

Probe A: Pipeline Temperature

The Pipeline and Soil temperature probes have been designed to ensure accurate, repeatable temperature measurements for pipeline hydrostatic testing during pipeline commissioning works.

The temperature sensor utilised in each transmitter employs robust semiconductor technology where the mV/°C generated is converted to a digital output in close proximity (< 60mm) to the temperature sensor. This reduces noise that would typically be induced when low voltage signals are sent over lengthy cable distances.

The analogue to digital conversion (ADC) takes place within the stainless steel 316 sensor housing, therefore eliminating temperature effects on the data acquisition devices when exposed to large temperature fluctuations which typically has an effect of the accuracy and repeatability of the temperature reading.

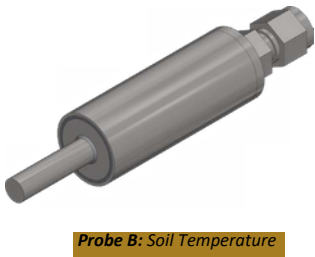
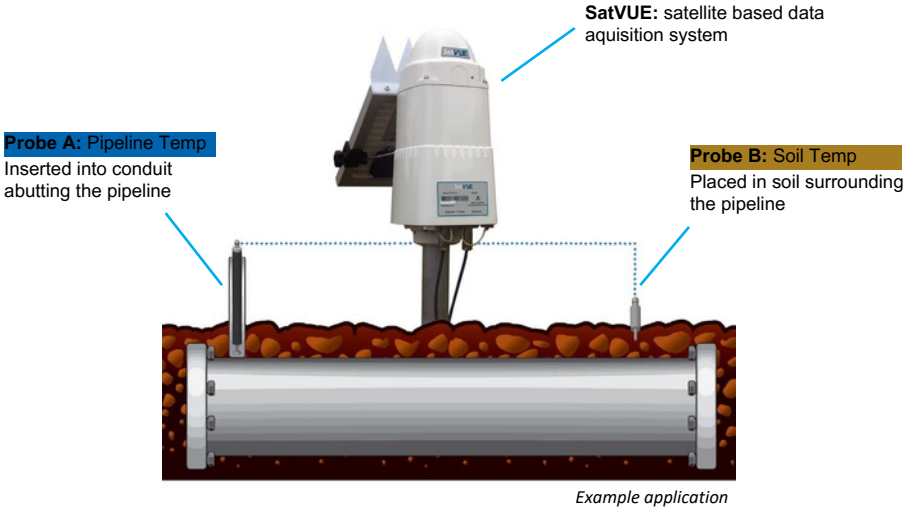
Each probe is laboratory tested against NATA standards at 0°C increasing to 25°C to 50°C and returning through 25°C to 0°C.

Both probes are suitable for connection to MODBUS Master devices which include the following:

- **dataTaker data loggers** ([www.dataTaker.com.au](http://www.dataTaker.com.au))
- **SatVUE satellite based data acquisition system** ([www.SatVUE.com.au](http://www.SatVUE.com.au))

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|-------------------------|--|
| Item Code               | PDS-SENS-TMP-L   |
| Material                | 316 S/S housing w/carbon fibre pole  |
| OD of SS Housing        | 24mm   |
| OD of carbon fibre pole | 26mm   |
| Overall length          | 2.30 metres  |
| Cable length            | 2.00 metres  |
| Temperature Range       | -40°C to +150°C  |
| Accuracy                | ± 0.2°C at 25°C  |
| Output                  | Modbus RS485 RTU   |
| Power                   | External 6 to 12VDC  |
| ADC                     | 18-bit Resolution: 0.0015625°C   |
| Drift                   | 0.0015% / °C   |
| Repeatability           | 0.0096 °C  |
| Current Draw            | 2.686mA  |
| Wiring                  | Red - +6 to 12VDC<br>Shield - Ground<br>Blue - RS485(A)<br>Yellow - RS485(B) |

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| Soil Temperature Probe (B) Technical Specification |  |
| Item Code  | PDS-SENS-TMP-PL-S  |
| Material   | 316 S/S housing  |
| OD of SS Housing                                   | 24mm   |
| Overall length                                     | 100mm  |
| Cable length                                       | 2.00m bare wire ended  |
| Temperature Range                                  | -40°C to +150°C  |
| Accuracy   | ± 0.2°C at 25°C  |
| Output   | Modbus RS485 RTU   |
| Power  | External 6 to 12VDC  |
| ADC  | 18-bit Resolution: 0.0015625°C   |
| Drift  | 0.0015% / °C   |
| Repeatability                                      | 0.0096 °C  |
| Current Draw                                       | 2.686mA  |
| Wiring   | Red - +6 to 12VDC<br>Shield - Ground<br>Blue - RS485(A)<br>Yellow - RS485(B) |



Probe B: Soil Temperature

