

FACT SHEET

PSE softstarter

The efficient range



The new generation PSE is a true generalpurpose softstarter. It's a perfect balance between high starting capacity and cost efficiency. Now featuring built-in fieldbus communication.

01 PSE efficient range softstarter

Basic motor protection and current limit

The PSE includes the most important protections for handling different load situations that can happen to pumps e.g. overload and underload. The current limit gives you more control of the motor during start and allows you to start your motor in weaker networks.

Saving time and money with built-in bypass and compact design

On the PSE, the bypass is built in and verified by ABB, saving you time during installation and space in your panel. The keypad is language neutral and illuminated for easy set-up and operation in field. The compact design makes installation fast and easy.

Torque control for elimination of water hammering in pumps

Torque control is the most efficient way to stop a full speed pump. The PSE has a special torque stop ramp that is designed together with a pump manufacturer to eliminate water hammering in an optimal way.

Digital input for start, stop and reset

PSE is controlled through digital inputs using the internal 24 V DC source. This allows easy control with e.g. push buttons or relays.

Output signal relays for run, top of ramp and event

Three output signal relays for indicating that the motor is running, that the softstarter is in top of ramp and if any event has happened. The relays can be used e.g. with pilot lights or to control a line contactor.

NEW Modbus- RTU

Built-in Modbus- RTU fieldbus communication for monitoring and control. Support for all major communication protocols.

Coated PCB

Coated circuit boards protecting from dust, moist and corrosive atmosphere PSTX coating type DOW CORNING 1-2620 LOW VOC.

Technical data	PSE18 ... PSE370
Rated insulation voltage U_i	600 V
Rated operational voltage U_e	208...600 V +10%/-15%
Rated control supply voltage U_s	100...250 V +10%/-15%, 50/60 Hz \pm 10 %
Rated control circuit voltage U_c	Internal 24 V DC
Starting capacity at I_e	4 x I_e for 10 sec.
Number of starts per hour	10 ¹⁾
Maximum Altitude	4000 m (13123 ft) ³⁾
Overload capability	
Overload class	10
Ambient temperature	
During operation	-25...+60 °C (-13...+140 F) ²⁾
During storage	-40...+70 °C (-40...+158 F)
Degree of protection	
Main circuit	IP00
Supply and control circuit	IP20
Main circuit	
Built-in bypass	Yes
Cooling system	fan cooled (thermostat controlled)
HMI for settings	
Display	4 7-segments and icons. Illuminated
Keypad	2 selection keys and 2 navigation keys
Main settings	
Setting current	Size dependent
Ramp time during start	1...30 sec
Ramp time during stop	0...30 sec
Initial/end voltage	30...70%
Current limit	1.5...7 x I_e
Torque control for start	Yes / No
Torque control for stop	Yes / No
Kick start	Off, 30...100%
Signal relays	
Number of signal relays	3
K2	Run signal
K3	TOR (bypass) signal
K1	Event signal
Rated operational voltage U_e	100-250 V AC/24 V DC ⁴⁾
Rated thermal current I_{th}	3 A
Rated operational current I_e at AC-15 ($U_e = 250$ V)	1.5 A



PSE Dimensions and weight					
Frame size	H (mm)	W (mm)	D ¹⁾ (mm)	(kg)	(lb)
PSE18...60	245	90	185.5	2.4	5.3
PSE72...105	245	90	185.5	2.5	5.5
PSE142...170	295	130	219.5	4.2	9.2
PSE210	435	190	236.5	9.5	20.9
PSE250...370	435	190	236.5	10.9	24

¹⁾ Note: Include HMI

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

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Technical data	PSE18 ... PSE370
Analog output	
Output signal reference	4...20 mA
Type of output signal	I Amp
Scaling	Fixed at 1.2 x I_e
Control circuit	
Number of inputs	3 (start, stop, reset of faults)
Signal indication LED	
On / Ready	Green flashing / steady
Run / TOR	Green flashing / steady
Protection	Yellow
Fault	Red
Protections	
Electronic overload	Yes (Class 10A, 10, 20, 30)
Locked rotor protection	Yes
Underload protection	Yes
Fieldbus connection	
ABB Fieldbus plug	Yes (option)
NEW Built-in modbus	Yes
External keypad	
Display	LCD type
Ambient temperature	
During operation	-25...+60 °C (-13...+140 F)
During storage	-40...+70 °C (-40...+158 F)
Degree of protection	IP66
Product compliance	
CE, cULus, CCC, EAC, ANCE, C-tick, KC, ABS, DNV GL, Lloyd's Register, CCS, PRS, Class NK	
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 0.6% per °C (0.33% 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 $I_e = 100 - \frac{x - 1000}{150} \times$ actual altitude of the softstarter in meters.	
⁴⁾ A common voltage needs to be used for all 3 signal relays.	
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

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