New measuring instrument equipped for both laboratory use and field work

It's arrived – the Isotech milliK thermometry bridge, with the functions the market wants.
"It's what Pentronic's customers have been asking for," says Jonas Bertilsson, who manages the Isotech programme in Sweden.

A few years ago Isotech launched one of the world's best-performing thermometry bridges. It is called microK, a name that indicates the precision involved. The bridge is capable of measurement uncertainties down to 0.0001 °C. The Isotech microK is the primary instrument used in Pentronic's accredited calibration laboratory and in national laboratories around the world.

"However, the microK is usually too sophisticated for an industrial laboratory, and it can only be used with resistance thermometers such as the Pt100," Jonas explains.

Delegates to an Isotech sales conference said they wanted an instrument that would be built using the same technology as the super model, but with less extreme performance, with the ability to work together with thermocouples and process signals, and with built-in program functions and communication features, all at a price that was reasonable for industrial applications.

No sooner said than done – the Isotech milliK is now available for order!

All temperature sensors

The milliK is a programmable indicator that can also be used out in the field with batteries. This feature makes the milliK highly versatile, both as a laboratory instrument and as a tool to monitor measurement equipment out on the production line.

The instrument's versatility is also evident in its signal inputs. The milliK can handle most types of resistance thermometers, both working references and standard ones, 25.5 and 100 ohms such as industrial platinum sensors and thermistors. The milliK also works with all types of standardised thermocouples, and with process signals 4-20 mA, the latter of which are necessary for monitoring such devices as transmitters.

Measurement uncertainty for the lab

The Isotech milliK also offers a performance that was previously reserved for pure laboratory instruments. Of course, the total measurement uncertainty also depends on the temperature sensor or signal being used, but the possibilities are on the level of thousandths of a degree, with a resolution of yet another one decimal point: 0.0001 °C.

The bridge works best when combined with a platinum resistance sensor – at 0 °C the measurement uncertainty is stated at 3 milliKelvin, ± 0.003 °C. Using the milliK together with a type K thermocouple increases the measurement uncertainty to ±0.05 °C.

"The technology in the new Isotech milliK comes from the microK thermometry bridge," Jonas Bertilsson says, seen here by the microK, which is the primary instrument used in Pentronic's calibration laboratory.

Drift over time is minimal

"The technology underneath the outer shell comes from the tried and tested microK bridge," Jonas points out. "Even though the milliK is a new instrument, there is documented proof that its features work well."

Controls and logs

The Isotech milliK also offers many advanced program functions. For example, it can control calibration furnaces like Isotech's block calibrators, and also handle up to 32 incoming channels via switchboxes. The bridge itself has two channels for temperature sensors and one for analog signals.

The thermometry bridge can also be used for logging. Its large internal memory enables it to log measurement readings with time indications of 180 days. The contents of the memory can easily be transferred to a regular USB memory stick. External communication is via Ethernet and double RS232 ports.