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# Intech Instruments Ltd

## February 2010

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Thermocouples  
New XU2 Product  
Be In To Win

### February History



#### Feb 10th 1950

Multiple Olympic Swim Champion Mark Spitz is born in Modesto, California.



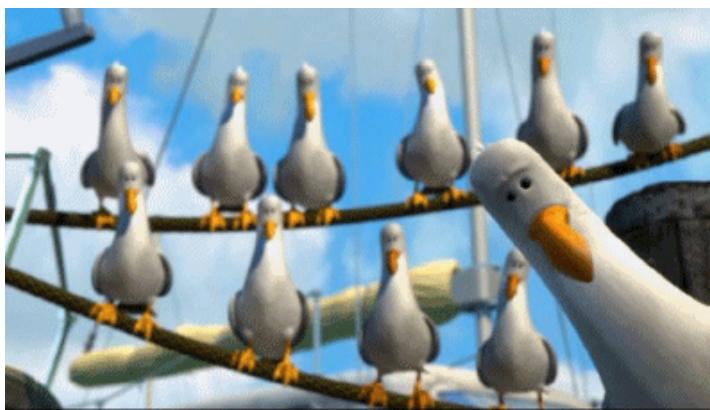
#### Feb 15th 1965

Canadian 'Maple Leaf' flag makes it's first appearance in place of the Union Flag.

### A Little 'Housekeeping'

We've made some changes to our newsletters. We're interested in your feedback so, if you like or don't like something let us know and we'll do our best to fix it up. We hope you like the changes.

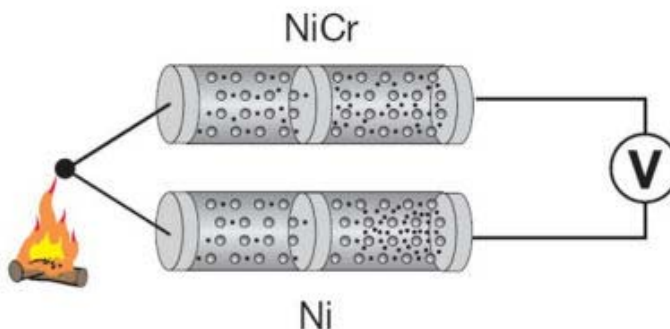
Keep your eye out for our promotions along the way.

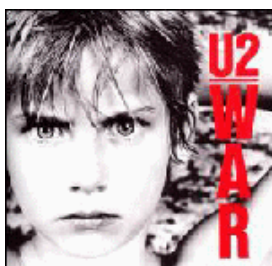


### Technical Note: Thermocouples

In 1821 Thomas Johann Seebeck discovered that a circuit made from two dissimilar metals would produce an electrical current. He also discovered that the voltage produced by the two metals at their junction was proportional to the temperature. A thermocouple 'type' is dependent on the two metals that are used to produce the voltage.

This is known as the thermoelectric or Peltier-Seebeck effect.





**Feb 28th 1983**

The rock band U2 release their 3rd studio album 'War'.



**XU2HN Released**



- Programmable via USB (No external power)
- Pt100 or Pt1000 Input
- 4-20mA loop powered
- Low cost, easy install



Type K (above) uses Nickel / Nickel Chromium

[Click on the probes for our full catalogue](#)



### Common Thermocouples

Type K ([chromel-alumel](#)) is the most common thermocouple with a sensitivity of approximately 41  $\mu\text{V}/^\circ\text{C}$ . It is used for most general purpose applications.

Type J ([iron-constantan](#)) has a restricted range compared to type K (-40 to +750  $^\circ\text{C}$ ), however they operate with a higher sensitivity of about 55  $\mu\text{V}/^\circ\text{C}$ .

Type E ([chromel-constantan](#)) has a high output (68  $\mu\text{V}/^\circ\text{C}$ ) making it a good choice for low temperature applications.

Type N ([Nicrosil-Nisil](#)) thermocouples are suitable for use at high temperatures. Sensitivity is slightly lower than type K at about 39  $\mu\text{V}/^\circ\text{C}$  (at 900  $^\circ\text{C}$ ) but they are a more stable thermocouple and less prone to oxidation.

Types B, R & S are the most stable thermocouples but because they all use platinum / platinum alloy conductors they are less sensitive and very costly. Used in high temp applications.

**If you have a bespoke temperature probe requirement or specific need, contact us and we'll price it up.**

**Contact us:-**

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Fax: +64 (0)3 3430649

email: [sales@intech.co.nz](mailto:sales@intech.co.nz)

web: [www.intech.co.nz](http://www.intech.co.nz)



**Your chance to win something!!!**

All you need to do is click the button on the left hand side and send us some feedback. You'll go into a draw to [win one of 10 \\$30 vouchers](#) for Rebel sports. You'll have to tell us who you are of course. The lucky winners will be notified and published in the next newsletter. Easy.

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NIVELCO

SHIMADEN

JUMO

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