

Technote #12

Controlling web roller temperature

IRt/c infrared thermocouples have quickly become the sensors of choice for monitoring and controlling both web and roller temperatures. Here are some tips on accurate roller temperature measurement.

1. Measuring Uncoated Metal or Chrome Rolls

Shiny, uncoated metal rolls are a difficult surface for any infrared temperature sensor to properly measure, because the sensor is presented with too many environmental reflections. The solution is to simply paint a small black stripe around the circumference of an unused end of the roller. Aim the IRt/c sensor at the black paint stripe. It will then measure the temperature accurately and reliably regardless of changes in the surface conditions of the rest of the roller. If there is very little space on

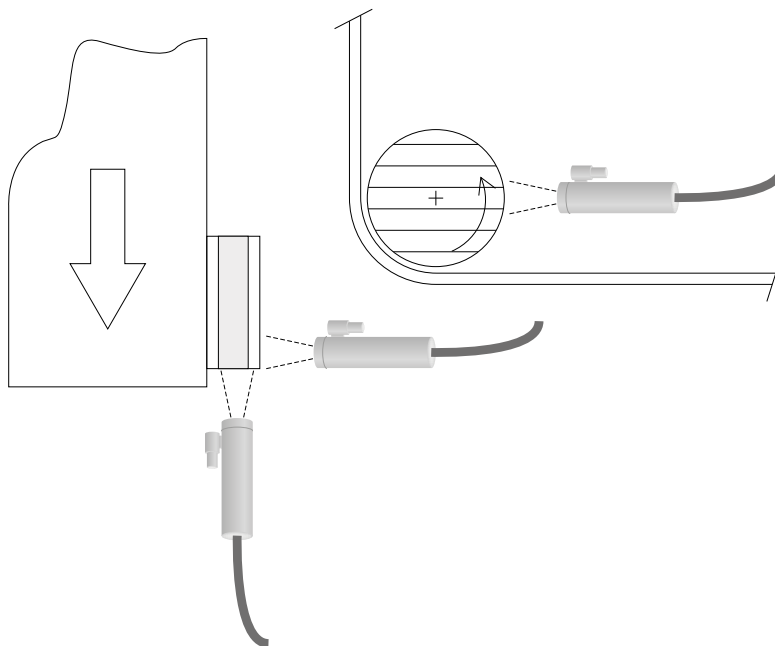
the edge of the roller, move the sensor closer and paint a very small black stripe. The minimum spot size of the IRt/c is 8 mm (0.3"), and for the IRt/c.3x it is 6 mm (0.25") when the sensor is brought close to the surface.

2. Measuring Dull Metal Rollers

Dull metal rollers can provide a reliable signal. However, it is best to test the surface, as its emissive properties may be changed by dirt, moisture, cleaning, etc. When in doubt, it is best to simply paint a stripe to eliminate these variations.

3. Measuring Non-Metallic Surfaced Rollers

These will provide a reliable IR signal at any point the IRt/c is aimed. No painted stripe is required.



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