

atmosDAHS



atmosDAHS Emissions Reporting

atmosDAHS CEM Data Collection and Emissions Reporting Software MCERTS and EN 14181 Approved

The continuous logging, reporting and assessment of emissions data is required by plant operators to ensure compliance with permits and standards. Protea's atmosFIR Continuous Emissions Monitoring (CEM) System is a complete online emissions monitoring solution and can now be supplied with built-in regulatory reporting software, without the need for any external hardware (PC's or data-loggers).

atmosDAHS CEM Data Collection and Emissions Reporting software has been developed to the high standards required by continuous emissions monitoring standards, certificates and directives including **MCERTS**, the IED regulations for power plants (Directive 2001/80/EC) and waste incinerators (Directive 2000/76/EC), European Standard **EN 14181**, US EPA and Environmental Permitting (EP) regulations (Part A and Part B). atmosDAHS also meets the requirements of **EN 17255** Data acquisition and handling systems.

Emissions Reporting in-built to CEM

Running within the CEM system, atmosDAHS can provide a complete historical log of emissions data to meet the needs of any local inspections.

High quality displays of real-time data can be configured to be as simple or as detailed as needed, featuring multi-windows and resizable graphs and charts. Historical data from commissioning onwards is accessible via the trend and reporting facilities.

Unlimited sensor readings can be inputted at 1 second internals, so as well as the internal multigas readings from the atmosFIR CEM, atmosDAHS can record critical emissions data such as dust, flow, temperature and pressure from 3rd party instruments. Any instrument with a digital or analogue output signal can be integrated.

The operator can select and export data for any time periods in real-time whilst the CEM is operating. Configurable reports can be built for local inspectors and Environment Agency needs in the required formats. User interaction can be as simple as generating regular reports, or advanced users can configure bespoke reports when needed..

Data can be displayed as raw data, in a number of different measurement units, or data corrected to reporting conditions, with or without QAL2 calibration functions, can be shown. Dynamic time-weighted average data can be displayed, such as 1min, 30min, 1hr, Daily, Weekly and Monthly averages. Configurable Partial Averaging can be used to alert users of impending breaches giving operators time to make plant adjustments before ELVs are breached.



In-Built Emissions Reporting software within atmosFIR CEM platform:

- * MCERTS Certified
- * EN 17255 compliant
- * QAL3 management
- * Configurable reports ready for print
- * Real-time graphs and charts
- * Unlimited sensor readings
- * Partial Averaging – predictive warning system
- * Runs on the existing atmosFIR analyser controller - no extra hardware required
- * External Emissions Server can be provided or data backups.

Figure 1: atmosDAHS Emissions Reporting Software in-built to Protea CEM. Complete MCERTS approved system from Protea.



- * **Incineration** (Chemical/Clinical/Municipal)
- * **Power** (Gas/Coal/Oil/Biomass)
- * **Cement Works**
- * **Chemical industry**
- * **Petrochemical**
- * **Pharmaceuticals**
- * **Refining**
- * **Gas Turbines**



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Figure 2: Charts displaying trends for CEM and external sensors, in re-sizeable graphs and windows.

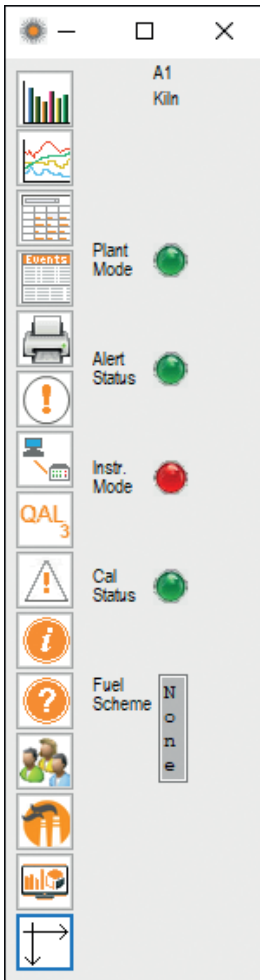
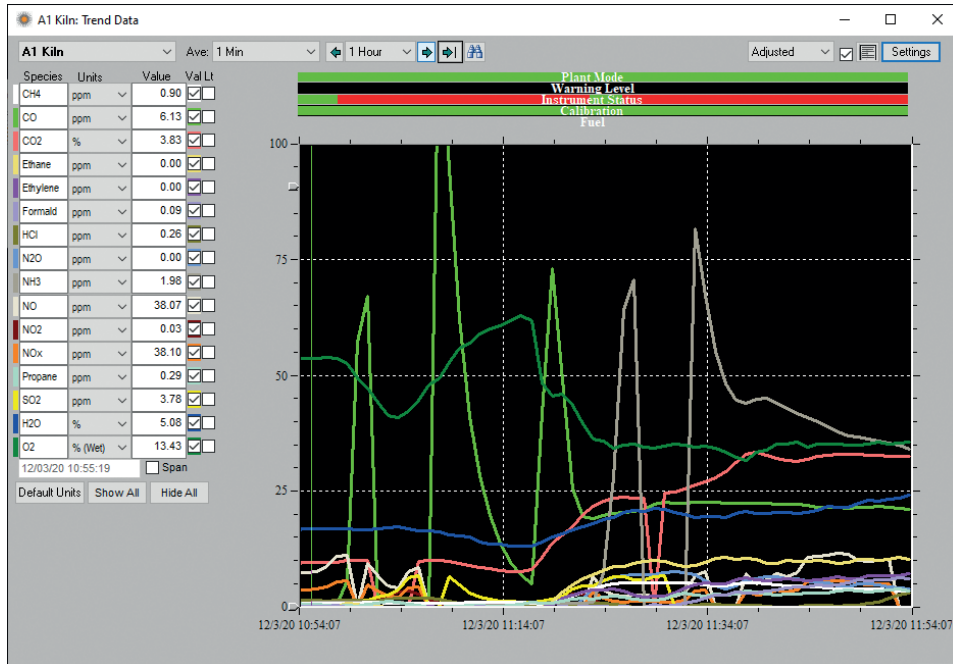


Figure 3: Simple Single Button Control Panel for all software functions.

Species	Units	1 Min	1Hour	Daily Aver
CH4	ppm	5.08	4.82	1.15
CO	mg/NM3	379.36	164.11	32.59
CO2	%	9.14	10.72	3.38
Ethane	ppm	3.52	5.47	0.33
Ethylene	ppm	2.31	2.07	0.00
Formald	ppm	1.65	2.56	0.04
HCl	mg/NM3	6.47	6.17	0.00
N2O	ppm	0.69	0.11	0.00
NH3	ppm	15.24	62.69	4.14
NO	ppm	48.10	23.86	39.22
NO2	ppm	0.31	0.00	0.64
NOx	ppm	48.41	23.47	39.24
Propane	ppm	1.17	0.91	0.06
SO2	mg/NM3	39.97	0.00	21.73
H2O	%	7.71	14.76	3.15
O2	%(Wet)	11.89	8.94	15.44

Figure 4: Dynamic time-weighted average tables.



EN 14181 Compliance

The requirements of EN 14181 are met with management tools for the on-going quality assurance of the CEM data. QAL 1 data can be entered into the system to provide the settings needed to determine maximum allowable drift limits – as the CEM supplier Protea will set all of the parameters relating to the analyser for the user. QAL3 implementation via control charts and warnings is comprehensive.

All data can also be exported in a variety of formats for external examination and processing. This can assist with maximising plant efficiencies and diagnosing potential problems with the plant processes. Reports access data immediately on its creation to provide the most up-to-date measurement and system statuses. The MCERTS reports come in PDF format with our official MCERTS Watermark ensuring that all data reported has been processed as per the standard.

Quality Assurance of atmosFIR CEM with atmosDAHS Emissions Reporting Software

QAL1 Data	✓
QAL2 Tests	✓
QAL2 Calibration Functions	✓
AST Tests	✓
QAL3 Tests	✓
QAL3 Control Charts	✓
Uncertainty	✓

Figure 5: Report Module gives wide and flexible reporting options.

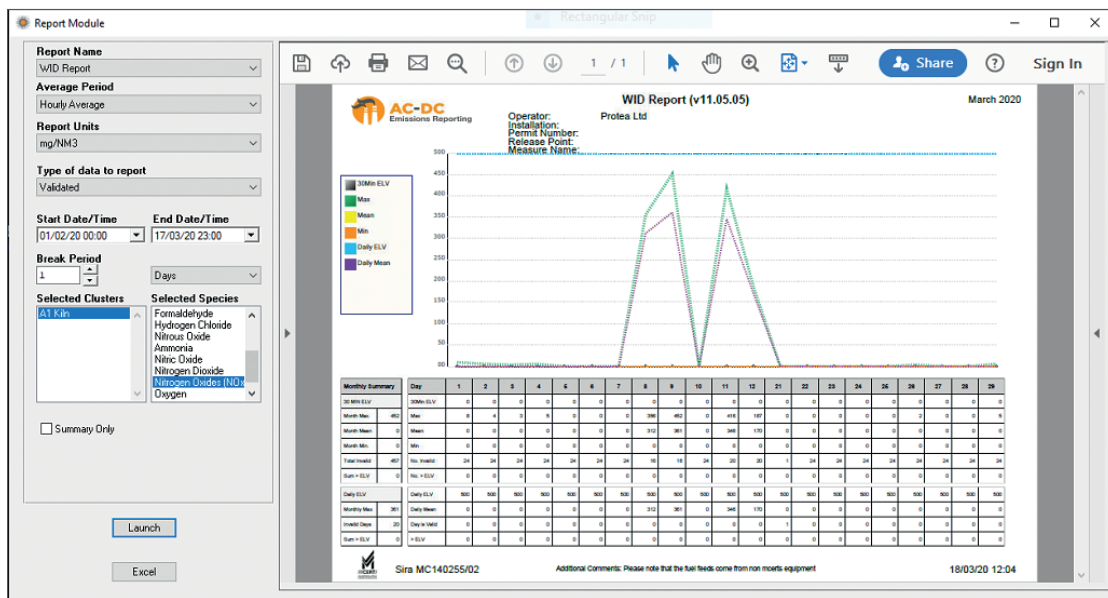
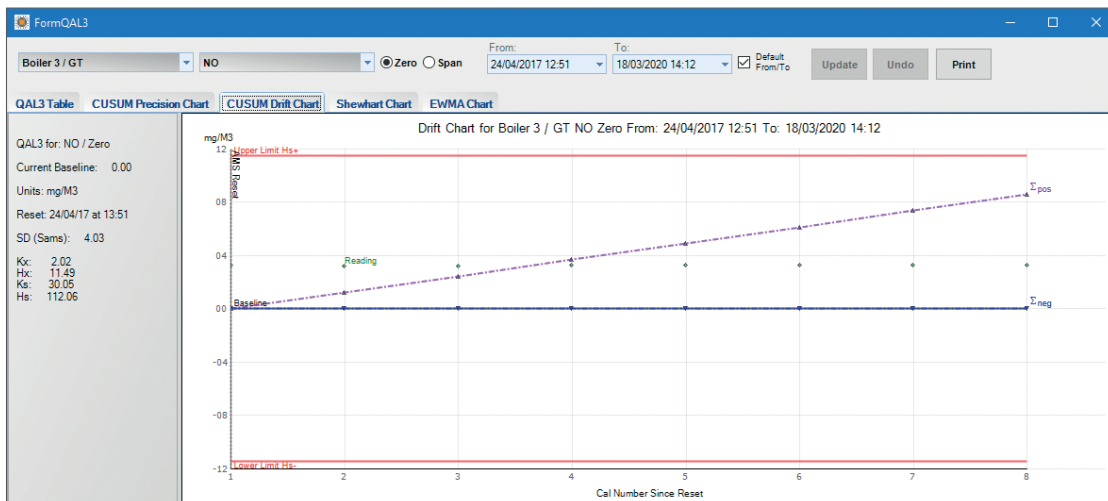


Figure 6: QAL3 Control Charts: CUSUM Drift, CUSUM Precision and Shewhart available in atmosDAHS.



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Features	
Displays and Trends	<ul style="list-style-type: none"> Selectable Raw, Validated and Adjusted (QAL2 Calibration function & Uncertainty) readings Block, Rolling and Partial averages Trend charts Bar charts Data grid displays user defined averaged data in textual and graphical format Error and Event logs storing all alarms, systems warnings and maintenance
Units	<ul style="list-style-type: none"> ppm, mg/m3, mg/Nm3, Kg/hr, %, m/s and mass emissions in Kg/hr
Warning	<ul style="list-style-type: none"> On screen warnings Email SMS / Text message Plant wide audible sirens Physical warning lights
EN 14181 QAL1 and QAL2	<ul style="list-style-type: none"> QAL1 data entry QAL 2 Calibration Functions Uncertainty
EN 14181 QAL3	<ul style="list-style-type: none"> CUSUM Drift CUSUM Precision Shewhart Exponentially Weighted Moving Average (EWMA)
Reports	<ul style="list-style-type: none"> User Configurable Averaged Data Report LPCD Reports: Form Air 2, 3, 6, 11 WID Reports System Configuration Report
Data	<ul style="list-style-type: none"> Modbus Serial Modbus TCP/IP ProfIBUS ProFINET FieldBUS, ODBC OPC Analogue signals CSV export and others on request

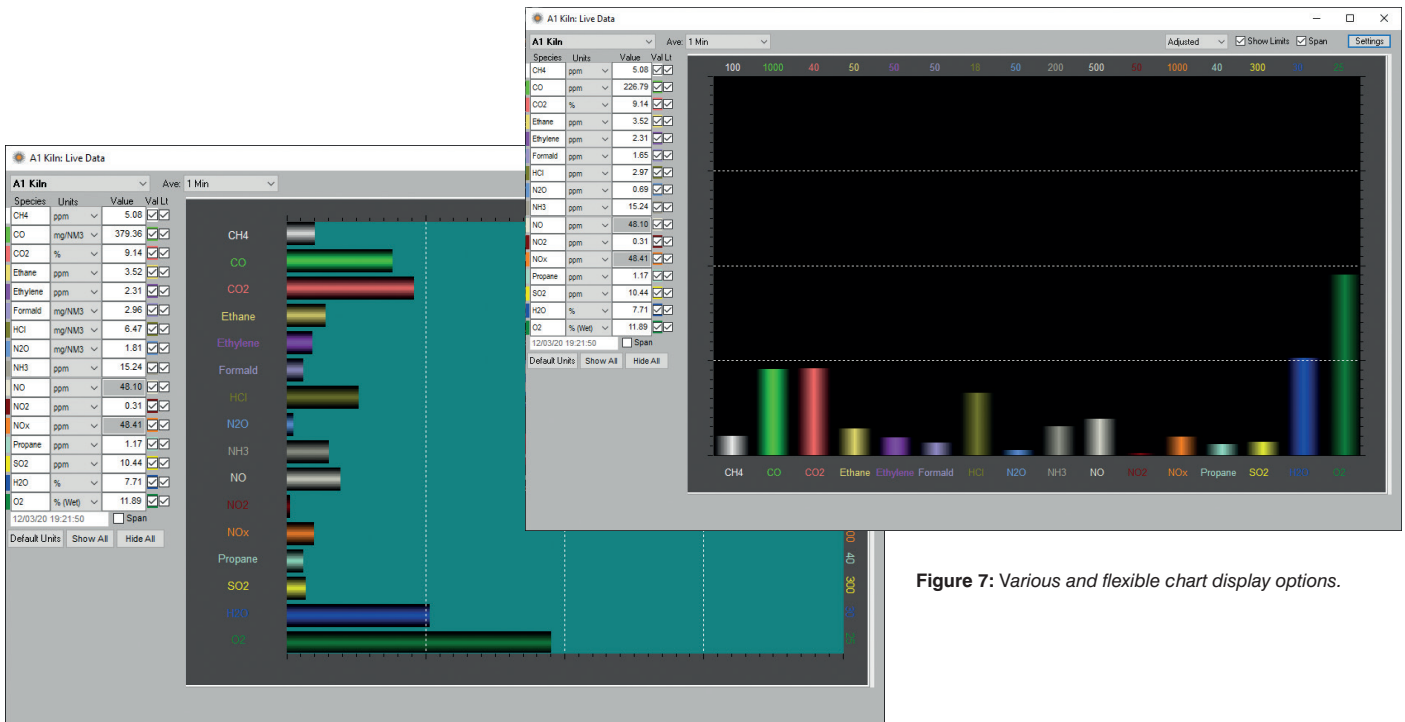


Figure 7: Various and flexible chart display options.

Set-up, Support and Benefits

Set-Up Simplicity

With atmosDAHS Emissions Reporting Software provided by Protea with the atmsoFIR CEM, the full CEM emissions reporting system is set-up and configured before shipment to site. As the software runs on the CEM controller, Protea can optimise the data collection parameters and ensure that the data is logged correctly and the reports are fit for purpose during the full CEM Factory Acceptance Test process. There is no need for on-site set-up, trying to configure inputs from various analysers and sensors. Protea provides the complete solution.

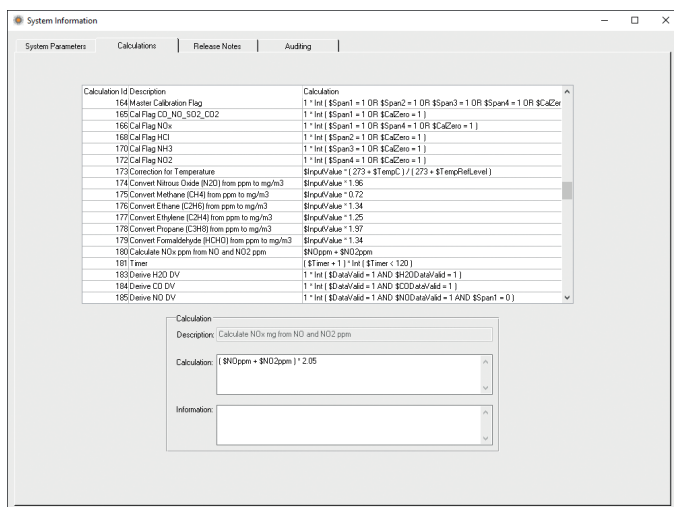


Figure 8: Calculations set-up by Protea during CEM acceptance. Can be added, checked and changed to give unlimited options for data processing and presentation.

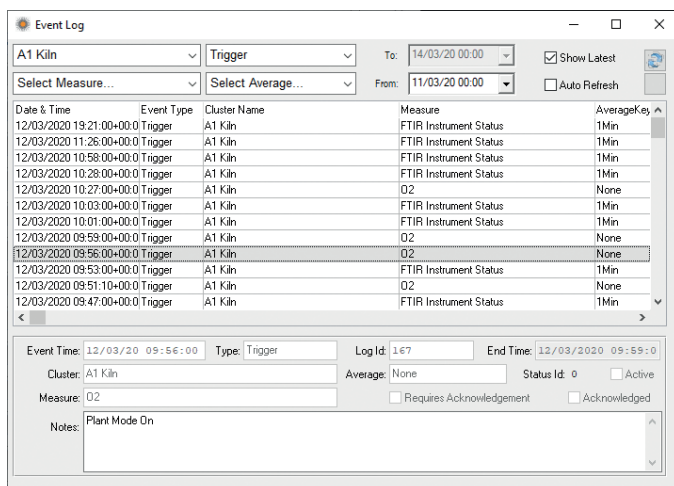


Figure 9: Detailed event log for CEM and Plant status and alarms.

Combined Support – CEM + DAHS

Protea provides support for the atmosDAHS Emissions Reporting Software alongside the CEM analyser hardware, meaning the customer has a single source of support for hardware and reporting software. Protea are best placed to ensure the entire emissions system is fit-for-purpose, being able to make changes to the analyser and the reporting software as and when needed e.g. range changes.



Figure 10: Protea offers complete support for CEM and DAHS direct or through our Distributors.

Maintenance contracts for atmosDAHS are provided as add-ons to the service contracts for the CEM, so costs can be reduced in terms of separate call out charges.

Facilitating remote access to the CEM and hence atmosDAHS is standard practice, and Protea can provide permanent 4G router connection to the CEM and reporting system to help support the application.

Protea Distribution

Protea operate a worldwide distributor and customer support network guaranteeing that our customers receive outstanding support both before and after sale. All our distributors have factory trained service engineers to support our products.

Supplier:



This Datasheet is a guide to the product and Protea Ltd reserve the right to modify the product without notification.