# INEXPENSIVE INFRARED SCANNING ARRAYS WITH IRT/C.01

**For web drying, printing, laminating, paint curing, etc.**

With the low cost of the IRt/c.01 and its direct compatibility with inexpensive, widely available thermocouple input devices, powerful infrared scanning arrays can now be considered for applications in which thermal signatures are desired for process monitoring and control. Such applications include web drying, printing, laminating, paint curing, and any other thermal processing of moving material. Multiple input monitoring and control devices include data acquisition systems, personal computers, PLC's, and custom OEM cards. By taking advantage of the low cost performance of the IRt/c.01 and standard available components, infrared scanning arrays can be put to work controlling your process for approximately $100 per channel.

Some tips on setting up an IRt/c infrared scanning array:

**Be sure to use identical models for each sensor in an array.**
This will keep all of your signals internally consistent within the software you use, and avoid any interpretation errors. Also, if you employ the available IRt/c Signal Output Tables, one table or curve will apply to all the sensors in an array. IRt/c's of the same model are interchangeable to < 1% of reading.
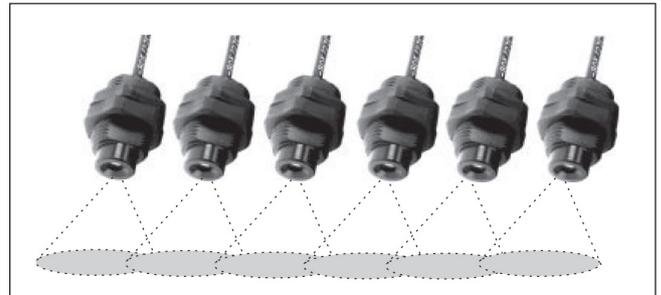


**Investigate low cost thermocouple interfaces.**
Prices per channel for computer A/D cards and PLC input cards for thermocouples have fallen to well under $100, and are available for as little as $30 for some systems. If the application is for high volume OEM equipment, consider using a boardlevel chip such as the Analog Devices AD594/5, available at under $7 (see Tech Note No. 72).

**For single channel use, consider IRt/c's in parallel.**
Wired in parallel to a single input channel, an array of IRt/c's produces an output signal which indicates the average temperature of the targets scanned. This attribute is particularly convenient for monitoring and controlling wide webs, which cannot easily be covered by a single sensor. To use, simply wire all of the red (-) t/c leads to the negative input terminal, and the other (+) leads to the positive input.