

# Combustion Made Simple



## Leading Expertise in the Control and Optimisation of Firing Systems

Sensors and Systems for Combustion Technology



[www.lamtec.de](http://www.lamtec.de)

# Leading Expertise in the Control and Optimisation of firing systems.

LAMTEC is one of the world's leading experts in the control and optimisation of firing systems for heating, industrial and process applications. Founded in 1995, the company has been championing innovation and dynamic development for two decades. LAMTEC offers high-quality sensor-based systems for the control, optimisation

and monitoring of all types of firing system with the aim of increasing energy efficiency and reducing emissions. In-house developments and company acquisitions have enabled the portfolio to expand so that LAMTEC is now a one-stop-shop for burner controls and sensors. At the heart of everything the company develops and

## Milestones.

- 1982** The "Lambda probe" division is launched under BBC/ABB, work begins
- 1983** Market launch of and first order for the Lambda control system LR1
- 1988** First electronic VR1 compound controller
- 1992** VR2/VR4 fail-safe electronic fuel/air compound control system
- 1995** LAMTEC Meß- und Regeltechnik für Feuerungen GmbH & Co. KG is founded as a management buy-out from ABB
- 1996** Combustion management system FMS
- 1998** LAMTEC Leipzig is founded as a management buy-out from Hartmann & Braun (flame monitors)

1982

1983

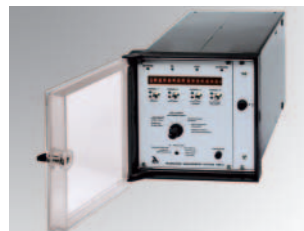
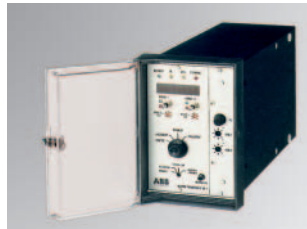
1988

1992

1995

1996

1998





produces is an absolute dedication and unwavering commitment to offer top-quality products to optimise combustion, save energy and cut costs, and minimise emissions. Innovation with added value and optimum quality - these are the standards LAMTEC sets for itself when developing leading and unique premium prod-

ucts. With the revolutionary CMS Combustion Management System, LAMTEC is yet again setting a ground-breaking new standard in the development of efficient and advanced system technology for firing systems.

- 1998 ETAMATIC
- 2002 CO control
- 2004 Recognised by the German gas industry for "CO control for industrial firing systems"
- 2010 Merger with Quategra (safety-related hardware and software development)

- 2012 BurnerTronic BT300
- 2015 CO control based on LT3-F KS1D - SIL 2
- 2016 Market launch of the CMS Combustion Management System

1998

2002

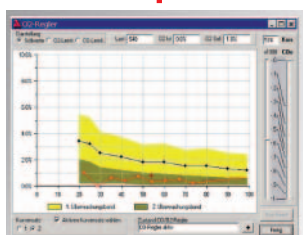
2004

2010

2012

2015

2016



## Flexibility as Standard.

Optimised configuration and control are key requirements if burners are to be as environmentally-friendly and energy-efficient as possible, saving fuel and cutting costs in the process. The devices developed by LAMTEC can be relied upon for precision firing management so that thermal and heating performance can be maximised whilst energy consumption and harmful emissions are minimised.

The BurnerTronic BT300 and CMS Combustion Management System are the latest examples of this technology in practice. These high-performance burner controls with integrated fuel/air compound control for virtually any firing system control, optimise and monitor oil, gas and dust burners, compensate for combustion variables and provide an assurance of reliability and fail-safe operation.

### Two for all scenarios.



#### BurnerTronic BT300

- Modular combustion management system for small and medium-sized burners for heating applications and industrial installations
- Installed directly on the burner
- Up to three actuators and one variable speed drive
- SIL 3 to DIN EN 61508 1-7
- 115 VAC or 230 VAC



#### CMS Combustion Management System

- For medium-sized and large burners for industrial processing facilities
- Individual configuration
- Centralised and remote installation
- Three HMI versions
- Up to 10 actuators/control elements
- SIL 3 to DIN EN 61508 1-7
- 24 VDC, 115 VAC or 230 VAC
- Market launch 2016

# Combustion in safe hands.

## LAMTEC BurnerTronic BT300

Efficient combustion, low emissions, increased safety – the BurnerTronic BT300 modular combustion management system is LAMTEC's logical response to the increasing need for flexible and cost-effective burner control for environmentally-friendly heat provision in practical applications.

The BT300 combines the benefits of an electronic fuel/air compound control system with up to three motorised actuating devices and an optional module to control the combustion air fan.

Additional functions include gas valve proving, flame monitoring and load control as well as CO/O<sub>2</sub> control for combustion optimisation.

The BT300 has been designed to be mounted directly on the burner. Safety interlocks and devices for control elements, such as pressure and temperature sensors, are wired directly to the burner control eliminating the cost of additional relays, simplifying design and reducing wiring paths.

Standardised wiring and a common operation interface minimises sources of error right from the start.

The BT300 incorporates a symbol driven HMI display designed to make operation and commissioning simple and intuitive regardless of language.



## Highlights

- Modular and flexible combustion management system
- Fuel/air compound control system with up to three motorised controller outputs
- Optional speed control of the combustion air fan
- Optional CO/O<sub>2</sub> controller for combustion optimisation
- Integrated flame monitoring and valve leak check function (gas)
- Graphics-based operator guidance with symbols

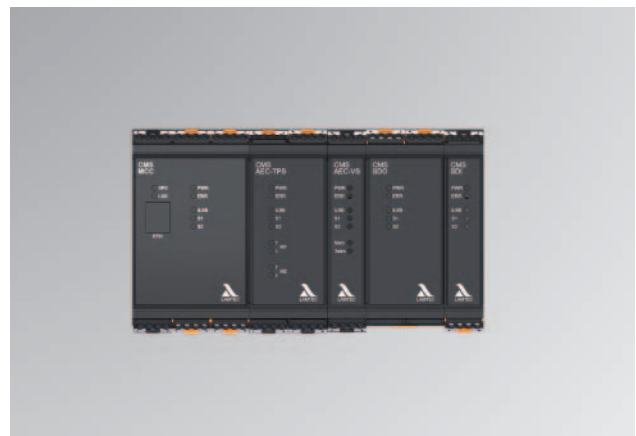
# Combustion Made Simple.

## CMS Combustion Management System

Combustion Made Simple: Modular and scalable burner control for all types of firing systems including complex process firing systems, designed for centralised and remote installation. With the revolutionary modular CMS Combustion Management System, LAMTEC is setting new standards and taking burner control to a new level of innovation. The CMS is so flexible that it is able to control and optimise almost any firing system, from industrial burners in a district heating plant to complex firing systems in a power plant. It even supports simultaneous combustion of multiple fuels. A standardised and easy-to-understand operating concept ensures that the firing process is incredibly easy to work with.

Even the basic module supports the full range of functions necessary for cost-effective and environmentally-friendly burner control. Thanks to its highly modular design, the CMS offers flexible expansion options when required.

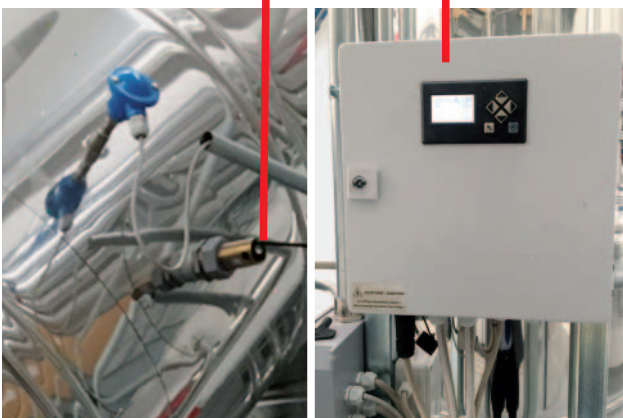
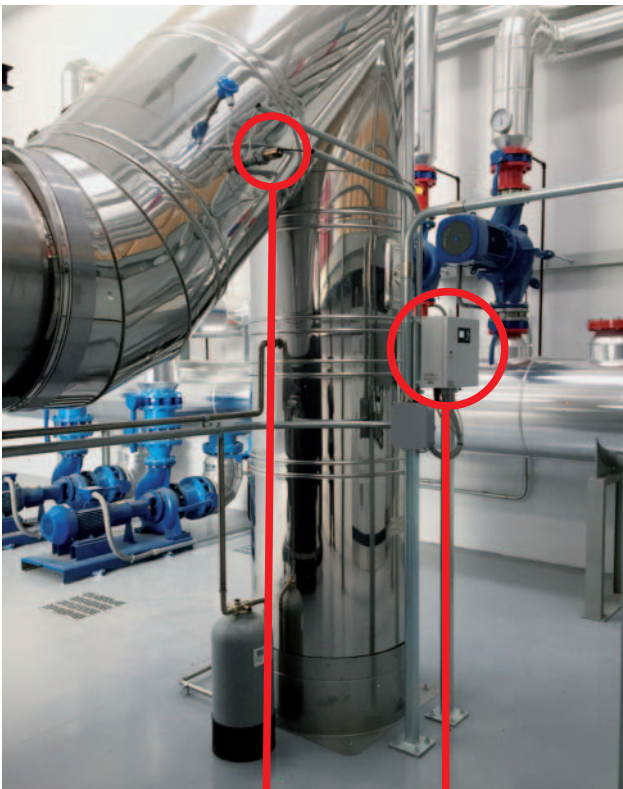
LAMTEC's CMS Combustion Management System can be relied upon for excellence in every single aspect of burner control.



## Highlights

- Centralised and remote installation
- Simple side-by-side mounting of extension modules for flexible scaling
- User-friendly operation based on symbols
- Integrated CODESYS Soft PLC
- Various human machine interfaces
- Comprehensive fieldbus capability

# Fail-safe gas sensors for combustion optimisation, SIL 2.



## Adaptive CO/O<sub>2</sub> Control

Each and every combustion controller should aim to maximise efficiency and minimise harmful emissions. LAMTEC's durable exhaust gas sensors for the measurement of oxygen (O<sub>2</sub>) and the detection of non-burned CO<sub>e</sub> gas components such as CO, H<sub>2</sub>, and hydrocarbons support simple and adaptive control strategies for optimising combustion and increasing the reliability and safety of firing systems.

The KS1D combination probe measures the residual oxygen content of exhaust gas whilst simultaneously detecting non-burned (oxidisable) flue gas components (CO/H<sub>2</sub>). In so doing, it enables the combustion system to operate at maximum efficiency close to the transition to incomplete combustion (known as the emission edge). High-efficiency CO/O<sub>2</sub> control can be supplied as an optional extra with all LAMTEC combustion control products. The result is optimum combustion thanks to short set-up times and compensation of combustion variables, topped off by an assurance of fail-safe operation. The LT3-F KS1D has been approved for the first time by the TÜV in accordance with DIN EN 16340, the new standard for exhaust sensors. The CO/O<sub>2</sub> control based on the LT3-F KS1D has been certified to SIL 2 in accordance with DIN EN 61508. This is a first in the combustion technology sector.

## Highlights

- Maximum energy savings through continuous self-optimisation at every load point
- Better control performance through significantly shorter set-up times
- Not affected by ingress air
- Fail-safe
- SIL 2 to DIN EN 61508-7
- Robust
- Maintenance-free

# LAMTEC: Global yet local.



## Approvals for individual Devices.



CE 0085

Gas Appliances Directive 2009/142/EC, CE0085



SIL3

SIL 3 Confirmation, DIN EN 61508 Parts 1-7



CE 0036

Pressure Equipment Directive 97/23/EC, CE0036



CSA-C22.2 No. 199



EN 60079, Ex Device Group II Device Category 3, IExU12ATEX

Ex nA nC ic IIC T5 (T6) Gc X (Zone2)



**LAMTEC GmbH & Co.KG**  
**für Feuerungen GmbH & Co. KG**  
 Wiesenstraße 6  
 D-69190 Walldorf  
 Telephone: +49 (0)-6227-6052-0  
 Fax: +49 (0)-6227-6052-57

[info@lamtec.de](mailto:info@lamtec.de)

[www.lamtec.de](http://www.lamtec.de)

