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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 dacquisition et de traitement de données Partie 4: Spécification des exigences relatives à l'installation et à l'assurance qualité ainsi qu'au contrôle qualité continus

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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

prEN 17255-4 "Émissions de sources fixes ¿ Systèmes d¿acquisition et de traitement de données ¿ Partie 4: Spécification des exigences relatives à l'installation et à l'assurance qualité ainsi qu'au contrôle qualité continus"

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 264.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (prEN 17255-4:2021) has been prepared by Technical Committee CEN/TC 264 “Air Quality”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

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.

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 ensured to EN 14181.

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 reported 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.

EN 17255-4 specifies the requirements for the installation and on-going QA/QC of DAHS.

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)

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

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 17255-1:2019, *Stationary source emissions - Data acquisition and handling systems - Part 1: Specification of requirements for the handling and reporting of data*

EN 17255-2:2020, *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*

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*

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 terminological 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

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 of electric lines shall be carried out on the basis of the state of the art.

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 17255-2, they shall meet the performance criteria specified in EN 17255-2:2020, 6.2.2.2.

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 data.

In case of a completely new installation of AMS and the DAHS, preliminary parameters shall be set on the basis of the instrument characteristics of the corresponding AMS. 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.

A test plan for the annual functional test shall be established at the installation of a DAHS. This test plan should be agreed between the plant operator and the competent authority. The test plan should cover the elements described in Annex A.

The DAHS documentation on installation shall cover the elements specified in B.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 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 determine that the certification of the installed DAHS is valid. 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 B.4.1.

The testing laboratory shall identify changes of the DAHS configuration and software version. These changes shall be documented.

If external A/D converters and isolation links are used, the testing laboratory shall check that the equipment specifications meet the performance criteria specified in EN 17255-2:2020, 6.2.2.2.

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 and the materials handled;

— 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;

— peculiarities identified during the tests, which have to be taken into account in the later calibration and annual functional test.

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 accreditation according to EN ISO/IEC 17025.

6 Quality assurance and quality control during QAL2 of the AMS

Before each calibration and validation (QAL2) of AMS, a functional test of the DAHS shall be carried out by a test laboratory in accordance with Clause 8. This functional test can be performed in parallel with the QAL2 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 implementation of the calibration function and parameters after QAL2 or AST.

Once a day the plant operator shall check and take appropriate measures for

— completeness of reports;

— system messages;

— warnings;

— alarms;

— violations.

The removal of failures determined 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.

8 Annual functional test

8.1 General

A functional test of the DAHS shall be carried out by a testing laboratory in conjunction with the annual surveillance test (AST) of AMS. This functional test can be performed in parallel with the AST of AMS. The test laboratory shall meet the requirements of 5.2.4.

The test laboratory shall perform the functional test on the basis of the test plan established by the plant operator at the installation of the DAHS (see 5.1).

The following checks of the data transmission from the AMS to the DAHS shall be performed during the annual functional test:

— operation of the activation of the installed status signals (e.g. in case of disruption of the sample gas flow, feeding of test gases, outage of scavenging air or other instrument malfunction);