

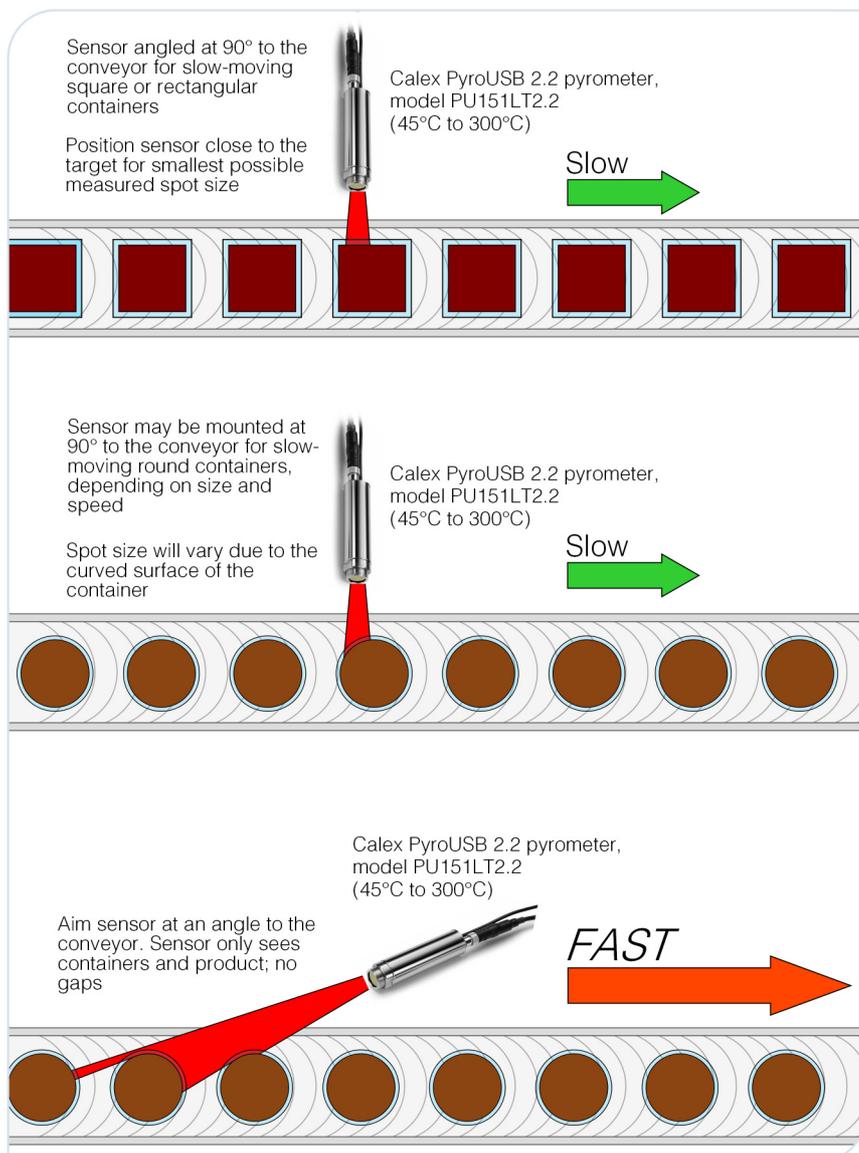
# Measuring Hot Food Product Temperature Through Glass Jars using the PyroUSB 2.2 infrared temperature sensor

The new PyroUSB 2.2 Series of infrared temperature sensors is ideal for measuring the temperature of hot food products through glass containers.

After a food product is filled into glass jars, samples are usually taken from the production line and manually probed to check the product temperature. The PyroUSB 2.2 now makes it possible to check product temperatures without taking samples from the production line, and without even touching the samples at all.

Glass is highly transmissive to infrared radiation at wavelengths around 2.2 microns, so the PyroUSB 2.2 can effectively see through a glass container and measure the temperature of the food product inside. Model PU151LT2.2 is capable of measuring as low as 45°C.

The selectable 0-20 mA or 4-20 mA output of the PyroUSB 2.2 is ideal for connection to existing process instrumentation, or Calex can provide a suitable indicating controller. The USB connection also provides temperature monitoring, alarm and data logging via the included CalexSoft software.



## APPLICATION TIPS

The emissivity setting should be adjusted to compensate for the small amount of energy absorbed by the glass. Please see the PyroUSB 2.2 manual for more information. The required emissivity setting will depend on the thickness of the glass.

Position the sensor as close as possible to the target to achieve the smallest possible measured spot size.

The PyroUSB 2.2 has a response time of 240 ms. Ensure that the measured spot is completely filled by the target for at least as long as this (longer is better).

For slow-moving containers with the sensor perpendicular to the conveyor, configure peak-hold processing in CalexSoft. This way the sensor only reads the temperature of the product and ignores readings from gaps between containers.

If the product containers are moving past the sensor too quickly to achieve a good reading with the sensor at 90° to the conveyor, aim the sensor at an angle to the conveyor so that the sensor's field of view is always filled with product containers. This way, the sensor cannot see any gaps.

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