Heraeus

CasTemp®Wireless

Wireless instrumentation for CasTemp

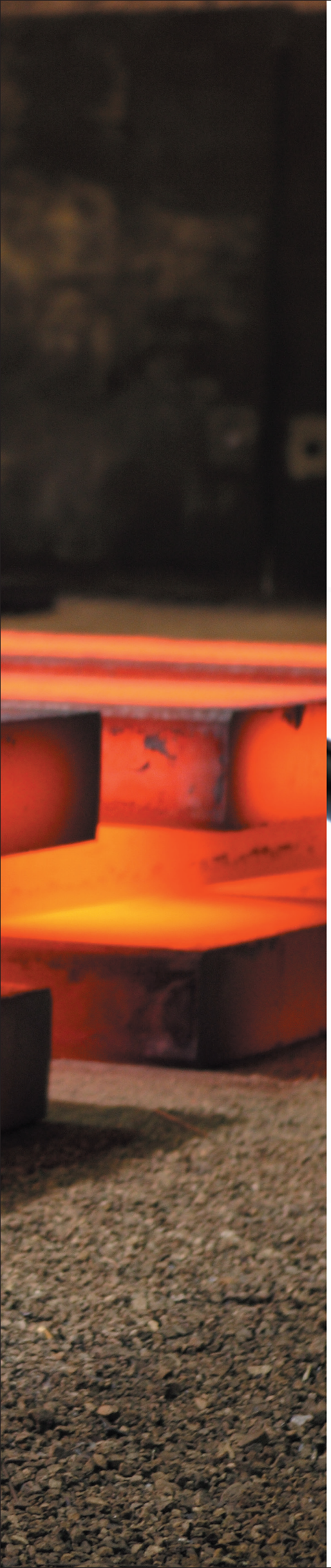
Electro-Nite

CasTemp Wireless sends temperature data wirelessly from the sensor to the control room.

This system provides a solution where external compensation cables are susceptible to damage.

The wireless system eliminates the need for fixed cabling and results in improved safety and reliability.

It is designed with a simple connection protocol to ensure robust synchronisation.



Benefits

The CasTemp Wireless system is simple to install, set up, and operate. It improves safety and reduces cost.

Safety benefits:

- No maintenance on cabling in restricted and dangerous locations

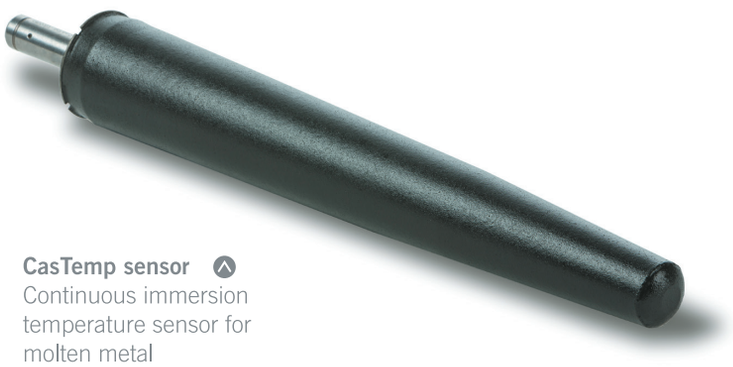
Operational and cost benefits:

- Easy operator setup
- No cabling/connectors from the sensor to instrumentation
- Long-life battery technology: no recharger required

Components

The following shows the essential parts of the CasTemp Wireless measurement system.

CasTemp Wireless instrument
Display located on the casting floor and used to synchronise the QUBE CTW



CasTemp sensor
Continuous immersion temperature sensor for molten metal

Contact block
High-integrity connection between the sensor and the QUBE CTW

QUBE CTW
Battery-powered unit transmits measurement data

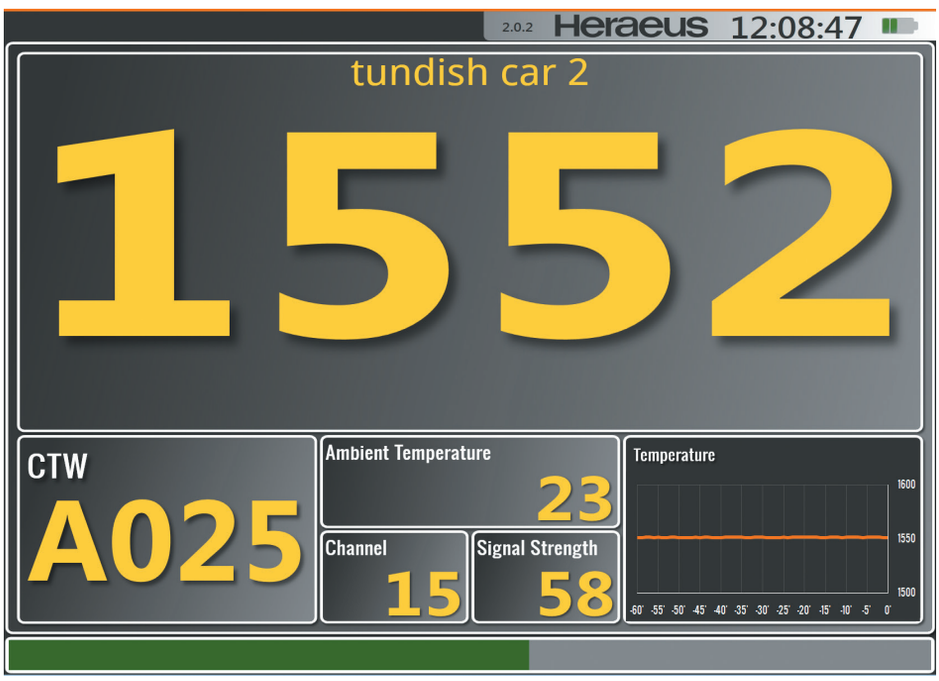
Measuring

Each QUBE CTW is identified with a unique serial number, which ensures 1:1 pairing of the CasTemp sensor to the CasTemp Wireless system. When in search mode, the measurement steps are typically:

1. Connect the QUBE CTW to the CasTemp sensor.
2. Note the unique serial number of the QUBE CTW.
3. Pair the QUBE CTW to the sensor.

Pairing is confirmed both by the instrument display and the QUBE CTW LED sequence. The measurement continues automatically. Resetting or disconnecting the QUBE CTW results in “unpairing”.

The following shows a typical display of temperature measurement data on the CasTemp Wireless instrument:



Pairing Protocol

This has been designed to maximise measurement integrity in a simple-to-use and reliable way. There may be several CasTemp Wireless systems in operation on a steel plant; and it is vital to direct the CasTemp sensor information to the correct process control system:

- The simple 1:1 pairing process involves and assures the operator
- Once “paired”, the QUBE CTW cannot be paired with other CasTemp Wireless instruments: it is uniquely linked
- The QUBE CTW remains linked to the CasTemp instrument until it is unpaired

The simple-to-use 1:1 pairing protocol means that it is possible to build an economical system that is easy to operate and maintain.

The optimal system uses one CasTemp instrument system for each tundish car, each monitoring its own QUBE CTW and enabling the measurement of preheat, casting, and post-cast liquidus temperatures without changing or resetting the QUBE CTWs.

Communication

The CasTemp Wireless instrument links to the plant computer and has a number of programmable communication options.

- Remote Viewer application to view the instrument screen and download data files over a network connection
- RS232 and TCP/IP protocols
- Anybus module
- Configurable data telegrams

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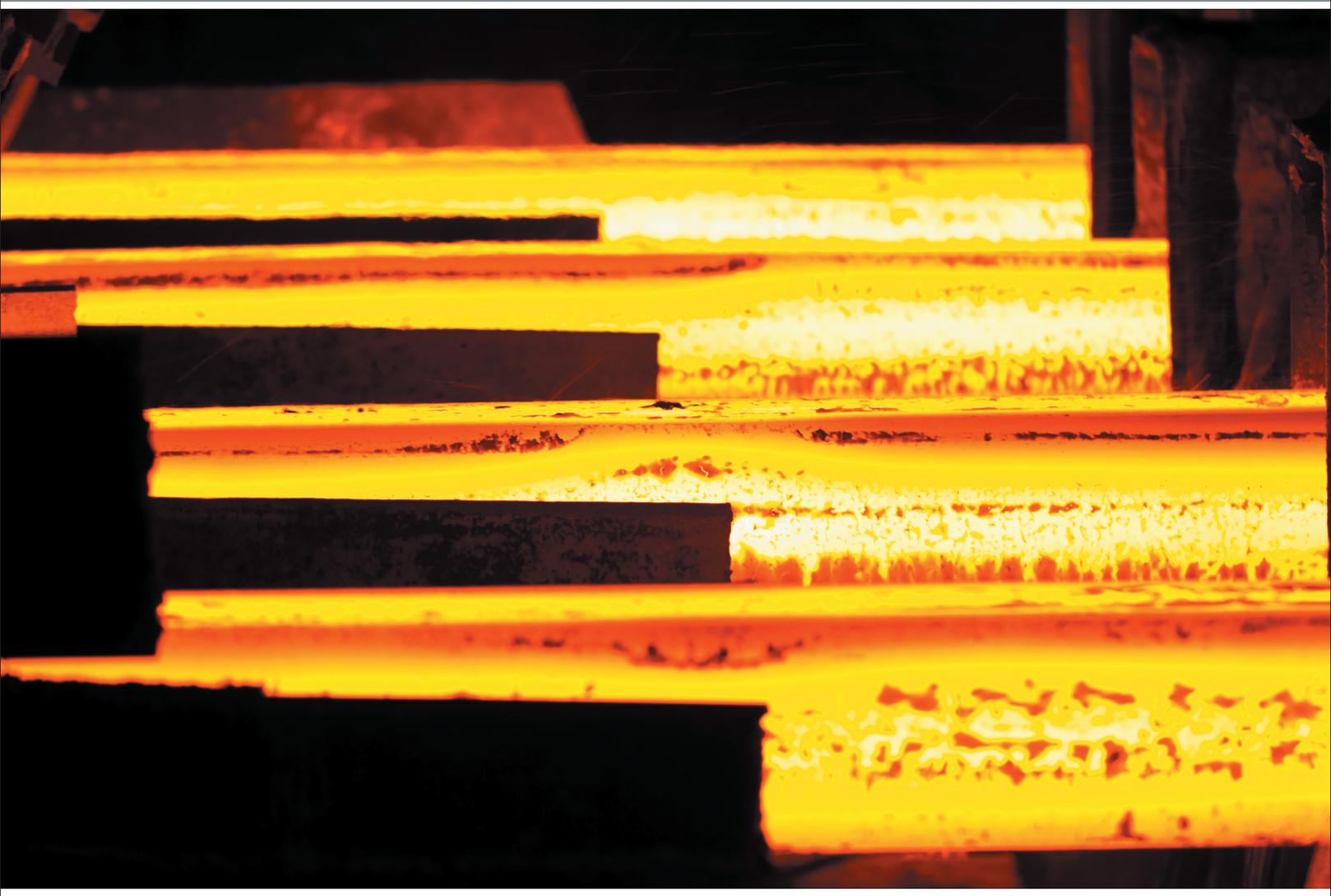

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