

# PSE Softstarter –The Efficient Range



## The PSE Softstarter – Easy and Reliable with LCD display and torque control

**The PSE softstarter is the world's first compact softstarter with torque control and display. It is developed in close cooperation with customers to ensure that the product solves all the important needs of the customers.**

**The PSE softstarter is ideal for any applications where space is limited, but where advanced functionality still is required. It is suitable for most of the common applications such as pumps, fans, compressors, conveyor belts and more.**

### Easy

One of the most important features of any electrical device is that it is easy to set up and easy to use. The PSE softstarter is equipped with a language neutral backlit display and an easy-to-use four button keypad. In addition, the built-in by-pass gives a very compact unit which is easy to mount and without the need to install an external by-pass contactor, the installation time is greatly reduced.

### Reliable

The PSE softstarter is not only designed to ensure an exceptional reliability. It has also been equipped with features to ensure that the whole operation is kept reliable. As an example, torque control eliminates water hammering and thereby greatly reduces the mechanical stress on pump systems and provides a more reliable operation with less downtime.

### Efficient

Knowing what the customer want, it has been possible to design a softstarter that really fulfils the needs of the customers, without adding unwanted complexity. This gives excellent value for money and together with the built-in by-pass for energy saving makes the PSE softstarter a very efficient choice.

# Technical data

<b>Rated insulation voltage <math>U_i</math></b>	600 V
<b>Rated operational voltage <math>U_e</math></b>	208 ... 600 V +10 %/-15 %
<b>Rated operational current <math>I_e</math></b>	18 ... 370 A (7.5 ... 200 kW @ 380-400 V)
<b>Rated control supply voltage <math>U_s</math></b>	100 ... 250 V +10 %/-15 %, 50/60 Hz $\pm$ 5 %
<b>Rated control circuit voltage <math>U_c</math></b>	Internal 24 V DC
<b>Starting capacity</b>	$4 \times I_e$ for 10 sec.
<b>Number of starts per hour</b>	10 <sup>1)</sup>
<b>Overload capability</b>	
Overload Class	10
<b>Ambient temperature</b>	
During operation	-25 ... +60 °C <sup>2)</sup>
During storage	-40 ... +70 °C
<b>Maximum Altitude</b>	4000 m <sup>3)</sup>
<b>Degree of protection</b>	
Main circuit	IP00
Supply and Control circuit	IP20
<b>Main circuit</b>	
Built-in By-pass	Yes
Cooling system - Fan cooled (thermostat controlled)	Yes
<b>HMI for settings</b>	
Display	4 7-segments and icons. Illuminated
Keypad	2 selection keys and 2 navigation keys
<b>Main settings</b>	
Setting current	Size dependent
Ramp time during stop	0-30 sec
Initial / end voltage	30-70%
Current limit	1,5-7 $\times I_e$
Torque control for start	Yes / No
Torque control for stop	Yes / No
Kick start	Off, 30-100%

<b>Signal relays</b>	
Number of signal relays	3
K2	Run signal
K3	TOR (By-pass) signal
K1	Event signal
Rated operational voltage $U_e$	250 V AC / 24 V DC <sup>4)</sup>
Rated thermal current $I_{th}$	3 A
Rated operational current $I_e$ at AC-15 ( $U_e = 250$ V)	1.5 A
<b>Analog output</b>	
Output signal reference	4 ... 20 mA
Type of output signal	1 Amp
Scaling	Fixed at $1.2 \times I_e$
<b>Control circuit</b>	
Number of inputs	3 (start, stop, reset of faults)
<b>Signal indication LED's</b>	
On / Ready	Green flashing / steady
Run / TOR	Green flashing / steady
Protection	Yellow
Fault	Red
<b>Protections</b>	
Electronic overload	Yes (Class 10A, 10, 20, 30)
Locked rotor protection	Yes
Underload protection	Yes
<b>Field bus connection</b>	
Connection for ABB FieldBusPlug	Yes (option)
<b>External keypad</b>	
Display LCD type	
<b>Ambient temperature</b>	
during operation	-25 ... +60 °C
during storage	-40 ... +70 °C
<b>Degree of protection</b>	IP66

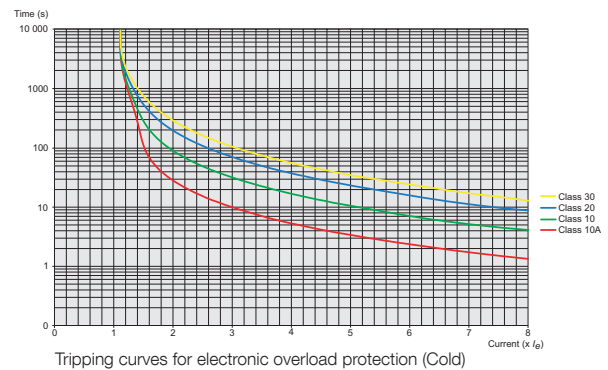
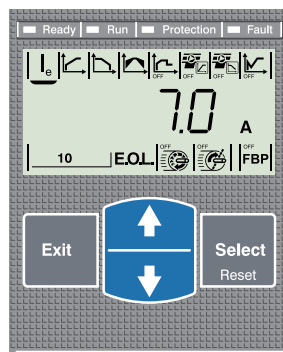
<sup>1)</sup> Valid for 50 % on time and 50 % off time, with  $3.5 \times I_e$  for 7 seconds. If other data is required, please contact your sales office

<sup>2)</sup> Above 40 °C up to max. 60 °C reduce the rated current with 0.6 % per °C.

<sup>3)</sup> When used at high altitudes above 1000 meters up to 4000 meters you need to derate the rated current using the following formula.

$$\left[ \% \text{ of } I_e = 100 - \frac{x - 1000}{150} \right] \quad x = \text{actual altitude for the softstarter}$$

<sup>4)</sup> A common voltage needs to be used for all 3 signal relays



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