PSR softstarter
The compact range

PSR is our most compact softstarter with basic benefits and values. PSR can handle up to 100 starts per hour. Suitable for small motors.

Reduce the electrical stresses and keep the motor protected with the MMS
The PSR reduces the starting current for the motor. The possibility to connect it to the manual motor starter makes it possible to build a compact and complete starting solution with overload and short-circuit protection.

Saving time and money with built-in bypass and easy set-up
On the PSR, the bypass is built in and verified by ABB, saving you time during installation and space in your panel. Set-up is done through three potentiometers making it very fast and easy.

Reduce the mechanical stresses on your motor
Soft start and stop with PSR will reduce mechanical wear and tear on the application and increase the availability and uptime.

Motor protection with manual motor starter
Use the PSR together with the MMS to get a complete motor starter with soft start and stop together with overload and short circuit protection.

Screw or DIN-rail mounted
PSR is fast and easy to install by using screw mounting or DIN-rail mounting (PSR3 ... PSR45).

Output signal relays
PSR has output relays for Run and Top of ramp (PSR25 ... PSR105).

LED indicators
PSR has LED indicators for On/Ready and Run/Top of ramp.

Three potentiometers for settings
Set-up is made very easy with only three potentiometers, for start ramp time, stop ramp time and initial/end voltage level.
### Softstarter types

<table>
<thead>
<tr>
<th>PSR3</th>
<th>PSR6</th>
<th>PSR9</th>
<th>PSR12</th>
<th>PSR16</th>
<th>PSR25</th>
<th>PSR30</th>
<th>PSR37</th>
<th>PSR45</th>
<th>PSR60</th>
<th>PSR72</th>
<th>PSR85</th>
<th>PSR105</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Power loss at rated Ie</td>
<td>0.7 W</td>
<td>2.9 W</td>
<td>6.5 W</td>
<td>11.5 W</td>
<td>20.5 W</td>
<td>25 W</td>
<td>36 W</td>
<td>5.5 W</td>
<td>8.1 W</td>
<td>3.6 W</td>
<td>5.2 W</td>
<td>7.2 W</td>
</tr>
</tbody>
</table>

### Technical data

**Rated insulation voltage Ue:** 600 V

**Rated operational voltage Ue:** 208...600 V +10%/-15%, 50/60 Hz ±5%

**Rated control supply voltage Uc:** 100...240 V AC, 50/60 Hz ±5% or 24 V AC/DC, +10%/-15%

**Starting capacity at Ie:** 4 x Ie for 6 sec.

**Maximum altitude:** 4000 m (13123 ft) ¹

**Number of starts per hour**

- **Standard:** 10 ¹
- **with aux. fan:** 20 ¹

**Ambient temperature**

- **during operation:** -25...+60 °C (-13...+140 °F) ²
- **during storage:** -40...+70 °C (-40...+158 °F)

**Degree of protection**

- **main circuit:** PSR3 - PSR30: IP20
- **control circuit:** PSR3 - PSR30: IP20

**Power consumption:**

- At 100...240 V AC: PSR3 - PSR30: 12 VA
  - PSR37 - PSR105: 10 VA
- At 24 V AC/DC: PSR3 - PSR30: 5 W
  - PSR37 - PSR105: 10 VA

**Signal relays for run signal: PSR3..105**

- **Resistive load:** 3 A
- **AC-15 (contactor):** 0.5 A

**Signal relays for top of ramp signal: PSR25..105**

- **Resistive load:** 3 A
- **AC-15 (contactor):** 0.5 A

**LED**

- **For On/Ready:** Green
- **For Run/Top of ramp:** Green

**Settings**

- **Ramp time during start:** 1...20 sec.
- **Ramp time during stop:** 0...20 sec.
- **Initial- and end voltage:** 40...70%

**Degree of protection**

- **IP20**
- **IP10**

**Ramp rate**

- For On/Ready
- For Run/Top of ramp

**Product compliance**

CE, CULus, CCC, EAC, ANCE, C-tick, KC, PRS ²

data based on an ambient temperature of 40 °C (104 °F), starting current of 4 x Ie and ramp time 6 seconds. For more optimized selection or to use PSR for heavy-duty starts, please use the softstarter selection tool.

### Directives and standards

- No. 2006/95/EC: Low voltage equipment
- No. 2004/108/EC: Electromagnetic compatibility
- EN 60947-1: Low-voltage switchgear and controlgear - Part 1: General rules
- EN 60947-4-2: AC semiconductor motor controllers and starters
- UL 508: Industrial Control Equipment
- CSA C22.2 No 14: Industrial Control Equipment

### Safety instructions

**For more information, please contact your local ABB representative or visit [https://new.abb.com/drives/softstarters](https://new.abb.com/drives/softstarters)**

---

¹ Valid for 50% on time and 50% off time. If other data is required, contact your local ABB office.

² Above 40 °C (104 °F) up to max. 60 °C (140 °F) reduce the rated current with 0.8% per °C (0.44% per F).

³ When used at high altitudes, above 1000 meters (3281 ft) up to 4000 meters (13123 ft), de-rate the current using the following formula:

\[
I_{\text{de-rated}} = I_e \times \frac{100\% - 0.8\% \times x}{100 - \frac{x}{150}}
\]

where \(x\) is the actual altitude of the softstarter in meters.

⁴ Not for PSR37-45.

---

**For On/Ready and Run/Top of ramp**

- **For On/Ready:** Green
- **For Run/Top of ramp:** Green

**Directives and standards**

- No. 2006/95/EC: Low voltage equipment
- No. 2004/108/EC: Electromagnetic compatibility

**EN 60947-1**

- Low-voltage switchgear and controlgear - Part 1: General rules
- AC semiconductor motor controllers and starters

**UL 508**

- Industrial Control Equipment

**CSA C22.2 No 14**

- Industrial Control Equipment

---

**PSR Dimensions and weight**

<table>
<thead>
<tr>
<th>Frame size</th>
<th>H (mm)</th>
<th>W (mm)</th>
<th>D (mm)</th>
<th>(kg)</th>
<th>(lb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSR3...16</td>
<td>140</td>
<td>45</td>
<td>113.5</td>
<td>0.45</td>
<td>0.99</td>
</tr>
<tr>
<td>PSR25...30</td>
<td>160</td>
<td>45</td>
<td>128</td>
<td>0.60</td>
<td>1.43</td>
</tr>
<tr>
<td>PSR37...45</td>
<td>187</td>
<td>54</td>
<td>153</td>
<td>1.0</td>
<td>2.20</td>
</tr>
<tr>
<td>PSR60...105</td>
<td>220</td>
<td>70</td>
<td>180</td>
<td>2.27</td>
<td>5.0</td>
</tr>
</tbody>
</table>

---

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.

Copyright © 2019 ABB

All rights reserved.