PRODUCT CONFORMITY CERTIFICATE

This is to certify that the

EmiDAS 11.05.03 Emissions Data Acquisition and Handling Software

Produced by:

G2 Data Systems Ltd

Ferneberga House
Alexandra Road
Farnborough, Hampshire GU14 6DQ
United Kingdom

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

**MCERTS Quality and Performance Standards for
Environmental Data Management Software
Version 4, dated December 2017
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 / 80029227
Certificate No:	Sira MC140255/02
Initial Certification:	11 August 2014
This Certificate issued:	27 January 2020
Renewal Date:	10 August 2024

Emily Alexander
Environmental Project Engineer

MCERTS is operated on behalf of the Environment Agency by

Sira Certification Service

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Certificate Contents

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

For general guidance on monitoring techniques refer to the Environment Agency Monitoring Technical Guidance Notes available at www.mcerts.net

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:

- Report ref: 70007929 G2 Data Systems EmiDAS 4.00 Emissions Data Acquisition and Handling Software MCERTS Assessment Report, dated 9th April 2014
- Report ref: 80029227 G2 Data Systems MCERTS Surveillance Audit Report, dated 19th December 2019

Product Certified

Product	Version	Remarks
EmiDAS Emissions Data Acquisition and Handling Software	4.0	Later minor changes to the certified version are permitted in accordance with the conditions of the standard. Excluded components: Progress / OpenEdge - Third party database and development environment
EmiDAS Emissions Data Acquisition and Handling Software	11.05.03	Later minor changes to the certified version are permitted in accordance with the conditions of the standard. Excluded components: Progress / OpenEdge - Third party database and development environment

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.

Certificate No : Sira MC140255/02
This Certificate issued : 27 January 2020

Scope of the Certified System

The certified software, EmiDAS v11.05.03 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

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 instruments across multiple industries.
- EmiDAS allows for the setting of uncertainty values, computing normalized values, adjusted values, calibrations, plant on/off and plant start-up and shutdown periods.

Applications:
EmiDAS is configurable for many different applications including:
- European Industrial Emissions Directive IED 2010/75/EU (WID/LCPD)
- BS EN 14181 Stationary source emissions - Quality assurance of automated measuring systems
- US-EPA – US Environmental Protection Agency – Various industry sectors
- UK Part A1 and Part A2 Processes
- UK Part B legislation Process Guidance Notes (PGN)
- Various other national standards across many industry sectors

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:-
- Multi-lingual User Interface
- Warnings, Alarms, Violations, System Information and Calibrations
- Block, Rolling and Partial averages

Certificate No :   Sira MC140255/02
This Certificate issued :   27 January 2020

- Trend charts
- Bar charts
- Data grids
- Error logging
- Event logs
- Auditing
- QAL3 Control Charts
- Comprehensive online HELP manual

Web based User Interface option offers secure, real-time direct access into the EmiDAS emissions monitoring system from anywhere with an internet connection.

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.

Alerts & ELVs
Configurable Warnings and Alarms alert users of potential or actual ELV breaches via on-screen messages, email, SMS and plant wide audible/visible alarms where necessary.

Configurable Partial Averaging can help to alert users of impending breaches by giving operators more time to make plant adjustments before ELVs are exceeded.

Different Fuels
EmiDAS provides for the calculation of ELVs for single, multi or mixed fuel applications.

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
- WID Reports
- QAL3 Reports include:-
  - CUSUM Drift
  - CUSUM Precision
  - Shewhart
  - Exponentially Weighted Moving Average (EWMA)

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

Certificate No :   Sira MC140255/02
This Certificate issued :   27 January 2020

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.
- MODBUS output to control systems such as DCS and SCADA
- 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, 4th 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_2 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.

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.

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'.

2. The design of the product certified is defined in the Sira Design Schedule V00 for certificate No. Sira MC140255/01

3. 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.

Certificate No :   Sira MC140255/02
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