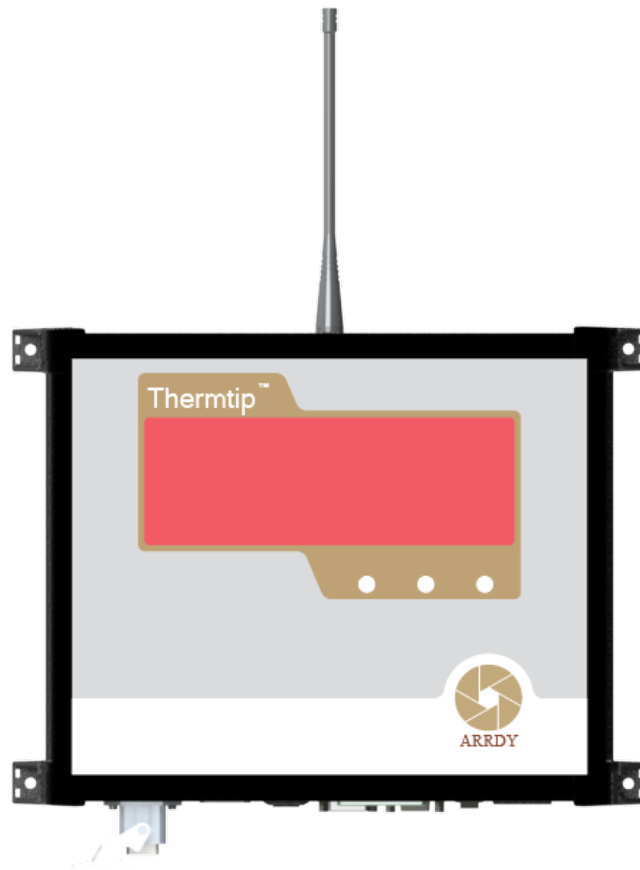


Thermtip[®]

Molten Metal Measurement System



ARRDY



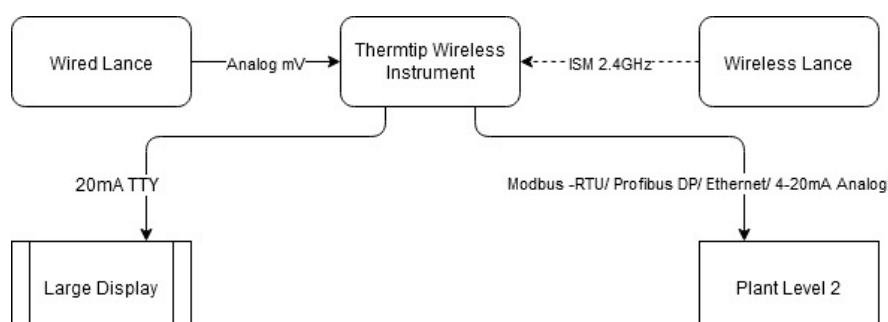
The Thermtip[®] Wireless Instrument is a state-of-the-art equipment for measurement of molten metal temperature. It allows for the use of both wired and wireless lance. In addition, it allows easy communication options for communicating with plant PLC systems. The instrument can be connected to any Windows based PC easily through USB to allow for changes in parameters, settings and to view old data and traces. The system and associated software have been developed to deliver to the customers excellent performance at competitive prices.

Depending on operating conditions, there are advantages to using both a wired lance and a wireless lance. The advantages of a wired lance are:

- No signal interferences in very noisy environments
- No reliance on having the battery of the wireless unit charged

The advantages of a wireless lance include:

- Ergonomically easier for operator to dip the probes
- Lesser safety issues without having cables lying around the shop floor



The Thermtip wireless instrument offers the customer the option of using either a wireless lance or a wired lance depending on the requirements and the conditions. Both the wireless lance and wired lance are included with the system



Wireless Unit

The advantages of the Thermtip® wireless lance are:

- Large 6800mAh battery allows taking of 1000+ measurements without the necessity for recharging the unit
- The battery can be recharged using the on-board charger or the batteries can be easily replaced with spare batteries provided along with the system and the previous batteries charged off-site using the remote charger provided with the system
- The devices operate in the ISM 2.4GHz band to ensure legal compliance in all major jurisdictions
- The wireless unit is made of tough light-weight aluminium alloy to allow for ease of use for the operators
- Wireless unit is connected to the lance using a quick connector in order to enable easy disconnection for change-over and maintenance of the lance

The advantages of the Thermtip® wireless Instrument with integrated thermocouple channel is listed below:

- Robust, reliable, microcontroller-based temperature measurement instrument
- In-built wireless receiver for receiving data from wireless lance
- In-built galvanically isolated high-resolution analog input channel to ensure high reliability
- Large 55mm 7-segment display for showing the temperature
- USB based app for changing settings and parameters and retrieving data
- 8GB on-board flash memory for storing previous data
- Medical grade power supplies for ensuring high reliability of the instrument
- On-board MODBUS-RTU and RS232 outputs offered by default.
- 20mA TTY output for connecting to a large display offered by default.
- Optional cards available for PROFIBUS-DP, Ethernet, Analog 4-20mA outputs

The USB based app can be used to change the settings for the temperature measurement and latching parameters, the communication settings and to retrieve measurement history. The traces of previous measurements can be acquired to check the quality of the measurements. The app is Windows based and the executable file can be installed on any PC to communicate with the instrument and acquire the data.

Wireless Thermtip Technical Specifications:

Measurement	Temperature measurement – immersion type
Units	° C or °F
Input	1 Analog input, 1 wireless input
Sampling Rate	10-20 samples/sec adjustable
Input range	(Type S: 200°C - 1765°C adjustable (default 1100 - 1750°C) (Type R: 200°C - 1765°C adjustable (default 1100 - 1750°C) (Type B: 600°C - 1820°C adjustable (default 1100 - 1800°C) All thermocouple measurements based on ITS90
Accuracy	Class 2 thermocouple measurement (0.25% of temperature measured)
Display	4 digit 7-segment display with 2.3" digit height
Features	Automatic thermocouple insertion detection, automatic thermocouple break detection
Signalization	LED displays of instrument to detect probe insertion – “READY” – green LED, measurement in progress – yellow LED and measurement completed – red. Simultaneous optically isolated solid-state relay outputs provided for signalization
Resolution	1°C or 1°F
Housing	IP51 rated aluminium housing for EMI protection. IP65 protection optionally available based on communication outputs needed
Power	110-230VAC, 50Hz/60Hz. Continuous consumption <30VA
Latching principle	Moving window standard deviation convergence
Measurement time	4-20s adjustable
Data Storage	8GB on board flash storage drive to store at least 10,000 measurement traces
Offset adjustment	-10°C to 10°C
Default Outputs	TTL 20mA current loop, RS232, MODBUS RTU
Optional Outputs	4-20mA analog output, PROFIBUS, Ethernet TCP/IP or ModbusTCP
Operating temperature	-35 °C to 50°C

Wireless Lance Unit Specifications:

Measurement	2 analog input channels – thermocouple and emf
Communication	To Thermtip/Actose wireless instrument through ISM 480MHz
Battery	Rechargeable 6800mAh lithium polymer battery supports at least 1000 measurements. On-board as well as remote charging possible.
Sampling Rate	10-20 samples/sec adjustable during measurements
Indication	<ul style="list-style-type: none">• Ready, measure, end indication available on wireless device. Temperature display on remote unit optionally available with 10mm height 7-segment digital display.• Battery low charge
Housing	6061-T6 Aluminium housing for EMI protection
Operating Temperature	-35 °C to 50°C

For more details, please contact



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