

Temperature transmitter working principle

What is a temperature transmitter?

A [temperature transmitter](#) is an electrical [instrument](#) that interfaces a temperature gauge – such as a thermocouple, RTD, or thermistor – to a measurement or control device, such as a PLC, DCS, PC, loop controller, data logger, display or recorder. Typically, temperature transmitters isolate, amplify, filter noise, linearize, and convert the input signal from the sensor then send (transmit) a standardized output signal to the control device. Common electrical output signals used in manufacturing plants are 4-20mA or 0-10V DC ranges. For example, 4mA could represent 0°C and 20mA means 100°C.

What are the advantages of temperature transmitters?

Temperature transmitters feature significant advances over their direct wired counterparts. They eliminate special cabling requirements, simplify engineering and maintenance, as well as enabling advanced diagnostics. The disadvantage of temperature transmitters is that they can obviously add extra cost to the temperature measurement system.

Further benefits include:

- The ability to include local indication and control.
- Much greater noise resistance, especially over long distances.
- Isolate, amplify, filter noise, linearize and convert the input signal from the sensor.
- Output signal works with many standard devices.
- Does not require expensive extension wire.

Temperature transmitters from BM Engineering

At BM Engineering we supply an array of high-quality temperature transmitters including the Bürkert type 8400 temperature transmitter. Bürkert's type 8400 temperature transmitter is an intelligent sensor/switch with an extra-large display. It is specifically designed to switch a valve and to establish a monitoring system or an ON/OFF control loop. Compact and wall versions are available.

For more information on the temperature transmitter working principle or to purchase one of BME's Bürkert temperature transmitters call us today on **0141 762 0657** or via email sales@bmengineering.co.uk.