Regulations

for the "SG ready" label for electrically driven heating and hot water heat pumps and interface-compatible system components

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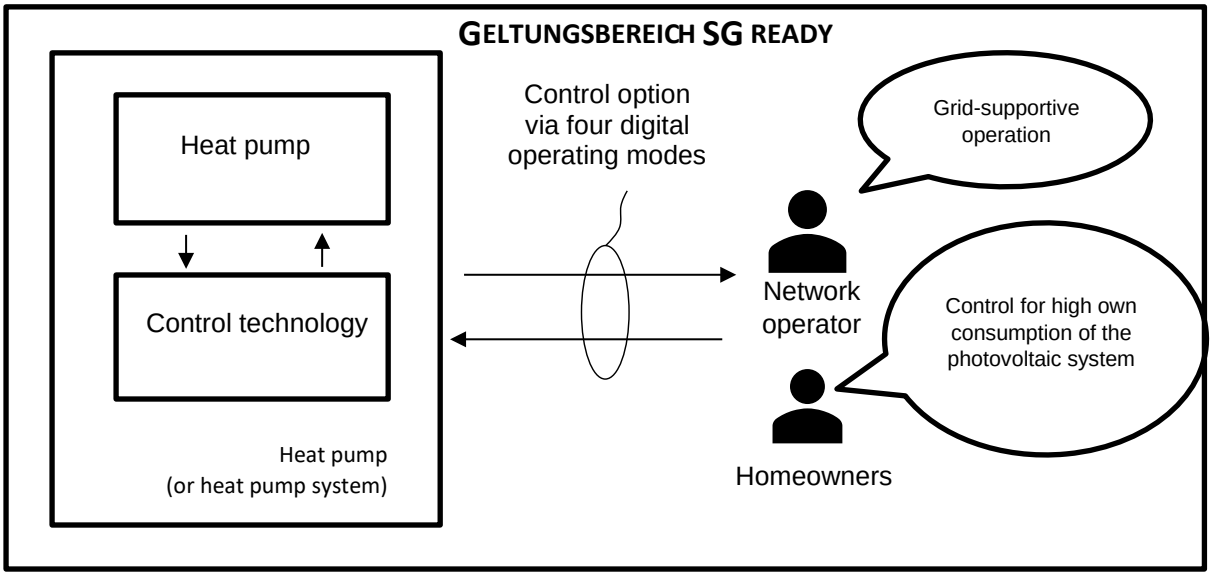
This document is an English translation of the "Regularium für das Label „SG ready" für elektrische Heizungs- und Warmwasserwärmepumpen und kompatible Systemkomponenten". Please note that in all cases of misunderstandings, false statements and translation errors the original regulations in German lan-guage is legally binding.

I. General information on the "SG ready" label for smart grid-capable heat pumps and system components

The energy world is increasingly characterized by renewable, fluctuating feed-in. As load-variable consumers, heat pumps can store electricity that cannot be fed into the local grid in the form of thermal energy and use it to cover heating requirements, as well as being switched off in a targeted manner to mitigate consumption peaks. Load management with heat pumps is proven and energy-efficient, creates synergies between the electricity and heating sectors, reduces dependence on imports and contributes to climate protection.

The SG ready label helps to identify heat pumps that can be addressed via a defined interface for the purpose of load management for grid serviceability. This interface can be used, for example, by grid operators to control the device.

Likewise, the interface can be used, for example, for control to achieve the highest possible self-consumption in combination with a photovoltaic system.



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1.1 Scope of the label for heat pumps

- These regulations refer to mass-produced, electrically driven heating heat pumps, with or without domestic hot water heating, from the heat sources air, geothermal or water.
- These regulations refer to mass-produced, electrically driven domestic hot water heat pumps.
- If the unit consists of several parts, the regulations refer to the one that is developed and offered as a complete package.

1.2 Scope of the label for interface-compatible system components

- These regulations also refer to series-produced, electrically driven system components. System components are understood to be those devices that can transmit digital signals to a heat pump in accordance with the following explanations in order to control it with regard to energy consumption or another target variable.
- System components are those components with control functions that are not part of the heat pump control system.
- Interface-compatible system components in the sense of these regulations could be inverters, energy managers, FNN control boxes and automation technology systems.

1.3 The "SG ready" label

The "SG ready" label refers to the heat pump/model range including the control technology used to control it, as well as interface-compatible system components. To successfully apply for the label, the heat pump/model range and control technology must meet the requirements set out in chapter 2. Interface-compatible system components must meet the requirements set out in chapter 3.
The label is awarded for Germany, Austria and Switzerland and has no validity beyond these countries.

1.4 Requirements for applicants

Applicants can be both manufacturers and distributors. If a manufacturer's heat pump is sold by different sales organizations (including his own), a separate label must be applied for each sales organization. However, the verification of the technical requirements is necessary only once.

1.5 Application procedure

Application materials are available on the BWP website.
The completed application is sent to the Label Commission exclusively in electronic form and must include all necessary documents and declarations. The commission checks the documents for compliance with the regulations.
A joint application can be submitted for devices, model range and system components with identical control technology.

1.6 Label Commission

A label commission is established to monitor and award the label. This commission is responsible for the award of the label from the moment of submission of the submissions and fulfillment of the criteria.
As an alternative to the Label Commission as a whole, the BWP office can also handle the processing of applications in cooperation with its head.
Commission contact information will be posted on the BWP homepage.

1.7 Validity and monitoring

Issued labels are valid for at least two years from the date of their initial issuance. The validity of the label is not subject to any restriction in advance, as long as the technical requirements are met and the label holder complies with the regulations and fee schedule. Changes to labeled series must be reported immediately to the Label

Commission, which then decides on the continued validity of the label. The Commission may carry out spot checks on end-user installations to verify the existence and accuracy of manufacturer's documentation and compliance of the installed equipment with the standard (main components).

1.8 Extension of an already-labeled model range

The label holder can have an already awarded model range extended by further models. This requires an application confirming that the model belongs to a model range. All documents that would also be required for an initial application must be submitted. A model range extension does not extend the validity period of the label.

1.9 Renewal and cancellation of the label

At the end of its validity, the label is automatically renewed until the end of the calendar year, provided that the requirements are still met.
The label holder can cancel his label at the end of the current calendar year. The termination must be submitted to the label commission at least one month before the end of the calendar year.

1.10 Validity of the label

The label and the associated rights of use for the "SG ready" label no longer apply:

a) After abandoning the sale of labeled equipment,
b) In case of unauthorized changes to the control technology,
c) In case of misrepresentation in the application documents,
d) In case of violation of the regulations,
e) In case of non-payment of outstanding invoice amounts within three months,
f) In case of misuse of the label.

The label commission will inform the label holder about the plans to withdraw the label. The label holder concerned has the right to submit a statement to the Commission within 30 days. In addition, in case of non-legitimate use of the label, the Label Commission may reject future applications from the same manufacturer without review.

1.11 Changes to the regulations

Changes to the present regulations can be decided by the label commission. Changes to the regulations on control technology during the term of the label do not affect its validity, but in the event of an application for renewal, the heat pump must meet the current performance requirements at that time.

1.12 Rights of the label owner

The owner of the label is authorized:

a) To mark the labeled model range with the label,
b) To label the equipment of the labeled model range,
c) To use the label for marketing purposes.

1.13 Fee schedule

The application and the award of the label are subject to a fee. Fees for the use of the SG ready label are charged per model. The label commission decides on a fee schedule for this. This will be published on the BWP website.

1.14 Dissemination of the information

The latest information is provided on the BWP website. It includes:

a) The contact details of the awarding commission,
b) A list of tested products,
c) The current versions of all documents pertaining to the label, such as these regulations, the fee schedule, and the application forms.

2. Set of rules for heat pumps

2.1 Heating heat pumps

A manufacturer can apply for the SG ready label for all heating heat pumps that meet the following requirements:

- They must have a controller that covers four operating modes:

  a) **Operating mode 1** (1 switching state, with terminal solution: 1:0):
  This operating mode is downward compatible with the RU blocking frequently switched at fixed times and comprises a maximum of 2 hours of "hard" blocking time.

  b) **Operating mode 2** (1 switching state, for terminal solutions: 0:0):
  In this circuit, the heat pump runs in energy-efficient normal mode with proportional heat storage filling for the maximum two-hour EVU shutdown.

  c) **Operating mode 3** (1 switching state, with terminal solution 0:1**)**
  In this operating mode, the heat pump runs within the controller in boosted operation for space heating and domestic hot water. This is not a definite start-up command, but a switch-on recommendation according to today's boost.

  d) **Operating mode 4** (1 switching state, with terminal solution 1:1**)**
  This is a definitive startup command, insofar as it is possible within the framework of the control settings.
  For this operating mode, different control models must be adjustable on the controller for different tariff and utilization models:
    a. Variant 1: The heat pump (compressor) is actively switched on.
    b. Variant 2: The heat pump (compressor and additional electric heaters) is actively switched on, optional: higher temperature in the heat accumulators.

- Optionally, the room temperature can be used as a reference variable for controlling the system temperatures (flow or return temperature). Blocking the heat pump by a room thermostat depending on the room temperature is not sufficient.
- Planning documents must be available for the models or model range that describe how the heat pump heating systems of the SG ready heat pumps are to be dimensioned for load management requirements. These must be enclosed with the application documents. These documents must be submitted in the respective language of the sales area.

2.2 Hot water heat pumps

A manufacturer may apply for the "SG ready" label for all hot water heat pumps that meet the following requirement:

- They must have a controller that enables an increase of the hot water set temperature for the purpose of thermal storage by means of an automatic control. This control corresponds to operating mode 3.

2.3 Changes to the tested unit

Changes to the control technology must be reported immediately to the Label Commission and explained in detail. The commission will then decide whether this change is a significant change.

2.4 Model ranges

Devices belong to the same model range if they meet the following requirements:

- Use of the same heat source
- Identical control technology

A separate application must be submitted for equipment that does not meet these requirements.

3. Set of rules for interface-compatible system components

3.1 Interface-compatible system components

A manufacturer can apply for the SG ready label for all system components that meet the following requirements:

- You *must* have heat pump control logic that uses two or more of the heat pump operating modes defined in 2.1.
- Documentation must be available for the models or model range that describes how the system components are to be set in order to control SG ready-capable heat pumps. These must be enclosed with the application documents.
- The control functions are adjustable to meet the following minimum requirements:
  a) As soon as the signal for blocking the heat pump (operating mode 1) is set via the digital input, the signal remains active for at least 10 minutes. After the signal drops, it may be reactivated after 10 minutes at the earliest.
  b) A complete lockout of the heat pump (operating mode 1) may be applied for a maximum of 2 hours.
  c) A complete lockout of the heat pump (operating mode 1) may be switched a maximum of 3 times per day.
  d) As soon as the signal for start-up recommendation / start-up command of the heat pump (operating modes 3/4) is set via the digital input, the signal remains active for at least 10 minutes. After the signal drops, it may be reactivated after 10 minutes at the earliest.

3.2 Changes to the tested unit

Changes to the control technology for controlling the heat pump that affect the SG ready function must be reported to the Label Commission immediately and explained in detail. The commission will then decide whether this change is a significant change.

3.3 Model ranges

Devices belong to the same model range if they meet the following requirements:

- Identical control technology

A separate application must be submitted for equipment that does not meet these requirements.