

PSR softstarter

The compact range



8 Certificates
3 Set-up potentiometers
100 Ramps/hour

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

01 PSR compact range softstarter

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	PSR3	PSR6	PSR9	PSR12	PSR16	PSR25	PSR30	PSR37	PSR45	PSR60	PSR72	PSR85	PSR105
Max. Power loss at rated I _e	0.7 W	2.9 W	6.5 W	11.5 W	20.5 W	25 W	36 W	5.5 W	8.1 W	3.6 W	5.2 W	7.2 W	6.6 W

Technical data

Rated insulation voltage U _i	600 V
Rated operational voltage U _e	208...600 V +10%/-15%, 50/60 Hz ±5%
Rated control supply voltage U _s	100...240 V AC, 50/60Hz ±5% or 24 V AC/DC, +10%/-15%
Starting capacity at I _e	4 x I _e for 6 sec.
Maximum altitude	4000 m (13123 ft) ³⁾
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 PSR37 - PSR105: IP10
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%

Product compliance

CE, cULus, CCC, EAC, ANCE, C-tick, KC⁴⁾, PRS

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 rated current using the following formula.

[% of I_e = 100 - $\frac{x-1000}{150}$] x = actual altitude of the softstarter in meter.

⁴⁾ Not for PSR37-45.

Number of starts per hour using PSR softstarters

Starts/hour without auxiliary fan								
I _e	10	20	30	40	50	60	80	100
3 A	PSR3	PSR3	PSR3	PSR3	PSR3	PSR3	PSR3	PSR6
6 A	PSR6	PSR6	PSR6	PSR6	PSR6	PSR9	PSR9	PSR9
9 A	PSR9	PSR9	PSR9	PSR12	PSR12	PSR12	PSR16	PSR25
12 A	PSR12	PSR12	PSR12	PSR16	PSR25	PSR25	PSR30	PSR30
16 A	PSR16	PSR25	PSR25	PSR25	PSR30	PSR30	PSR37	PSR37
25 A	PSR25	PSR30	PSR37	PSR37	PSR37	PSR45	PSR45	PSR60
30 A	PSR30	PSR37	PSR37	PSR45	PSR45	PSR60	PSR60	PSR72
37 A	PSR37	PSR45	PSR45	PSR60	PSR60	PSR72	PSR85	PSR105
45 A	PSR45	PSR45	PSR60	PSR60	PSR72	PSR85	PSR105	-
60 A	PSR60	PSR60	PSR72	PSR85	PSR105	PSR105	-	-
72 A	PSR72	PSR85	PSR105	PSR105	-	-	-	-
85 A	PSR85	PSR105	PSR105	-	-	-	-	-
105 A	PSR105	-	-	-	-	-	-	-

Number of starts per hour using PSR softstarters

Starts/hour with auxiliary fan								
I _e	10	20	30	40	50	60	80	100
3 A	PSR3	PSR3	PSR3	PSR3	PSR3	PSR3	PSR3	PSR3
6 A	PSR6	PSR6	PSR6	PSR6	PSR6	PSR6	PSR6	PSR9
9 A	PSR9	PSR9	PSR9	PSR9	PSR9	PSR12	PSR12	PSR12
12 A	PSR12	PSR12	PSR12	PSR12	PSR12	PSR16	PSR25	PSR25
16 A	PSR16	PSR16	PSR25	PSR25	PSR25	PSR25	PSR30	PSR30
25 A	PSR25	PSR25	PSR30	PSR37	PSR37	PSR37	PSR37	PSR45
30 A	PSR30	PSR30	PSR37	PSR37	PSR45	PSR45	PSR45	PSR45
37 A	PSR37	PSR37	PSR45	PSR45	PSR45	PSR45	PSR60	PSR60
45 A	PSR45	PSR45	PSR45	PSR60	PSR60	PSR60	PSR72	PSR72
60 A	PSR60	PSR60	PSR60	PSR72	PSR72	PSR85	PSR105	-
72 A	PSR72	PSR72	PSR72	PSR85	PSR105	PSR105	-	-
85 A	PSR85	PSR85	PSR105	PSR105	-	-	-	-
105 A	PSR105	PSR105	-	-	-	-	-	-

Data based on an ambient temperature of 40° (104 F), starting current of 4 x I_e 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



PSR Dimensions and weight

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

For more information, please contact your local ABB representative or visit <https://new.abb.com/drives/softstarters>

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