
Emisije nepremičnih virov - Sistemi za zajem in vrednotenje podatkov (DAHS) - 4. del: Specifikacija zahtev za vgradnjo ter postopki zagotavljanja kakovosti in kontrole kakovosti sistemov za zajem in vrednotenje podatkov

Stationary source emissions - Data acquisition and handling systems - Part 4: Specification of requirements for the installation and on-going quality assurance and quality control of data acquisition and handling systems

Emissionen aus stationären Quellen - Datenerfassungs- und Auswerteeinrichtungen - Teil 4: Festlegung von Anforderungen an den Einbau sowie die laufende Qualitätssicherung und Qualitätslenkung von Datenerfassungs- und Auswerteeinrichtungen

Émissions de sources fixes - Systèmes d'acquisition et de traitement de données - Partie 4: Spécification des exigences relatives à l'installation ainsi qu'à l'assurance qualité et au contrôle qualité en continu

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EN 17255-4:2023 (E)**European foreword**

This document (EN 17255-4:2023) has been prepared by Technical Committee CEN/TC 264 “Air Quality”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2023 and conflicting national standards shall be withdrawn at the latest by October 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document is Part 4 of the EN 17255 series.

The EN 17255 series, published under the general title “Stationary source emissions — Data acquisition and handling systems”, specifies:

- requirements for the handling and reporting of data;
- requirements on data acquisition and handling systems;
- requirements for the performance test of data acquisition and handling systems;
- requirements for the installation and on-going quality assurance and quality control of data acquisition and handling systems.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document forms part of a series of standards which, between them, govern the process for the quality assurance of data received by a data acquisition and handling system (DAHS) from automated measuring systems (AMS), being used for monitoring emissions from stationary sources and quality assured to EN 14181 [4].

The input data can be either in analogue representation or in digital form directly from an AMS or via a digital bus system. Inputs can include the data from the AMS, peripheral data needed for calculation of reportable data and information on plant conditions needed to apply data selection criteria.

The data acquisition and handling system (DAHS) receives the raw data, as they are measured, averaged and presented by the AMS, and converts, averages, stores and reports data as required by legislation.

This series of standards suggests that the process of data handling is best performed in a dedicated DAHS. It does not preclude the use of other options for all or part of the process provided that it can be shown that they meet all of the requirements of the standard, particularly in relation to speed, accuracy, access, security and validation.

This series of standards applies to DAHS installed after the date of implementation.

This document specifies the requirements for the installation and on-going QA/QC of DAHS and applies to plant operators and testing laboratories as described in Table 1.

Table 1 — Overview of responsibilities

| Clause | Title | Responsibility |
|--------|---|--------------------|
| 5.1 | Installation requirements | Plant operator |
| 5.2 | Checking the correct installation | Testing laboratory |
| 6 | Quality assurance and quality control during QAL2 of the AMS | Testing laboratory |
| 7 | Quality assurance and quality control during on-going operation | Plant operator |
| 8 | Annual functional test | Testing laboratory |
| 9 | Documentation | Plant operator |

EN 17255-4:2023 (E)**1 Scope**

This document specifies the requirements for the installation and on-going quality assurance and quality control of data acquisition and handling systems (DAHS). This includes requirements on:

- installation (Clause 5);
- quality assurance and quality control during QAL2 (Clause 6);
- quality assurance and quality control during on-going operation (Clause 7);
- annual functional test (Clause 8);
- documentation (Clause 9).

This document supports the requirements of EN 14181 and legislation such as the IED [1], MCPD [2] and E-PRTR [3]. It does not preclude the use of additional features and functions provided the minimum requirements of this document are met and that these features do not adversely affect data quality, clarity or access.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15267-3, *Air quality - Certification of automated measuring systems - Part 3: Performance criteria and test procedures for automated measuring systems for monitoring emissions from stationary sources*

EN 17255-1, *Stationary source emissions - Data acquisition and handling systems - Part 1: Specification of requirements for the handling and reporting of data*

EN 17255-2, *Stationary source emissions - Data acquisition and handling systems - Part 2: Specification of requirements on data acquisition and handling systems*

EN 17255-3, *Stationary source emissions - Data acquisition and handling systems - Part 3: Specification of requirements for the performance test of data acquisition and handling systems*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 17255-1, EN 17255-2, and EN 17255-3, and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1 testing laboratory

laboratory performing the check of the correct installation or the annual functional test of the DAHS

4 Symbols and abbreviations

| | |
|--------|--|
| AMS | automated measuring system |
| AST | annual surveillance test |
| DAHS | data acquisition and handling system |
| E-PRTR | European pollutant release and transfer register |
| FLD | first level data |
| IED | industrial emissions directive |
| MCPD | medium combustion plant directive |
| QAL2 | second quality assurance level |

5 Installation

5.1 Installation requirements

The plant operator is responsible for the installation of the DAHS.

DAHS shall have a certification on the basis of a performance test carried out in accordance with EN 17255-3. DAHS shall be complete as specified in the performance test report and the certificate.

DAHS shall be installed in accordance with the manufacturer's requirements. Legal requirements on installation specified e.g. in the plant permit shall be taken into account and documented in the DAHS documentation on installation.

A sufficiently stable and vibration-free installation at the site shall be realized. Depending on the manufacturer's requirements or the results of the performance test, an installation in weather protected and temperature controlled areas can be necessary.

The installation shall be documented in diagrams unambiguously identifying the elements of the DAHS.

If external A/D converters and isolation links are required which have not been subject to performance testing of the AMS according to EN 15267-3, or the performance testing of the DAHS according to EN 17255-3, they shall meet the corresponding performance criteria specified in EN 17255-2.

If scaling factors for AMS raw data to FLD are used in the DAHS, the QAL2 calibration factors shall be determined by use of the scaled AMS raw data.

If AMS are already calibrated and validated, the QAL2 parameters shall be set at the DAHS by use of the currently valid QAL2.

NOTE 1 QAL2 parameters include coefficients of calibration function and the valid calibration range.

NOTE 2 Multiple calibration functions can exist for the same measured component e.g. for different fuels used, which are implemented in the DAHS.

In case of a completely new installation of AMS and the DAHS, preliminary parameters shall be set on the basis of the measurement signal characteristics of the corresponding AMS, e.g. scaling factors for the selected measuring range. The final parameter setting is then carried out after the initial QAL2, which can be carried out in most cases only some time after the plant has been brought into service.

It is recommended that the operator establishes a test plan for the annual functional test at the time of installation of a DAHS. The test plan should define the implementation of the requirements on the functional test specified in this document for the plant-specific installation and configuration of the DAHS.

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Such a test plan provides a clear definition of the plant-specific annual functional test which is carried out by the testing laboratory.

NOTE 3 The test plan can be elaborated in consultation with a testing laboratory carrying out functional tests of AMS and DAHS and/or with the DAHS manufacturer.

The test plan should be updated after changes of the plant-specific installation and configuration of the DAHS.

The DAHS documentation on installation shall cover the elements specified in A.4.2.

5.2 Checking the correct installation**5.2.1 General**

After installation of DAHS by the supplier or manufacturer a check of the correct installation and function shall be performed by a testing laboratory. The testing laboratory shall meet the requirements of 5.2.4.

The check of the correct installation guarantees that the technical conditions for the representative determination of emissions are fulfilled. Furthermore, the report on this check provides an important basis for later calibrations, validations and annual surveillance tests of AMS. Therefore, the report on the correct installation shall be available at the location of the DAHS.

5.2.2 Test requirements**5.2.2.1 General**

During the check of correct installation of the DAHS, the testing laboratory shall check the installed DAHS has a valid certification. This determination guarantees the conformity of the installed DAHS with the certified DAHS. The determination of the validity shall include a check of the relevant elements specified in A.4.1.

The testing laboratory shall identify changes of the DAHS configuration and software version. These changes shall be documented, specifying, for example, for the software, the version number.

If external A/D converters and isolation links are used, the testing laboratory shall check that the equipment specifications meet the corresponding performance criteria specified in EN 17255-2.

5.2.2.2 Description of the DAHS

The testing laboratory shall check the description of the DAHS in accordance with the requirements of 8.2.

5.2.2.3 Assignment of input and output signals

The testing laboratory shall check the assignment of input and output signals in accordance with the requirements of 8.3.

5.2.2.4 Tests

The testing laboratory shall perform the tests specified in 8.4.

5.2.3 Report

The testing laboratory shall prepare a written report on the check of the correct installation. The report shall contain at least information on the following items:

- objectives;
- description of the plant;
- description of the DAHS (if necessary, with limitations identified in the performance test);
- results of checking the correct installation;
- preliminary parameter setting of the DAHS;
- summary of the results.

The testing laboratory shall document especially

- compliance with the requirements on installation specified in the performance test report;
- observations or findings identified during the tests, which can be of relevance in the later QAL2 and AST of AMS.

5.2.4 Competence of testing laboratories

Testing laboratories carrying out tests according to this document shall be independent and shall have the competence for these activities. The competence can be demonstrated by an appropriate accreditation.

6 Quality assurance and quality control during QAL2 of the AMS

A functional test of the DAHS shall be carried out by a testing laboratory in accordance with Clause 8 in coordination with QAL2 or AST. This functional test can be performed in parallel with the QAL2 or AST of AMS. The testing laboratory shall meet the requirements of 5.2.4.

7 Quality assurance and quality control during on-going operation

The plant operator is responsible for the quality assurance and quality control during on-going operation of the DAHS including the implementation of the calibration function and parameters and reset of the counters for the exceedances of the valid calibration range after QAL2 or AST of AMS.

Once a day the plant operator shall check and take appropriate measures for the completeness of reports and system messages of the DAHS.

In response to warnings, alarms and violations the plant operator shall take prompt action to take appropriate measures.

Repairs and corrective actions shall be arranged by the plant operator. Repairs and maintenances of the DAHS shall be documented in the logbook.

Plant personnel shall have the required competence to perform the QA/QC during operation of the DAHS.