



# Thermocouple Reference Unit

## Isobox Model 842

- Water Proof Cased
- Large Capacity
- Approved for Power Station Use

The function of this reference unit differs from other cased systems in that the temperature of the metal block in which the thermocouple and copper leads are inserted, actually varies with ambient temperature. A separate output signal is produced which is proportional to the difference between the environmental temperature and the actual reference temperature. The output signal can be fed directly into a computer/data logger to give accurate compensation over a large ambient range. A thermal reservoir, heavily insulated, contains the reference junction probes. The reservoir temperature slowly follows the ambient temperature; an electrical compensation device is thermally integrated with the reservoir and thus senses the reservoir temperature. The device produces an output proportional to the difference between the reservoir temperature and the reference temperature (usually 0°C).

This is the signal the computer/data logger uses to compensate for the temperature of the reference probes junctions.

The output signal can be in the form of a DC mV output, 4-20 mA or from a platinum resistance thermometer. Please discuss prior to order.

Units are housed in robust weatherproof enclosures to IP66 incorporating bottom gland plate. Fixing lugs for wall mounting are provided. Easy access to terminal rails and block assembly is via a lockable hinged front door.



|                      |                                                                                                                             |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Model</b>         | <b>842</b>                                                                                                                  |
| Referencing Temp     | Effectively 0°C                                                                                                             |
| Accuracy             | ±0.1°C per 10° ambient span                                                                                                 |
| Long Term Stability  | ±0.05°C per 1000 Hours                                                                                                      |
| Temperature Gradient | ±0.1°C between Junctions                                                                                                    |
| Stabilisation Time   | 10 minutes                                                                                                                  |
| Ambient Temperature  | -20°C to +70°C                                                                                                              |
| Thermocouple         | 0 to 100 channels                                                                                                           |
| Capacity             | Double junction referencing                                                                                                 |
| Power                | 10 Watts typical<br>100-130 or 208-240 VAC 50/60Hz<br>Low level D.C.<br>Consumption 6VA typical<br>Passive Option Available |
| Dimensions           | Height 600mm<br>Width 600mm<br>Depth 300mm                                                                                  |
| Weight               | 40kg                                                                                                                        |

### Note:

Numerous special versions are available and can be supplied either in their existing form or modified to customers' requirements.

### How to order

#### Model 842

Isoboxes are normally uniquely specified for each order. Please discuss your exact requirements with us before ordering.

### Note:

Waterproof Cased Ambient Temperature Thermocouple Referencing System.  
Large Capacity up to 100 Thermocouples.  
Wide Ambient Range.  
Approved for Power Station Use.