The EU Ecodesign Directive 2009/125 / EC create a uniform European legal framework for the specification of ecodesign requirements for energy-related products.

Infrared heaters are also included and regulated. Under the Ecodesign Directive, Regulation 2015/1188 specifies the permissible framework conditions for the operation of infrared heating as an individual room heating system.

From January 1, 2018, infrared heaters with more than 250 watts of rated power must be in compliance with these legal requirements if installed in a fixed location.

Our SUNNYHEAT infrared heaters already meet the requirements of this directive with the standard delivery components of our panels.

The EU Ecodesign Directive 2009/125 / EC and Regulation 2015/1188 specify the requirements for the sale and operation of individual room heating systems. In this context, the EU prescribes what capabilities or functions such a heating system must have from 1 January 2018 on.

For this purpose, a new value was introduced - the "seasonal space heating energy efficiency (ns)".

According to Annex II (point 1) of Regulation 2015/1188, the seasonal space heating energy efficiency of fixed electrical local space heaters with a nominal heat output of more than 250 watts must be at least 38%.

**Calculation the seasonal space heating energy efficiency**
The seasonal space heating energy efficiency of all individual room heaters (with the exception of commercially used individual room heaters) is defined as follows:

\[ ns = 30\% + F(1) + F(2) + F(3) - F(4) - F(5) \]

F(1) to F(5) are referred to as correction factors. F(2) and F(3) are relevant for electric single room heaters. F(1), F(4) and F(5) are currently not taken into account in the calculation.

According to the regulation on the correction factor F(2), the following types of thermostat are to be taken into account for stationary individual room heating systems:
- Mechanical thermostat + 1%
- Electronic thermostat + 3%
- Electronic thermostat with time of day timer + 5%
- Electronic thermostat with weekly timer + 7%

The correction factor F(3) provides 1% each for the following optional components:
- Room temperature control with detection of open windows
- Remote Control
- Adaptive control of the heating start

As our SUNNYHEAT control ISTC (electronic thermostat with weekly timer) also contains an integrated adaptive control of the heating start, the required 38% have already been achieved.

By adding our optional components, the result can be further increased.

- SUNNYHEAT infrared heater (38%) + remote control (CREABox) (1%) = 39%
- SUNNYHEAT infrared heating (38%) + wireless window contact (1%) = 39%
- SUNNYHEAT infrared heating (38%) + remote control (1%) + wireless window contact (1%) = 40%
### Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeffekt

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Wert</th>
<th>Einheit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_{\text{nom}}$</td>
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<td>kW</td>
</tr>
<tr>
<td>$P_{\text{min}}$</td>
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<td>kW</td>
</tr>
<tr>
<td>$P_{\text{max,c}}$</td>
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<td>kW</td>
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### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d'électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

<table>
<thead>
<tr>
<th>Symbool</th>
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<td>0,001 kW</td>
<td>0,001 kW</td>
<td>0,001 kW</td>
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### Modellkennung / Model identifier / Typeaanduiding / Référence(s) du modèle / Modelidentifikation / Identificador del modelo / Modellbeteckning:

AUS601, AUS304
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<tr>
<td>Nennwärmeleistung</td>
</tr>
<tr>
<td>Nominalle warmteafgifte</td>
</tr>
<tr>
<td>Potencia calorífica nominal</td>
</tr>
<tr>
<td>Mindestwärmeleistung (Richtwert)</td>
</tr>
<tr>
<td>Minimale warmteafgifte (indicatief)</td>
</tr>
<tr>
<td>Mindste varmeydelse (vejledende)</td>
</tr>
<tr>
<td>Lägsta värmeeffekt (indikativt)</td>
</tr>
<tr>
<td>Maximale kontinuierliche Wärmeleistung</td>
</tr>
<tr>
<td>Maximale continue warmteafgifte</td>
</tr>
<tr>
<td>Potencia calorífica máxima continuada</td>
</tr>
<tr>
<td>Maximal kontinuerlig värmeeffekt</td>
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</table>

<table>
<thead>
<tr>
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<tr>
<td>Bei Nennwärmeleistung</td>
</tr>
<tr>
<td>Bei Mindestwärmeleistung</td>
</tr>
<tr>
<td>Im Bereitschaftszustand</td>
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### Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calórica / Värmeffekt

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#### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

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<tr>
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</table>

#### Mindestwärmeleistung (Richtwert)
Minimum heat output (indicative)
Minimale warmteafgifte (indicatief)
Puissance thermique minimale (indicative)
Mindste varmeydelse (vejledende)
Potencia calorífica mínima (indicativa)
Lägsta värmeeffekt (indikativt)

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<tbody>
<tr>
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<td>kW</td>
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</table>

#### Maximale kontinuierliche Wärmeleistung
Maximum continuous heat output
Maximale continue warmteafgifte
Puissance thermique maximale continue
Maksimal kontinuerlig varmeydelse
Potencia calorífica máxima continuada
Maximal kontinuerlig värmeeffekt

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</table>

#### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

Bei Nennwärmeleistung
At nominal heat output
Bij nominale warmteafgifte
À la puissance thermique nominale
Ved nominel varmeydelse
A potencia calorífica nominal
Vid nominell avgiven värmeeffekt

<table>
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<td>Symbool</td>
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<tr>
<td>,001</td>
<td>el</td>
<td>kW</td>
</tr>
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</table>

Bei Mindestwärmeleistung
At minimum heat output
Bij minimale warmteafgifte
À la puissance thermique minimale
Ved mindste varmeydelse
A potencia calorífica minima
Vid lägsta värmeeffekt

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<td>Symbool</td>
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Im Bereitschaftszustand
In standby mode
In stand-bymodus
En mode veille
I standbytilstand
En modo de espera
I standbyläge

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<tr>
<th>Symbol</th>
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<tbody>
<tr>
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<td>Symbol</td>
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<tr>
<td>,001</td>
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### Modellkennung / Model identifier / Typeaanduiding / Référence(s) du modèle / Modelidentifikation / Identificador del modelo / Modellbeteckning: AUS301

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<td>Symbol</td>
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<td>Unité</td>
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#### Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeeffekt

<table>
<thead>
<tr>
<th>Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeeffekt</th>
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<tbody>
<tr>
<td>Nennwärmeleistung / Nominal heat output / Nominaal warmteafgifte / Puissance thermique nominale / Nominel varmeydelse / Potencia calorífica nominal / Nominell avgiven värmeeffekt</td>
</tr>
<tr>
<td>P_{nom}</td>
</tr>
<tr>
<td>Mindestwärmeleistung (Richtwert) / Minimum heat output (indicative) / Minimale warmteafgifte (indicatief) / Puissance thermique minimale (indicative) / Mindste varmeydelse (vejledende) / Potencia calorífica mínima (indicativa) / Lägsta värmeeffekt (indikativt)</td>
</tr>
<tr>
<td>P_{min}</td>
</tr>
<tr>
<td>Maximale kontinuierliche Wärmeleistung / Maximum continuous heat output / Maximale continue warmteafgifte / Puissance thermique maximale continue / Maksimal kontinuerlig varmeydelse / Potencia calorífica máxima continuada / Maximal kontinuerlig värmeeffekt</td>
</tr>
<tr>
<td>P_{max,c}</td>
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</table>

#### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

<table>
<thead>
<tr>
<th>Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bei Nennwärmeleistung / At nominal heat output / Bij nominale warmteafgifte / À la puissance thermique nominale / Ved nominel warmeydelse / A potencia calorífica nominal / Vid nominell avgiven värmeeffekt</td>
</tr>
<tr>
<td>e_{max}</td>
</tr>
<tr>
<td>Bei Mindestwärmeleistung / At minimum heat output / Bij minimale warmteafgifte / À la puissance thermique minimale / Ved mindste varmeydelse / A potencia calorífica minima / Vid lägsta värmeeffekt</td>
</tr>
<tr>
<td>e_{min}</td>
</tr>
<tr>
<td>Im Bereitschaftszustand / In standby mode / In stand-bymodus / En mode veille / I standbytillstånd / En modo de espera / I standbyläge</td>
</tr>
<tr>
<td>e_{SB}</td>
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**Modellkennung / Model identifier / Typeaanduiding / Référence(s) du modèle / Modelidentifikation / Identificador del modelo / Modellbeteckning:**

<table>
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<tbody>
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<td>Beteckning</td>
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### Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeeffekt

<table>
<thead>
<tr>
<th>Beschreibung</th>
<th>Symbol</th>
<th>Wert</th>
<th>Einheit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nennwärmeleistung</td>
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<td>0,5</td>
<td>kW</td>
</tr>
<tr>
<td>Mindestwärmeleistung (Richtwert)</td>
<td>( P_{\text{min}} )</td>
<td>0,5</td>
<td>kW</td>
</tr>
<tr>
<td>Maximale kontinuierliche Wärmeleistung</td>
<td>( P_{\text{max},c} )</td>
<td>0,5</td>
<td>kW</td>
</tr>
</tbody>
</table>

### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatsselförbrukning

<table>
<thead>
<tr>
<th>Beschreibung</th>
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<th>Einheit</th>
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</thead>
<tbody>
<tr>
<td>Bei Nennwärmeleistung</td>
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<td>0,001</td>
<td>kW</td>
</tr>
<tr>
<td>Bei Mindestwärmeleistung</td>
<td>( \epsilon_{\text{min}} )</td>
<td>0,001</td>
<td>kW</td>
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<tr>
<td>Im Bereitschaftszustand</td>
<td>( \epsilon_{\text{SB}} )</td>
<td>0,001</td>
<td>kW</td>
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### Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeeffekt

<table>
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<th>Beschreibung</th>
<th>Symbol</th>
<th>Wert</th>
<th>Einheit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nennwärmeleistung / Nominal heat output</td>
<td>$P_{\text{nom}}$</td>
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<tr>
<td>Maximale kontinuierliche Wärmeleistung / Maximum continuous heat output</td>
<td>$P_{\text{max},c}$</td>
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### Hilfsstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d'électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

<table>
<thead>
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<th>Wert</th>
<th>Einheit</th>
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<tbody>
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<tr>
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<td>Im Bereitschaftszustand / In standby mode</td>
<td>$\vartheta_{\text{SB}}$</td>
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## Wärmeleistung / Heat output / Warmteafgifte / Puissance thermique / Varmeydelse / Potencia calorífica / Värmeffekt

<table>
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<tr>
<td></td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>P&lt;sub&gt;max,c&lt;/sub&gt;</td>
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</tr>
</tbody>
</table>

### Mindestwärmeleistung (Richtwert) / Minimum heat output (indicative)
- P<sub>min</sub> = 1,25 kW

### Maximale kontinuierliche Wärmeleistung / Maximum continuous heat output
- P<sub>max,c</sub> = 1,25 kW

### Hilfstromverbrauch / Auxiliary electricity consumption / Aanvullend elektriciteitsverbruik / Consommation d’électricité auxiliaire / Supplerende strømforbrug / Consumo auxiliar de electricidad / Tillsatselförbrukning

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<tr>
<td></td>
<td>η&lt;sb&gt;SB&lt;/sb&gt;</td>
<td>0,001 kW</td>
</tr>
</tbody>
</table>
Art der Wärmeleistung/Raumtemperaturkontrolle
Type of heat output/room temperature control
Type warmteafgifte/sturing kamertemperatuur
Type de contrôle de la puissance thermique/de la température de la pièce
Type varmeydelse/rumtemperaturstyring
Tipo de control de potencia calorífica/de temperatura interior
Typ av reglering av värmeeffekt/rumstemperatur

- Elektronische Raumtemperaturkontrolle und Wochentagsregelung
  Electronic room temperature control plus week timer
- Elektronische sturing van de kamertemperatuur plus week-tijdschakelaar
- Contrôle électronique de la température de la pièce et programmateur hebdomadaire
- Elektronisk rumtemperaturstyring og ugetimer
  Control electrónico de temperatura interior y temporizador seminal
  Med elektronisk rumstemperaturreglering plus veckotimer

Sonstige Regelungsoptionen
Other control options
Andere sturingsopties
Autres options de contrôle
Andre styringsmuligheder
Otras opciones de control
Andra regleringsmetoder

- Raumtemperaturkontrolle mit Präsenzerkennung
  room temperature control, with presence detection
  sturing van de kamertemperatuur, met aanwezigheidsdetectie
  contrôle de la température de la pièce, avec détecteur de présence
  rumtemperaturstyring med bevægelsessensor
  control de temperatura interior con detección de presencia
  rumstemperaturreglering med närvarodetektering

- Raumtemperaturkontrolle mit Erkennung offener Fenster
  room temperature control, with open window detection
  sturing van de kamertemperatuur, met openraamdetectie
  contrôle de la température de la pièce, avec détecteur de fenêtre ouverte
  rumtemperaturstyring med temperaturfaldssensor
  control de temperatura interior con detección de ventanas abiertas
  rumstemperaturreglering med detektering av öppna fönster

- Mit Fernbedienungsoption
  with distance control option
  met de optie van afstandsbediening
  option contrôle à distance
  med telesyringsoption
  con opción de control a distancia
  med möjlighet till fjärrstyrning

- Mit adaptiver Regelung des Heizbeginns
  with adaptive start control
  met adaptieve sturing van de start
  contrôle adaptatif de l’activation
  med adaptiv startstyring
  con control de puesta en marcha adaptable
  med anpassningsbar startreglering

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