

# PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

## ***EmiDAS 4.00 Emissions Data Acquisition and Handling Software***

Produced by:

### ***G2 Data Systems Ltd***

33 Foxboro Road  
Redhill  
Surrey  
RH1 1TD  
United Kingdom

has been assessed by Sira Certification Service  
and for the conditions stated on this certificate complies with:

**MCERTS Performance Standards and Test Procedures for  
Environmental Data Management Software, Version 2, (September 2011)  
in respect of:**

**Part A - Generic Software Quality**

**Part B - Data Management General Aspects**

**Part C1 - CEMS data management applications - Generic Requirements**

**Part C2 - CEMS Data Management Applications - EN14181 Requirements**

Project No. : 70007929  
Certificate No : Sira MC140255/00  
Initial Certification : 11 August 2014  
This Certificate issued: 11 August 2014  
Renewal Date: 10 August 2019

J Prince BSc (Hons) MSc  
Deputy Certification Manager

MCERTS is operated on behalf of the Environment Agency by

### **Sira Certification Service**

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For conditions of use, please consider all the information within.*

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**Registered Office: Rake Lane, Eccleston, Chester, UK CH4 9JN**

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## Approved Site Application

Any potential user of the certified software should:

- 1) Ensure that it is suitable for the platform on which it will be installed (if necessary in consultation with the software producer)
- 2) Ensure that the selection and operation of the software is appropriate to the application

## Basis of Certification

This certification is based on the following Test Report(s) and on Sira's assessment and ongoing surveillance of the product and the manufacturing process:

Sira report ref: 70007929 G2 Data Systems EmiDAS 4.00 Emissions Data Acquisition and Handling Software MCERTS Assessment Report, dated 9th April 2014

## Product Certified

Product	Version	Remarks
EmiDAS Emissions Data Acquisition and Handling Software	4.0	<p>Later minor changes to the certified version are permitted in accordance with the conditions of the standard.</p> <p>Excluded components: Progress / OpenEdge - Third party database and development environment</p>

The certified software includes the following modules and components:

### Database

EmiDAS is built on Progress Openedge™ Relational Database technology with:-

- extremely fast data processing supporting one second data readings
- secure database with encryption making data access or manipulation impossible
- built in crash recovery ensuring no data corruption
- real-time database replication for dual redundancy solutions
- virtually unlimited(\*) storage so no need for archiving
- full data auditing which is accurate and secure enough to allow applications to satisfy Sarbanes-Oxley and EU Directive on Privacy and Electronic Communications.
- EmiDAS allows multi-user configuration scaling from single user to 2000+ users per server

(\*) – 5 Exabyte storage

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### **Data Acquisition & Processing**

- EmiDAS is fully configurable without the need for hard-coded programming changes, even for very complex calculations and data processing. The system can also carry out user-defined calculations and processing on incoming data if and when required.
- EmiDAS can process data from a wide variety of instrument across multiple industries (with a suitable analogue or digital signal).
- EmiDAS allows for the setting of uncertainty values, computing normalised values, adjusted values, calibration, plant on/off and plant delay periods.

### **Software Modifications**

In the event of a major release the developer shall provide brief supporting evidence to the Certification Body who will advise whether recertification is necessary.

### **Certified Performance**

The application is able to perform the following tasks:

### **Quality Assurance**

- EmiDAS provides analyser quality assurance including QAL2, AST and QAL3 tests.
- Management tools are supplied to enable implementation of QAL 2 Calibration Functions, Uncertainty, and QAL3 Control Charts (CUSUM Precision & Drift, Shewhart and EWMA) for on-going Analyser Quality Assurance

### **User interface**

Real-time data and system information is displayed via a multi windowed user interface including:-

- alarm & warning indicators
- block, rolling and partial averages
- trend charts
- bar charts
- data grids
- error logging
- event logs
- auditing
- QAL3 Control Charts
- comprehensive online HELP manual

All displays have selectable units of measurement and selectable raw, validated and adjusted (QAL2 Calibration function & Uncertainty) readings along with any user-defined measurements and averages that have been configured within the system. Historical data from commissioning onwards is accessible via the trend and reporting facilities.

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### Alerting

Configurable warning levels and Emission Limit Values (ELV) alarm levels can alert users of impending or actual ELV breaches via on screen audible/visible alarms, email, SMS and plant wide audible/visible sirens and warning lights where necessary.

Configurable Partial Averaging can be used to alert users of impending breaches giving operators time to make plant adjustments before ELVs are breached.

### Configurable reporting

Reports access all data immediately on creation to provide the most up-to-date measurement and system statuses. These reports can also include historical data from the date of commissioning and include:-

- Averaged Data Report
- System Configuration Report
- LCPD Reports including Form Air 2, 3, 6, 11
- WID Reports
- QAL3 Reports include:-
  - CUSUM Drift
  - CUSUM Precision
  - Shewhart
  - Exponentially Weighted Moving Average (EWMA)

The MCERTS reports come in PDF format with our official MCERTS Watermark ensuring that all data reported has been processed as per the standard.

### Data access

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.

Data can be accessed via digital communication protocols, analogue signals, ODBC, CSV export and others on request.

### Live Data Feeds

Monitoring data can be selected and exported in real-time for use in 3rd party systems at time periods of the user's choice.

## Description:

EmiDAS is a high-speed, state-of-the-art Data Acquisition & Handling System developed using leading-edge, 4<sup>th</sup> generation software and database technology to store, process and report data of all kinds from a single instrument to a multi-user, client/server based system for the largest distributed applications.

The software is MCERTS certified and fulfils the European Industrial Emissions Directive 2010/75/EC as well as European Standard EN 14181, US EPA and other national requirements.

EmiDAS was developed with absolute flexibility in mind, allowing the system to be configured using meta-data and user-defined simple or complex mathematical formulae without the need for any hard-coded changes. This enables future standards & requirements to be integrated into the software through configuration without necessarily having to re-program and possibly re-apply for MCERTS certification in the future for what may be considered “major changes” on other systems.

Raw data is processed as per the MCERTS standard and is fully configurable to suit the requirements of any company from the smallest site up to the largest power and waste companies that come under the most stringent legislation for polluters.

Data scan rates are configurable from 1 second upwards and any required block, rolling or partial averages (which can be used as a form of predictive monitoring) can be easily configured and are not limited by the system software.

Real time and historical displays can be user-configured and the system does not limit the amount of windows that the user can have open at any one time. This can give the user a complete view of live and historical trend data for each part of their system at any one time. Alarms & Warnings can be defined for any measurement, any average, and in any units as required by the end-user.

Bespoke system configuration can also supply the user with remote system diagnostics for the monitoring instruments on the site if this data is available from the instruments. This can enable users to log and trend specific analyser information such as detector levels, cell voltages, calibration factor drift and numerous other useful parameters that can aid with the maintenance and quality assurance of the monitoring instruments.

To summarise, EmiDAS can be used as your MCERTS Data Handling & Reporting System no matter how small or large your process is. EmiDAS has been operating in the field on Wood-fired Boiler Systems, Car Manufacturing Plants, Pharmaceutical Sites (EN14181), Power Houses (EN14181), Steel Works, and many other sites since 2007 and can read data from all types of Emissions Monitor (gases, particulates, flow, temp, pressure, O<sub>2</sub> etc) and any other measurement that the end-user would like to integrate into the system providing there is an output available from the instrument.

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It should be noted that once the MCERTS certified data leaves EmiDAS the data only remains MCERTS certified if it is simply displayed and not processed in any way (including Digital to Analogue Converters) by a non-MCERTS approved application. Our unobtrusive, digital, end-to-end micro-system version of EmiDAS can deal with this potential problem for any operator in a very cost-effective way.

### General Notes

1. This certificate is based upon the equipment tested. The Manufacturer is responsible for ensuring that on-going production complies with the standard(s) and performance criteria defined in this Certificate. The Manufacturer is required to maintain an approved quality management system controlling the manufacture of the certified product. Both the product and the quality management system shall be subject to regular surveillance according to 'Regulations Applicable to the Holders of Sira Certificates'. The design of the product certified is defined in the Sira Design Schedule for certificate No. Sira MC140255/00
2. If certified product is found not to comply, Sira Certification Service should be notified immediately at the address shown on this certificate.
3. The Certification Marks that can be applied to the product or used in publicity material are defined in 'Regulations Applicable to the Holders of Sira Certificates'.
4. This document remains the property of Sira and shall be returned when requested by the company.

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