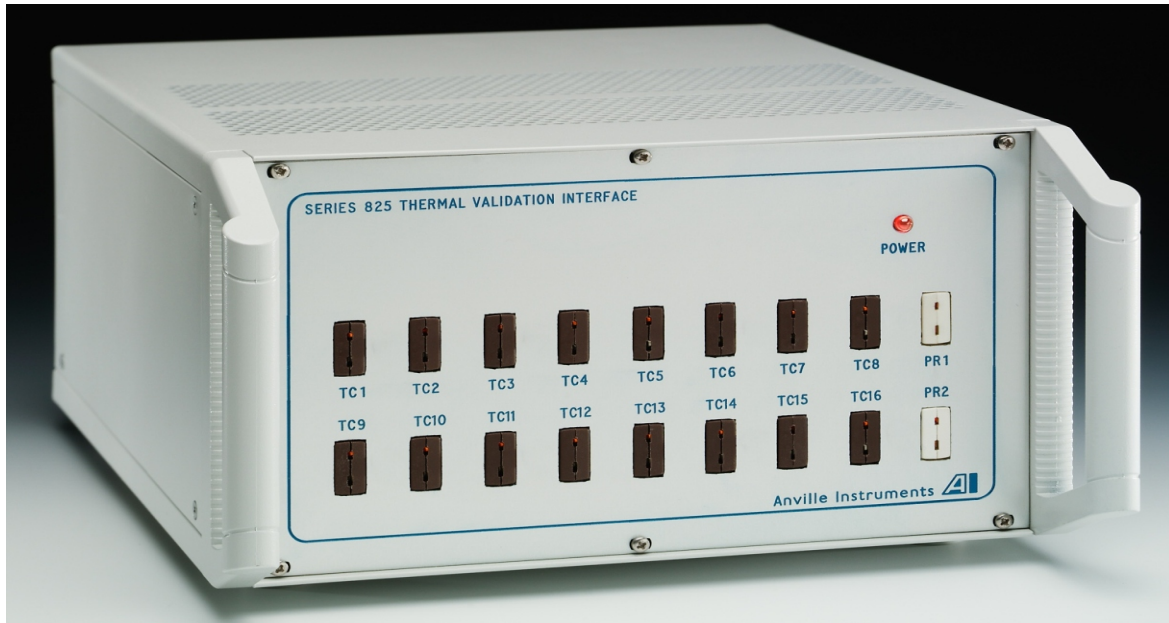


Anville Series 800 Thermal Validation Interface



Series 825 TVI with 16 type T thermocouple inputs and two 4-20mA inputs

The Anville Series 800 TVI range is designed for use with EaziVal SE software.

Anville's Thermal Validation systems can be used wherever it is necessary to maintain a formal record, to prove that the correct temperatures and pressure have been achieved during a critical process. Anville understand that equipment testing and validation are undertaken by busy engineering staff and have concentrated on making Eazival SE both easy to set-up and use.

The Anville Series 800 TVI differs from the majority of data loggers by the design of the thermocouple input connection, associated thermocouple cold junction compensation and in the use of analogue input parallel processing enabling both units to have a scan rate of better than one second for all inputs. The Series 800 TVI uses individual high speed amplification and analogue to digital conversion on each input channel with conversion to engineering units [$^{\circ}\text{C}/^{\circ}\text{F}$] carried out by the microprocessor in the Series 800. Data is communicated to the computer in the correct engineering units enabling the system to have a traceable calibration certificate. The Series 800 TVI has an internal power supply to provide a 20v dc excitation voltage for the 4-20mA inputs and no separate power supply is required for a pressure transducer.

In the Anville Series 800 TVI all cold junction compensation errors are minimised by using correctly compensated miniature type T thermocouple connectors with matching Class 1 thermocouple wiring to the internal cold junction sensor. A 1/3 din PT100 sensor measures the cold junction temperature to an accuracy of $\pm 0.1^{\circ}\text{C}$ at 0°C . Design of the physical layout of the cold junction reduces any thermal scatter to a typical deviation of $\pm 0.05^{\circ}\text{C}$

The Anville Series 800 measurement range for type T thermocouples is -200°C to $+300^{\circ}\text{C}$ with a resolution 0.01°C . Over a measurement range from -50°C to $+300^{\circ}\text{C}$ the overall system accuracy is $\pm 0.25^{\circ}\text{C}$. This accuracy is maintained over an ambient operating temperature range from 0°C to $+50^{\circ}\text{C}$ and includes all errors due to thermocouple cold junction compensation, dc amplifier, A/D convertor and thermocouple linearisation.



The Series 800 TVI accuracy of $\pm 0.25^{\circ}\text{C}$ is a worst case "out of the box" value; including all errors due to thermocouple cold junction compensation, dc amplifier, A/D convertor and thermocouple linearisation; but excluding the thermocouple sensor error.