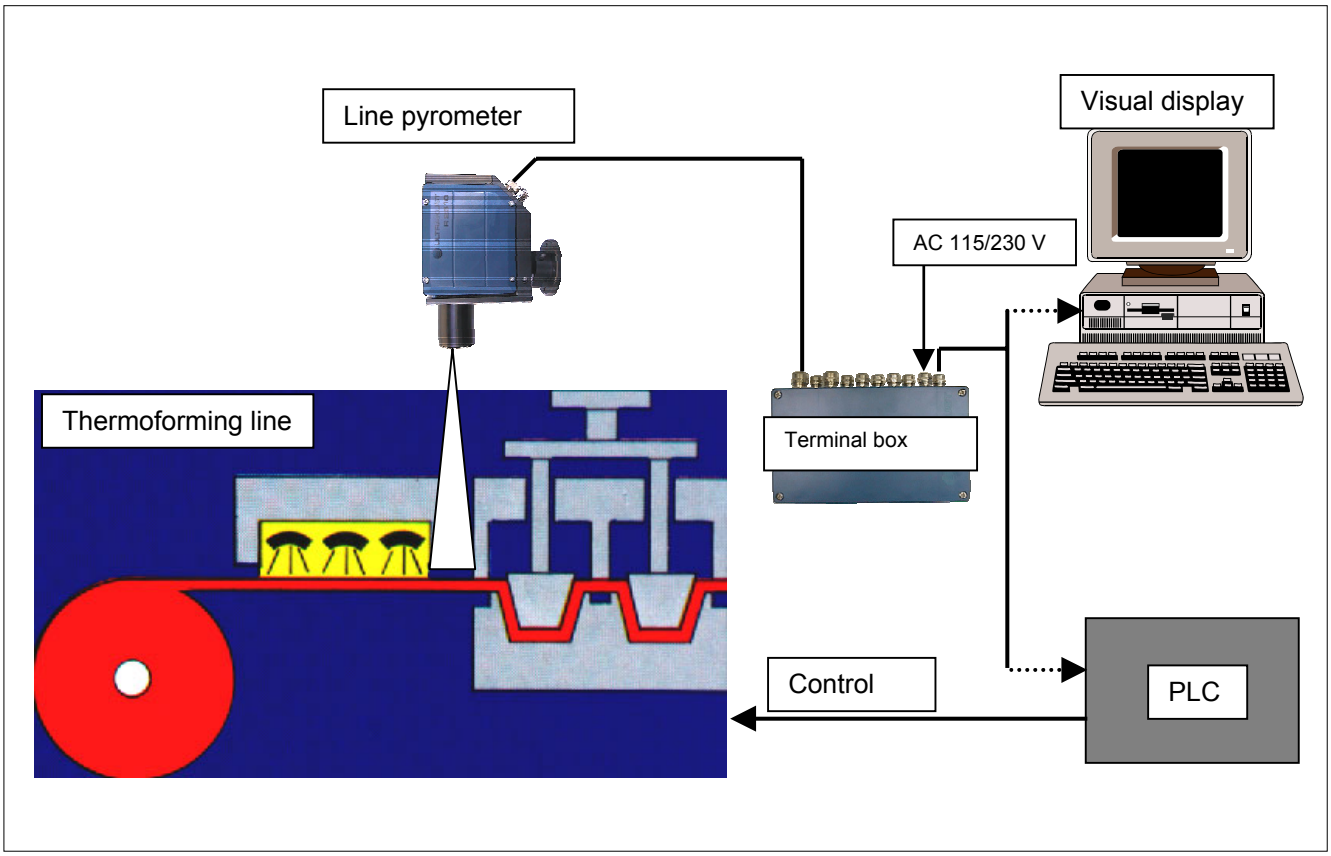
BARTEC

Application INFRAline R 2610
Contactless Temperature Measurements During Thermoforming



The assignment
The assignment was to automate the temperature distribution control system on thermoforming lines (plate and automatic roller machines). At the same time the temperature scanning was to be performed quickly and reproducibly in order to enhance productivity and quality.

The solution
A solution was designed to continuously scan the temperature of the part being formed. The PC software processes the data and assigns them to the various zones (heating sections). It is thus possible to control the individual heating sections of the heating station. Data storage and backup for production verification (ISO 9000) is also possible.

Configuration and scope of delivery
The entire system consists of a Type R2610 line pyrometer, a system cable to the terminal box, a terminal box and PC evaluation software (Windows 95, Windows NT).

Matching adapters are supplied for the RS422 and fiberoptic ports.

Line pyrometer
- Temperature range 50 ... 250 °C,
- Image and line trigger for synchronization with the production process
- Integrated water cooling and air flushing device for duty in harsh environments
- Serial data port to the PC

PC software
- Temperature as amplitude or graphic display
- Free scaling of the temperature and color scales
- Division into zones for controlling the heating sections
- Continuous data storage (data recorder)
- Trend graphic of production batches (data player)

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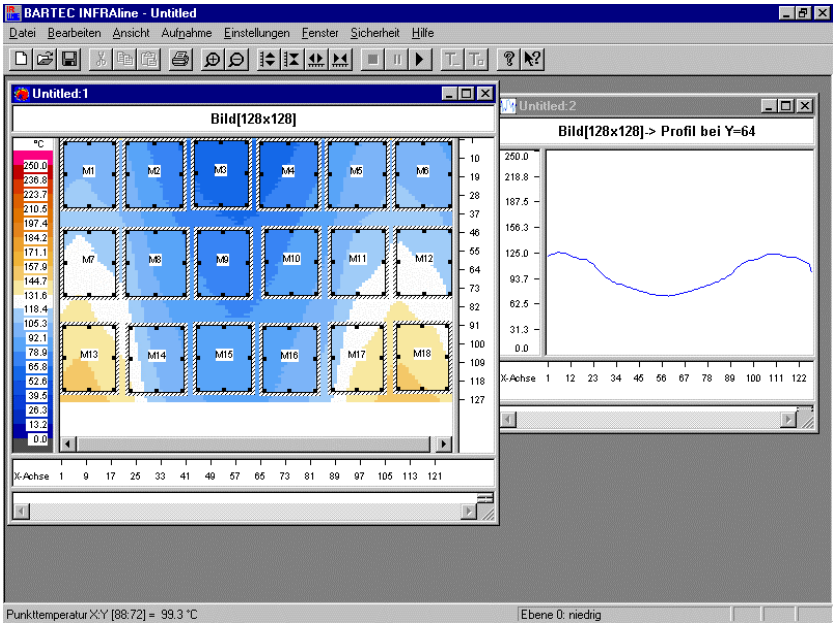
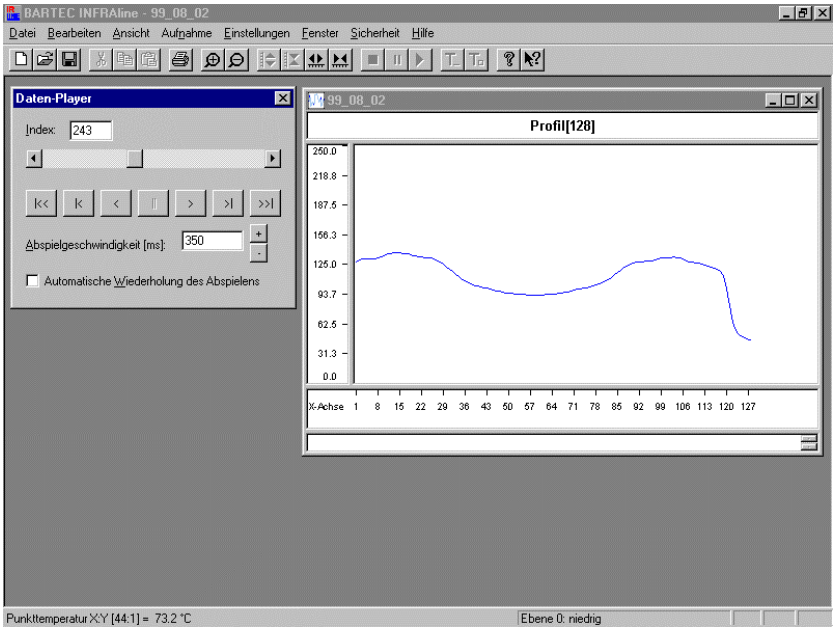
PC software

- Camera parameterization (transmission rates, image size)
- Scaling of parameters (emission, transmission etc.)
- Recording of data (single measurements, continuous measurements and data recorder)
- Recording of data with film trigger or single trigger
- Free setting of image orientation with alignment toward the thermoforming line
- Documentation by color printer
- Division into zones based on heating sections or deep-drawing dies
- Alarm options for limit violations



Example:
Image and profile graphic with markings in the image



Example:
Profile graphic of data recorded with the data player