

## Product Data Sheet

# SmartCem

## Continuous Emissions Monitoring

### System Concept

SmartCEM is the ultimate solution for continuous monitoring of flue gas emissions. It is a fully integrated monitoring concept from the basic analysers and their calibration verification packages through to digital communications, data logging and automatic reporting.

At the heart of this concept is the SmartCEM station which contains all the analysers and monitors to provide comprehensive stack emission monitoring. The SmartCEM Station Control Unit (SCU) provides power to and communicates with the analysers and monitors within that station.

Data from up to 32 SmartCEM stations is transmitted via a serial digital link (CODEL SmartBUS) to the Central Data Controller where it is logged on a dedicated pc or assembled for onward transmission to a plant computer or DCS.

The dedicated SmartCEM system computer can be equipped with CODEL Integrated Emissions Monitoring (IEM) software and a modem link so that system operation can be monitored at all times remotely at the CODEL Customer Support Centre. In this way the expertise of the CODEL design and support teams can be quickly utilised to check that the system is operating correctly.

- fully-integrated CEM system
- seven gas species, dust and gas flow
- 5-year data logging and reporting
- continuous data normalisation
- data as ppm, mg/Nm<sup>3</sup> and kg/hr
- automatic calibration verification

### Measurements

Carbon Monoxide

Carbon Dioxide

Nitric Oxide

Nitrogen Dioxide

Sulphur Dioxide

Hydrogen Chloride

Oxygen

Water Vapour

Dust and Smoke

Gas Flow

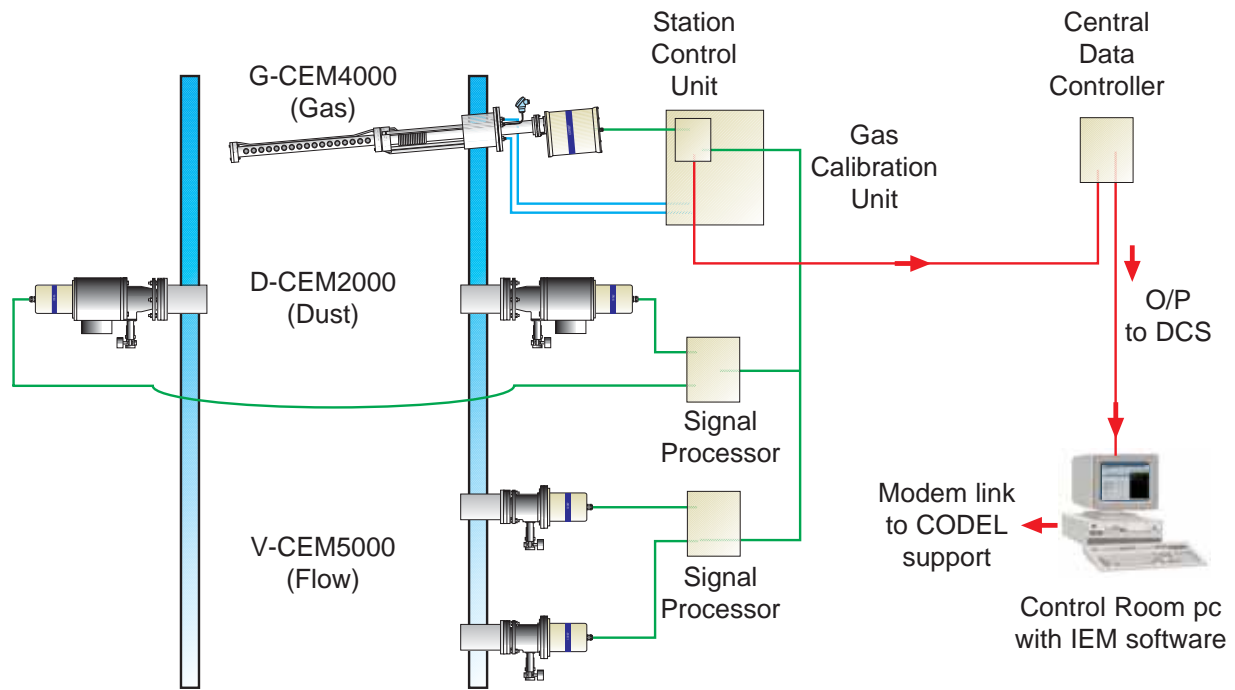
Data Logging

Data Reporting

## Total Solutions - Total Confidence



## System Schematic



SmartCem

## Specification

### SmartBUS

Network - serial digital data link, 4800 baud current loop, 4-wire data bus, opto-isolated at SCUs

Distance - up to 10km

Number of Stations - up to 32

### SmartCEM Station

Parameters Available - CO, CO<sub>2</sub>, NO, NO<sub>2</sub>, SO<sub>2</sub>, HCl, O<sub>2</sub>, H<sub>2</sub>O, dust, gas flow, gas temperature and pressure (inputs available for other gases and parameters)

Data Access - full diagnostic capability via SmartBUS

### Central Data Controller

Data Logging - by dedicated pc, 5-year data retention

Data Presentation - by CODEL SmartWARE Windows95, 98, XP & NT- based software

System Output - RS232 serial digital link supporting MODBUS protocol for plant computer/DCS link

Remote Comms - full data access via modem

### Compliances

EMC - 89/336/EEC directive compliant

Low Voltage - 73/23/EEC directive compliant

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