



TÜVRheinland®

DIN CERTCO

Genau. Richtig.



Certification Scheme

Heat Cost Allocators

according to

DIN EN 834
DIN EN 835

(February 2005)

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Foreword

DIN CERTCO offers the manufacturers and distributors of heat cost allocators the opportunity to obtain certification through this certification scheme and to mark their products with the certification mark "DIN-Geprüft". In this way, they document that their products fulfil all the requirements of the standard for heat cost allocators with electric power supply according to DIN EN 834 and heat cost allocators without electrical power supply according to DIN EN 835.

The certification mark "DIN-Geprüft" creates consumer confidence, in that an independent, neutral and competent body has carefully examined and assessed the product characteristics. In this way, the customer receives an added value, which he can take into consideration in deciding on his purchase.

Heat cost allocators receive the certification mark "DIN-Geprüft" on meeting the requirements listed under section 2 according to the procedure described in this certification scheme. All certificate holders can be viewed on the daily up-dated homepage of DIN CERTCO (www.dincertco.de).

1 Field of Application

This certification scheme is applicable to

- Heat cost allocators with electrical power supply and
- Heat cost allocators without electrical power supply according to the evaporation principle

according to DIN EN 834 and/or DIN EN 835 and contains, in conjunction with the basic documents mentioned below, all of the requirements for awarding the certification mark "DIN-Geprüft".

2 Basic Test Specifications

DIN EN 834 "Heat cost allocators for the recording of the heating consumption of individual room surfaces - appliances with electrical energy supply"

DIN EN 835 "Heat cost allocators for the recording of the heating consumption of individual room surfaces - appliances without electrical energy supply"

The recommendations of the testing laboratories for heat cost allocators (PA HKV) as stipulated under section 5, as far as these are applicable for DIN CERTCO.

3 Requirements

The following requirements must be fulfilled by the appliance in conformity with DIN EN 834 and DIN 835 in Sections 5 - 8 and 11:

- Requirements for the heat cost allocators
- Requirements for the installation and use
- Requirements for the evaluation
- Requirements for servicing and reading
- Marking

In addition to the requirements according to section 11 of the corresponding standard, the heat cost allocators must be permanently marked with the certification mark "DIN-Geprüft" and the registration number on the cover of the housing in an easily readable position.

4 Conformity Assessment

4.1 Tests

4.1.1 General Information

For the performance of the tests required as the basis for the assessment and certification of heat cost allocators, DIN CERTCO avails itself of test laboratories, appointed and recognized by DIN CERTCO and approved in accordance with legal regulations pertaining to the evaluation of heating costs.

4.1.2 Initial Test

The initial test is a type test (design test, type test), which serves to determine whether the heat cost allocators meet the requirements laid down in section 3 of this certification scheme. The type test encompasses the entire heat cost allocators. For this purpose, the testing laboratory must be provided with at least 25 heat cost allocators of each type.

In conjunction with the test application, the applicant shall submit a declaration of obligation in accordance with annex A and/or Annex B, in which he confirms that the heat cost allocators submitted for testing are true samples of those under current or future production.

The details of further documents to be submitted to the testing laboratory are contained in the check lists in annex C and/or annex D.

4.1.3 Renewal Test

Renewal tests serve to determine whether the heat cost allocators correspond to the type tested heat cost allocators also after the period of validity of the certificate. This test is carried out in the form of a complementary test according to 4.1.5.

Furthermore, the renewal test report must contain the following basic statements:

- The design and construction of the heat cost allocators in regard to its material specifications and technical manufacturing characteristics has not changed in comparison with the type tested product.
- The production of the certificated heat cost allocators will be continued without any modifications.
- The basic test specifications for certification have not changed.

4.1.4 Special Examination

A special examination is conducted when

- defects are detected
- the production has been suspended for a period of more than 6 months
- required by DIN CERTCO for reasons to be specified
- at the written request of a third party when a particular interest in the maintenance of proper market procedures in relation to competition or quality is involved.

The type and scope of the special examination shall be laid down in accordance with the respective purpose on a case by case basis by DIN CERTCO in conjunction with the testing laboratory.

Should defects be detected in the course of the special examination, the certificate holder shall bear the costs of the examination procedure.

Should the special examination at the request of a third party reveal no defects, the costs shall be borne by said third party.

4.1.5 Complementary Examination

A complementary examination shall take place when additions, extensions or modifications (see section 4.2.5) are made to the certified heat cost allocators, which may influence the product's conformity with the pertinent, fundamental requirements.

The type and scope of the complementary examination shall be laid down on a case by case basis by the testing laboratory in consultation with applicant.

4.1.6 Test and Examination Report

The testing laboratory shall inform the applicant of the test and examination results in the form of a test report. On submitting the application, the test report must not be older than three months and must be presented to DIN CERTCO in the original.

The test report must contain at least the information required according to DIN EN ISO/IEC 17025, section 5.10.

The test report must contain at least the following information:

- Report number (and, in the case of complementary examination, a reference to the number of the initial report)
- The type of the heat cost allocators tested (with or without auxiliary power supply)
- Name and address of the manufacturer
- Name and address of the applicant (if different from the manufacturer)
- Type designation used by the manufacturer, type designation used by the applicant
- Basic test specifications with date of issue
- Technical description of the heat cost allocators (details of measuring method, description of the functional principles, technical specifications, test results, any existing special conditions for use)
- Annexes (technical description, design plan, functional description, illustrations, block diagrams, data sheets relating to components and materials)
- Installation Instructions
- Regulations for allocator reading
- Servicing instructions
- Type of test (e.g. type test, design drawing test, etc.)
- Place and date of test
- Test result and assessment
- Name and signature of the person responsible for the examination

4.2 Certification

4.2.1 Applying for Certification

Applications for certification and the right to use the certification mark "DIN-Geprüft" are to be submitted to DIN CERTCO by the manufacturer and or the distributor (who is marketing under his own name the heat cost allocator not produced by him).

If the applicant is a distributor, he shall submit, in addition to a valid test report in accordance with section 4.1.6, the following documents:

- A statement from the manufacturer confirming that the heat cost allocator is constructed in the manner described in the application.
- the declaration of obligation "Distributor" according to annex E

4.2.2 Certificate and the Right to Use the Mark

After successful testing and conformity assessment of the submitted documents, DIN CERTCO issues a certificate to the applicant and awards the right to use the certification mark "DIN-Geprüft" in conjunction with a corresponding registration number.

The mark and the registration number may only be used for the type for which the certificate has been issued and which corresponds to the type-tested heat cost allocators.

For each respective type, a registration number shall be issued. For design types (sub-types) of a type, the same registration number shall be issued.

Format of the registration number¹: **000/00 E**

with:	000	consecutive registration number
	00	last two digits of the year
	E	suffix for heat cost allocators with auxiliary electrical power supply

The technical specifications of the appliance shall be listed in an Annex to the application.

4.2.3 Sub-Certificate

If a manufacturer applies for a sub-certificate in favour of a third party, the following information and documents shall be submitted:

- Name and address of the company for which the sub-certificate is applied.
- Type designation of the heat cost allocator as well as the respective registration number.
- declaration of obligation "Sub-Certificate" according to annex F

DIN CERTCO issues to the applicant, after due verification that the conditions have been fulfilled, a sub-certificate in favour of the named company. The sub-certificate is only valid as long as the main certificate (i.e. the certificate issued to the manufacturer) remains in force. It receives the same registration number.

4.2.4 Publications

All certificate holders can be viewed on the daily up-dated homepage of DIN CERTCO (www.dincertco.de) under <Certificate Holders>. Manufacturers, planners, fitters, accountancy firms and consumers use this research possibility for obtaining information on certified products.

Besides the contact details of the certificate holders (telephone, telefax, e-mail, homepage), it is also possible to view the most important technical data of the registered appliance.

4.2.5 Modifications / Extensions

The certificate holder is obliged to notify DIN CERTCO of all modifications to the heat cost allocators without delay. The testing laboratory in conjunction with DIN CERTCO shall decide on the scope of a complementary examination that shall be conducted according to section 4.1.5 and whether it is a matter of a substantial modification. The respective test report shall be forwarded to DIN CERTCO by the testing laboratory.

Should the testing laboratory determine a substantial modification, the certificate with the corresponding registration number shall expire. For the modified product, a new application

¹ The annual fee is charged from the beginning of the validity period of the certificate and, in the case of renewal, is up-dated accordingly.

for initial certification authorising the use of the certification mark "DIN-Geprüft" may be submitted.

The certificate holder remains obliged to notify of any changes in the formal details (e.g. certificate holder or his address).

The certificate holder may apply to DIN CERTCO for an extension of the existing certificate for further design-types (sub-types) of the same type. It is for DIN CERTCO together with the testing laboratory to decide whether these extensions require a complementary examination. The design-types shall be entered in the certificate for the already certified heat cost allocators and, provided that the conditions are fulfilled, shall be regarded as an integral part of same.

4.2.6 Deviations

In the event that DIN CERTCO should receive notification of impermissible deviations in relation to the certified heat cost allocators found in the course of an examination according to section 4.1., the certificate holder will be requested by DIN CERTCO to submit proof, in the form of a test report following a new examination within a period of grace of three months, that the deviations have been rectified.

Should grounds for complaint continue to exist, DIN CERTCO shall initially suspend the certificate and at the same time impose a final period of grace of three months in which to submit proof of the rectification of the deviations. Should the certificate holder fail to meet this demand, or fail to meet it within the stipulated period of grace, or if it is again not possible to prove that the deviations have been rectified, the certification shall be withdrawn.

During the period in which the certificate is under suspension, the mark DIN-Geprüft and the respective registration number may not be used.

4.2.7 Validity

The certificate is valid for 5 years. If the certification shall continue to apply beyond the date shown on the certificate, a current positive test report and an application for renewal must be submitted in good time to DIN CERTCO.

4.2.8 Renewal

The validity may be renewed for a further five years, provided that in good time, prior to expiry of the existing validity period, an up-dated proof of conformity with the standard is submitted in accordance with section 4.1.3.

Together with the application, the certificate holder must submit confirmation that the technical documents have been examined by a testing laboratory recognized by DIN CERTCO, proving that no modifications have been undertaken in relation to the system design as examined in the initial test.

On renewal of the certificate, the registration number remains the same with the exception of an up-dated validity date suffix.

4.2.9 Expiry

In the event that the new standard conformity examination has not been completed before expiry of the validity period, the right to use the certification mark "DIN-Geprüft" and the registration number expires without the necessity for explicit notification from DIN CERTCO.

Furthermore, the certificate expires, among other things

- if the modification of a certified heat cost allocators, determined during the complementary examination, shows that it is no longer possible to uphold the certification on the basis of the old technical specifications.
- on the discontinuation of the manufacturing of the certified heat cost allocators,
- if the production of the certified heat cost allocators is taken over by another manufacturer.

5 Testing Laboratories Committee for Heat cost allocators (PA-HKV)

The PA-HKV is an independent body which serves to enable the exchange of experience and consultation of expert bodies according to § 5 of the legal regulations pertaining to heating costs and of the test laboratories recognized by DIN CERTCO.

This committee is composed of one representative of each of the following institutions.

- expert bodies for heat cost allocators(test laboratories)
- DIN Deutsches Institut für Normung e. V.
- DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
- authorities of the German Länder (as far as these are responsible for test laboratories)
- the working committee "Consumption-Related Heat Cost Accounting"
- Physikalisch-Technische-Bundesanstalt (The German National Metrology Institute - PTB)

The rules of procedure of the PA-HKV is contained in the PTB publications 99, Issue Number 1/89, pp. 33 - 35.

Annex A Information Concerning the Examination of heat cost allocators with auxiliary power supply according to DIN EN 834 submitted for testing

Manufacturer: _____

Type Designation: _____

- 1. Single-Sensor - method of measuring
 - single sensor device with start-up sensor
 - single sensor device without start-up sensor
 - compact device
 - device with local, separate-action measuring sensors
- 2. Two-Sensor - method of measuring
 - compact device
 - device with local, separate-action measuring sensors
 - measurement method using logarithmic calculation of mean temperature rise
- 3. Other Methods of Measurement
- 4. Indication of the Measured Values: Central de-central
- 5. Indicated Values evaluated not evaluated
- 6. Application limits (t_{max} , t_{min}) according to DIN EN 834: _____
- 7. Auxiliary Power: mains battery
 voltage: _____ operating duration: _____
- 8. Functionality Inspection: performed annually by customer service
 continual self-test
- 9. Basic State t_m : _____ °C
- 10. The construction of the tested heat cost allocators is identical to: _____

We hereby confirm that

- the heat cost allocator described above which has been submitted for testing corresponds to that under current and/or future production,
- and furthermore that only the tested and certified version of the heat cost allocator described above is being manufactured and distributed
- and that the information required for the Kc and Ka values have been stored in a database.

 Place, date

 Company stamp /legally binding signature

Annex C Checklist "Heat Cost Allocators with Auxiliary Power" according to DIN EN 834

The following documents shall be submitted together with the application:

1. Technical description of the device including a description of the functions
 - a) Description of the technical realisation of the measuring method
 - b) Signal flowchart of the measuring chain
 - c) Flowchart of the processing of the measured values
 - d) Fault analysis for the processing of the analogue signals, including the A/D conversion
 - e) Description of the method for fulfilling the exactitude requirements for measuring temperature
 - f) Wiring diagrams, circuit board diagrams, pin assignment diagrams
 - g) Description of functional control system
 - h) Servicing and allocator reading regulations
 - i) Description of the interfaces, including absence of reaction
 - j) Graphic representation of the device
2. Installation Regulations
3. Technical Drawings (maximum format DIN A3), parts lists
4. Specifications of all components and materials, in particular, in relation to temperature resistance
5. Calculation of the permissible operational life of the battery using established values for appliance current consumption as well as battery charging capacity and self-discharging rate at operational temperatures
6. Table of Evaluation Factors
7. Certificates to be Submitted
 - certificate of the protection type IP 31 according to DIN EN 60529

Annex D Checklist "Heat Cost Allocators without Auxiliary Power" according to DIN EN 835

The following documents shall be submitted together with the application (this information is applicable to heat cost allocators operating according to the vaporisation principle; for heat cost allocators using a different measuring principle, the documents to be submitted shall be agreed upon with the testing laboratory/expert authority):

1. Graphic representation of the device

Construction drawings of the heat cost allocator concerned and of the ampoules as they correspond with current production

2. Installation Regulations**3. Servicing and allocator reading regulations****4. Technical Drawings (maximum format DIN A3), parts lists****5. Specifications of all components and materials, in particular, in relation to temperature resistance and resistance to the measuring fluid and its vapours****6. Measuring Fluid**

- Technical Data Sheet
- Safety Data Sheet
- Expertise concerning any effects that may damage health
- Expertise concerning oxidation behaviour
- Certificate of Purity

7. Dyestuffs

- Technical Data Sheet
- Safety Data Sheet
- Expertise concerning any effects that may damage health
- Expertise concerning light resistance

8. Table of Evaluation Factors

Calculation and Documentation of the Scale System

Annex E Declaration of Obligation "Distributor"

Heat Cost Allocators with electrical power supply according to DIN EN 834

Heat Cost Allocators without electrical power supply according to DIN EN 835

With the issuing of the right to use the certification mark "DIN-Geprüft" for the heat cost allocators produced by the company

Name: _____

Street: _____

Zip Code/Place: _____

(The type designation and, if applicable, the registration number issued to the manufacturer must be stated without fail) of

Type: _____,

the identical version of which has been delivered to us, we hereby undertake

1. only to mark such heat cost allocators with the certification mark "DIN-Geprüft" and the respective registration number and to distribute same on the market which correspond to those for which the above named company has been granted the respective certification and registration number.
2. to use the documents tested and found to be in conformity with the standard by the testing laboratory and provided to us by the manufacturer, in so far as these are necessary for the proper determination of the heat costs. These include the following documents:
 - Documents for registering the heat radiators
 - Installation Instructions
 - Servicing instructions
 - Allocator Reading Instructions
 - Invoicing Instructions
 - The K_c and K_a values confirmed by the testing laboratory

In so far as deviations shall be made from these prescribed documents or in the event that individual documents shall not be used, this shall be reported without delay by the certificate holder, giving reasons. The reasons given may not be contrary to the stipulations contained in DIN EN 834 and/or DIN EN 835 and respective complementary recommendations.

We are aware that the right to use the certification mark "DIN-Geprüft" shall expire if the obligation stipulated above are not fulfilled.

Place, date

Company stamp /legally binding signature

Annex F Declaration of Obligation " Sub-Certificate Holder "Heat Cost Allocators with electrical power supply according to DIN EN 834 Heat Cost Allocators without electrical power supply according to DIN EN 835 **Sub-Certificate Holder** _____

_____**Main Certificate Holder** _____

_____**Type Designation:** _____

The sub certificate holder assumes the following obligations:

1. The sub-certificate holder will only mark such heat cost allocators with the certification mark "DIN-Geprüft" and the respective registration number and distribute same on the market which correspond to those for which the main certificate holder has been granted the right to use the certification mark "DIN-Geprüft".
2. The sub certificate holder will use the documents provided by the main certificate holder which have been tested and confirmed to be in conformity with the standards, in so far as these are necessary for the proper determination of the heating costs. These include the following documents:
 - Documents for registering the heat radiators
 - Installation Instructions
 - Servicing instructions
 - Allocator Reading Instructions
 - Invoicing Instructions
 - The K_c and K_a values confirmed by the testing laboratory

In so far as deviations shall be made from these prescribed documents or in the event that individual documents shall not be used, this shall be reported without delay by the certificate holder giving reasons. The reasons given may not be contrary to the stipulations contained in DIN EN 834 and/or DIN EN 835 and respective complementary recommendations.

3. The sub-certificate holder is aware that - regardless of the continued validity of the main certificate - the sub-certificate issued in his favour shall expire if the obligations stipulated above are not fulfilled.

The sub-certificate holder hereby assumes the obligations stipulated above. This declaration of obligation, duly signed with his legally valid signature, forms the basis upon which he is granted the sub-certificate.

Place, date_____
Company stamp /legally binding signature