

CHOOSING YOUR TEMPERATURE TRANSMITTER

With resistance outputs being approximately $0.5\text{mV}/^{\circ}\text{C}$ for thermometers and between $10\mu\text{V}/^{\circ}\text{C}$ and $80\mu\text{V}/^{\circ}\text{C}$ for thermocouples, it becomes clear that gaining a successful transmitting signal can become difficult.

To compensate for this two wire temperature transmitters are designed to amplify/strengthen the thermometers signal and also to convert it to a more robust current signal across the ISA standard 4-20mA range. Current being less susceptible to electrical interference than voltage. This is particularly helpful when the signal is to be carried over a long length in "noisy" areas.

Temperature transmitters also eliminate resistance loss typical with voltage signal transmission, therefore twisted pair copper wires are sufficient, making the need for expensive screened and compensating cables unnecessary.

Head mounted thermocouple temperature transmitters have the cold junction compensation within the transmitter. With most digital transmitters now including linearisation.

In areas where head mounted transmitters are not suitable, **BKW** can offer a range of remote mounting versions to suit DIN rail or 2" stand pipe installations.

The complete range of **BKW** transmitters are fully programmable and ATEX approved, for use in intrinsically safe, hazardous area applications. Standard 4-20mA outputs and HART Smart, Profibus and Fieldbus protocols are available calibrated to UKAS traceable standards in our laboratory.

CHOOSING YOUR THERMOWELL

When choosing your thermowell it is important to take into account the process conditions, alongside more basic details such as process and instrument connections and desired immersion length. Tapered or reduced tips can be offered to help with time response.

Medium, pressure, velocity and temperature are all factors, which need consideration.

We offer a **Wake Frequency Calculation**, if needed, to help you determine the best design construction and material to use.

We carry a full range of materials including standard Stainless Steel grades along with more exotic materials such as **Hastelloy, Monel, Inconel, Brass** and **Copper**. All manufactured at our factory in Manchester. We can also offer thermowell wetted parts cladding in **Tantalum, PTFE, PFA, Halar** etc.

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