CODEL

Continuous Emission Monitoring

CO, NO, NO_2, NO_x, SO_2, CH_4, HCL, N_2O, CO_2, H_2O, Dust and Gas flow

- Fully-integrated continuous emission monitoring system
- Severn gas species, dust and gas flow measurements
- Continuous data normalisation
- Data as ppm, mg/Nm^3 and kg/hr
- Automatic calibration verification
- High reliability, low maintenance

SmartCem

Environmental Monitoring Solutions   SmartCem   www.codel.co.uk

SmartCem System Overview

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 system software and an internet connection 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.

GCEM4000 Gas Analyser

DCEM2000 Dust Monitor

VCEM5000 Flow Monitor

Measurements

› Carbon Monoxide
› Carbon Dioxide
› Nitric Oxide
› Nitrogen Dioxide
› Nitrous Oxide ⎯⎯ GCEM4000 Gas Analyser
› Sulphur Dioxide
› Hydrogen Chloride
› Methane
› Water Vapour

› Dust and Smoke ⎯⎯ DCEM2000 Dust Monitor

› Gas Flow ⎯⎯ VCEM5000 Flow Monitor

› Data Logging
⎯⎯ SmartCEM System Software
› Data Reporting

Continuous Emission Monitoring Panel

SmartCEM System Arrangement

GCEM4000 Gas Analyser

DCEM2000 Dust Monitor

DCEM2000 Dust Monitor

VCEM5000 Flow Monitor

VCEM5000 Flow Monitor

Central
Data
Controller
(CDC)

Station Control
Unit (SCU)

DCEM
Processor
Unit

VCEM
Processor
Unit

Internet connection
to CODEL support

CEMS Control Panel

Control Room PC with
SmartCEM Software

Environmental Monitoring Solutions

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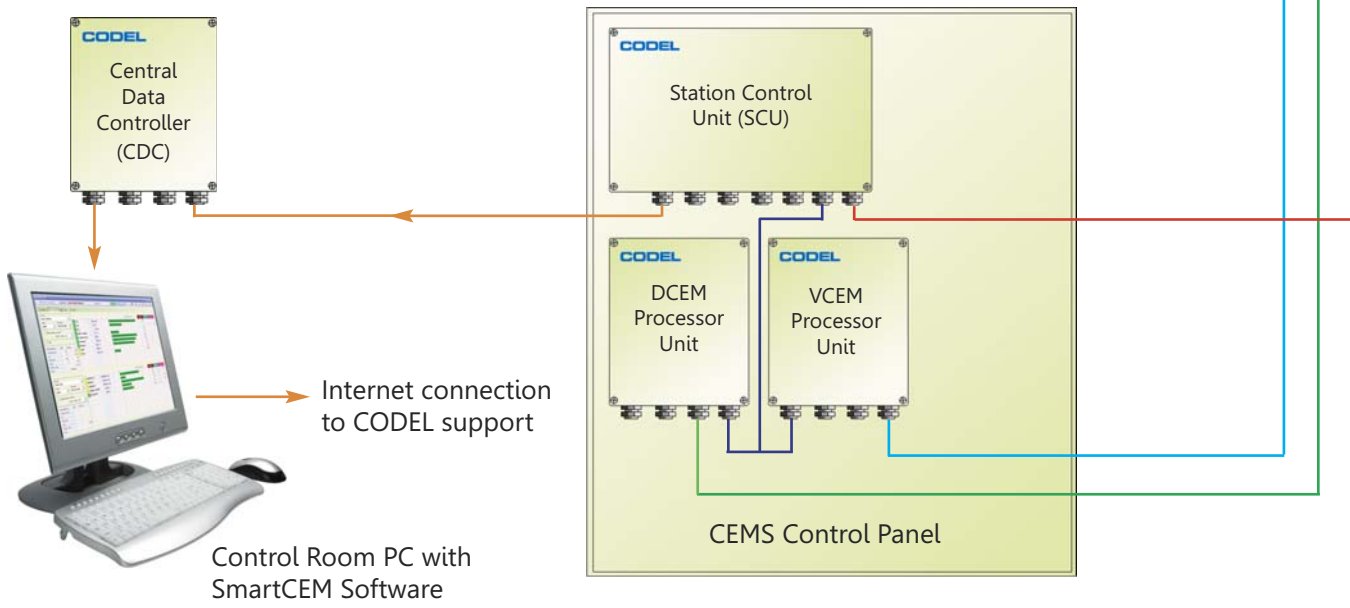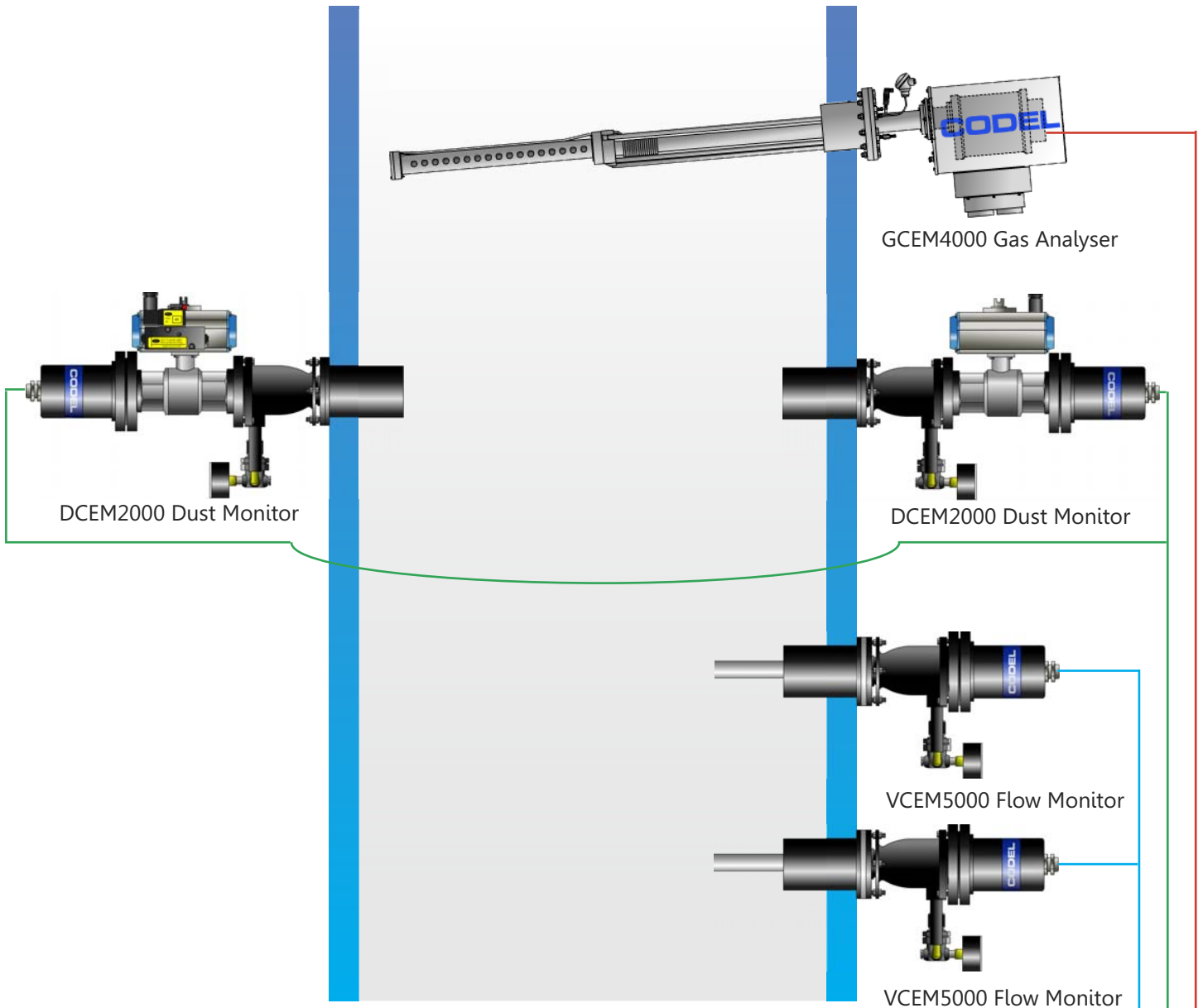
SmartCEM Software

- Detailed and customisable reports to meet Regulatory Agency requirements (including LCPD, WID)
- User configurable real-time and historical graphing facilities for data analysis
- Data export to popular applications such as Excel etc
- Multi-user networking capability
- Real-time normalisation of data
- Data storage on PC hard drive of at least 10 years
- Easy installation and set-up
- Intuitive operation
- Will operate on Windows based operating systems

SmartCEM Emissions Monitoring Software provides the complete solution to data gathering and analysis on CODEL-based monitoring systems. With a simple installation and set-up routine, the program takes only minutes to load and configure and comes with a comprehensive on-board help feature.

Real-time Displays

Using a serial link to communicate with the sensors, SmartCEM updates the live data screen every 30 seconds to keep the user aware of the current situation on plant, while alarms warn the operator of high emission levels.

Data is displayed in numerous formats - ppm, %, mg/Nm^3, mg/m^3, kg/hr assuming flow measurement is available etc. - and the change of format is instantaneous.
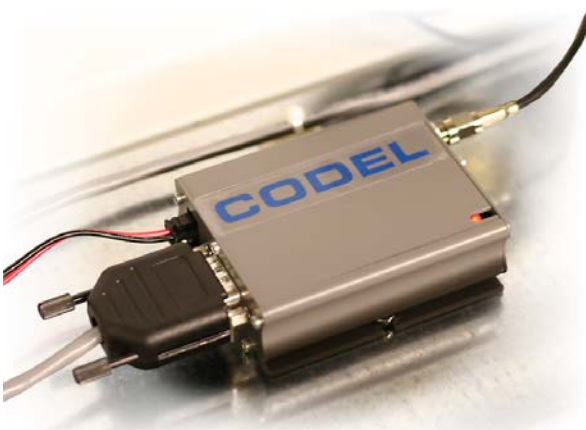

Graphs

A key feature of SmartCEM is the provision of real-time and historical graphs providing detailed analysis of emissions data. One useful feature enables the user to highlight a period of time on the graph and obtain the average emissions. Data is easy to read and is configurable to individual operator requirements.

GSM Unit

The GSM unit allows CODEL engineers direct access to any analyser in our range giving them full online remote diagnostic information for technical support.*

This service can be offered for a nominal monthly charge

* Network coverage can limit the use of this service

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