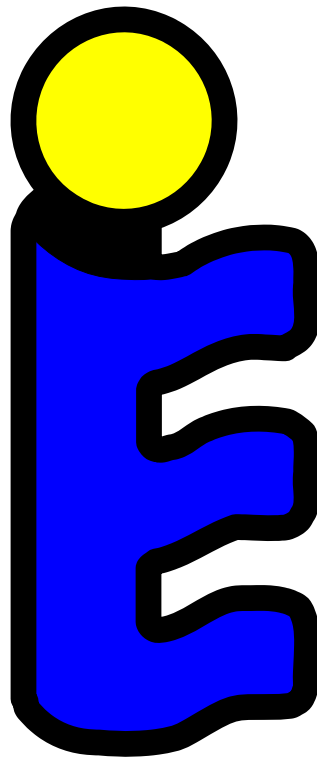


**CEN Keymark Scheme Rules  
for  
Thermostatic Radiator Valves**

3<sup>rd</sup> Edition 2014-01-01



## Content

Foreword.....	3
Introduction .....	3
1 Scope .....	4
2 References .....	4
3 Terms and Definitions.....	4
4 Application .....	5
4.1 Product information .....	5
4.2 Assurance of conformity .....	6
4.3 Test equipment .....	6
4.4 Frequency of conformity testing .....	6
4.5 Records .....	7
5 Initial Type Tests (ITT).....	7
5.1 Choice of the testing laboratory .....	7
5.2 Test series .....	7
5.3 Failure of the test sample .....	8
5.4 Validity of the test report .....	8
6 Checks by the empowered certification body .....	8
7 Surveillance .....	9
7.1 Repeat type test.....	9
7.2 Check test (CT) .....	9
7.3 Inspection.....	10
7.4 Participation of CB to the meetings of IBWG .....	10
8 Marking .....	11
8.1 Marking of the Keymark and other information .....	11
8.2 Modifications to certified TRV models .....	12
8.3 Identification of licensee.....	12
9 Specific actions in cases of failure to comply.....	12
Annex A (informative).....	13
Annex B (normative).....	14
Annex C (informative).....	15

## **Foreword**

Differences between CEN Keymark Scheme Rules 2<sup>nd</sup> edition and CEN Keymark Scheme Rules 3<sup>rd</sup> edition:

Significant technical and editorial changes:

- modifications in clauses 3.1, 3.2, 3.3;
- new clause 3.13;
- modifications in clause 6;
- modifications in clause 7.3;
- new clause 7.4;
- modifications in clause 8.1.

## **Introduction**

This scheme for Thermostatic Radiator Valves (TRV) has been developed by a group of representatives from industry, testing laboratories and certification bodies: the Keymark Scheme Development Group (SDG) for TRVs.

The scheme rules have been prepared on the basis of the “Specific rules for the CEN certification scheme for thermostatic radiator valves” (5<sup>th</sup> edition, 8 June 2006) which formed the basis for the CENCER certification mark for TRVs.

This scheme rules has been adopted by Resolution 12/2013 from the CEN Certification Board on 2013-12-19.

## 1 Scope

These scheme rules, together with the CEN/CENELEC Internal Regulations – Part 4 [1] and the CEN Internal Regulations – Part 3 [2] (referred to as the Internal Regulations), describe the basis for the operation of the voluntary Keymark scheme for Thermostatic Radiator Valves (TRV) on the basis of EN 215.

The scheme is applicable to products within the scope of EN 215.

## 2 References

The following referenced documents are indispensable for the application of this document. For undated references the latest edition of the publication referred to applies (including amendments).

EN 215, *Thermostatic radiator valves – Requirements and test methods*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2005)*

[1] CEN/CENELEC Internal Regulations – Part 4: Certification – The Keymark System

<http://www.cen.eu/boss/supporting/reference+documents/ir4august2006.pdf>

[2] CEN Internal Regulations – Part 3: Terms of reference of the CEN Certification Board, Annex A

<http://www.cen.eu/boss/supporting/reference+documents/ceninternalregulationspart3uk200609.pdf>

[3] CCC3-Website: [www.cert-trv.cenorm.be](http://www.cert-trv.cenorm.be)

## 3 Terms and Definitions

For the purpose of this document the following definitions apply.

### 3.1

#### **Applicant**

company which submits an application for certification, with the view of becoming a licensee

### 3.2

#### **Licensee**

company responsible for ensuring that its product meets and continues to meet the requirements on which the certification is based

### 3.3

#### **Subcontractor**

company acting on behalf of the licensee for outsourced processes

### 3.4

#### **Empowered Certification Body (CB)**

a certification body empowered by CEN to operate a Keymark scheme on the basis of a specific European Standard (EN)

For this CEN Keymark scheme EN 215 is applicable.

### 3.5

#### **Keymark Scheme Development Group (SDG)**

for the purpose of this Keymark Scheme it is CCC3

### 3.6

#### **Recognized Testing Laboratories (RTL)**

an organization which is accredited according to EN ISO/IEC 17025 to carry out tests for TRVs according to the requirements of EN 215 and taking part in periodical Round Robin Tests supported by the Monitoring Group and knows and follows the Keymark Rules for TRVs

### 3.7

#### **Factory Production Control (FPC)**

permanent internal control of production exercised by the product manufacturer

### 3.8

#### **Quality Management System (QMS)**

management System to direct and control an organisation with regard to quality

### 3.9

#### **Model**

a combination of a valve with a head such that if a single head is issued with a number of different valve bodies or integrated valves; or a valve body or an integrated valve may be fitted with a number of different heads, they each represent a different model

### 3.10

#### **Initial Type Test (ITT)**

the test as described in clause 5 of these scheme rules

### 3.11

#### **Repeat Type Test (RTT)**

the test as described in clause 7.1 of these scheme rules

### 3.12

#### **Check Test (CT)**

the test as described in clause 7.2 of these scheme rules

### 3.13

#### **Inspection Bodies Working Group (IBWG)**

group with SDG with the task to train CBs and/or inspectors to carry out inspections

## **4 Application**

The application shall be made on a separate form. An example of this form is given in Annex A.

### **4.1 Product information**

The applicant shall submit the following information for each TRV model for which he wishes to apply the Keymark:

- Description of the sensor system;
- Identification of the materials used for the valve body;
- Cross-sectional drawings allowing full identification of the model, and the type series to which it belongs;
- Mounting and storing instructions, instructions for use;

- The location on the sensor of the production date (by code or otherwise) if applicable;
- The head setting position that represents a nominal sensor temperature of 20 °C.

The application must be submitted on a separate form for each type series, duly filled in and duly signed by the applicant. The information entered in the form must meet the requirements of EN 215.

#### **4.2 Assurance of conformity**

The applicant shall submit the following information about his methods for assuring conformity with the standards.

- a) Name of person responsible for the applicant's QMS.
- b) Description of the FPC in respect of the following critical properties of the TRV models for which the Keymark is requested:
  - temperature setting and adjustment;
  - nominal flow rate (EN 215, clause 3.4.2);
  - hysteresis (EN 215, clause 3.4.4)
  - leak tightness of the body assembly and stem seal.
- c) Description of the inspection of incoming materials relevant for the above-mentioned critical properties.
- d) Description of the procedures for the identification and segregation of non-conforming products.
- e) Description of the procedures for introducing any modification to the TRV models for which certification is requested, and the control of the associated changes to internal documentation.
- f) Description of the calibration methods and programme for the test equipment.

#### **4.3 Test equipment**

The applicant must be capable of testing the TRV models for which he requests certification to the appropriate requirements of EN 215 in respect of the critical properties identified in clause 4.2. If his test equipment does not conform in all aspects to what is described in EN 215, he must be capable of providing equivalent results.

Records of the calibration of tested TRVs shall be retained.

The applicant shall provide a description of his test equipment and the justification for any claim that his equipment is equivalent to EN 215 although different from the standard.

#### **4.4 Frequency of conformity testing**

The applicant shall undertake to test his production of TRVs for which the Keymark is requested as follows:

- a) Each TRV must be tested for accuracy of temperature setting and adjusted accordingly.
- b) Each TRV must be tested in an appropriate manner for leak tightness of the valve body assembly and of the stem seal, and rejected if not conforming. For thermostatic integrated valves only the leak tightness of the stem seal must be applied.
- c) The elements affecting the hysteresis and flow rate performance of each TRV model shall be identified and controlled.

The effectiveness of this control shall be verified by testing the hysteresis and nominal flow rate at a minimum frequency of:

- 1 sample for 5000 produced;
- 2 samples maximum from one week's production.

The verification shall ensure that all types currently manufactured and covered by the application will be tested within 6 months.

In case of non-compliance, the applicant shall immediately determine the cause and shall take the necessary actions to correct the affected products and to avoid re-occurrence of the non-compliance in the future.

#### 4.5 Records

The applicant shall undertake to maintain for 4 years the records necessary to confirm that he continually operates his QMS to the requirements of this scheme.

### 5 Initial Type Tests (ITT)

#### 5.1 Choice of the testing laboratory

The ITT shall be carried out by RTL.

The applicant shall be provided with a list of RTL and can choose at which of these RTL he wishes to carry out the ITT of the models for which he requests certification.

The SDG appoints a Monitoring Committee of 4 members and appoints one of them as its Chairman.

The SDG approves the instructions to be used by the Monitoring Committee.

#### 5.2 Test series

For each model, the applicant shall provide a minimum number of identical TRVs from which the CB, or its appointed agent, will select samples for testing of all the relevant requirements of EN 215 by the RTL.

The appointed agent may be the RTL, or an inspection body recognized under this scheme and acceptable to the applicant.

The minimum number of identical TRVs to be provided for the selection is given in table 1:

**Table 1 Test series according to EN 215, table 5 and clause 6.5**

Test series	A	B	C	D
minimum number	1000	50	500	50

These minimum numbers of identical TRVs to be provided is mandatory for the ITT.

For repeat type tests the minimum number of identical TRVs to be provided can be reduced with a factor 10.

The location where the sampling is to take place will be notified by the applicant to the CB.

All TRVs within the above test series A, B, C or D are considered to be one type.

The dimensions of the TRVs must be verified for conformity with EN 215, Annex A before testing commences.

For test series D only Keymark-certified thermostatic heads shall be used.

### **5.3 Failure of the test sample**

If a test sample does not comply with one or more of the requirements in EN 215, the test sample has failed the ITT.

After correction of the deficiencies by the applicant a complete new ITT must be run on a new sample.

If non-conformity is regarded as not critical, it may be sufficient to repeat the test for which the requirements were not satisfactory. This decision shall be made by the RTL and confirmed by the CB.

### **5.4 Validity of the test report**

The validity of the ITT report is 1 year, unless certification is granted within that time.

## **6 Checks by the empowered certification body**

The CB shall verify that:

- The applicant has submitted all the information required under clause 4.
- The QMS is at least of the level of the EN-ISO 9000 series of standards.
- The test equipment described is capable of providing the assurance of conformity with EN 215, clause 6.1.

When satisfied, the CB shall visit the production site, or shall appoint an agent to do so, to carry out the following actions:

- a) Verify that the QMS as described by the applicant is in place and functioning correctly, and that the required records are being kept.
- b) Verify that the test equipment is as described and functioning correctly, and that it is properly calibrated.
- c) Verify that the TRVs in production, or produced for sampling for the ITT (clause 5.2) are as specified by the applicant under clause 4.1.
- d) Carry out the sampling for the ITT under clause 5.2, if the applicant has notified the production site as the place of sampling.
- e) Verify that the technical specifications published by the applicant for all different countries where the products will be put on the market with the Keymark, meet the requirements of EN 215, clause 7.

A CB shall appoint an agent who shall be the RTL or an inspection body who is a member of the SDG's Inspection Working Group.

The CB shall immediately inform the webmaster of the SDG internet web-site and the SDG Secretariat of any new or revised licences, either by sending a copy of the certificate or a letter informing of the certification.



## 7 Surveillance

The surveillance system for this scheme has the following elements described in 7.1, 7.2, 7.3 and 7.4.

### 7.1 Repeat type test

A RTT of each TRV model in the 4th year after it is certified, and at 4-yearly intervals thereafter.

The same conditions apply as for the ITT.

In the event of non-compliance, clause 9 and the relevant clauses of the Internal Regulations come into effect.

If a licensee has more than one production site where the certified products are being manufactured, the repeat type test should be carried out with samples selected from all these production sites.

### 7.2 Check test (CT)

One CT of each TRV model during each 12 month period after it is certified, except during the period when the TRV model is subject to RTT.

The CT is due one year after certification and is carried out annually on a test sample according to test series A of EN 215, table 5.

The tests according to EN 215, clauses 6.2.1.2, 6.2.1.3, 6.2.1.5, 6.3.5 and 6.3.6 must be run.

The mechanical properties in accordance with EN 215, figure 15 and figure 16 shall be carried out, and the characteristics no. 3, 4 and 6 shall be plotted in accordance with EN 215, figure 10.

For this testing, two undamaged TRVs must be obtained at the choice of the CB, or its appointed agent, from an appropriate trade or retail outlet.

The appointed agent may be the RTL, or an inspection body recognized under this scheme and acceptable to the applicant.

The CT is passed if:

- No damage or permanent deformation is visible after the tests according to EN 215, clause 6.3.5 and 6.3.6.
- The measured nominal flow rate does not show a greater difference to the indication of the licensee than required by EN 215, clause 5.3.1.
- The hysteresis measured, the influence of the differential pressure, and the temperature difference between temperature point S and the closing resp. the opening temperature, comply with EN 215, clause 5.3.5, 5.3.6 and 5.3.8.

If one of these requirements is not met, a sampling of 3 TRVs from the stock of the licensee must take place as for the ITT or the RTT, and the parameter which did not meet the requirements must be re-measured on all 3 TRV's.

If, again, the requirement is not met, clause 9 and the relevant clauses of the Internal Regulations come into effect.

If a licensee has more than one production site where the certified products are being manufactured, the CT should be carried out with samples selected from all these production sites.

**7.3 Inspection**

At least one repeat inspection of the licensee's QMS during each 12 month period after the award of the License.

If a licensee has more than one production site, the quality assurance audit should be carried out by the same inspection body in all production sites.

If a licensee has more than one production site where the certified products are being manufactured, the QMS audit should be carried out by the same inspection body in all these production sites.

Where a licensee chooses to outsource any process that affects product conformity with the requirements, the licensee shall ensure control over such processes. Control of such outsourced processes shall be identified within the QMS.

The CB reserves the right to assess the outsourced process. Licensees shall arrange access to such premises for the purposes of inspection.

The CB shall appoint an inspection body to carry out this audit, provided that this inspection body will participate in the SDG Inspection Working Group.

If the QMS of the licensee does not meet the requirements, clause 9 and the relevant clauses of the Internal Regulations come into effect.

This system can be illustrated as given in table 2.

**Table 2 — Timetable for inspections**

	Award of license	12 month periods									
		1	2	3	4	5	6	7	8	9	10
ITT	X										
RTT					X				X		
CT		X	X	X		X	X	X		X	X
Inspection	X	X	X	X	X	X	X	X	X	X	X

The CB may carry out RTT if a TRV with the Keymark is subject to doubts as to its conformity to the standard.

These RTT can be carried out as an ITT, or as part thereof, and if these doubts are confirmed, the licensee is informed and samples are taken in accordance with clause 5.2 and the relevant tests are run.

If conformity with the standard is still not confirmed, clause 9 and the relevant clauses of the Internal Regulations come into effect.

NOTE When a TRV has been obtained from a source other than the licensee (e.g. from an installer or a user) the CB shall give consideration to the possible adverse effects of age, installation conditions, etc., when deciding on the tests to be performed and the significance to be attached to the results of those tests

**7.4 Participation of CB to the meetings of IBWG**

Each CB shall appoint at least one of its agents carrying out Inspections to participate to the annual meetings of the IBWG.

## 8 Marking

### 8.1 Marking of the Keymark and other information

A TRV for which the right to use the Keymark has been granted, shall be marked on both the thermostatic head assembly and the valve body assembly.

The Keymark (without the CB's identification code) shall be used together with at least one of the following:

- the name, or
- the logo, or
- the identity number of the licensee;

See note 1 below.

In order to avoid any confusion with the identification code of the CB, the identity number of the licensee (see 8.3) shall not be placed directly below the Keymark as well as no other marks or logos.

The marking shall be visible without disassembling during sampling.

For marking of integrated valve see note 2 below.

The licensee's packaging and literature shall show the Keymark, accompanied by the identification code of the CB and at least one of the following:

- the name, or
- the logo, or
- the identity number of the licensee.

The licensee shall clearly identify in his catalogue information and on advertising material the products for which a right of use has been granted and is valid by the use of the Keymark and the identification code of the CB.

A graphic representation of the Keymark logo is shown in Annex B.

**NOTE 1** The CEN/CENELEC Internal Regulations – Part 4 require that the Keymark shall be accompanied by the identification code of the CB, instead of the name, logo or identity number of the licensee.

For TRVs an exemption from these Keymark rules has been accepted for the product itself; not for the licensee's packaging and literature.

**NOTE 2** Only integrated valves may not be marked with the Keymark nor with the name, logo or identity number of the licensee, if it is not possible or practical.

This shall be agreed between the CB and the licensee; traceability of the product back to the licensee shall be assured.

## **8.2 Modifications to certified TRV models**

For this scheme, the following interpretations are applied:

- a) The production process should be limited to those activities related to conformity of the product and mainly concerned with the licensee's QMS.
- b) Only those tests are conducted where the values may change as a result of the modifications to the TRV. The CB shall decide which tests are to be carried out after consultation between the licensee and the RTL. The term CB in this case can also mean: RTL or inspection body delegated by the CB for that purpose.

For the sampling for test purposes the method as described in clause 5.2 applies.

Subject to agreement with the CB, the licensee may have a CT (see clause 7.2) if one is due, included with modification testing.

However, if that sample fails, samples of unmodified TRVs are selected and tested, as for a CT failure (see clause 7.2).

To obtain approval for the modification, it will be necessary for the licensee to make a separate application.

## **8.3 Identification of licensee**

Each licensee will be assigned an identity number, unique within this scheme, which enables the CB to identify the licensee, who is responsible for the fulfilment of all the requirements of clause 7. The CB shall provide such information to the SDG Secretariat for publication on the internet website.

[3] [www.cert-trv.cenorm.be](http://www.cert-trv.cenorm.be)

## **9 Specific actions in cases of failure to comply**

In the event that surveillance actions fail to confirm, either that certified TRVs continue to comply with the standard, or that the required assurance is being maintained during production, the CB will take immediate action requiring the Licensee to remedy the anomalies within a specified period fixed by the CB normally not exceeding 3 months after which the right of use shall be suspended or cancelled.

Exceptionally, the CB may extend from 3 to 6 months the period in which to remedy anomalies, in cases where conformity with EN 215 in respect of the critical properties identified in clause 4.2 is not adversely affected.

Where the compliance failure is in respect of tests according to clause 7, at the end of the period for remedying the anomalies, further samples are selected in accordance with clause 5.2 and the relevant tests repeated. If the requirements of EN 215 are not met the right to use the Keymark will be suspended.

If the compliance failure is in respect of inadequacies in the licensee's QMS at the end of the period for remedying the anomalies, an inspection will be carried out. If the failures are found to persist, the right to use the Keymark will be suspended.

Cancellation of the right of use may be declared by the CB, either when previous actions have had no effect on the deviation(s) recorded, or immediately in more serious cases. The CB cancels a right of use on receipt of notification by the Licensee that he no longer requires it.

Suspension and cancellation actions shall be in accordance with CEN Internal Regulations Part 3 Annex A [2].

## Annex A (informative)

### Application form

Figure A.1 shows an example of the basic content of an application form for granting the right to use the Keymark.

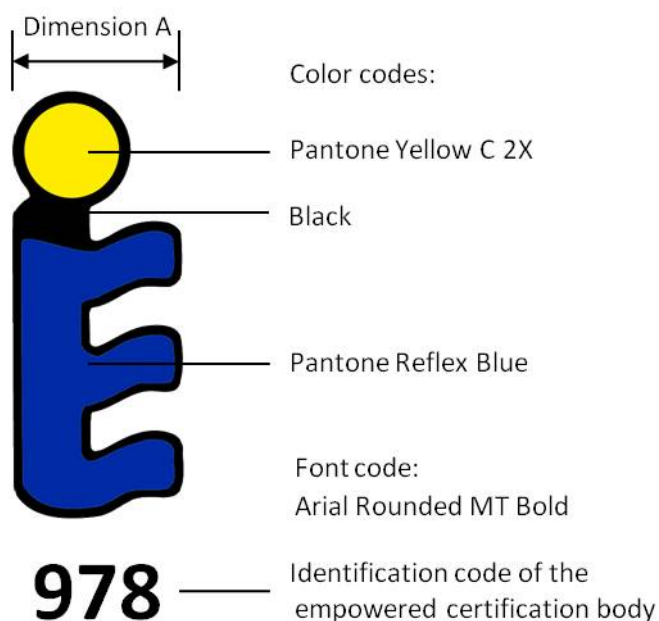
<b>Application</b>	
Manufacturer's name :	.....
Company address:	.....
Telephone:	..... Fax: ..... E-mail: .....
Specification of the product for which the right to use the mark is requested (in case of an extension, make reference to the existing right to use): .....	
Production site(s):	.....
Name and function of the person responsible for the application, address, telephone, fax and e-mail: .....	
<b><u>DECLARATION</u></b>	
We hereby agree to pay all of the relevant costs associated with this application.	
<b><u>DECLARATION</u></b>	
We hereby agree to comply with the:	
CEN/CENELEC Internal Regulations - Part 4 CEN Internal Regulations - Part 3, and CEN Keymark Scheme Rules for Thermostatic Radiator Valves	
and would like to enter into a contract for the certification of the products mentioned above.	
Date of the application:	.....
Name and signature of the manufacturer:	.....

Figure A.1 — Example of an application form

## Annex B (normative)

### Design of the Keymark

Figure B.1 shows the graphic representation of the Keymark logo.



NOTE 1 The drawing of this annex is indicative. For the purpose of the representation of the Keymark, the definitive artwork can be obtained from the CEN Management Centre or the CENELEC Central Secretariat or from the empowered certification bodies.

NOTE 2 Dimension A should not be less than 2 mm. The readability shall be ensured.

Copyright © 2008 by CEN/CENELEC.

All rights reserved. This mark may not be reproduced or disseminated in any form or by any means, without permission of CEN/CENELEC.

Figure B.1 — Representation of the Keymark logo

## Annex C (informative)

### Keymark License Fee System for TRV

For the Keymark License Fee System for TRV the definition of product type and subtype is as follows:

A thermostatic **head** with integral sensor is a product type.

The following thermostatic heads are regarded to be subtypes:

- Thermostatic head with integral temperature selector with remote sensor,
- Thermostatic head with remote sensor incorporating the selector,
- Thermostatic head with remote sensor and with remote sensor,
- Thermostatic head chrome plated.

A thermostatic **valve** with or without pre- setting facility and complying with or not with one dimension series of EN 215, Annex A is a product type. If a licensee has a series of certified valves with **and** a series of certified valves without pre- setting facilities one series of them are regarded to be a product type and the other one is regarded to be a subtype.

The following thermostatic valves are regarded to be **further** subtypes:

- valve with dimensions, material and details on connection to EN 215, Annex A, Series D, if not included in product type,
- valve with dimensions, material and details on connection to EN 215, Annex A, Series F, if not included in product type,
- valve with dimensions, material and details on connection to EN 215, Annex A, Series S, if not included in product type,
- valve with dimensions, material and details on connection to EN 215, Annex A, Series GB, if not included in product type
- valve with dimensions, material and details on connections not complying to series D, F, S, GB, if not included in product type,
- Integrated valves.

Examples:

A Licensee has one or more certified thermostatic head(s) with integral sensor(s) and one or more certified thermostatic head(s) with integral temperature selector(s) with remote sensor(s). The thermostatic head(s) with integral sensor(s) is (are) a product type, the other(s) is a (are) subtype(s).

Valve series under 1) is (are) product type(s), all the others are subtypes each.

A licensee has the following certified valves:

- 1) Valve series with pre-setting and complying with Series F
- 2) One valve without pre-setting and complying with Series D
- 3) Valve series without pre-setting and complying with Series GB
- 4) Two valves with pre-setting and dimensions not complying with series D, F, S or GB.