Technical Brief

TEMPERATURE

Loop Powered vs. Battery Powered Instruments

One of the most common questions about digital thermometers is, “What type of power is best for my application?”

Digital temperature instruments feature various power options to meet the needs of most production environments. The two most common methods of powering electronic temperature instruments are loop power and battery power.

Loop power
Loop power is by far the most widespread method of providing power to devices that display a process temperature. Use of the industry standard 4-20mA loop for both device power and the signal path is ideal for system applications that require local display and remote connection to a control system or readout. Loop power is typically very common and reliable.

Figure 1: Loop Powered

Battery power
Battery powered units require no additional wiring, so they can be used virtually anywhere. The long life batteries supplied with these instruments typically provide several years’ worth of reliable service before needing replacement. Battery powered thermometers are ideal in applications where no local power is available and only a local display is needed. To ensure minimum downtime, the Tel-Tru Digi-Tel™ line offers a user replaceable battery option.


Figure 2: Battery Powered

Instruments such as the Tel-Tru Digi-Tel series offer both loop power and battery options to provide maximum flexibility for the application. https://www.teltru.com/s-47-digital.aspx

If you need help deciding which method is best for your application, feel free to contact the Tel-Tru technical team at 800-232-5335 for support.

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