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Checklist of compliance of building automation with EPBD requirements

Checkliste für Konformität der Gebäudeautomation mit den EPBD Anforderungen

Liste de conformité des systèmes d'automatisation des bâtiments avec les exigences de la EPBD

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Checklist of compliance of building automation with EPBD requirements

Liste de conformité des systèmes d'automatisation des bâtiments avec les exigences de la DPEB

Checkliste für Konformität der Gebäudeautomation mit den EPBD Anforderungen

This Technical Report was approved by CEN on 26 January 2026. It has been drawn up by the Technical Committee CEN/TC 247.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (CEN/TR 18276:2026) has been prepared by Technical Committee CEN/TC TC 247 “Building Automation, Controls and Building Management” the secretariat of which is held by SNV.

CEN/TC 247, “Building Automation, Controls and Building Management” - in collaboration with CENELEC TC 205 “Home and Building Electronic Systems (HBES)” - has prepared this document to create a report in which the view of both CEN TC247 as well as CLC TC205 on the aspect of smart buildings is documented.

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.

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.

Introduction

The European Energy Performance of Building Directive - EPBD (EU) 2024/1275[1] aims to improve the energy efficiency of buildings in the European Union. It sets requirements to reduce the energy consumption of new and existing buildings and to promote the use of renewable energy. A key aspect of the Directive is to promote sustainable building practices and improve energy performance in order to support the EU's climate change objectives and accelerate the transition to a low-carbon economy. The Directive aims to improve living comfort while minimising the environmental impact of buildings.

With reference to Article 13(9) of the EPBD, Member States need to set requirements to ensure that non-residential buildings with a rated output for heating, air-conditioning or combined space heating and ventilation systems or combined air-conditioning and ventilation systems of more than 290 kW are equipped with building automation and control systems by 31 December 2024 and non-residential buildings with a rated output of more than 70 kW by 31 December 2029, where technically and economically feasible.

With reference to Article 13(10), these building automation and control systems need to be capable of continuously monitoring, logging, analysing and adjusting energy consumption, assessing the energy efficiency of the building, detecting efficiency losses of technical building systems and informing the person responsible for the installations or technical building management of ways to improve energy efficiency, enabling communication with connected technical building systems and other devices in the building and being interoperable with technical building systems of different proprietary technologies, devices and manufacturers. Indoor environmental quality monitoring is to be introduced by 29 May 2026.

It is necessary to prove the performance of Building Automation and Control Systems (BACS) in the buildings falling within the set scope. This will help national market surveillance authorities distinguish between buildings complying with the legislation and those that do not comply, and which, therefore, need to improve the BACS to the level required.

Considering this, this checklist complemented by a self-declaration form for building owners to assess their level of BACS performance was developed.

1 Scope

This document is a clear, effective and applicable guideline for demonstrating the performance of building automation and control systems (BACS) in **non-residential buildings** that fall within the scope of the European Directive Energy Performance of Building - EPBD (EU) 2024/1275 [1].

It has been developed for national policy makers, building planners, building owners and building inspectors to support them in planning new buildings and evaluating existing ones.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
heating system
combination of the components required to provide a form of indoor air treatment, by which the temperature is increased

3.2
air-conditioning system
combination of the components required to provide a form of indoor air treatment, by which temperature is controlled or can be lowered

3.3
effective rated output
maximum calorific output, expressed in kW, specified, and guaranteed by the manufacturer as being deliverable during continuous operation while complying with the useful efficiency indicated by the manufacturer

3.4
indoor environmental quality
result of an assessment inside a building based upon parameters such as temperature, humidity, ventilation rate, and presence of contaminants, influencing the health and well-being of its occupants

4 Abbreviations

For the purposes of this document, the following abbreviations apply.

EPBD Energy Performance of Buildings Directive

BACS Building Automation and Control System

HVAC Heating, Ventilation, and Air-conditioning

TBS Technical Building Systems

FCU Fan Coil Unit

VAV Variable Air Volume

5 Benefits, structure and content of the checklist

5.1 Benefits of the checklist

The following list explains the advantages and benefits of the checklist for national decision-makers, building designers, building owners and building inspectors to support them in the planning of new buildings and the assessment of existing buildings:

Building Inspectors: Compliance needs to be confirmed by the national market surveillance authorities, for instance, a building inspector. Therefore, the checklist includes spot-checks intended to verify whether all the necessary aspects of functionality can be provided by the installed BACS.

Building Owner: In order to make compliance verification more efficient and effective, this TR proposes a separate self-declaration designed to be used by the building owner or a technical expert representing the building owner. This will help the owner asses their BACS compliance in preparation for the compliance verification by the national market surveillance authorities. Furthermore, it will inform the owner about the necessary supporting documentation and the checks carried out by the building inspector.

Building Designer: The technical specifications of new buildings and renovation projects in the design phase contain the requirements for supporting records to ensure the EPBD BACS capabilities are met. The checklist provides the designer with the necessary clarifications to overcome any ambiguity within the compliance requirements in the legisl

ation.

National policy makers: Following the formal transposition of the EPBD, many Member States are approving further implementing decrees, specifying technical aspects which were not included in the first transposing provisions. The checklist will be a helpful practical tool for the legislator to clarify details about what the functionalities mean in practice.

Please note that the checklist sets the minimum requirements to comply with the EPBD requirements. Users can provide more capability but not less than what is written in the checklist.

5.2 Checklist structure

The BACS compliance verification checklist is structured as a table, with the top row introduction form as shown in Table 1. Table 2 provides an explanation of the content that needs to be filled in the checklist by the inspector.

A separate self-declaration (see Annex A) designed to be used by the building owner or a technical expert representing the building owner is the final element of the BACS compliance verification toolkit.

Table 1 — Structure of checklist - top row

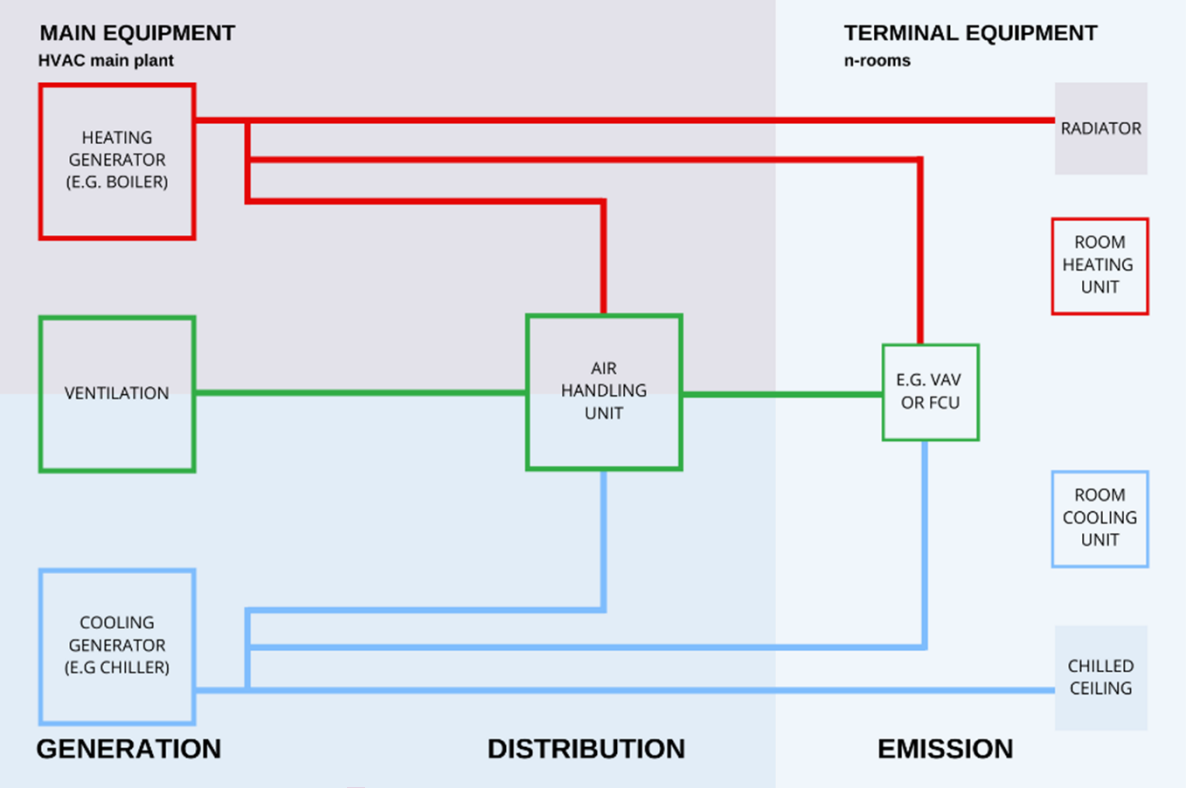
ID	Self-declaration compliance questions (answered by Building Owner)	Self-declaration compliance supporting records (provided by Building Owner)	Compliance verification checks (conducted by Building Inspector)	Response	Boundary Conditions / prerequisites for the BACS capabilities to be effective

Table 2 — Structure of checklist - explanation of the content

ID	provides a reference indicator for each compliance check
self-declaration compliance question	shows the inspector what aspect of the requirements the owner has been asked to comply with and for what purpose.
self-declaration compliance supporting records	lists the set of documentation the owner provides in order to demonstrate compliance and offers examples of suitable records. Using any of these examples as evidence would be acceptable. Similar records to the ones described in the examples would also suffice as long as they fulfil the purpose of the specific check
compliance verification checks	describes the set of actions the inspector takes to confirm the individual aspects of compliance.
response	is where the inspector indicates whether the individual aspects of compliance have been met
boundary conditions/prerequisites	is an informative description of what additional conditions need to be in place in order to exploit the full potential of the BACS capabilities and ensure optimal performance. These additional requirements are not included in the law and are, therefore, not specifically mandated by the EPBD. The additional column is at the end of the row to clearly separate the legal requirements from recommendations

This guide provides a three-step process for demonstrating the conformity of building automation and control systems in **non-residential buildings** with the European Performance of Buildings Directive (EPBD).

Before the core section of the BACS compliance verification checklist5.5, there are two preliminary sections "Effective rated output" 5.3 and “Compliance verification” 5.4. These ensure that the building falls under the scope of the EPBD BACS compliance requirements. The sample HVAC architecture graphic in Figure 1 demonstrates the scope of the equipment covered by the BACS compliance verification checklist.



Key

Red heating systems included in the total Effective rated output (Art. 12, Par. 9)

Green ventilation systems included in the total Effective rated output (Art. 12, Par. 9)

Blue air-conditioning systems included in the total Effective rated output (Art. 12, Par. 9)

Figure 1 — Example HVAC architecture graphic

5.3 Effective rated output

The BACS compliance verification needs to be conducted only if the Effective rated output for heating/air-conditioning systems or systems for combined space heating/air-conditioning and ventilation in the building is over 290kW by 31 December 2024 or over 70 kW by 31 December 2029. (EPBD Article 13, Paragraph 9). Through a series of questions, this section provides information on the individual values of the Effective rated output for the technical building systems in this particular building. When a technical building system (e.g. Air-conditioning system) is not present in a building, the respective BACS checks will not be applicable and need to be clearly marked with N/A.

5.4 Compliance verification

The compliance verification needs to be conducted only if building automation and control systems (BACS) capabilities apply to a considerable extent in the building.

For the BACS capabilities to have the EPBD intended impact on the building energy performance, there needs to be a minimum coverage of BACS-controlled heating, ventilation, and air-conditioning building systems. In this section a series of questions confirm the proportion of technical building systems which are controlled by BACS. It is recommended that the compliance verification is conducted only if BACS apply to a considerable extent in the building.

5.5 BACS Coverage

After ensuring the building can be considered eligible for the compliance check, individual compliance checks for the BACS coverage Table 3 are clustered into four different groups each of them representing one of the four capabilities listed in [1]EPBD Article 13 Paragraph 10.

References to relevant control functions in EN ISO 52120-1:2022 [2] are noted where necessary.

Table 3 — BACS Coverage

(a)	continuously monitoring, logging, analysing and allowing for adjusting energy usage
(b)	benchmarking the building's energy efficiency, detecting losses in efficiency of technical building systems, and informing the person responsible for the facilities or technical building management about opportunities for energy efficiency improvement
(c)	allowing communication with connected technical building systems and other appliances inside the building, and being interoperable with technical building systems across different types of proprietary technologies, devices and manufacturers
(d) by 29 May 2026	monitoring of Indoor environmental quality

The building inspector needs to use the "Response" column checkboxes "Yes" and "No" to mark the result of the specific check for each row. For each compliance verification check, if the answer in the self-declaration was positive, the supporting records are available, and the spot-check has confirmed it, "Yes" needs to be marked in the checkbox. If any of these are missing, "No" needs to be marked. To comply with the requirements of EPBD, all rows in the three groups of functionalities need to be marked with a "Yes". If any row is negative, the BACS do not comply with the requirements and therefore needs to be improved to the required state.

6 Checklist

6.1 Effective rated output

STEP 1: The BACS compliance verification needs to be conducted only if the Effective rated output for heating/air-conditioning systems or systems for combined space heating/air-conditioning and ventilation in the building, as listed in Table 4 , is over 290kW by 31 December 2024 or over 70 kW by 31 December 2029.

Table 4 — Effective rated output of HVAC in the building

ID	Self-declaration compliance (answered by Building Owner)	Self-declaration compliance supporting records (provided by Building Owner	Compliance verification checks (conducted by Building Inspector)	Response	Boundary Conditions / prerequisites for the BACS capabilities to be effective
I	**Information Section:** 290 kW/ 70 kW COVERAGE				
I1	What is the Effective rated output (calorific output as per EPBD) of the Heating equipment in the building Heating systems (output of all heat generators in the building including main Heating equipment in plant rooms, e.g. boiler, solar heat system, CHP and heat-generating terminal equipment in rooms, e.g. electric direct heater)? NOTE 1 Every heat generator that adds heat to the building space regardless of its location (generation in main HVAC plant, distribution and emission in the room) needs to be added in the sum for the output.	PDF list of Heating system main equipment with indication of the maximum calorific output, expressed in kW, per piece of equipment	Check equipment nameplates of main Heating system equipment in main HVAC plant or the building Operation & Maintenance Manual.	<kW>	

I2	What is the Effective rated output (calorific output as per EPBD) of the Air-conditioning systems in the building (output of all cold generators in the building including main cooling equipment in plant rooms, e.g. chiller, heat-pump, and cooling-generating terminal equipment in rooms)? NOTE 2 Every cooling generator that adds cooling to the building space regardless of its location (generation in main plant, distribution and emission in the room) needs to be added in the sum for the output.	PDF list of Air-conditioning system main equipment with indication of the maximum Effective rated output, expressed in kW, per piece of equipment	Check equipment nameplates of main Air-conditioning systems equipment in HVAC main plant or the building Operation & Maintenance Manual.	<kW>
I3	What are the three representative rooms in this building in which the heating, cooling and/or ventilation is/are BACS controlled? Please enter their types, names, and floor area in the Response column. NOTE 3 Representative rooms/ spaces represent the room/space types that are the most typical for the inspected building, e.g. an individual office, an open office zone and a meeting room in an office building.	PDF floor plans with marked representative rooms	Check PDF floor plans where the three representative rooms are marked.	Room 1: type, name, size in m2 Room 2: type, name, size in m2 Room 3: type, name, size in m2

6.2 Compliance verification

STEP 2: The compliance verification need to be conducted only if building automation and control systems (BACS) capabilities apply to a considerable extent in the building in accordance with Table 5 .