

CERTIFICATE

of Product Conformity (QAL1)

Certificate No: 0000054059_02

Certified AMS: D-EMS 2020

Manufacturer: DURAG data systems GmbH
Kollastr. 105
22453 Hamburg
Germany

Test Institute: TÜV Rheinland Energy & Environment GmbH

**This is to that the data acquisition and handling system (DAHS)
has been tested and found to comply with the standards:
Uniform practice in monitoring emissions 2017*
and EFÜ interface definition 2017 (remote emission control)
as well as EN 14181 (2014), EN 15267-1 (2009) and EN 15267-2 (2009).**

Certification is awarded in respect of the conditions stated in this certificate
(this certificate contains 11 pages).

The present certificate replaces certificate 0000054059_01 dated 5 November 2019.



Suitability Tested
EN 15267
QAL1 Certified
Regular
Surveillance

www.tuv.com
ID 0000054059

Publication in the German Federal Gazette
(BAnz) of 22 July 2019

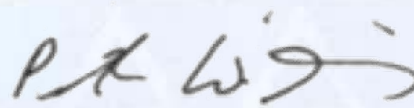
This certificate will expire on:
21 July 2029

German Environment Agency
Dessau, 3 July 2024

TÜV Rheinland Energy &
Environment GmbH
Cologne, 2 July 2024



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Test institute accredited to EN ISO/IEC 17025 by DAkkS (German Accreditation Body).
This accreditation is limited to the accreditation scope defined in the enclosure to the certificate D-PL-11120-02-00.

*Uniform practice in monitoring emissions 2017 - Circular of the FME 23.01.2017- IG I 2 -45053/5
qal1.de info@qal.de

Test report:	936/21226273/D dated 12 April 2019
Initial certification:	26 March 2018
Expiry date:	21 July 2029
Certificate:	Renewal (of previous certificate 0000054059_01 of 5 November 2019 valid until 21 July 2024)
Publication:	BAnz AT 22.07.2019 B8, chapter IV No. 1.1

Approved application

The tested emission data evaluation system is suitable for the continuous recording and evaluation of emission measurement data at installations in accordance to Directive 2010/75/EU chapter III (13th BImSchV 2021), chapter IV (17th BImSchV 2021), plants according to the 1st BImSchV (2017), plants according to the 2nd BImSchV (2020), plants according to the 27th BImSchV (2013), plants according to the 30th BImSchV (2017), plants according to the 31th BImSchV (2017), plants compliance with TA-Luft (2002), monitoring and reporting of greenhouse gas emissions EU-Regulation 601/2012 (TEHG BEP 2017).

The test was carried out in accordance with the Federal Standard Practice (2017). Data transmission between the AMS and the evaluation system is analogue (0 - 20 mA) and digital (VDI 4201 Profibus (2014), Modbus (2012) and OPC-UA 2012).

The system also includes remote emission data monitoring via modem / FTPS.

The tests were carried out as a performance test in the laboratory and as a three-month long-term test at a waste incineration plant. In the laboratory test, different types of installations were simulated.

The emission data evaluation system is approved for the ambient temperature range of +5 °C to +40 °C.

The notification of suitability of the AMS, performance testing and the uncertainty calculation have been effected on the basis of the regulations applicable at the time of testing. As changes in legal provisions are possible, any potential user should ensure that this AMS is suitable for monitoring the emission limit values relevant to the application.

Any potential user should ensure, in consultation with the manufacturer, that this AMS is suitable for the installation at which it will be installed.

Note

The legal regulations mentioned correspond to the current state of legislation during certification. Each user should, if necessary, in consultation with the competent authority, ensure that this AMS meets the legal requirements for the intended use. In addition, it cannot be ruled out that legal regulations governing the use of a measuring device for emission monitoring may change during the lifetime of the certificate.

Basis of the certification

This certification is based on:

- Test report 936/21226273/D dated 12 April 2019 of TÜV Rheinland Energy GmbH
- Suitability announced by the German Federal Environment Agency (UBA) as the relevant body
- The ongoing surveillance of the product and the manufacturing process

Publication in the German Federal Gazette: BAnz AT 22.07.2019 B8, chapter IV No. 1.1,
Announcement by UBA dated 28 June 2019:

Data acquisition and handling system:

D-EMS 2020

Manufacturer:

DURAG data systems GmbH, Hamburg

Field of application:

Emission data acquisition, evaluation and remote control for continuously monitored plants and plants under the Greenhouse Gas Emissions Trading Act (TEHG)

Tested features during the performance test:

- Analogue data transmission
- Digital data transmission in line with VDI standard 4201, parts 1 (general requirements), 2 (Profibus) and 3 (Modbus)
- Remote emission control via modem and FTPS

Software version:

1.1 / 9870

Restrictions:

At IP20 and IP21, the DAHS enclosure did not meet the requirement for the degree of protection during the performance test. The DAHS must be installed in an enclosure for evaluation systems which provides a sufficient degree of protection for the intended site of installation. This must be verified in the context of correct installation.

Notes:

1. The DAHS comprises a system for recording analogue and status signals (D MS 500KE and D-MS 500FC, types 750-453, 750-436, 750-553, 750-536) and a PC running the D-EMS 2020 programme suite.
2. The data evaluation system is also available as compact system with an Atom N2600 processor under the name D-EMS 2020 CS. This system runs the same software, but the number of input channels is limited to 12 analogue and 30 digital inputs.
3. Supplementary test (reflecting TEHG) as regards Federal Environment Agency notices of 21 February 2018 (BAnz AT 26.03.2018 B8, chapter II number 1.1) and of 27 February 2019 (BAnz AT 26.03.2019 B7, chapter IV notification 79).

Test Institute:

TÜV Rheinland Energy GmbH, Cologne
Report No.: 936/21226273/D dated 12 April 2019

Publication in the German Federal Gazette: BAnz AT 24.03.2020 B7, Chap. IV notification 12, Announcement by UBA dated 24 February 2020:

12 Notification as regards Federal Environment Agency (UBA) notice of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1).

The latest software version of the D-EMS 2020 emission data evaluation system manufactured by DURAG data systems GmbH is:
1.1 / 10845

Statement issued by TÜV Rheinland Energy GmbH dated 21 January 2020

Publication in the German Federal Gazette: BAnz AT 05.08.2021 B5, Chap. IV notification 17, Announcement by UBA dated 29 June 2021:

17 Notification as regards Federal Environment Agency (UBA) notices of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1) and of 24 February 2020 (BAnz AT 24.03.2020 B7, chapter IV notification 12)

The latest software version for the D-EMS 2020 evaluation system from DURAG data systems GmbH is:
1.2/14896

In installations with remote data transmission, the versions from 1.2/14647 onwards must be used, since in the older versions, installation identifiers, transmission times or measured value identifiers are sometimes not transmitted correctly. This also applies when using the greenhouse gas (TEHG) module, as incorrect reports may be displayed here.

Statement issued by TÜV Rheinland Energy GmbH dated 18 February 2021

Publication in the German Federal Gazette: BAnz AT 11.04.2022 B10, Chap. VI notification 44, Announcement by UBA dated 9 March 2022:

44 Notification as regards Federal Environment Agency (UBA) notices of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1) and of 29 June 2021 (BAnz AT 05.08.2021 B5, chapter IV notification 17)

The current software version for the emission data evaluation system D-EMS 2020 (ID = 0000054059) of the company DURAG data systems GmbH is:
1.5 / 16620

The D-EMS 2020 can now also evaluate data according to the regulations of the new 13th BImSchV (July 2021).

Statement issued by TÜV Rheinland Energy GmbH dated 06 January 2022

Publication in the German Federal Gazette: BAnz AT 20.03.2023 B6, Chap. IV notification 54, Announcement by UBA dated 21 February 2023:

54 Notification as regards Federal Environment Agency (UBA) notices of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1) and of 9 March 2022 (BAnz AT 11.04.2022 B10, chapter VI notification 44)

The current software version for the emission data evaluation system D-EMS 2020 (ID = 0000054059) from the company DURAG data systems GmbH is:
1.5/18557

The emission data evaluation system has been extended by the transmission of emission data via the digital interface with OPC according to VDI 4201 part 1 and part 4. The results are documented in test report 936/21255107/A dated 14 September 2022.

Furthermore, the software has been supplemented by the evaluation of co-incineration plants according to the new 17th BImSchV (2021).

In the EFÜ data transmission (remote emission monitoring system), the transmission of a dynamic limit value has been corrected. As a result, only the software from version 1.5/18363 onwards may be used for plants that use dynamic limit values and transmission via EFÜ (remote emission monitoring system).

Statement issued by TÜV Rheinland Energy GmbH dated 14 September 2022

Publication in the German Federal Gazette: BAnz AT 19.03.2024 B7, Chap. IV
notification 40, Announcement by UBA dated 10 May 2024:

**40 Notification as regards Federal Environment Agency (UBA) notices
of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1) and
of 21 February 2023 (BAnz AT 20.03.2023 B6, chapter IV notification 54)**

The current software version for the emission data evaluation system D-EMS 2020
(ID = 0000054059) of the company
DURAG data systems GmbH is:
1.5.2303.19510

The following software versions can also be used:
1.5.2210.18814 / 1.5.2210.18886 / 1.5.2210.18905 / 1.5.2303.19477

In future, the software version number of the D-EMS 2020 will be displayed as follows
H.N.YYMM.BBBBB

Legend:

H = main number

N = secondary number

YY = year number

MM = month

BBBBB = Build number

Furthermore, some errors in the use of import/export functions and when copying raw
data to the backup file have been fixed in the D-EMS 2020 emissions data evaluation
system. In addition, the display and use of the emission data evaluation calculator
have been optimised.

Statement from TÜV Rheinland Energy GmbH dated 15 December 2023

Certified product

This certificate applies to automated measurement systems conforming to the following description:

The data evaluation system consists of communication and/or top hat rail unit and a PC. The communication (KE) and/or top hat rail (FC) units serve to collect analogue and status signals. A 12bit analogue to digital converter converts analogue to digital signals. The interval for scanning and storing signals is 1/sec.

Data acquisition with the D-MS 500 KE for analogue and status signals

Shielded inputs serve the purpose of data acquisition of current signals between 0–20 mA. For the transformation of the input current into a measured voltage in the input circle a 100 Ω resistance is integrated. An analogue to digital converter each converts shielded measuring circuits into a 12 bit word.

A relay identifies status signals and passes them on as digital signals.

The D-MS 500 communication unit allows data memory over a 32-day period by default, an option for 64, 96 or 128 days (compact flash card) is provided. Each D-MS 500 communication unit allows for a maximum of 11 I/O components.

Overview of technical specifications:

- 3 serial interfaces: 1xRS485, 2xRS232 by default
- 1 RS232 service interface
- 1 Ethernet TCP/IP port
- 1 CAN port (not in use so far)
- 115/230 VAC / 50/60 Hz 100 VA power supply
- Input cards (per card)
- 8 analogue inputs with 12 bit resolution, 0–20 mA, 100 Ω internal resistance
- 15 digital inputs with 24 V internal supply voltage

Data acquisition with the D-MS 500 FC S(P) for analogue and status signals

Signal input

Inputs serve the purpose of data acquisition of current signals between 0–20 mA. For the transformation of the input current into a measured voltage in the input circle a 100 Ω resistance is integrated. An analogue to digital converter each converts measuring circuits into a 12 bit word. Measuring circuits on a module are not galvanically separated.

Status signals are identified via an optocoupler and passed on as digital signals.

Overview of technical specifications:

- Top hat rail mounting
- 24 V DC / max. 550 mA power supply
- 1 serial RS232/RS485 interface
- 1 PROFIBUS DP Slave interface
- 1 service interface (downstream of the cover plate)
- 2 Ethernet TCP/IP ports
- Protocols: Modbus RTU and TCP, Elan-Master, PROFIBUS, OPC UA, Mode4-Master
- Up to 256 analogue inputs 0/4–20 mA/100 Ω (4 per module)
- Up to 256 analogue outputs 0/4–20 mA/0–300 Ω or 300–600 Ω (4 per module)
- Up to 256 analogue inputs (8 per module)
- Up to 256 digital outputs 24 V/0.5 A (8 per module)
- Tested analogue input module, Wago type 750-553

Data storage for a period of 32 days (default), optionally for 64 or 96 days on a SD card.

Profibus interface

The Profibus Master FNL DP manufactured by COMSOFT GmbH in Karlsruhe is used as the Profibus interface. Revision: 02;SW/FW:2.19.34; HW:02.1, GSD: COMSOA4A.GSD, File Version: September 29, 2011. Data transmission is ensured in accordance with the interface definition provided by VDI guideline 4201, parts 1 (2010) and 2 (2014).

Data evaluation

Measured values are evaluated on an industrial computer with the following minimum configuration:

- Intel Core i3, 4 GB RAM, hard drive > 500 GB
- Ethernet interface, RS 232/485 serial optional, USB port, DCF77 receiver, standard printer
- Modem (V92 analogue or ISDN modem) or Internet for remote emission control or maintenance
- Windows 8.1, 10 or Windows Server 2012 R2, 2016 operating system
- For the purpose of back-ups, the PC has to be equipped with a backup drive (e.g. an external hard drive) and/or an Ethernet port for backup on a separate PC

Data evaluation can alternatively be performed on a D-EMS 2020 CS compact computer which features the following minimum specifications:

- Operating system: Windows 8.1 and 10
- Processor: Intel Atom N₂600 or higher
- Hard drives: min. 300 GB
- Main memory: 2048 MB RAM
- Ethernet interface
- 3 serial (RS 232) optional / USB ports
- DCF77 receiver
- Modem (external standard V92 analogue modem) for remote emission control or maintenance, optional
- External hard drive, optional
- Up to 12 analogue outputs 0/4–20 mA / 100 Ω (8 each per D-MS 500 No51/50 board) (=max. 16 components: 12 analogue outputs + 4 computing channels)
- Up to 24 digital relay inputs (15 each per D-MS 500 No51/50 board)
- Up to 24 digital relay outputs 24V/5VA (16 each per D-MS 285 No13 board)
- Up to 12 analogue outputs 0/4–20 mA/500 Ω (8 D-MS 500 No16 board)

General notes

This certificate is based upon the equipment tested. The manufacturer is responsible for ensuring that on-going production complies with the requirements of the EN 15267. 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 systems shall be subject to regular surveillance.

If a product of the current production does not conform to the certified product, TÜV Rheinland Energy & Environment GmbH must be notified at the address given on page 1.

A certification mark with an ID-Number that is specific to the certified product is presented on page 1 of this certificate. This certification mark may be applied to the product or used in advertising materials for the certified product.

This document as well as the certification mark remains property of TÜV Rheinland Energy & Environment GmbH. With revocation of the publication the certificate loses its validity. After the expiration of the certificate and on requests of the TÜV Rheinland Energy & Environment GmbH this document shall be returned and the certificate mark must not be employed anymore.

The relevant version of this certificate and its expiration is also accessible on the internet: qal1.de.

History of documents

Certification of D-EMS 2020 is based on the documents listed below and the regular, continuous monitoring of the Quality Management System of the manufacturer:

Initial certification according to EN 15267

Certificate No. 0000054059_00: 13 April 2018
Expiry date of the certificate: 25 March 2023
Test report: 936/21226273/B dated 30 September 2017
TÜV Rheinland Energy GmbH
Publication: BAnz AT 26.03.2018 B8, chapter II number 1.1
UBA announcement dated 21 February 2018

Notifications

Statement issued by TÜV Rheinland Energy GmbH dated 23 January 2019
Test report: 936/2122627/3C dated 8 October 2018
Publication: BAnz AT 26.03.2019 B7, chapter IV notification 79
UBA announcement dated 27 February 2019
(Evaluation complemented with gliding month average for refineries according to 13th BImSchV.)

Supplementary testing according to EN 15267

Certificate No. 0000054059_01: 5 November 2019
Expiry date of the certificate: 21 July 2024
Test report: 21226273/D vom 12. April 2019
TÜV Rheinland Energy GmbH
Publication: BAnz AT 22.07.2019 B8, chapter IV number 1.1
UBA announcement dated 28 June 2019

Notifications

Statement issued by TÜV Rheinland Energy GmbH dated 21 January 2020
Publication: BAnz AT 24.03.2020 B7, chapter IV notification 12
UBA announcement dated 24 February 2020
(Software changes)

Statement issued by TÜV Rheinland Energy GmbH dated 18 February 2021
Publication: BAnz AT 05.08.2021 B5, chapter IV notification 17
UBA announcement dated 29 June 2021
(Software change Softwareänderung)

Statement issued by TÜV Rheinland Energy GmbH dated 6 January 2022
Publication: BAnz AT 11.04.2022 B10, chapter VI notification 44
UBA announcement dated 9 March 2022
(Comply with 13. BImSchV:2021)

Statement issued by TÜV Rheinland Energy GmbH dated 14 September 2022
Test report: 936/21255107/A dated 14 September 2022
Publication: BAnz AT 20.03.2023 B6, chapter IV notification 54
UBA announcement dated 21 February 2023
(Software changes and extension for digital data communication - OPC)

Statement issued by TÜV Rheinland Energy & Environment GmbH dated 15 December 2023
Publication: BAnz AT 19.03.2024 B7, chapter IV notification 40
UBA announcement dated 10 May 2024
(Software changes and layout Software number changes)

Renewal of certificates

Certificate No. 0000054059_02: 3 July 2024
Expiry date of the certificate: 21 July 2029