TÜVRheinland®
Precisely Right.

CONFIRMATION

of Product Conformity (QAL1)

Approved DAHS:	D-EMS 2020 / D-EMS 2020 CS
Manufacturer:	DURAG data systems GmbH Kollaustr. 105 22453 Hamburg Germany
Test Institute::	TÜV Rheinland Energy & Environment GmbH

This is to certify that the AMS has been tested according to the standards

EN 17255-1 (2019), EN 17255-2 (2020), EN 17255-3 (2021), BEP (2023), EFÜ (2017), EN 14181 (2014) as well as EN 15267-1 (2009), EN 15267-2 (2023).

The DAHS underwent independent expert testing and was accepted.
This confirmation is valid up to the publication of the certificate,
but no longer than 6 months from the date of issue
(this document contains 6 pages).

This confirmation is valid until: 30 April 2026

TÜV Rheinland Energy & Environment GmbH
Cologne, 4 July 2025

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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 certificate D-PL-11120-02-00.

Test Report:	EuL/21264486/A dated 20 February 2025
Initial certification:	26 March 2018
Expiry date:	30 April 2026

Approved application
The tested data acquisition and handling system (DAHS) is suitable for emission data acquisition and evaluating emission measurements at installations with continuous monitoring. The data transmission between the AMS and the DAHS can carry out analogous (0 - 20 mA) or over a digital interface (VDI 4201: Profibus, Modbus and OPC).
The system contains also the tele transmission of emission data over modem or FTPS connection.

The tests were carried out as a performance test in the laboratory. All type of plants were simulated in the laboratory test.

The DAHS is approved for a ambient temperature range of +5 °C to 40 °C.

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

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 DAHS 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 confirmation
This confirmation is based on:

- Test report EuL/21264486/A dated 20 February 2025 issued by TÜV Rheinland Energy & Environment GmbH
- The ongoing surveillance of the product and the manufacturing process
- Expert testing and approval by an independent body
- Suitability announced by the relevant body.

Data acquisition and handling system:
D-EMS 2020

Manufacturer:
DURAG data systems GmbH, Hamburg

Field of application:
Data acquisition, evaluation and remote control for plants with continuous monitoring according to EN 17255, BEP2023 and plants under the Greenhouse Gas Emissions Trading Act .

Tested features during performance testing:
– 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:
2.0.2407.22009

Restrictions:
none

Notes:
1. Emission data acquisition and evaluation consists of the system for recording analogue and status signals (D-MS 500KE and D-MS 500FC, IO modules type: 750-453, 750-436, 750-553, 750-536) and a PC with the program package D-EMS 2020.
2. Supplementary test (test according to EN 17255 and BEP2023) to the notifications of the Federal Environment Agency of 28 June 2019 (BAnz AT 22.07.2019 B8, chapter IV number 1.1) and of 10 May 2024 (BAnz AT 19.03.2024 B7, chapter IV 40. notification).

Test Institute:
TÜV Rheinland Energy & Environment GmbH, Cologne
Report No.: EuL/21264486/A dated 20 February 2025

Tested product
This confirmation 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 Ohm 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 Ohm 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
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 Ohm 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 Ohm (4 per module)
- Up to 256 analogue outputs 0/4–20 mA/0–300 Ohm or 300–600 Ohm (4 per module)
- Up to 256 analogue inputs (8 per module)
- Up to 256 digital outputs 24 V/0.5 A (8 per module)

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

Tested analogue input module, Wago type 750-553.

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

The software version operated by the D-EMS 2020 data evaluation system is:
2.0.2407.22009.

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

- Operating system: Windows 11 or WinServer 2022
- Processor: Intel Core i5 or higher
- Hard drives: min. 1 TB
- Main memory: 8 GB RAM
- Ethernet interface
- seriell (RS 232) optional / USB- port
- DCF77- receiver
- standard printer (optional)
- Internetanschluss
- external standard analogue or ISDN modem for remote emission control or maintenance
- CD / DVD-ROM (optional Brenner) oder externe Festplatte.
- 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

The evaluation system was tested on the basis of the following requirements:

- EN 17255 - Stationary source emissions - Data acquisition and handling systems
  Part 1: (2019) Specification of requirements for the handling and reporting of data
  Part 2: (2020) Specification of requirements on data acquisition and handling systems
  Part 3: (2021) Specification of requirements for the performance test of data acquisition and handling systems.
- Uniform Practice in monitoring emissions,
  Circular from Federal Environment Ministry of 2023-07-31 – AG C I 2 – 5025/001
- Remote emission control (EFÜ) / interface definition
  revised edition dated April 2017
- Technical guideline VDI 4204-01 (2022) - Evaluation of emission measurements - Determination of characteristic quantities for continuous emission monitoring
- Technical guideline VDI 4201
  Performance criteria on automated measuring and electronic data evaluation systems for monitoring emissions - Digital interface -
  part 1 - General requirements (2010)
  part 2 - Specific requirements for Profibus (2014)
  part 3 - Specific requirements for Modbus (serial and TCP/IP) (2012)
  part 4 - Specific requirements for OPC (2012)
- EN 14181 (2014) -Stationary source emissions
  - Quality assurance of automated measuring systems
  Use of this regulation with regard to the data evaluating of emission measuring systems
- Directive 2010/75/EU on industrial emissions (IED) of 24 November 2010
  (integrated pollution prevention and control)
- Directive 2015/2193/EC for medium combustion plants of 25 November 2015
  (on the limitation of emissions of certain pollutants into the air from medium combustion plants)
- 13th BImSchV of 2021-07-06
  Ordinance on large firing, gas turbine and combustion engine installations
- 17th BImSchV of 2013-05-02 changed 2024-02-13
  Ordinance on the Incineration and Co-Incineration of Waste
- 44th BImSchV of 2019-06-13 changed 2022-10-12
  Ordinance on medium-sized firing, gas turbine and combustion engine plants