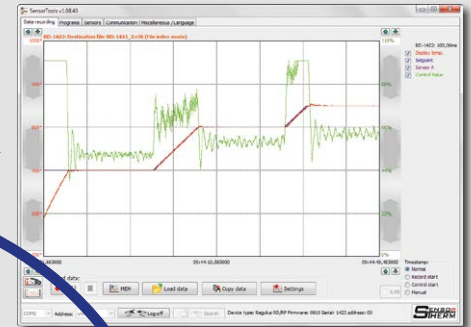


Pyrometer Workpiece Monitoring with Simultaneous Temperature Control

Intelligent Plug & Play System for Power Adjustment in Induction Heating

Understanding the process via software
SensorTools

Programmable temperature controller
REGULUS RD



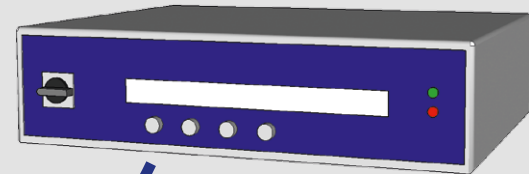
Temperature transfer to controller

Direct 0-10 V manipulated variable output

Pyrometer METIS M3



High-frequency generator



Controlled power, optimally adapted

Infrared temperature, measured by pyrometer

Component, induction heated

Pyrometer + PID program temperature controller:

- Adaptable to almost every induction system (also for modernizing existing systems with control value input)
- Direct output of a continuously adjusted 0-10 V control value for controlling the high-frequency generator
- Auto-tune function for automatic control parameter determination
- Additional connection of up to 2 thermocouples

Induction Heating

Induction heating has established itself as a fast and efficient method for heating metallic or electrically conductive materials in industrial production. Modern induction systems quickly generate targeted workpiece temperature necessary for the process.

The necessary process temperature must be achieved as precisely and evenly as possible and hold for the required time to prevent material structures from being changed or even destroyed. The best solution for this is the fast non-contact temperature measurement with pyrometers as well as the control with specially developed temperature controllers.

With a combination of pyrometer and program temperature controller:

- Temperature changes on the inductively heated component can be detected very quickly and
- A continuously adjusted control variable for controlling the high-frequency generator is set to the output



Example: soldering

Functions of the program temperature Regulus controller:

- Manual mode for easy ramps and hold times
- Program mode for direct approach to various setpoints, including ramp or time control.
- Automatically determine useful control parameters
- Visually track, store, evaluate and document all processes via software
- Ability to make many more adjustments for every conceivable heating task

Our pyrometer recommendation:

- METIS M318 for soft solder soldering applications, measurements on aluminum and bare metals from 100°C
- METIS M316 for applications in medium temperature ranges from 250°C
- METIS M309 for applications in higher temperature ranges from 550°C
- 2-color pyrometers METIS M322 and M311 for special measuring tasks



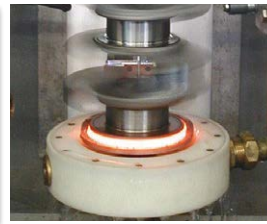
Induction melting



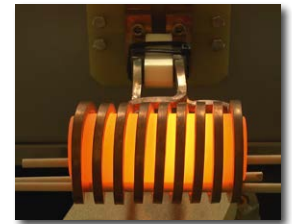
Inert gas soldering



Induction soldering



Induction hardening



Induction annealing

Reference numbers

RD00-00 REGULUS RD controller in desktop housing for the connection of 2 pyrometers (e.g. for 2 measuring points or when using different temperature ranges to extend the total temperature range).

Pyrometers METIS pyrometers with focusable optics, 1 ms response time, display, adjustment buttons.
Contact us to get a model that fits your application.
Further information can also be found in the respective device data sheets.

AR11 / AR43 Pyrometer connection cable for REGULUS RD, length in 5 m increments with pyrometer angle plug / straight plug

PN10-00 Profinet converter for connecting up to five REGULUS to a higher-level control



Sensortherm reserves the right to make changes in scope of technical progress or further developments.

Sensortherm-Application_Workpiece Monitoring_and_Control_RD (Dec. 07, 2021)

Sensortherm GmbH

Infrared Temperature Measurement and Control
Weißkirchener Str. 2-6 • D-61449 Steinbach/Ts.
Tel.: +49 6171 887098-0 • Fax: -989
www.sensortherm.com • info@sensortherm.com

