- eBook -

5 Good reasons to rethink your Power Control systems in Oil & Gas

AUTOMATION

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New technologies for electric heating in thermal processes can allow the oil and gas industry significant room for improvement for the decarbonisation of processes.

In this document you will find new ideas to improve the efficiency of your industrial heating systems based on electric heaters.

CD Automation designs and manufactures SCR POWER CONTROLLER for industrial heaters, temperature controllers and supporting software for thermal process control.

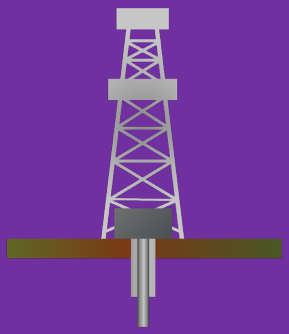
The company partners with its customers to optimize thermal performance, power quality, decrease design time and improve the efficiency of their products and applications.

Introduction

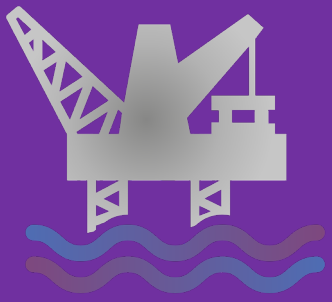
The oil and gas industry offers ample room for improvement for the decarbonisation of processes.

New technologies for electric heating in thermal processes make it possible to solve many of the previously unresolved challenges.

Heating system control

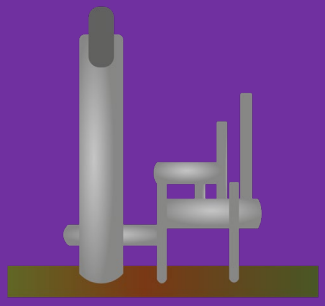


Downhole



Offshore

OPTIMIZE TRANSFORMATION PROCESSES BASED ON ELECTRIC HEATING



Enhanced Oil recovery

Onshore

Midstream

Downstream LNG

The challenges

POWER

When heating systems based on electric heaters are introduced into the processes of a plant, the heater must be able at all times to deliver all the power necessary to meet the required temperature regulation requirements.

PRECISION

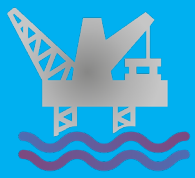
The temperature requirements must be achieved in the shortest possible time with the minimum expenditure of energy.

SAFETY

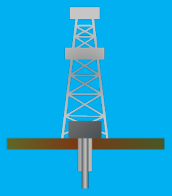
It is necessary to be able to adequately control the heater to ensure that processes can be carried out safely.

Fractional distillation, cracking tower

The challenges

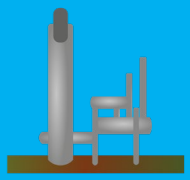

Offshore


Onshore


Downhole


Downstream LNG

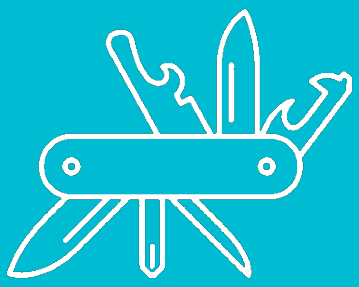

Midstream


Enhanced Oil recovery

POWER AND SAFETY

However, there are factors to consider when switching to electric process heaters. First, electric heaters must be able to deliver the increased power needed to meet the required temperature regulation requirements. In addition, adequate control of the heater is required to ensure that processes can be run safely.

Peak leveling of energy consumption



Flexibility

During commissioning, unexpected application needs may arise. For example: changes in functional requirements from the initial design. Discovering that you have "rigid" components in the control cabinet could make it difficult to quickly adapt the system to the new requirements.

An uninterrupted industrial process requires highly reliable electric heating power control systems.

1 - Service

EFFECTIVENESS IN SERVICE

Some control units in traditional systems can be of considerable size, with difficulty in maintenance and replacement.
The new generation systems feature more modular components to simplify maintenance.

Simplify management and allow for easy maintenance

2 - Maintenance

REMOTE ACCESS

It is no longer necessary to physically go to the plant, with a considerable waste of time and costs. Thanks to "safe" remote access systems to the temperature control system, it is possible to check the correct functioning of all components. In the event of malfunctions or misalignments, the problem can be solved in real time.

Smaller and smaller spaces and increasingly sophisticated functions

3 - Cabinet

SPACE REDUCTION

The cabinet does not necessarily have to be a bulky module. With multi-zone power units, you can save up to 50% of the physical space occupied.

WIRING TIME & COST REDUCTION

The multi-zone units make it possible to significantly reduce the number of wires inside the cabinet, each individual lamp can be connected directly to the output of the unit, which integrates fuses and diagnostics. All data is available via communication.

Manage complexity with smart and modular systems

4 - Commissioning

SIMPLE AND IN CERTAIN TIMES

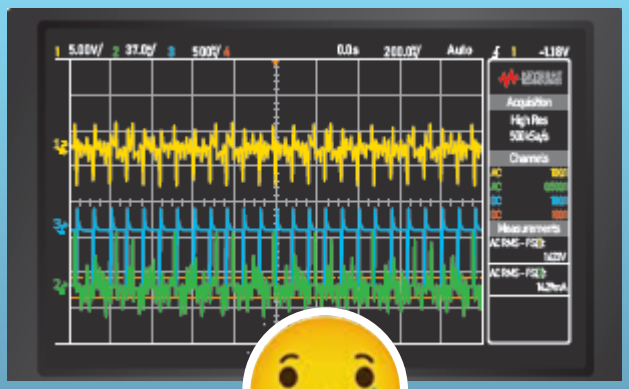
Commissioning involves obtaining compliance with the design specifications. In reality in the field, circumstances may arise that require specific adaptations. Being able to have flexible power units with remote support functions and a technical support service with proven experience, it is possible to quickly resolve the unexpected and extra requests of the customer.

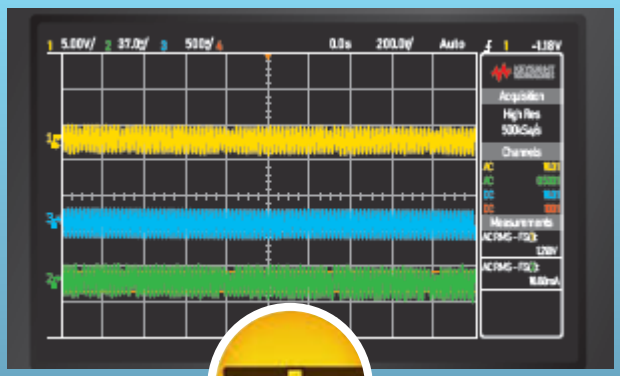
We manufacture highly reliable components
for mission-critical systems

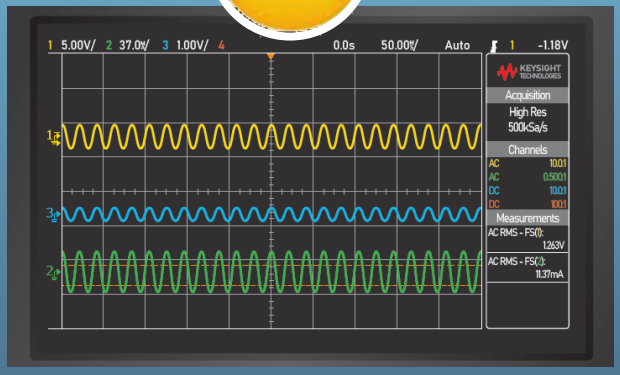
5 - Power Quality

NOISY ON POWER NETWORK

With traditional heating systems based on traditional electrical resistors and power regulators, a large instantaneous absorption of current occurs at the moment of switching, causing strong disturbances in the network. Furthermore, with traditional systems, there are high power losses due to the low power factor obtained with these systems.







We prevent possible causes of noisy on the power network

5 - Power Quality

POWER FACTOR

A low Power Factor, a high waveform distortion and an increase in harmonic components lead to an increase in the costs of energy consumed and malfunctions to electronic devices installed on the same power supply line.

POWER OPTIMIZATION

In the presence of many heaters it synchronizes the firings. Keep the total power consumption as constant as possible to avoid power peaks.

At CD Automation we have innovative, standardized and assisted products all over the world to intelligently control your systems.

Are you interested in learning more about the topic of energy control for heating systems in Oil & Gas?

BOOK A FREE 30 MIN CALL WITH US

CD Automation manufactures SCR power controller for industrial heaters management, temperature controllers and support software for the control of thermal processes.

We accompany our partners in the electrification of applications, reducing consumption, complexity and improving Power Quality.
Ask for advice for your systems and receive advice from our technical consultants.

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