

Type PST

Softstarters



The PST "Advanced" softstarter line

- Wide main voltage range, 200 - 690 VAC
- Wide control voltage range, 100 - 250 V, 50/60 Hz
- Current ratings 30 to 1050 A (In Line) and 52 - 1800 A (Inside Delta)
- Same unit can be used for both In Line and Inside Delta connection
- Premium adjustable Softstarter functions like start/stop ramp, kick start, jog, step down voltage and sequential starts
- Current limit adjustable between 200% to 700% of motor FLA
- Thermistor (PTC) supervision of motor winding

- Real time clock
- Logging of last 20 events with time stamp
- Prepared for Field-bus communication
- Programmable electronic overloads: Classes 10A, 10, 20 & 30
- Locked rotor protection
- Motor underload protection
- Phase imbalance protection
- Phase reversal protection
- Torque control
- Analog outputs
- UL File #E161428

The PSTB "Advanced" softstarter line

- Same features as PST except PSTB softstarters include ABB AF contactors for by-pass.

General information

Catalog number explanation

Open & enclosed

Open

PST B 370 600 - 70 T

Softstarter
Type PST

Bypass
No digit – No integrated bypass
B – Integrated bypass

Current rating

UL / IEC	UL / IEC
30 – 28/30	210 – 192/210
37 – 34/37	250 – 248/250
44 – 42/44	300 – 302/300
50 – 54/50	370 – 361/370
72 – 68/72	470 – 480/470
85 – 80/85	570 – 590/570
105 – 104/105	720 – 720/720
142 – 130/142	840 – 840/840
175 – 156/175	1050 – 1062/1050

Conformal coating on PCB

Control voltage
70 – 100 – 250 V, 50/60 Hz

Line voltage
600 – 208/230/480/600 V
690 – 690 V ②

Enclosed ③

T 100 D F 1 – 48 D A

Soft starter settings
T – Type PST Enclosed

010 – 10	125 – 125	800 – 800
015 – 15	150 – 150	900 – 900
020 – 20	200 – 200	1000 – 1000
025 – 25	250 – 250	1200 – 1200
030 – 30	300 – 300	1400 – 1400
040 – 40	350 – 350	1500 – 1500
050 – 50	400 – 400	1600 – 1600
060 – 60	450 – 450	1700 – 1700
075 – 75	500 – 500	1800 – 1800
100 – 100	600 – 600	

Connection type
L – Inline
D – Inside Delta

Combination type
No digit – non-combination
F – fusible disconnect
B – thermal magnetic circuit breaker
M – magnetic only breaker
N – non-fusible disconnect

Enclosure ①
1 – NEMA 1
2 – NEMA 12
3 – NEMA 3R
4 – NEMA 4
X – NEMA 4x stainless steel

Options ④

- A – Start-stop pushbutton
- B – Across the line rated (AC3) contactor with emergency bypass control
- C – 2 position selector switch
- D – 3 position selector switch
- E – Pilot light
- F – Start-stop pushbutton and pilot light
- H – 2 position selector switch and pilot light
- J – 3 position selector switch and pilot light
- M – Shunt rated (AC1) bypass contactor
- W – Isolation contactor

Fuse clip

- | | |
|-------------------------|--------------------------|
| A – 30A, 600V, Class J | H – 1200A, 600V, Class L |
| B – 60A, 600V, Class J | J – 1600A, 600V, Class L |
| C – 100A, 600V, Class J | K – 2000A, 600V, Class L |
| D – 200A, 600V, Class J | L – 2500A, 600V, Class L |
| E – 400A, 600V, Class J | M – 3000A, 600V, Class L |
| F – 600A, 600V, Class J | N – 4000A, 600V, Class L |
| G – 800A, 600V, Class L | |

Circuit Breaker Amp Ratings

- | | | | | |
|--------|---------|---------|----------|----------|
| D – 15 | M – 70 | W – 225 | E – 700 | N – 3000 |
| E – 20 | N – 80 | X – 250 | F – 800 | |
| F – 25 | P – 90 | Y – 300 | G – 900 | |
| G – 30 | R – 100 | Z – 350 | H – 1000 | |
| H – 35 | S – 125 | A – 400 | J – 1200 | |
| J – 40 | T – 150 | B – 450 | K – 1600 | |
| K – 50 | U – 175 | C – 500 | L – 2000 | |
| L – 60 | V – 200 | D – 600 | M – 2500 | |

MCP/MAG Only Rating

- | | | |
|--------|---------|----------|
| A – 3 | E – 50 | J – 400 |
| B – 5 | F – 100 | K – 600 |
| C – 10 | G – 150 | L – 800 |
| D – 25 | H – 225 | M – 1200 |

Line voltage

- 20: 208V 120V control voltage
- 24: 240V 120V control voltage
- 38: 380V 220V control voltage
- 41: 415V 220V control voltage
- 48: 480V 120V control voltage
- 60: 600V 120V control voltage

① Bypass contactor recommended when integrated bypass is not included. See page 6.47 for by-pass kits.

② Add 30% to the list price.

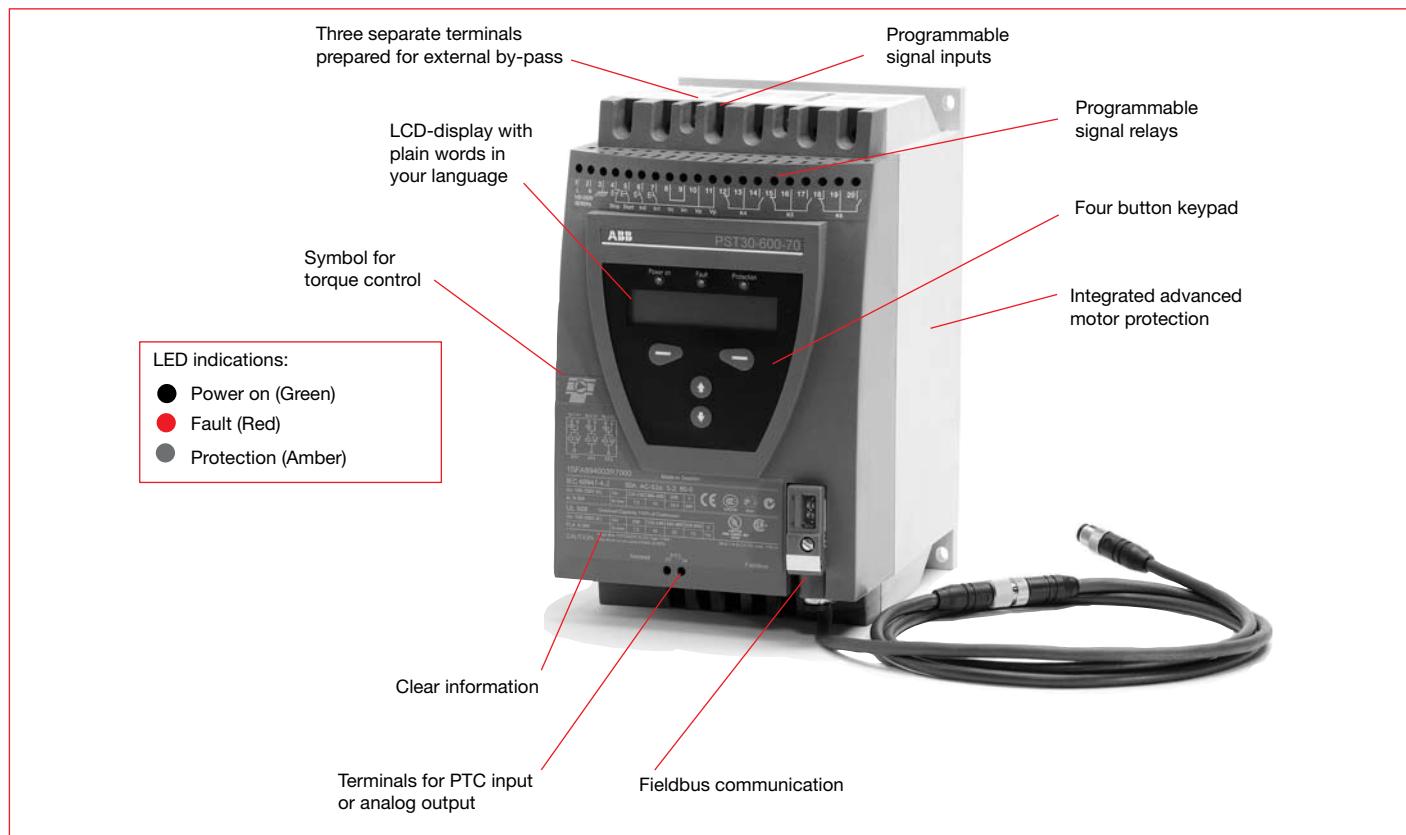
③ Consult factory for enclosed softstarters or use the on-line configurator. Take advantage of our built-to-stock Extreme Duty Softstarters! See pages 6.69 -72.

④ When selecting options, place the suffix in alphabetical order.

General information

Application and description

Softstarters
Type PST



Application

The PST range is a microprocessor based softstarter designed with the latest technology for soft start and soft stop of motors. The PST Softstarter has several advanced motor protection features as standard. The four button key pad and the logic structure of the menu makes the installation, commissioning and operation easy. It is possible to choose between 14 different languages.

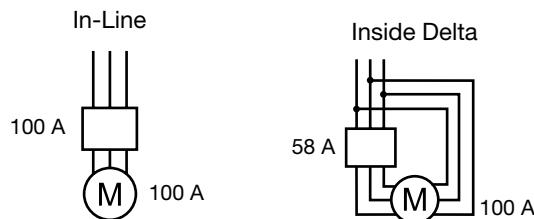
The PST Softstarter can be used with or without a by-pass contactor. The larger sizes, PSTB370 – PSTB1050, include a built-in by-pass contactor.

The PST Softstarter can be selected according to the rated motor power in normal duty applications like pumps, compressors, elevators, escalators, short conveyor belts and bow thrusters.

Digital display

Your business is going global. Shouldn't your motor control go global, too? The PST display gives you information presented in plain words — in your language. You can choose between 14 languages including English, German, Italian, Chinese, Finnish, Swedish, French, Spanish, Dutch, Russian, Turkish, Polish, Czech and Portuguese. On the PST display, you get all the information you need to set up, adjust and trouble-shoot. This makes the PST extremely easy to handle and reduces the risk of misinterpretations.

At any time, you can read output current, output voltage, number of starts, total run time and motor temperature on the display. If a fault should occur, this is also indicated on the display. The fault messages are presented in clear text in the selected language.



In-Line and Inside Delta connection of PST30 - 1050



General information

Online software tools available at
www.abb.us/lowvoltage

ABB Pro Soft 3

Sizes your softstarter to your application!

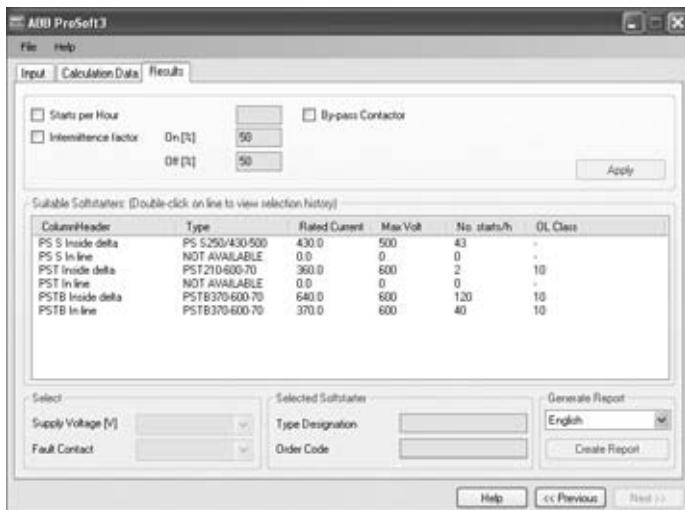
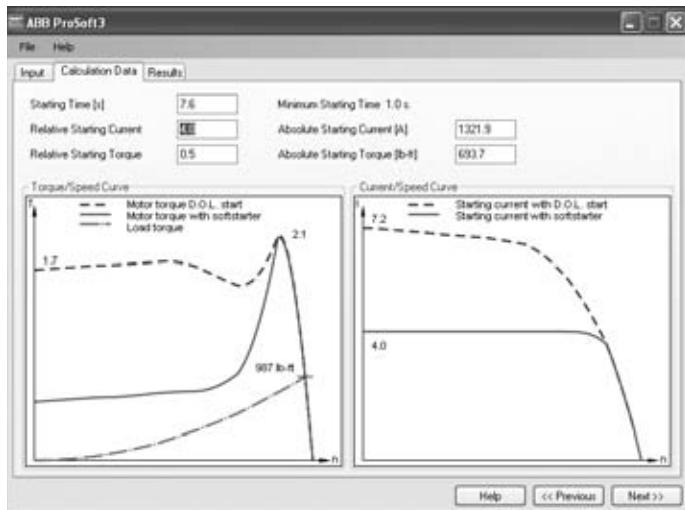
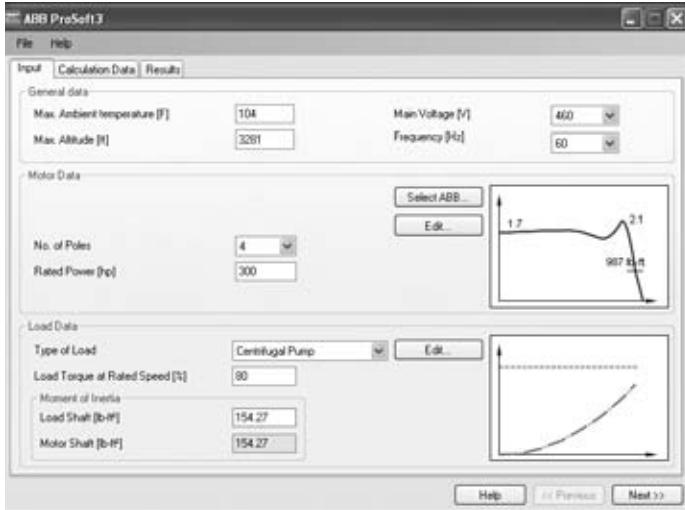


ABB PST Simulator

Helps you get started!



Online software tools available at
www.abb.us/lowvoltage

General information

Softstarters
Type PST

HMI (Human Machine Interface)

The display of the PST gives you information presented in plain words in required language. You can choose between 14 different languages, on the display you get all the information you need to set up, adjust and trouble-shoot.

The PST employs the same basic user concept as today's advanced mobile telephones. Using the four buttons on the keypad, you can easily adjust your own start and stop profile and motor protection functions for any type of application. There are standard settings for many common applications including pumps, conveyors, fans, mixers and compressors for quick and easy set up. All of this makes the PST extremely easy to handle.

Starting several motors

You can store as many as three different starting parameter sets for optimal sequence start of three different motors. You can use this function for two or three speed motors as well.

Integrated advanced motor protection

Inside the PST Softstarter, you will find useful features for advanced motor and softstarter protection, including; programmable overload protection, high current, underload, phase imbalance, phase reversal, thyristor overload protection, and bypass monitoring to ensure proper by-pass operation.

Coated PCBs

The PST(B) softstarter can be ordered as a version with coated PCBs. This coating can extend the life of the PSBs in for instance waste water plants where corrosive acids and gases may exist.

Programmable signal relays

All PST units have three programmable signal relays where each relay can signal Run, Top of Ramp or Event. The Event setting can be used to signal protections, faults and warnings. The supervisory functions monitor not only software and critical softstarter functionality but also phase loss and out of frequency range.

Integrated by-pass contactor

On the larger sizes (PSTB 370 ... PSTB1050), there is an ABB AF contactor integrated. This gives you advantages in terms of cost-saving, space saving and last but not least energy saving. With a by-pass contactor you can reduce the power losses during normal run by 90 % or more.

The smaller units, PST30 up to PST300, which are not equipped with a built-in by-pass contactor, have an extra set of three terminals on the line side. The terminals are marked B1, B2 and B3 and shall be used when connecting an external by-pass contactor. This will enable the integrated protection functions also when the softstarter is by-passed.

Remote four button keypad

This optional remote keypad is an extended HMI (human-machine interface) for all PST(B) softstarters. The remote keypad allows you to access all functions from the PST(B) on the outside of the enclosure door.

The interface/display is exactly the same as the one on the softstarter (working in parallel with the one on the product). Used as a handheld device, it is easy to set up parallel softstarter units as you can copy data from one softstarter unit and download to another.

The keypad kit includes all necessary details for assembling: 3 screws, 10 ft. communication cable, installation instructions and a drilling plan.

The keypad has the following approvals: UL Type 1, 12, Indoor 4/4X.



Fieldbus communication

The PST Softstarter has a built-in interface on the front for connection of the ABB FieldBusPlug used for fieldbus communication. Through this interface it is possible to control the softstarter, achieve status information, up- and down load of parameters. The interface between the soft-starter and the FieldBus-Plug is always the same. Independently of PST Softstarter size or delivery date it is possible to connect to any fieldbus protocol later on since this is defined in the FieldBusPlug itself. Available protocols are AS-Interface, DeviceNet, Profibus DP, Modbus-RTU and CANopen. To connect the PST Softstarter to a fieldbus system you need the accessories described on page 6.48 to 6.54 as well as specific software for PLC set-up, which is available at www.abb.com/lowvoltage on the Softstarter pages.

Torque control

The default setting is a normal voltage ramp but it is possible to select torque ramp. With the torque control function it is possible to start and stop motors with a more linear acceleration than when using the normal voltage ramps.

During start this can be used to reduce the wear on the equipment driven by the motor.

During stop, controlling the torque is especially useful for pump applications where voltage ramps can lead to a sudden torque drop which may result in water hammering and pressure surges. Torque control will keep these problems to an absolute minimum.



Torque limit

With the torque limit function enabled, the torque can never exceed a set value during start. This will minimize stress and wear on the equipment driven by the motor.

Analog output

With the PST(B) softstarter it is possible to have analog output signals to be used as input to a PLC or an analog meter. The output signals can be selected to be for instance the current of the motor, main voltage, active power or the temperature of the motor. The terminals used for analog output are also used for PTC protection, so only one of these functions can be used.



PSTB570 with integrated by-pass contactor.

Selection guide PST30 – PST142



	PST30 ... 72					PST85 ... 142		
Softstarter type	PST							
480 V, 104°F	30	37	44	50	72	85	105	142
Normal start, In Line connected:								
(480 V), hp	20	25	30	40	50	60	75	100
UL, Max. A	28	34	42	54	68	80	104	130
MCCB Branch Protection ①								
Recommended size MCCB	T2	T2	T2	T2	T2	T2	T3	T3
Fuse protection 65 kA (Max. fuse size), Semiconductor fuses, Bussman with fuse holder								
Semiconductor fuse Zylox and Respective fuse holders	170M1366 170H1007	170M1368 170H1007	170M1369 170H1007	170M1369 170H1007	170M1371 170H1007	170M1372 170H1007	170M3019 170H3004	170M3020 170H3004
Fused disconnect ①								
Suitable fused disconnect for J fuse	OS60	OS60	OS100	OS100	OS200	OS200	OS400	OS400
480 V Fuse, Type J fuse, minimum rating	45 A	60 A	80 A	100 A	125 A	150 A	200 A	250 A
Short circuit current rating	10 kA							
AC-3 rated By-pass ①								
The line contactor is not required for the softstarter itself but often used to open if OL trips.	A26	A30	A40	A50	A63	A75	A110	A145
Electronic overload relay								
Electronic overload	Built-in							
AC-1 rated By-pass ①								
The by-pass contactor reduces the power loss of the softstarter but also to increase the number of starts/h.	A16	A26	A30	A40	A50	A50	A75	A110
Current transformers								
The current transformer is integrated	Integrated PSCT-30	Integrated PSCT-40	Integrated PSCT-50	Integrated PSCT-50	Integrated PSCT-75	Integrated PSCT-100	Integrated PSCT-125	Integrated PSCT-150
Control transformers								
Min. recommended transformer size	50 VA	75 VA	75 VA	75 VA				
Power consumption with by-pass	9.5 W	10.5 W	13.5 W	13.5 W	17 W	30.5 W	35 W	37 W
Power consumption without by-pass	100 W	120 W	140 W	160 W	230 W	270 W	325 W	435 W

① For complete catalog numbers, see the pertinent product section in the 1SXU0000023C0202 Product Selector.

Integrated advanced motor protection

Inside the PST Softstarter, you will find useful features for advanced motor and softstarter protection, including; programmable overload protection, high current, underload, phase imbalance, phase reversal, thyristor overload protection, and bypass monitoring to ensure proper by-pass operation.

Programmable signal relays

All PST units have three programmable signal relays where each relay can signal Run, Top of Ramp or Event. The Event setting can be used to signal protections, faults and warnings. The supervisory functions monitor not only software and critical softstarter functionality but also phase loss and out of frequency range.

Integrated By-pass contactor

On the larger sizes (PSTB 370 ... PSTB1050), there is an ABB AF contactor integrated. This gives you advantages in terms of cost saving, space saving and last but not least energy saving. With a by-pass contactor you can reduce the power losses during normal run by 90 % or more. The smaller units, PST30 up to PST300, which are not equipped with a built-in by-pass contactor, have an extra set of three terminals on the line side. The terminals are marked B1, B2 and B3 and shall be used when connecting an external by-pass contactor. This will enable the integrated protection functions also when the softstarter is by-passed.

External keypad (option)

An external keypad is available as an option. The keypad can be mounted on a panel door for example to view/control the softstarter without opening the door. The keypad can also be used to copy parameters between different softstarters.

Fieldbus communication

The PST Softstarter has a built-in interface on the front for connection of the ABB FieldBusPlug used for fieldbus communication. Through this interface it is possible to control the softstarter, achieve status information, up- and down load of parameters. The interface between the softstarter and the FieldBusPlug is always the same. Independently of PST Softstarter

Selection guide

PST175 – PSTB1050

Softstarters
Type PST



PST175 ... 300				PSTB370 ... 470		PSTB570 ... 1050			
PST	PST	PST	PST	PSTB	PSTB	PSTB	PSTB	PSTB	PSTB
175	210	250	300	370	470	570	720	840	1050
125	150	200	250	300	400	500	600	700	900
156	192	248	302	361	480	590	720	840	1062
T4	T4	T5	T5	T5	T5	T6	T6	T7	T7
170M3021 170H3004	170M5012 170H3004	170M5013 170H3004	170M5015 170H3004	170M5013 170H3004	170M5015 170H3004	170M5015 170H3004	170M5018 170H3004	170M6018 170H3004	170M6020 170H3004
OS400 300 A 18 kA	OS400 400 A 18 kA	OES600 400 A 18 kA	OES600 500 A 18 kA	OES600 600 A 30 kA	OES800 800 A 30 kA	— L900 A 30 kA	— L1200 A 42 kA	— 42 kA	— 85 kA
A185	A210	A260	A300	AF400	AF460	AF580	AF750	AF1350	AF1650
Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in	Built-in
A145	A145	A185	A260	Built-in AF300	Built-in AF300	Built-in AF460	Built-in AF580	Built-in AF750	Built-in AF750
Integrated PSCT-200	Integrated PSCT-250	Integrated PSCT-250	Integrated PSCT-300	Integrated PSCT-400	Integrated PSCT-500	Integrated PSCT-600	Integrated PSCT-750	Integrated PSCT-1000	Integrated PSCT-1200
250 VA 62 W 540 W	250 VA 67 W 645 W	250 VA 67 W 765 W	250 VA 90 W 920 W	750 VA 90 W	750 VA 110 W	750 VA 105 W	750 VA 110 W	750 VA 170 W	750 VA 170 W

size or delivery date it is possible to connect to any fieldbus protocol later on since this is defined in the FieldBusPlug itself. Available protocols are AS-Interface, DeviceNet, Profibus DP and Modbus-RTU. To connect the PST Softstarter to a fieldbus system you need the appropriate accessories as well as specific software for PLC set-up, which is available at www.abb.com/lowvoltage on the Softstarter pages.

Torque control



The default setting is a normal voltage ramp but it is possible to select torque ramp. With the torque control function it is possible to start and stop motors with a more linear acceleration than when using the normal voltage ramps.

During start this can be used to reduce the wear on the equipment driven by the motor.

During stop, controlling the torque is especially useful for pump applications where voltage ramps can lead to a sudden torque drop which may result in water hammering and pressure surges. Torque control will keep these problems to an absolute minimum.

Torque limit

With the torque limit function enabled, the torque can never exceed a set value during start. This will minimize stress and wear on the equipment driven by the motor.

Analog output

With the PST(B) softstarter it is possible to have analog output signals to be used as input to a PLC or an analog meter. The output signals can be selected to be for instance the current of the motor, main voltage, active power or the temperature of the motor. The terminals used for analog output are also used for PTC protection, so only one of these functions can be used.

General information

Application and description

Application

The PST range is a microprocessor based softstarter designed with the latest technology for soft start and soft stop of motors. The PST Softstarter has several advanced motor protection features as standard. The four button keypad and the logic structure of the menu make the installation, commissioning and operation easy. It is possible to choose between 14 different languages.

The PST Softstarter can be used with or without a by-pass contactor except for the larger sizes PSTB370 ... PSTB1050 where the by-pass contactor is already built-in.

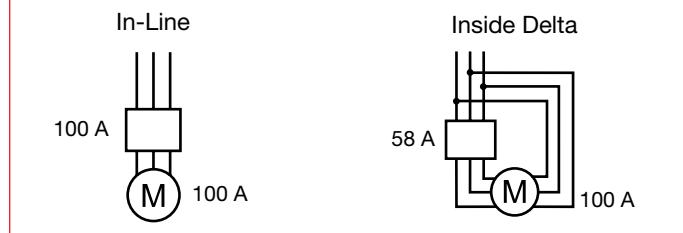
The PST Softstarter can be selected according to the rated motor power in **normal duty** applications like pumps, compressors, elevators, escalators, short conveyor belts and bow thrusters.

See page 6.43 and 44.

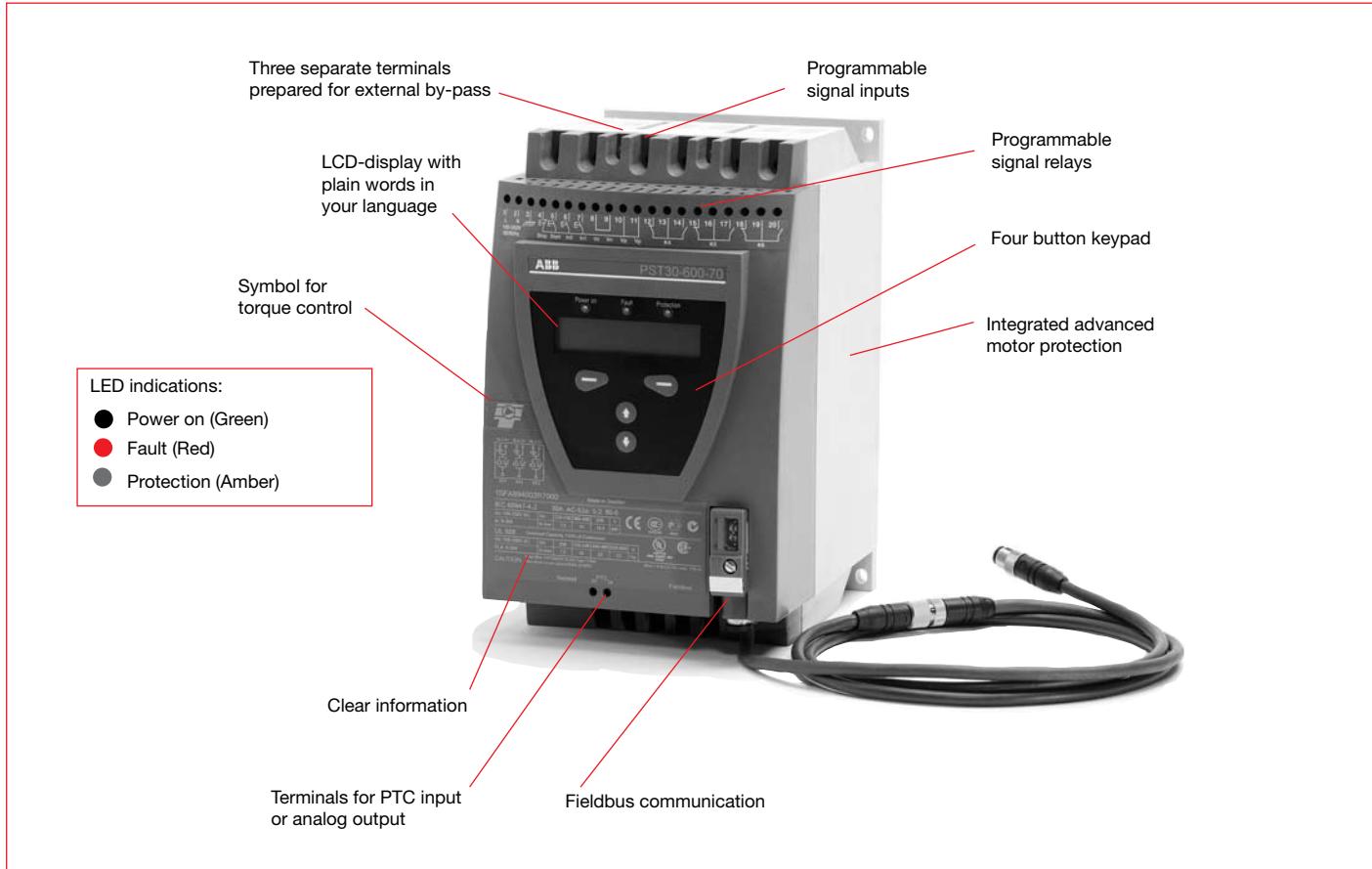
For **heavy duty** applications like centrifugal fans, crushers, mixers, mills, stirrers and long conveyor belts, select a softstarter from page 6.45 & 46.

Description

- Wide main voltage range 208 - 690 V AC
- Wide supply voltage range 100 - 250 V, 50/60 Hz
- Current ratings 30 to 1050 A (In Line) and 52 ... 1810 A (Inside Delta)
- Same unit can be used for both In Line and Inside Delta connection
- Premium adjustable Softstarter functions like start/stop ramp, kick start, jog, step down voltage and sequential starts.
- Current limit adjustable between 2-7 x I_e
- Thermistor (PTC) supervision of motor winding
- Real time clock
- Logging of last 20 events with time marking
- Prepared for fieldbus communication (Engineering packages on web site)
- Motor overload protection with simulated motor temperature from measured current. Select between 10A, 10, 20 and 30
- Locked rotor protection
- Motor underload protection
- Phase imbalance protection
- Phase reversal protection
- Torque control (Specifically for pump applications)
- Analog output



In-Line and Inside Delta connection of PST30 ... PSTB1050



PST30 – PSTB1050

Normal starts, Class 10, In-line

Softstarters
Type PST



PST30 ... PST72



PST85 ... PST142



PST175 ... PST300



PSTB370 ... PSTB470



PSTB570 ... PSTB1050

PST30... PSTB1050 – UL Rated

208 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Maximum motor current		Maximum horsepower					Weight (lbs.)	Catalog number	List price
UL	IEC	208 V	240 V	380 V	480 V	600 V			
28	30	7.5	10	15	20	25	9	PST30-600-70	\$ 1,330
34	37	10	10	20	25	30	9	PST37-600-70	1,360
42	44	10	15	25	30	40	11	PST44-600-70	1,390
54	50	15	20	30	40	50	11	PST50-600-70	1,730
68	72	20	25	40	50	60	22	PST72-600-70	1,755
80	85	25	30	50	60	75	22	PST85-600-70 ②	2,380
104	105	30	40	60	75	100	27	PST105-600-70 ②	2,410
130	142	40	50	75	100	125	33	PST142-600-70 ②	3,375
156	175	50	60	100	125	150	44	PST175-600-70 ②	3,420
192	210	60	75	125	150	200	49	PST210-600-70 ②	3,870
248	250	75	100	150	200	250	49	PST250-600-70 ②	4,350
302	300	100	100	150	250	300	53	PST300-600-70 ②	4,480
361	370	125	150	200	300	350	84	PSTB370-600-70 ②	5,660
480	470	150	200	300	400	500	93	PSTB470-600-70 ②	7,000
590	570	200	250	350	500	600	97	PSTB570-600-70 ②	8,550
720	720	250	300	450	600	700	119	PSTB720-600-70 ②	9,630
840	840	300	350	500	700	800	124	PSTB840-600-70 ②	10,900
1062	1050	400	450	600	900	1000	137	PSTB1050-600-70 ②	18,000

PST30 ... PST300 – IEC Rated

230 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power		Max rated motor current, I _e A	Reference code	Catalog number	List price
400 V P _e kW	500 V P _e kW				
15	18.5	30	1SFA 894 002 R70Δ0	PST30-600-70T	\$ 1,630
18.5	22	37	1SFA 894 003 R70Δ0	PST37-600-70T	1,660
22	25	44	1SFA 894 004 R70Δ0	PST44-600-70T	1,690
25	30	50	1SFA 894 005 R70Δ0	PST50-600-70T	2,030
37	45	72	1SFA 894 007 R70Δ0	PST72-600-70T	2,055
45	55	85	1SFA 894 008 R70Δ0	PST85-600-70T ②	2,680
55	75	105	1SFA 894 009 R70Δ0	PST105-600-70T ②	2,710
75	90	142	1SFA 894 010 R70Δ0	PST142-600-70T ②	3,675
90	110	175	1SFA 894 011 R70Δ0	PST175-600-70T ②	3,720
110	132	210	1SFA 894 012 R70Δ0	PST210-600-70T ②	4,170
132	160	250	1SFA 894 013 R70Δ0	PST250-600-70T ②	4,650
160	200	300	1SFA 894 014 R70Δ0	PST300-600-70T ②	4,780

PSTB370 ... PSTB1050 with integrated by-pass – IEC Rated

400 - 690 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power			Max rated motor current, I _e A	Reference code	Catalog number	List price
400 V P _e kW	500 V P _e kW	690 V P _e kW				
200	257	355	370	1SFA 894 015 R70Δ0	PSTB370-600-70T ②	\$ 5,960
250	315	450	470	1SFA 894 016 R70Δ0	PSTB470-600-70T ②	7,300
315	400	560	570	1SFA 894 017 R70Δ0	PSTB570-600-70T ②	8,850
400	500	710	720	1SFA 894 018 R70Δ0	PSTB720-600-70T ②	9,930
450	600	800	840	1SFA 894 019 R70Δ0	PSTB840-600-70T ②	11,200
560	730	1000	1050	1SFA 894 020 R70Δ0	PSTB1050-600-70T ②	18,300

Catalog number ①
No code letter = Normal
T = Coated PCB

Reference code ①
Replace the Δ with the corresponding suffix code:
0 = Normal
2 = Coated PCB

① All options available for UL / IEC.

② Lugs are not included. See page 6.47 for lug selection.

PST30 – PSTB1050

Normal starts, Class 10, Inside Delta



PST30 ... PST72



PST85 ... PST142



PST175 ... PST300



PSTB370 ... PSTB470



PSTB570 ... PSTB1050

PST30... PSTB1050 – UL Rated

208 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Maximum motor current		Maximum horsepower					Weight (lbs.)	Catalog number	List price
UL	IEC	208 V	240 V	380 V	480 V	600 V			
42	51	10	15	30	30	40	9	PST30-600-70	\$ 1,330
54	64	15	20	40	40	50	9	PST37-600-70	1,360
72	76	20	25	50	50	60	11	PST44-600-70	1,390
80	86	25	30	50	60	75	11	PST50-600-70	1,730
104	124	30	40	75	75	100	22	PST72-600-70	1,755
130	148	40	50	75	100	125	22	PST85-600-70 ②	2,380
156	181	50	60	100	125	150	27	PST105-600-70 ②	2,410
192	245	60	75	150	150	200	33	PST142-600-70 ②	3,375
248	303	75	100	200	200	250	44	PST175-600-70 ②	3,420
302	363	100	100	200	250	300	49	PST210-600-70 ②	3,870
361	433	125	150	250	300	350	49	PST250-600-70 ②	4,350
480	519	150	200	300	400	500	53	PST300-600-70 ②	4,480
590	640	200	250	400	500	600	84	PSTB370-600-70 ②	5,660
720	814	250	300	500	600	700	93	PSTB470-600-70 ②	7,000
840	987	300	350	600	700	800	97	PSTB570-600-70 ②	8,550
1247	1247	400	500	800	1000	1200	119	PSTB720-600-70 ②	9,630
1454	1454	500	600	900	1200	1500	124	PSTB840-600-70 ②	10,900
1839	1818	600	700	1000	1500	1800	137	PSTB1050-600-70 ②	18,000

PST30 ... PST300 – IEC Rated

230 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power		Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW				
25	30	52	1SFA 894 002 R70Δ0	PST30-600-70T	\$ 1,630
30	37	64	1SFA 894 003 R70Δ0	PST37-600-70T	1,660
37	45	76	1SFA 894 004 R70Δ0	PST44-600-70T	1,690
45	55	85	1SFA 894 005 R70Δ0	PST50-600-70T	2,030
59	80	124	1SFA 894 007 R70Δ0	PST72-600-70T	2,055
75	90	147	1SFA 894 008 R70Δ0	PST85-600-70T ②	2,680
90	110	181	1SFA 894 009 R70Δ0	PST105-600-70T ②	2,710
132	160	245	1SFA 894 010 R70Δ0	PST142-600-70T ②	3,675
160	200	300	1SFA 894 011 R70Δ0	PST175-600-70T ②	3,720
184	250	360	1SFA 894 012 R70Δ0	PST210-600-70T ②	4,170
220	295	430	1SFA 894 013 R70Δ0	PST250-600-70T ②	4,650
257	355	515	1SFA 894 014 R70Δ0	PST300-600-70T ②	4,780

PSTB370 ... PSTB1050 with integrated by-pass – IEC Rated

400 - 690 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power			Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW	690 V P_e kW				
355	450	600	640	1SFA 894 015 R70Δ0	PSTB370-600-70T ②	\$ 5,960
450	600	800	814	1SFA 894 016 R70Δ0	PSTB470-600-70T ②	7,300
540	700	960	987	1SFA 894 017 R70Δ0	PSTB570-600-70T ②	8,850
710	880	1200	1247	1SFA 894 018 R70Δ0	PSTB720-600-70T ②	9,930
800	1000	1400	1455	1SFA 894 019 R70Δ0	PSTB840-600-70T ②	11,200
1000	1250	1700	1810	1SFA 894 020 R70Δ0	PSTB1050-600-70T ②	18,300

Catalog number ①
No code letter = Normal
T = Coated PCB

Reference code ①
Replace the Δ with the corresponding suffix code:
0 = Normal
2 = Coated PCB

① All options available for UL / IEC.

② Lugs are not included. See page 6.47 for lug selection.



PST30 – PSTB1050

Heavy duty starts, Class 30, In-line

Softstarters
Type PST



PST30 ... PST72



PST85 ... PST142



PST175 ... PST300



PSTB370 ... PSTB470



PSTB570...PSTB1050

PST30 - PSTB1050 - UL Rated

208 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Maximum motor current		Maximum horsepower					Weight (lbs.)	Catalog number	List price
UL	IEC	208 V	240 V	380 V	480 V	600 V			
28	30	7.5	10	15	20	25	9	PST37-600-70	1,360
34	37	10	10	20	25	30	9	PST44-600-70	1,390
42	44	10	15	25	30	40	11	PST50-600-70	1,730
54	50	15	20	30	40	50	11	PST72-600-70	1,755
68	72	20	25	40	50	60	22	PST85-600-70 ②	2,380
80	85	25	30	50	60	75	22	PST105-600-70 ②	2,410
104	105	30	40	60	75	100	27	PST142-600-70 ②	3,375
130	142	40	50	75	100	125	33	PST175-600-70 ②	3,420
156	175	50	60	100	125	150	44	PST210-600-70 ②	3,870
192	210	60	75	125	150	200	49	PST250-600-70 ②	4,350
248	250	75	100	150	200	250	49	PST300-600-70 ②	4,480
302	300	100	100	150	250	300	53	PSTB370-600-70 ②	5,660
361	370	125	150	200	300	350	84	PSTB470-600-70 ②	7,000
480	470	150	200	300	400	500	93	PSTB570-600-70 ②	8,550
590	570	200	250	350	500	600	97	PSTB720-600-70 ②	9,630
720	720	250	300	450	600	700	119	PSTB840-600-70 ②	10,900
840	840	300	350	500	700	800	124	PSTB1050-600-70 ②	18,000

PST37 ... PST300 – IEC Rated

230 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power		Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW				
15	18.5	30	1SFA 894 003 R70Δ0	PST37-600-70T	1,660
18.5	22	37	1SFA 894 004 R70Δ0	PST44-600-70T	1,690
22	25	44	1SFA 894 005 R70Δ0	PST50-600-70T	2,030
30	37	60	1SFA 894 007 R70Δ0	PST72-600-70T	2,055
37	45	72	1SFA 894 008 R70Δ0	PST85-600-70T ②	2,680
45	55	85	1SFA 894 009 R70Δ0	PST105-600-70T ②	2,710
55	75	105	1SFA 894 010 R70Δ0	PST142-600-70T ②	3,675
75	90	142	1SFA 894 011 R70Δ0	PST175-600-70T ②	3,720
90	110	175	1SFA 894 012 R70Δ0	PST210-600-70T ②	4,170
110	132	210	1SFA 894 013 R70Δ0	PST250-600-70T ②	4,650
132	160	250	1SFA 894 014 R70Δ0	PST300-600-70T ②	4,780

PSTB370 ... PSTB1050 with integrated by-pass – IEC Rated

400 - 690 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power			Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW	690 V P_e kW				
160	200	257	300	1SFA 894 015 R70Δ0	PSTB370-600-70T ②	\$ 5,960
200	257	355	370	1SFA 894 016 R70Δ0	PSTB470-600-70T ②	7,300
250	315	450	470	1SFA 894 017 R70Δ0	PSTB570-600-70T ②	8,850
315	400	560	570	1SFA 894 018 R70Δ0	PSTB720-600-70T ②	9,930
400	500	710	720	1SFA 894 019 R70Δ0	PSTB840-600-70T ②	11,200
450	600	800	840	1SFA 894 020 R70Δ0	PSTB1050-600-70T ②	18,300

Catalog number ①
No code letter = Normal
T = Coated PCB

Reference code ①
Replace the Δ with the corresponding suffix code:
0 = Normal
2 = Coated PCB

① All options available for UL / IEC.
② Lugs are not included. See page 6.47 for lug selection.

PST30 – PSTB1050

Heavy duty starts, Class 30, Inside delta



PST30 ... PST72



PST85 ... PST142



PST175 ... PST300



PSTB370 ... PSTB470



PSTB570 ... PSTB1050

PST30 - PSTB1050 - UL Rated

208 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Maximum motor current		Maximum horsepower					Weight (lbs.)	Catalog number	List price
UL	IEC	208 V	240 V	380 V	480 V	600 V			
42	51	10	15	30	30	40	9	PST37-600-70	1,360
54	64	15	20	40	40	50	9	PST44-600-70	1,390
72	76	20	25	50	50	60	11	PST50-600-70	1,730
80	86	25	30	50	60	75	11	PST72-600-70	1,755
104	124	30	40	75	75	100	22	PST85-600-70 ②	2,380
130	148	40	50	75	100	125	22	PST105-600-70 ②	2,410
156	181	50	60	100	125	150	27	PST142-600-70 ②	3,375
192	245	60	75	150	150	200	33	PST175-600-70 ②	3,420
248	303	75	100	200	200	250	44	PST210-600-70 ②	3,870
302	363	100	100	200	250	300	49	PST250-600-70 ②	4,350
361	433	125	150	250	300	350	49	PST300-600-70 ②	4,480
480	519	150	200	300	400	500	53	PSTB370-600-70 ②	5,660
590	640	200	250	400	500	600	84	PSTB470-600-70 ②	7,000
720	814	250	300	500	600	700	93	PSTB570-600-70 ②	8,550
840	987	300	350	600	700	800	97	PSTB720-600-70 ②	9,630
1247	1247	400	500	800	1000	1200	119	PSTB840-600-70 ②	10,900
1454	1454	500	600	900	1200	1500	124	PSTB1050-600-70 ②	18,000

PST37 ... PST300 – IEC Rated

230 - 600 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power		Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW				
25	30	52	1SFA 894 003 R70Δ0	PST37-600-70T	1,660
30	37	64	1SFA 894 004 R70Δ0	PST44-600-70T	1,690
37	45	76	1SFA 894 005 R70Δ0	PST50-600-70T	2,030
55	75	105	1SFA 894 007 R70Δ0	PST72-600-70T	2,055
59	80	124	1SFA 894 008 R70Δ0	PST85-600-70T ②	2,680
75	90	147	1SFA 894 009 R70Δ0	PST105-600-70T ②	2,710
90	110	181	1SFA 894 010 R70Δ0	PST142-600-70T ②	3,675
132	160	245	1SFA 894 011 R70Δ0	PST175-600-70T ②	3,720
160	200	300	1SFA 894 012 R70Δ0	PST210-600-70T ②	4,170
184	250	360	1SFA 894 013 R70Δ0	PST250-600-70T ②	4,650
220	295	430	1SFA 894 014 R70Δ0	PST300-600-70T ②	4,780

PSTB370 ... PSTB1050 with integrated by-pass – IEC Rated

400 - 690 VAC

Supply voltage, Us 100...250 V, 50/60 Hz

Motor power			Max rated motor current, I_e A	Reference code	Catalog number	List price
400 V P_e kW	500 V P_e kW	690 V P_e kW				
257	355	500	515	1SFA 894 015 R70Δ0	PSTB370-600-70T ②	\$ 5,960
355	450	600	640	1SFA 894 016 R70Δ0	PSTB470-600-70T ②	7,300
450	600	800	814	1SFA 894 017 R70Δ0	PSTB570-600-70T ②	8,850
540	700	900	987	1SFA 894 018 R70Δ0	PSTB720-600-70T ②	9,930
710	880	1200	1247	1SFA 894 019 R70Δ0	PSTB840-600-70T ②	11,200
800	1000	1400	1455	1SFA 894 020 R70Δ0	PSTB1050-600-70T ②	18,300

Catalog number ①
No code letter = Normal
T = Coated PCB

Reference code ①
Replace the Δ with the corresponding suffix code:
0 = Normal
2 = Coated PCB

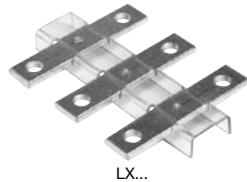
① All options available for UL / IEC.

② Lugs are not included. See page 6.47 for lug selection.

Accessories

PST30 - 300 and PSTB370 - 1050

Softstarters
 Type PST



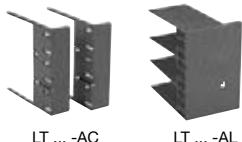
LX...



LW...



LE185



LT ... -AC

LT ... -AL

Terminal lug kits – Complete set

For PST85...300 you need 9 pieces if also using the terminals B1, B2, B3 for external by-pass contactor.

Wire range	For softstarter	Quantity	Catalog number	List price
#6 - 250 MCM (1 per phase)	PST85 – PST142		PSLK-185	\$ 150
#4 - 400 MCM (1 per phase)	PST175 – PST300		PSLK-300	195
#4 - 500 MCM (2 per phase)	PST175 – PST300		PSLK-300/2	280
2/0 - 500 MCM (2 per phase)	PSTB370 – PSTB470		PSLK-580/2	350
2/0 - 500 MCM (3 per phase)	PSTB570 – PSTB1050		PSLK-750/3	525
#6 - 250 MCM (1 per phase)	PST85 – PST142		PSLK-185-B	255
#4 - 400 MCM (1 per phase)	PST175 – PST300		PSLK-300-B	290
#4 - 500 MCM (2 per phase)	PST175 – PST300		PSLK-300/2-B	420

By-pass kits up to 300 A / 250 HP for external by-pass

Description	Catalog number	List price
	A26-M-PST30	\$ 175
	A26-M-PST37	250
	A30-M-PST44	300
	A40-M-PST50	350
	A50-M-PST72	400
	A50-M-PST85 ③	500
	A75-M-PST105 ③	550
	A110-M-PST142 ③	600
	A145-M-PST175 ③	950
	A145-M-PST210 ③	950
	A185-M-PST250 ③	1,250
	A260-M-PST300 ③	2,100

Terminal extensions

For Softstarter type	Dimensions hole ø mm²	bar mm	Packing Piece	Reference code	Catalog number	List price
PST85...142 ④	8.5	17.5 x 5	1	1SFN 074 710 R1000	LX185	\$ 90
PST175...300 ⑤	10.5	20 x 5	1	1SFN 075 110 R1000	LX300	140
PSTB370...470	10.5	25 x 5	1	1SFN 075 710 R1000	LX460	195
PSTB570...1050	13	40 x 6	1	1SFN 076 110 R1000	LX750	225

Terminal enlargements

For Softstarter type	Dimensions hole ø mm²	bar mm	Packing Piece	Reference code	Catalog number	List price
PST30...72 ④	6.5	15 x 3	1	1SFN 074 307 R1000	LW110	\$ 95
PST85...142 ⑤	10.5	17.5 x 5	1	1SFN 074 707 R1000	LW185	120
PST175...300	10.5	20 x 5	1	1SFN 075 107 R1000	LW300	130
PSTB370...470	10.5	25 x 5	1	1SFN 075 707 R1000	LW460	295
PSTB570...1050	13	40 x 6	1	1SFN 076 107 R1000	LW750	355

Terminal nut washer

For Softstarter type	Packing Piece	Reference code	Catalog number	List price
PST85...142 ①	2	1SFN 074 716 R1000	LE185	\$ 30
PST175...300 ②	2	1SFN 075 116 R1000	LE300	30

Terminal shrouds ⑥

For Softstarter type	Required quantity	Packing Piece	Reference code	Catalog number	List price
PST85...142	1 pc and 1 pc	2	1SFN 124 701 R1000 1SFN 125 701 R1000	LT185-AC LT460-AC	\$ 10 20
PST85...142	1 pc and 1 pc	2	1SFN 124 703 R1000 1SFN 125 703 R1000	LT185-AL LT460-AL	10 20
PST175...300 ①	3 pcs	2	1SFN 125 101 R1000	LT300-AC	10
PST175...300 ①	3 pcs	2	1SFN 125 103 R1000	LT300-AL	10
PSTB370...470	2 pcs	2	1SFN 125 701 R1000	LT460-AC	20
PSTB370...470	2 pcs	2	1SFN 125 703 R1000	LT460-AL	20
PSTB570...1050	2 pcs	2	1SFN 126 101 R1000	LT750-AC	20
PSTB570...1050	2 pcs	2	1SFN 126 103 R1000	LT750-AL	20

- ① Must order two sets if using bypass contactor.
- ② Use two sets on line side and one set on load side.
- ③ Crimped lugs
- ④ Only fits on the motor side
- ⑤ Use two sets of the accessories on the line side and one set on the motor side.
- ⑥ AL shrouds will not work on top with lugs nor will they work on bottom with nut holders. Order extended terminal shroud when using standard lugs. Cannot use extended shroud on 300/2, 580/2 & 750/3 lugs.

Accessories

PST30 - 300 and PSTB370 - 1050



PSTEK



PSTM-2

External keypad including a 3m cable

For Softstarter type	Packing Piece	Reference code	Catalog number	List price
PST30...300 PSTB370...1050	1	1SFA 899 003 R1000	PSTEK	\$ 385

Marine kit

For Softstarter type	Packing Piece	Reference code	Catalog number	List price
PST85...142	1	1SFA 899 004 R1000	PSTM-2	\$ 150

FBP FieldBusPlug

DeviceNet, MODBUS-RTU & CANopen fieldbus connectors

Softstarters
Type PST



DNP21-FBP
MRP21-FBP
COP21-FBP

DeviceNet FieldBusPlug

Ready-made DeviceNet fieldbus interface with various cable lengths.

- Applicable on all FBP motor starters and other devices
- Degree of protection IP65, diagnostic LED

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
DeviceNet-FBP	0.25 m	1	DNP21-FBP.025	1SAJ230000R1003	\$ 345
DeviceNet-FBP	0.50 m	1	DNP21-FBP.050	1SAJ230000R1005	352
DeviceNet-FBP	1.00 m	1	DNP21-FBP.100	1SAJ230000R1010	359

MODBUS-RTU FieldBusPlug

Ready-made MODBUS-RTU fieldbus interface with various cable lengths.

- Applicable on all FBP motor starters and other devices
- Degree of protection IP65, diagnostic LED

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
MODBUS-RTU-FBP	0.25 m	1	MRP21-FBP.025	1SAJ250000R0003	\$ 440
MODBUS-RTU-FBP	0.50 m	1	MRP21-FBP.050	1SAJ250000R0005	447
MODBUS-RTU-FBP	1.00 m	1	MRP21-FBP.100	1SAJ250000R0010	454

CANopen FieldBusPlug

Ready-made CANopen fieldbus interface with various cable lengths.

- Applicable on all FBP motor starters and other devices
- Degree of protection IP65, diagnostic LED

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
CANopen-FBP	0.25 m	1	COP21-FBP.025	1SAJ230100R1003	\$ 335
CANopen-FBP	0.50 m	1	COP21-FBP.050	1SAJ230100R1005	342
CANopen-FBP	1.00 m	1	COP21-FBP.100	1SAJ230100R1010	348

To connect the PST Softstarter to a DeviceNet fieldbus system...

you need specific software for PLC set-up, (EDS file) which is available at www.abb.com/lowvoltage on the Softstarter pages. Look under the documentation-link named Software. If you need help or advice, please contact your local ABB office.

FBB FieldBusPlug

DeviceNet, MODBUS-RTU & CANopen fieldbus connectors



DNF11-FBP.050



DNM11-FBP.050



DNX11-FDP



DNF11-FBP.0



DNR11-FBP.120

Accessories for the DeviceNet, MODBUS-RTU and CANopen Bus Connector

DeviceNet, MODBUS-RTU and CANopen Round Cable for Bus Junctions

Ready-made bus cable with an M12 connector and an open cable end.

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Round Cable with female connector	0.50 m	1	DNF11-FBP.050	1SAJ923002R0005	\$ 41
Round Cable with male connector	0.50 m	1	DNM11-FBP.050	1SAJ923003R0005	41

DeviceNet, MODBUS-RTU and CANopen Round Cable for Bus Extension

Ready-made bus cable with M12 male and female connectors

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Extension Cable	1.00 m	1	DNX11-FBP.100	1SAJ923001R0010	\$ 57
Extension Cable	3.00 m	1	DNX11-FBP.300	1SAJ923001R0030	94
Extension Cable	5.00 m	1	DNX11-FBP.500	1SAJ923001R0050	121
Round Cable	100 m	1	DNC11-FBP.999	1SAJ923004R1000	1,246

DeviceNet, MODBUS-RTU and CANopen Round Cable and Accessories for Bus Extension

Bus cable and coupling accessories

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Round Cable with male connector		5	DNM11-FBP.0	1SAJ923005R0001	\$ 21
Round Cable with female connector		5	DNF11-FBP.0	1SAJ923006R0001	21

DeviceNet, MODBUS-RTU and CANopen Termination Resistor, Miscellaneous Accessories

Designation	Packing Piece	Reference code	Catalog number	List price
Termination Resistor, 120 Ohm	1	DNR11-FBP.120	1SAJ923007R0001	\$ 35

To connect the PST Softstarter to a DeviceNet fieldbus system...

you need specific software for PLC set-up, (EDS file) which is available at www.abb.com/lowvoltage on the Softstarter pages. Look under the documentation-link named Software. If you need help or advice, please contact your local ABB office.

FBP FieldBusPlug

Profibus DP/V0 and DP/V1 fieldbus connectors

Softstarters
Type PST



PDP22-FBP



PDQ22-FBP

Profibus DP/V0 and DP/V1 FieldBusPlug

Ready-made Profibus DP/V1 fieldbus interface with various cable lengths.

- Applicable on all FBP motor starters and other devices
- Degree of protection IP65, diagnostic LED

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Profibus DP/V1-FBP	0.25 m	1	PDP22-FBP.025	1SAJ240100R1003	\$ 536
Profibus DP/V1-FBP	0.50 m	1	PDP22-FBP.050	1SAJ240100R1005	543
Profibus DP/V1-FBP	1.00 m	1	PDP22-FBP.100	1SAJ240100R1010	550
Profibus DP/V1-FBP	2.00 m	1	PDP22-FBP.200	1SAJ240100R1020	560
Profibus DP/V1-FBP	5.00 m	1	PDP22-FBP.500	1SAJ240100R1050	576

PDP21 is replaced by PDP22.

4 x Profibus DP/V0 and DP/V1 FieldBusPlug

PDQ22 is a member of the ABB FieldBusPlug family of bus connectors. It allows the connection of up to four devices to Profibus DP by just using one Profibus node access. This allows a cost efficient device integration for devices that are located physically nearby. PDQ22 supports DP-V0 and DP-V1. The degree of protection is IP66. There are separate diagnosis LEDs for bus and device status.

Note that the accessory PDQ22-FBP only works with the PSR and not with the PST(B) softstarter.

Designation	Packing Piece	Reference code	Catalog number	List price
Quadruple bus connector	1	PDQ22-FBP	1SAJ240200R0050	\$ 948

Extension cable

Designation	Cable Length	Packing Piece	Reference code	Catalog number	List price
Extension cable (female/male), shielded	1.5 m	1	CDP15-FBP.150	1SAJ929140R0015	\$ 49
Extension cable (male/open), shielded	1.5 m	1	CDP16-FBP.150	1SAJ929150R0015	32

To connect the PST Softstarter to a Profibus DP fieldbus system...

you need specific software for PLC set-up, (GSD file) which is available at www.abb.com/lowvoltage on the Softstarter pages. Look under the documentation-link named Software. If you need help or advice, please contact your local ABB office.

PDP21 is replaced by PDP22.

Use PDP22 with the GSD-file Abb_082d.gsd regardless if the PLC is a DP/VO or DP/V1.

FBB FieldBusPlug

Profibus DP/V0 and DP/V1 fieldbus accessories



PDF11-FBP.50



PDM11-FBP.50



PDX11-FBP



PDM11-FBP

PDF11-FBP



PDV11-FBP,
PDV12-FBP

PDR11-FBP.150



PDA11-FBP.050



PDA12-FBP.050

Accessories for the Profibus DP/V0 and DP/V1 Bus Connector

Profibus DP/V0 and DP/V1 Round Cable for Bus Junctions

Ready-made bus cable with an M12 connector and an open cable end.

- Application on bus junctions such as e.g. Profibus DB couplers or devices with an integrated Profibus DB interface

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Round Cable with female connector	0.50 m	1	PDF11-FBP.050	1SAJ924002R0005	\$ 41
Round Cable with female connector	0.50 m	1	PDM11-FBP.050	1SAJ924003R0005	41

Profibus DP/V0 and DP/V1 Round Cable for Bus Extension

Ready-made bus cable with M12 male and female connectors

Designation	Cable length	Packing Piece	Reference code	Catalog number	List price
Extension Cable	1.00 m	1	PDX11-FBP.100	1SAJ924001R0010	\$ 67
Extension Cable	3.00 m	1	PDX11-FBP.300	1SAJ924001R0030	88
Extension Cable	5.00 m	1	PDX11-FBP.500	1SAJ924001R0050	108
Round Cable	100 m	1	PDC11-FBP.999	1SAJ924004R1000	1,246

Profibus DP/V0 and DP/V1 Accessories for Bus Extension

Designation	Packing Piece	Reference code	Catalog number	List price
Male Connector	5	PDM11-FBP.0	1SAJ924005R0001	\$ 34
Female Connector	5	PDF11-FBP.0	1SAJ924006R0001	34

Profibus DP/V0, DP/V1 Termination Resistor, Miscellaneous Accessories

Ready-made bus cable with M12 male and female connectors

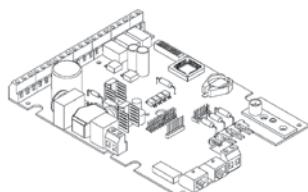
Designation	Cable Length	Packing Piece	Reference code	Catalog number	List price
Termination resistor, 150 ohm	-	1	PDR11-FBP.150	1SAJ924007R0001	\$ 228
Feeding connector 24V DC Code B-A	-	1	PDV11-FBP.0	1SAJ924008R0001	189
Feeding connector 24V DC Code A-A	-	1	PDV12-FBP.0	1SAJ924011R0001	188
Adaptor M12-Dsub9-M12	0.50 m	1	PDA11-FBP.050	1SAJ924009R0005	192
Adaptor M12-Dsub9-M12	2 x 0.50 m	1	PDA12-FBP.050	1SAJ924010R0005	202

To connect the PST Softstarter to a Profibus DP fieldbus system...

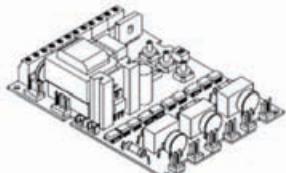
you need specific software for PLC set-up, (GSD file) which is available at www.abb.com/lowvoltage on the Softstarter pages. Look under the documentation-link named Software. If you need help or advice, please contact your local ABB office.

Replacement parts

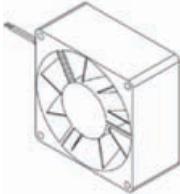
Softstarters
Type PST



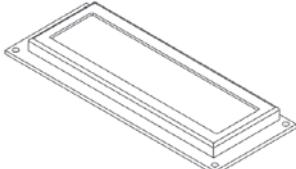
PSPCB-LV/T



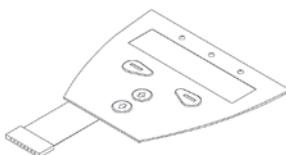
PSPCB-690/T



PSFA-024



PSDP-1



PSKP-1

Low voltage circuit board

Softstarter type	Reference code	Catalog number	List price
PST30... 300 PSTB370... 1050	1SFA899020R7000	PSPCB-LV/T	\$ 1,200
PST30-T... 300-T ① PSTB370-T... 1050-T ①	1SFA899020R7020	PSPCB-LV/T-T	1,500

High voltage circuit board

Softstarter type	Reference code	Catalog number	List price
PST30... 300 PSTB370... 1050	1SFA899020R7690	PSPCB-690/T	\$ 475
PST30-T... 300-T ① PSTB370-T... 1050-T ①	1SFA899020R7691	PSPCB-690/T-T	775

Cooling fans

Softstarter type	Voltage	Reference code	Catalog number	List price
PST30... 72	500/690 V	1SFA899015R7024	PSFA-024	80
PST85... 142	500/690 V	1SFA899015R7224	PSFA-224	95
PST175... 300	500/690 V	1SFA899015R7224	PSFA-224	95
PSTB370... 1050	500/690 V	1SFA899015R7224	PSFA-224	95

Display

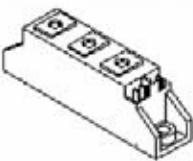
Softstarter type	Reference code	Catalog number	List price
PST30... 300 PSTB370... 1050	1SFA899017R1000	PSDP-1	\$ 110

Keypad

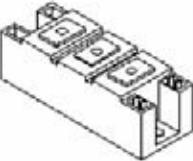
Softstarter type	Reference code	Catalog number	List price
PST30... 300 PSTB370... 1050	1SFA899018R1000	PSKP-1	\$ 80

① Printed circuit board with conformal coating.

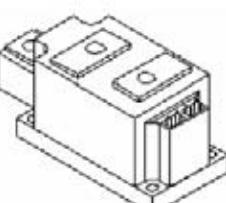
Replacement parts



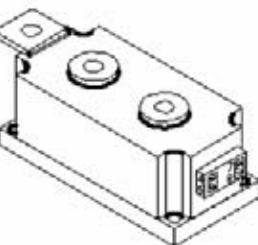
PSTM-42/16



PSTM-132/16



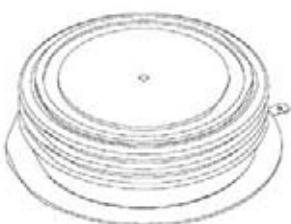
PSTM-210/16



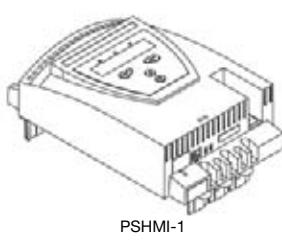
PSTM-500/16



PSCP-280/16



PSCP-990/16



PSHMI-1

Thyristors

Softstarter type	Pieces per softstarter unit	Reference code	Catalog number	List price each
PST30		1SFA899010R1042	PSTM-42/16	\$ 85
PST37		1SFA899010R1057	PSTM-57/16	95
PST44		1SFA899010R1092	PSTM-92/16	110
PST50		1SFA899010R1092	PSTM-92/16	110
PST60		1SFA899010R1132	PSTM-132/16	210
PST72		1SFA899010R1172	PSTM-172/16	220
PST85		1SFA899010R1172	PSTM-172/16	220
PST105		1SFA899010R1210	PSTM-210/16	410
PST142		1SFA899010R1250	PSTM-250/16	420
PST175		1SFA899010R1250	PSTM-250/16	420
PST210		1SFA899010R1330	PSTM-330/16	515
PST250		1SFA899010R1500	PSTM-500/16	750
PST300		1SFA899010R1500	PSTM-500/16	750
PSTB370		1SFA899010R1280	PSTP-280/16	245
PSTB470		1SFA899010R1370	PSTP-370/16	370
PSTB570		1SFA899010R1370	PSTP-370/16	370
PSTB720		1SFA899010R1540	PSTP-540/16	545
PSTB840		1SFA899010R1600	PSTP-600/16	716
PSTB1050		1SFA899010R1990	PSTP-990/16	1,140

Kit for changing thyristors ①

Softstarter type	Remarks	Reference code	Catalog number	List price
PST30... 300	Sufficient for replacing 10 thyristor blocks	1SFA899012R1001	PSPB-1	\$ 130
PSTB370... 1050	Sufficient for replacing 20 thyristor discs	1SFA899012R1002	PSPB-2	210

HMI Module

Softstarter type	Reference code	Catalog number	List price
PST30... 300	1SFA899019R7001	PSHMI-1	\$ 1,380
PSTB370... 1050	1SFA899019R7002	PSHMI-2	1,925
PST30T... 300-T	1SFA899019R7021	PSHMI-1-T	1,680
PSTB370-T... 1050-T ②	1SFA899019R7022	PSHMI-2-T	2,225

① Heat transfer solution.

② Conformal coated units.

Technical data

PST(B)30 - 1050

Softstarters
Type PST

<u>PST(B)30 ... 1050</u>		<u>PST(B)30 ... 1050</u>	
Rated insulation voltage U_i	690 V		
Rated operational voltage U_e	208 ... 690 V +10 %/-15 %		
Starting capacity at max rated current I_r	$3 \times I_r$ for 15 sec.		
Number of starts per hour	PST30 ... 300 30 ^①	PSTB370 ... 1050 10 ^①	
Overload capability, Overload Class	10		
Service factor	PST(B)30...840 115 %	PSTB1050 100 %	
Ambient temperature During operation	$\pm 0 \dots +50^{\circ}\text{C}$ ^②		
During storage	-25...+70 °C		
Altitude Maximum altitude	4000 m ^③		
Degree of protection Main circuit	PST30 ... 72 IP10	PST85 ... PSTB1050 IP00	
Supply and Control circuit	IP20		
Main circuit Built in By-pass contactor	PST30 ... 300 No	PSTB370 ... 1050 Yes	
Cooling system - Fan cooled (thermostat controlled)	Yes		
Supply circuit Supply voltage U_S – one range	100 ... 250 V +10 %/-15 %, 50/60 Hz $\pm 5\%$		
HMI for settings (Human Machine Interface)			
20 segment display	Yes		
Keypad with two selection keys and two navigating keys	Yes		
Plain text in 14 languages <i>(English, German, Italian, Dutch, Chinese, Finnish, Swedish, French, Spanish, Russian, Portuguese, Turkish, Polish and Czech)</i>	Yes		
Signal relays Number of programmable signal relays <i>(Each relay can be programmed to be Run, By-pass or Event signal)</i>	3		
K4 – Default as Run signal	Yes		
K5 – Default as By-pass signal	Yes		
K6 – Default as Event signal	Yes		
Rated operational voltage U_e	250 V		
Rated thermal current I_{th}	5 A		
Rated operational current I_e at AC-15 ($U_e = 250$ V)	1.5 A		
Analog output Output signal reference	0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA		
Type of output signal	I Amp, U Volt, P kW, P hp, Q kVAr, S kVA, TmpMot, TmpSCR, cosPhi		

Control circuit /Hardware inputs

Internal 24 V DC (10 mA closed)	Yes
Start / Stop inputs	Yes
Two extra programmable inputs <i>(Each input can be programmed to be either; Non, Reset, Enable, Jog, ATL-On, Start motor 2 or Start motor 3, FB-Dis).</i>	
	Yes

Signal indication LED's

Power on – Green	Yes
Fault - Red	Yes
Protection - Yellow	Yes

Protections

Electronic overload	Yes
Adjustable tripping classes - Class 10 A, 10, 20 and 30	Yes
Dual overload (separate overload function for start and run)	Yes
PTC connection	Yes
Locked rotor protection	Yes
Underload protection	Yes
Phase imbalance	Yes
High current ($8 \times I_e$)	Yes
Phase reversal protection	Yes

Warnings (pre-warning)

High current	Yes
Low current (underload)	Yes
Overload trip	Yes
Overtemp. thyristors (SCR)	Yes

Start of several motors

Possible to set up and start three different motors	Yes
--	-----

Field bus connection

Connection for ABB FieldBusPlug	Yes
------------------------------------	-----

PTC input

Switch off resistance	2825 ohm $\pm 20\%$
Switch on resistance	1200 ohm $\pm 20\%$

External keypad

Display	LCD type
Ambient temperature	
During operation	$\pm 0 \dots +50^{\circ}\text{C}$
During storage	-25...+70 °C
Degree of protection	IP66

^① 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

^② Above 40 °C up to max. 50 °C reduce the rated current with 0.8 % per °C.

^③ When used at high altitudes above 1000 meters up to 4000 meters you need to derate rated current using the following formula.

$$[\% \text{ of } I_e = 100 \frac{x - 1000}{150}]$$

x = actual altitude for the softstarter

PSTB Integrated by-pass ratings

Softstarter	Type	PSTB370	PSTB470	PSTB570	PSTB720	PSTB840	PSTB1050
Contactor	Type	AF300	AF300	AF460	AF580	AF750	AF750
AC-3 rating	A	305	305	460	580	750	750

Major possible settings and the displayed text and the set default values

Description	Text on display (Eng)	Values on display	Default value
Setting current for overload, locked rotor etc.	Setting I_e	9,0 ...1207 A divided into 19 overlapping ranges.	See table, page 6.40
Time for start ramp	Start Ramp	1 ... 30 s, 1 ... 120 s (Range depends on Start Range)	10 s
Time for stop ramp	Stop Ramp	0 ... 30 s, 0 ... 120 s (Range depends on Stop Range)	0 s
Initial voltage for start ramp	Init Volt	30 ... 70 %	30 %
End voltage for stop ramp	End Volt	30 ... 70 %	30 %
Step down voltage	Step Down	30 ...100 %	100 %
Level of the current limit.	Current Lim	2.0 ... 7.0 $\times I_e$	4.0 $\times I_e$
Selection of Kick start	Kick Start	Yes, No	No
Level of Kick start if selected	Kick Level	50 ... 100 %	50 %
Time for Kick start if selected	Kick Time	0.1 ... 1.5 s	0.2
Selectable range for start ramp	Start Range	1 ... 30 s, 1...120 s	1 ... 30 s
Selectable range for stop ramp	Stop Range	0 ... 30 s, 0 ... 120 s	0 ... 30 s
Overload protection	Overload	No, Normal, Dual	Normal
Overload Class	OL Class	10 A, 10, 20, 30	10
Overload Class, Dual type, Start Class	OL Class S	10A, 10, 20, 30	10
Overload Class, Dual type, Run Class	OL Class R	10A, 10, 20, 30	10
Type of operation for overload protection	OL Op	Stop-M, Stop-A, Ind	Stop-M
Locked rotor protection	Locked Rotor	Yes, No	No
Trip level for locked rotor protection	Lock R Lev	0.5 ... 8.0 $\times I_e$	4,0 $\times I_e$
Trip time for locked rotor protection	Lock R Time	0.2 ... 10 s	1.0 s
Type of operation for locked rotor protection	Lock R Op	Stop-M, Stop-A, Ind	Stop-M
Underload protection	Underload	Yes, No	No
Trip level for Underload protection	Underl Lev	0.4 ... 0.8 $\times I_e$	0.5 $\times I_e$
Trip time for Underload protection	Underl Time	1 ... 30 s	10 s
Type of operation for Underload protection	Underl Op	Stop-M, Stop-A, Ind	Stop-M
Phase imbalance protection	Phase Imb	Yes, No	No
Trip level for phase imbalance protection	Ph Imb Lev	10 ... 80 %	80 %
Type of operation for phase imbalance protection	Ph Imb Op	Stop-M, Stop-A, Ind	Stop-M
High current protection	High I	Yes, No	No
Type of operation for high current protection	High I Op	Stop-M, Stop-A, Ind	Stop-M
Phase reversal protection	Phase Rev	Yes, No	No
Type of operation for phase reversal protection	Ph Rev Op	Stop-M, Stop-A, Ind	Stop-M
PTC protection	PTC	Yes, No	No
Type of operation for PTC protection	PTC Op	Stop-M, Stop-A	Stop-M
An external Bypass contactor is used	Ext ByPass	Yes, No	No
High current warning	Warn I=High	Yes, No	No
Trip level for high current warning	Wa I=H Lev	0.5 ... 5.0 $\times I_e$	1.2 $\times I_e$
Low current warning	Warn I=Low	Yes, No	No
Trip level for low current warning	Wa I=L Lev	0.4 ...1.0 $\times I_e$	0.8 $\times I_e$
Overload warning	Warn OL	Yes, No	No
Trip level for overload warning	Wa OL Lev	40 ... 99 %	90 %
Thyristor overload warning	Warn SCR OL	Yes, No	No
Type of operation for phase loss fault	Ph Loss Op	Stop-M, Stop-A	Stop-M
Type of operation for by-pass doesn't close	BP open Op	Stop-M, Stop-A	Stop-M
Type of operation for by-pass doesn't open	BP closed Op	Stop-M, Stop-A	Stop-M
Type of operation for fieldbus fault	FB Fault Op	Stop-M, Stop-A	Stop-M
Type of operation for frequency fault	Freq F Op	Stop-M, Stop-A	Stop-M
Type of operation for heat sink over temperature fault	HS Temp Op	Stop-M, Stop-A	Stop-M
Type of operation for thyristor short circuit fault	SCR SC Op	Stop-M, Stop-A	Stop-M
Function of programmable input In_0	In0	None, Reset, Enable, Jog, DOL, Start 2, FB-Dis	Reset
Function of programmable input In_1	In1	None, Reset, Enable, Jog, DOL, Start 3, FB-Dis	Reset
Function of programmable relay output K4	Relay K4	Run, TOR, Event	Run
Function of programmable relay output K5	Relay K5	Run, TOR, Event	TOR
Function of programmable relay output K6	Relay K6	Run, TOR, Event	Event
Control of the softstarter with fieldbus	Fieldb Ctrl	Yes, No	No
Number of sequences for sequence start.	No of Seq	No, 2, 3	No
Language to use on display	Language	US/UK, FI, SE, PT, NL, IT, FR, ES, DE, CN, RU, TR, PL, CZ	US/UK
Password for display	Password	No, 1 ... 255	
Start mode	Start Mode	Volt, Torque	Volt
Stop mode	Stop Mode	Volt, Torque	Volt
Torque limit	Torque limit	20 ... 200 %	150 %
Analog output	Analogue Out	Yes, No	No
Analog output, reference	Anl Ref	0 ...10 V, 0 ... 20 mA, 4 ... 20 mA	4 ...20 mA
Analog output, type of value	Anl Type	I Amp, U Volt, P kW, P hp, Q kVar, S kVA, TmpMot, TmpSCR, cosPhi	I Amp

Technical data

PST(B)30 - 1050

Softstarters
Type PST

Tripping curves for the integrated electronic overload protection

All units have an integrated electronic overload protection possible to set on four different tripping classes. Below you find a curve for each tripping class in cold state.

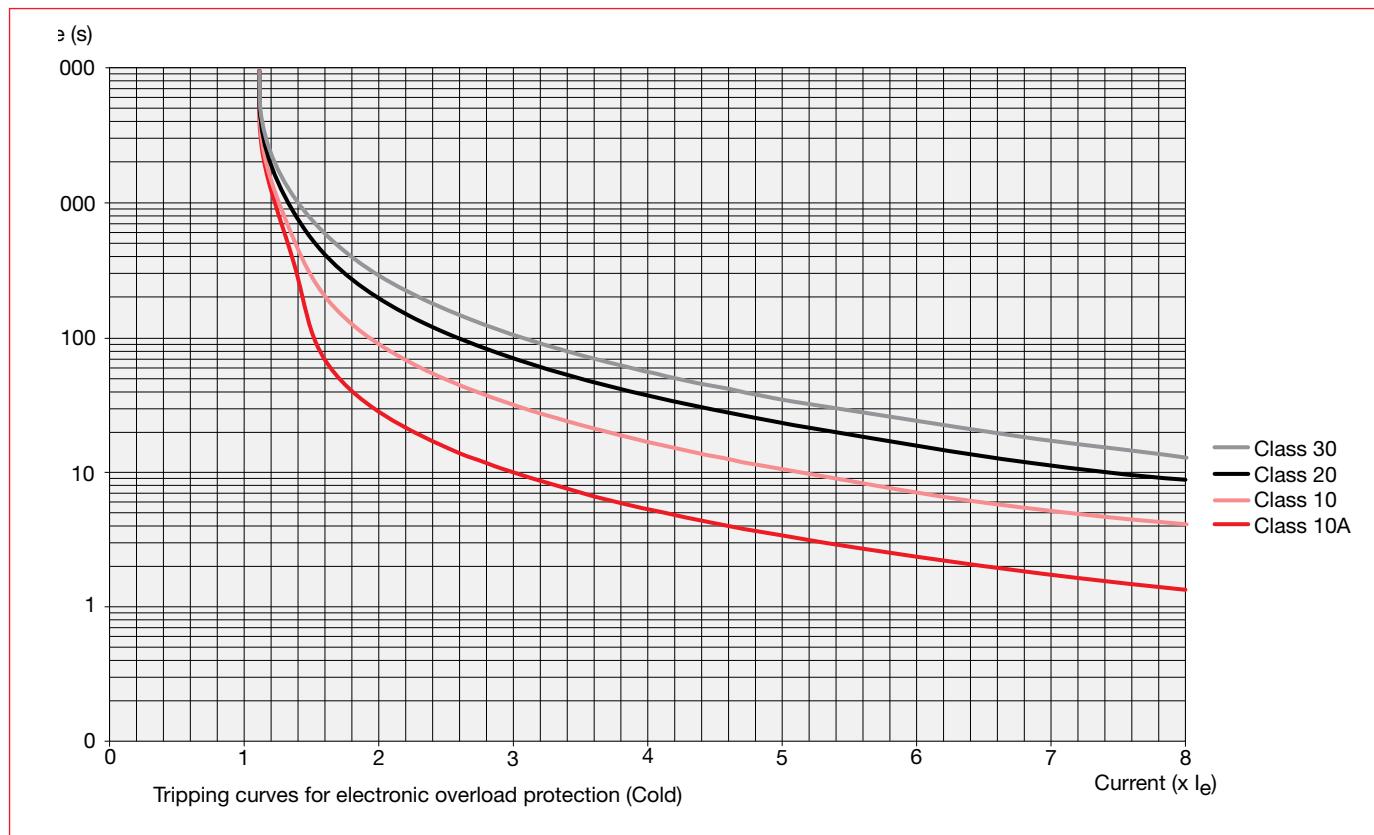


ABB FieldBusPlug

Controlling possibilities when using different field buses

	DeviceNet	Profibus DP V0	Profibus DP V1	Modbus-RTU	CANopen
Simple control (start/stop etc)	X	X	X	X	X
Complete control	X	X	X	X	X
Simple status information	X	X	X	X	X
Detailed status information	X	X	X	X	X
Possibilities to write parameters	X	X	X	X	X
Possibilities to read parameters	X		X		X

For more detailed information, please see separate Installation and Commissioning manuals available at www.abb.com/lowvoltage on the Softstarter pages.

Technical data PST(B)30 - 1050

Cross section of connectable cables

	Type of softstarter		PST30 ... 72	PST85 ... 142	PST175 ... 300	PSTB370 ... 470	PSTB570 ... 1050
Main circuit							
Available terminals:	L1, L2, L3	Yes		Yes	Yes	Yes	Yes
	T1, T2, T3	Yes		Yes	Yes	Yes	Yes
(For external by-pass):	B1, B2, B3	Yes		Yes	Yes	No	No
Connection clamp							
Solid/Stranded	1 x mm ²	10 ... 95		See accessories	See accessories	-	-
Solid/Stranded	2 x mm ²	6 ... 35		See accessories	See accessories	-	-
Tightening torque (recommended), Nm		6.0		See accessories	See accessories	-	-
Connection bar		No					
Width and thickness	mm	-					
Hole diameter	mm	-					
Tightening torque (recommended), Nm		-	9	18	40	49	
Supply and control circuit							
Connection clamp		Yes		Yes	Yes	Yes	Yes
Solid/Stranded	1 x mm ²	2.5		2.5	2.5	2.5	2.5
Solid/Stranded	2 x mm ²	1.5		1.5	1.5	1.5	1.5
Tightening torque (recommended), Nm		0.5		0.5	0.5	0.5	0.5

Fuse ratings and power losses

For softstarter	Current range	Max power loss at rated I _e				Power requirement supply circuit				
		ABB Overload protection		without by-pass with by-pass						
		A	W	A	W					
PST										
PST30	Integrated	9...35	100	9.5	80	170M1366	170H1007	100	6.6 URB 000 D08V 0100	5
PST37	Integrated	11...43	120	10.5	125	170M1368	170H1007	160	6.6 URB 000 D08V 0160	5
PST44	Integrated	13...51	140	13.5	160	170M1369	170H1007	200	6.6 URD 30 D08A 0200	5
PST50	Integrated	15...58	160	13.5	160	170M1369	170H1007	200	6.6 URD 30 D08A 0200	5
PST60	Integrated	18...69	190	15.5	200	170M1370	170H1007	250	6.6 URD 30 D08A 0250	5
PST72	Integrated	22...83	230	17	250	170M1371	170H1007	315	6.6 URD 30 D08A 0315	5
PST85	Integrated	25...98	270	30.5	315	170M1372	170H1007	400	6.6 URD 30 D08A 0400	10
PST105	Integrated	32...120	325	35	400	170M3019	170H3004	400	6.6 URD 30 D08A 0400	10
PST142	Integrated	43...163	435	37	450	170M3020	170H3004	500	6.6 URD 30 D08A 0500	10
PST175	Integrated	53...201	540	62	500	170M3021	170H3004	550	6.6 URD 30 D08A 0550	15
PST210	Integrated	63...241	645	67	630	170M5012	170H3004	630	6.6 URD 31 D08A 0630	15
PST250	Integrated	75...288	765	67	700	170M5013	170H3004	630	6.6 URD 31 D08A 0630	15
PST300	Integrated	90...345	920	90	900	170M5015	170H3004	900	6.6 URD 32 D11A 0900	15
PSTB 600 V										
PSTB370	Integrated	111...425	N/A	90	700	170M5013	170H3004	630	6.6 URD 31 D08A 0630	20/480
PSTB470	Integrated	141...540	N/A	110	900	170M5015	170H3004	900	6.6 URD 32 D11A 0900	20/480
PSTB570	Integrated	171...655	N/A	105	900	170M5015	170H3004	900	6.6 URD 32 D11A 0900	25/900
PSTB720	Integrated	216...828	N/A	110	1250	170M5018	170H3004	1250	6.6 URD 33 D11A 1250	25/860
PSTB840	Integrated	252...966	N/A	170	1500	170M6018	170H3004	1600	6.6 URD 33 D11A 1250	25/860
PSTB1050	Integrated	315...1207	N/A	170	1800	170M6020	170H3004	2000	6.6 URD 33 PLAF 2000	25/860
PSTB 690 V										
PSTB370	Integrated	111...425	N/A	90	700	170M5013	170H3004	630	6.6 URD 31 D08A 0630	20/480
PSTB470	Integrated	141...540	N/A	110	900	170M5015	170H3004	900	6.6 URD 31 D11A 0900	20/480
PSTB570	Integrated	171...655	N/A	105	900	170M5015	170H3004	900	6.6 URD 31 D11A 0900	25/900
PSTB720	Integrated	216...828	N/A	110	1250	170M5018	170H3004	1250	6.6 URD 33 D11A 1250	25/860
PSTB840	Integrated	252...966	N/A	170	1500	170M6018	170H3004	1600	6.6 URD 33 TTFA 1600	25/860
PSTB1050	Integrated	315...1207	N/A	170	1600	170M6019	170H3004	1600	6.6 URD 33 TTFA 1600	25/860

① For the supply circuit 6A delayed, for MCB use C characteristics.

② Semiconductor fuses.

Technical data

PST(B)30 - 1050

UL ratings

Softstarters
Type PST

3-phase motor rating - In Line

Softstarters	Motor power, P (hp), and maximum current, A							
	U _e 200V / 208V		U _e 220V / 240V		U _e 440V / 480V		U _e 550V / 600V	
Type	hp	A	hp	A	hp	A	hp	A
PST30	7.5	28	10	28	20	28	25	28
PST37	10	34	10	34	25	34	30	34
PST44	10	42	15	42	30	42	40	42
PST50	15	54	20	54	40	54	50	54
PST60	20	60	20	60	40	60	50	60
PST72	20	68	25	68	50	68	60	68
PST85	25	80	30	80	60	80	75	80
PST105	30	104	40	104	75	104	100	104
PST142	40	130	50	130	100	130	125	130
PST175	50	156	60	156	125	156	150	156
PST210	60	192	75	192	150	192	200	192
PST250	75	248	100	248	200	248	250	248
PST300	100	302	100	302	250	302	300	302
PSTB370	125	361	150	361	300	361	350	361
PSTB470	150	480	200	480	400	480	500	480
PSTB570	200	590	250	590	500	590	600	590
PSTB720	250	720	300	720	600	720	700	720
PSTB840	300	840	350	840	700	840	800	840
PSTB1050	400	1062	450	1062	900	1062	1000	1062

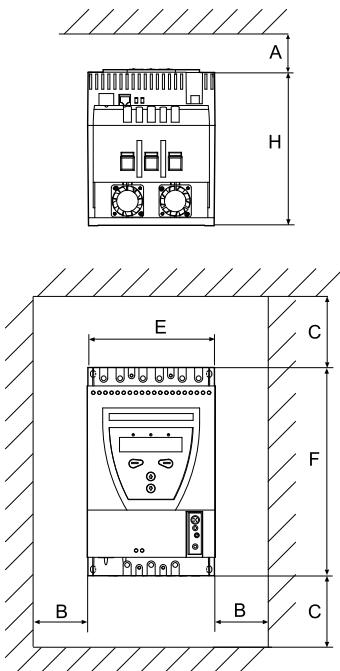
3-phase motor rating - Inside Delta

Softstarters	Motor power, P (hp), and maximum current, A							
	U _e 200V / 208V		U _e 220V / 240V		U _e 440V / 480V		U _e 550V / 600V	
Type	hp	A	hp	A	hp	A	hp	A
PST30	10	42	15	42	30	42	40	42
PST37	15	54	20	54	40	54	50	54
PST44	20	72	25	72	50	72	60	72
PST50	25	80	30	80	60	80	75	80
PST60	30	104	40	104	75	104	100	104
PST72	30	104	40	104	75	104	100	104
PST85	40	130	50	130	100	130	125	130
PST105	50	156	60	156	125	156	150	156
PST142	60	192	75	192	150	192	200	192
PST175	75	248	100	248	200	248	250	248
PST210	100	302	100	302	250	302	300	302
PST250	125	361	150	361	300	361	350	361
PST300	150	480	200	480	400	480	500	480
PSTB370	200	590	250	590	500	590	600	590
PSTB470	250	720	300	720	600	720	700	720
PSTB570	300	840	350	840	700	840	800	840
PSTB720	400	1247	500	1247	1000	1247	1200	1247
PSTB840	500	1454	600	1454	1200	1454	1500	1454
PSTB1050	600	1839	700	1839	1500	1839	1800	1839

Approximate dimensions

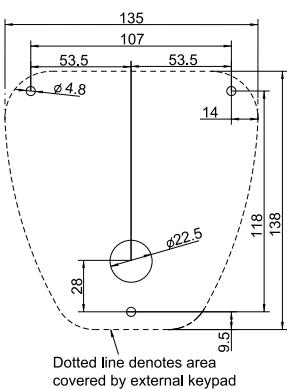
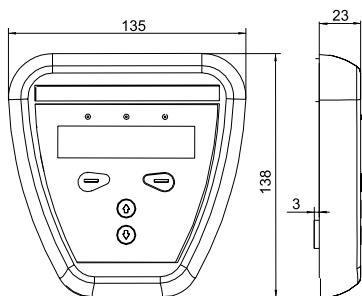
Wall mounting PST and PSTB

Minimum distance to wall/front



Softstarter, type	Dimensions					
	A	B	C	E	F	H
PST - all						
PST30 ... 72	20	10	100	160	260	196
PST85 ... 142	20	10	100	186	390	270
PST175 ... 300	20	10	100	360	420	270
PSTB - all						
PSTB370 ... 470	20	15	150	365	460	361
PSTB570 ... 1050	20	15	150	435	515	381

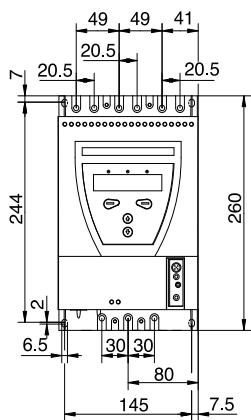
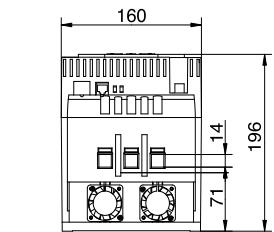
PSTEK Key pad



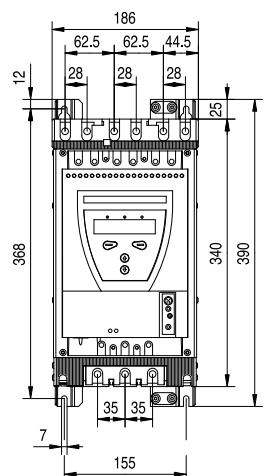
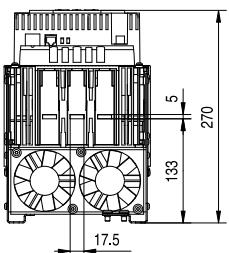
Approximate dimensions PST(B)30 - 1050

Softstarters
Type PST

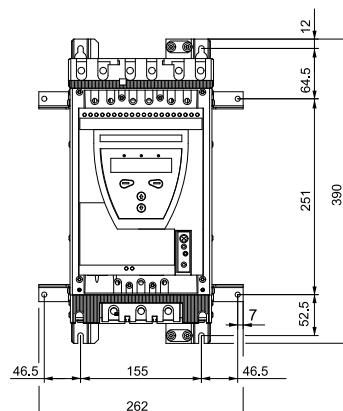
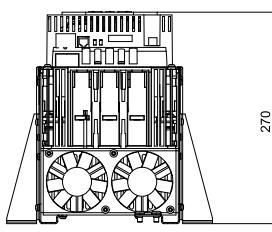
PST30 ... 72



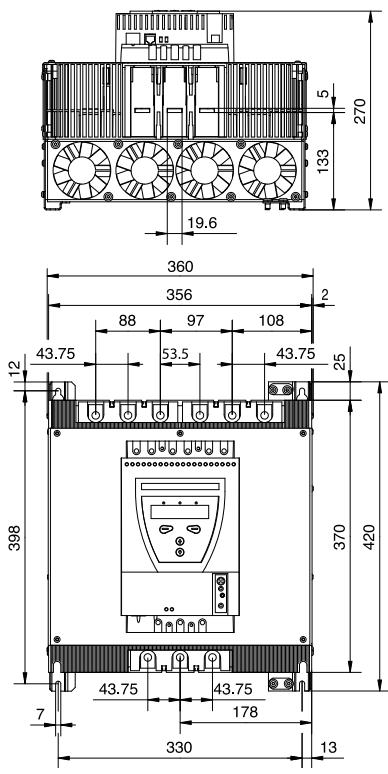
PST85 ...142



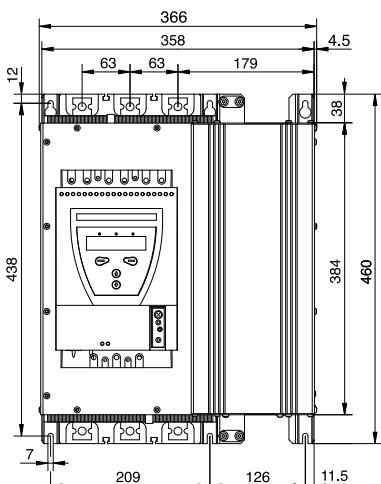
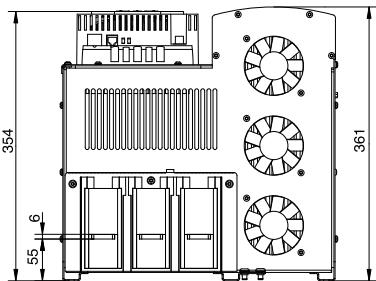
PST85 ...142 with marine kit



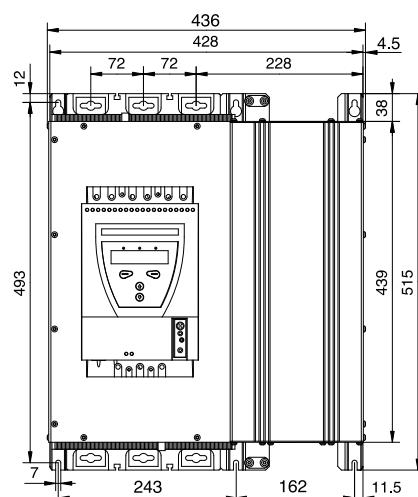
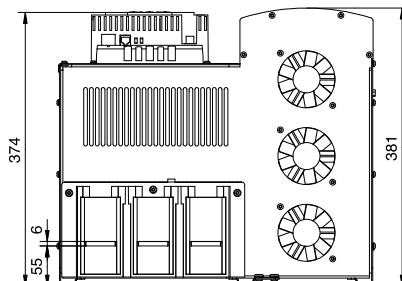
PST175 ... 300



PSTB370 ... 470

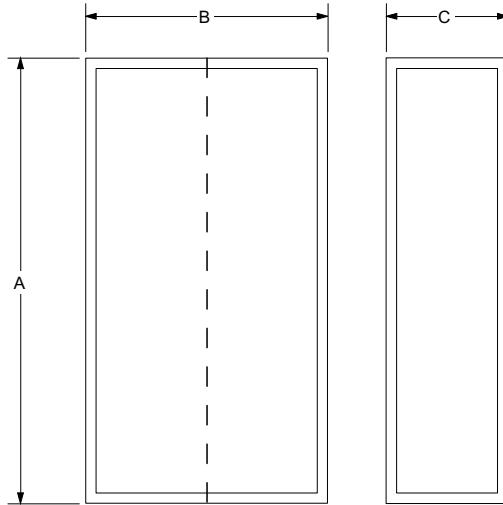


PSTB570 ... 1050



Approximate dimensions

Enclosed 208V – 600V



Enclosed, 208V – 600V

Combination	In-Line			Inside Delta			Combination	In-Line			Inside Delta		
	A	B	C	A	B	C		A	B	C	A	B	C
PST30 – PST72				20 x 20 x 12	20 x 20 x 12		PSTB370 – PSTB470				48 x 36 x 16	48 x 36 x 16	
Softstarter with bypass				20 x 20 x 12	24 x 20 x 12		Softstarter with bypass, internal				48 x 36 x 16	87 x 36 x 24	
Softstarter with fused disconnect				20 x 20 x 12	24 x 20 x 12		Softstarter with fused disconnect				48 x 36 x 16	48 x 36 x 16	
Softstarter with circuit breaker							Softstarter with circuit breaker						
PST85 – PST142				30 x 24 x 12	36 x 24 x 12		PSTB570 – PSTB720				48 x 36 x 16	48 x 36 x 16	
Softstarter with bypass				30 x 30 x 12	42 x 36 x 12		Softstarter with bypass, internal				87 x 36 x 24	87 x 36 x 24	
Softstarter with fused disconnect				24 x 24 x 12	42 x 36 x 12		Softstarter with fused disconnect				87 x 36 x 24	87 x 36 x 24	
Softstarter with circuit breaker							Softstarter with circuit breaker						
PST175 – PST300				36 x 36 x 12	42 x 30 x 12		PSTB840 – PSTB1050				87 x 36 x 24	87 x 36 x 24	
Softstarter with bypass				36 x 36 x 12	36 x 36 x 12		Softstarter with bypass, internal				87 x 48 x 24	87 x 48 x 24	
Softstarter with fused disconnect				36 x 36 x 12	36 x 36 x 12		Softstarter with fused disconnect				87 x 48 x 24	87 x 48 x 24	
Softstarter with circuit breaker							Softstarter with circuit breaker						

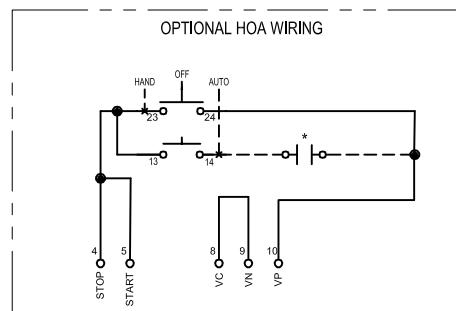
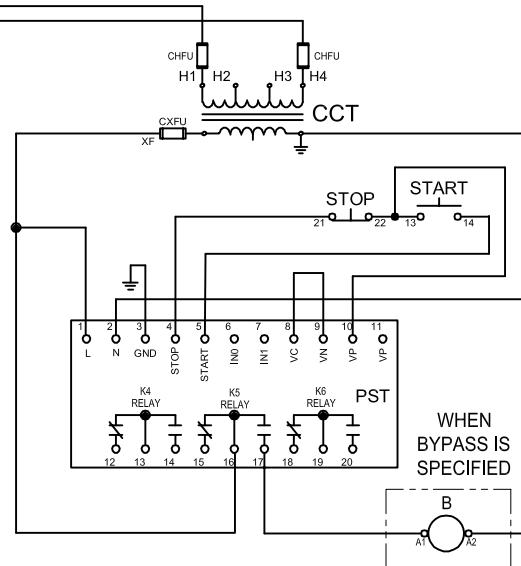
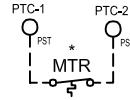
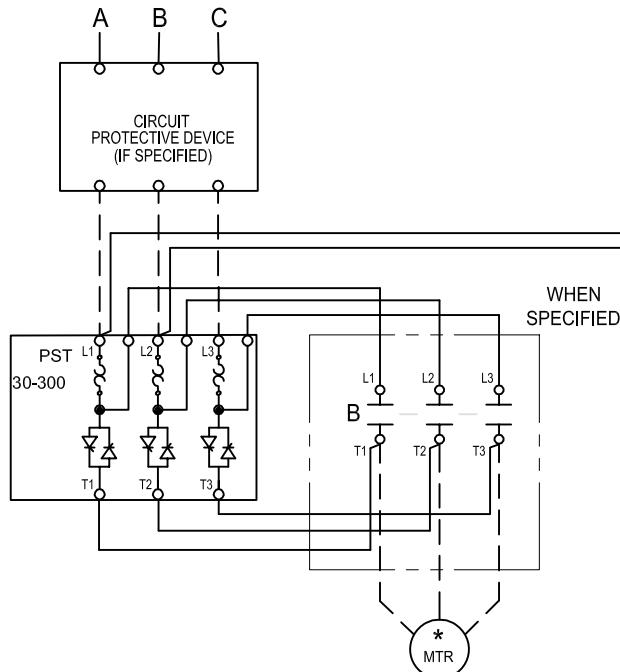
Circuit diagrams

PST30 – PST300

In-Line

Softstarters
Type PST

INCOMING LINES



CONNECTION TORQUE: CONSULT SOFT STARTER
MANUAL FOR WIRE TORQUE SPECIFICATIONS.

PST NOTES:

1. PROG. INPUT In0 FACTORY SET FOR RESET FAULT/OL.
2. PROG. RELAY K4 FACTORY SET FOR RUN.
3. PROG. RELAY K5 FACTORY SET FOR TOP OF RAMP
4. PROG. RELAY K6 FACTORY SET FOR EVENT.
5. FUNCTION MOT 1 le MUST BE SET TO MOTOR FLA.

LEGEND	
CCT	CONTROL CIRCUIT TRANSFORMER
CHFU	CCT PRIMARY FUSE
CXFU	CCT SECONDARY FUSE
B	BYPASS CONTACTOR
PTC	THERMAL COUPLE
o 13	CONN POINT ON DEVICE WITH NUMBER
*	REMOTE DEVICE
Ø	CONN POINT AT TERMINAL BLOCK

- NOTES**
1. ALL CONTROL WIRING TO BE 14 GA.
COLOR OF CONTROL WIRE SHALL BE
PER VOLTAGE ON CONTACTOR COILS:

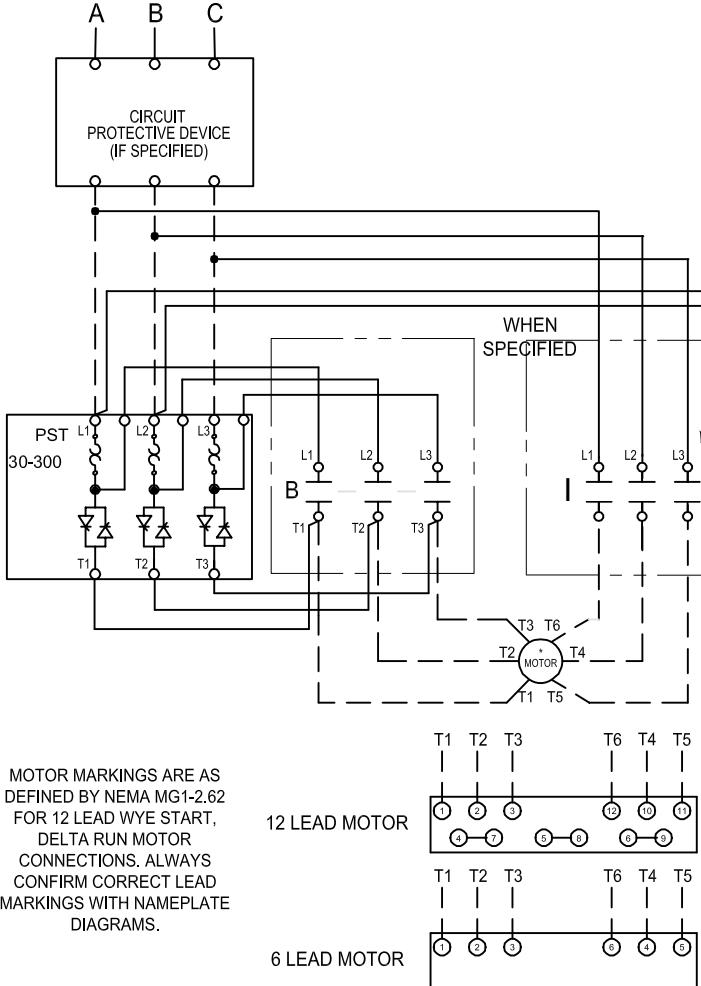
RED-ALL AC VOLTAGES
WHITE MAY BE USED ON THE
GROUNDED SIDE OF THE AC
CIRCUIT IF SPECIFIED.

BLUE-ALL DC VOLTAGES

2. ALL DEVICES ARE SHOWN DE-ENERGIZED.
3. DO NOT USE SELECTOR SWITCHES WITH
AUTO-RESET OVERLOAD RELAYS.

Circuit diagrams PST30 – PST300 Inside Delta

INCOMING LINES

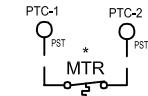


CONNECTION TORQUE: CONSULT SOFT STARTER MANUAL FOR WIRE TORQUE SPECIFICATIONS.

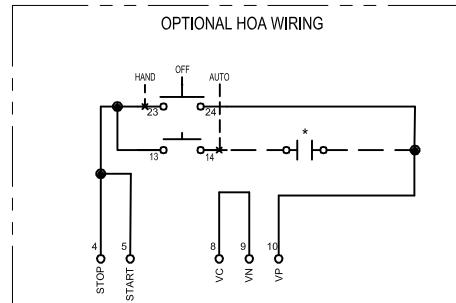
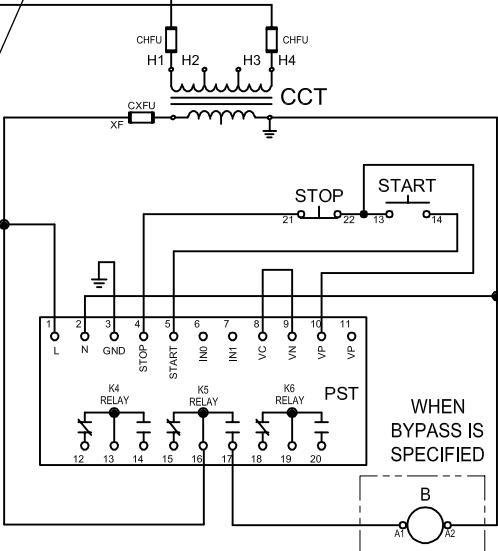
LEGEND	
CCT	CONTROL CIRCUIT TRANSFORMER
CHFU	CCT PRIMARY FUSE
CXFU	CCT SECONDARY FUSE
B	BYPASS CONTACTOR
PTC	THERMAL COUPLE
o 13	CONN POINT ON DEVICE WITH NUMBER
*	REMOTE DEVICE
Ø	CONNECTION POINT AT TERMINAL BLOCK
I	ISOLATION CONTACTOR

PST NOTES:

1. PROG. INPUT In0 FACTORY SET FOR RESET FAULT/OL.
2. PROG. RELAY K4 FACTORY SET FOR RUN.
3. PROG. RELAY K5 FACTORY SET TO FULL VOLTAGE (TOP OF RAMP, TOR)
4. PROG. RELAY K6 FACTORY SET FOR EVENT.
5. SETTING I_e MUST BE SET TO MOTOR FLA.



ISOLATION CONTACTOR RECOMMENDED



NOTES

1. ALL CONTROL WIRING TO BE 14 GA.
COLOR OF CONTROL WIRE SHALL BE
PER VOLTAGE ON CONTACTOR COILS:

RED-ALL AC VOLTAGES
WHITE MAY BE USED ON THE
GROUNDED SIDE OF THE AC
CIRCUIT IF SPECIFIED.

BLUE-ALL DC VOLTAGES

2. ALL DEVICES ARE SHOWN DE-ENERGIZED.
3. DO NOT USE SELECTOR SWITCHES WITH
AUTO-RESET OVERLOAD RELAYS.

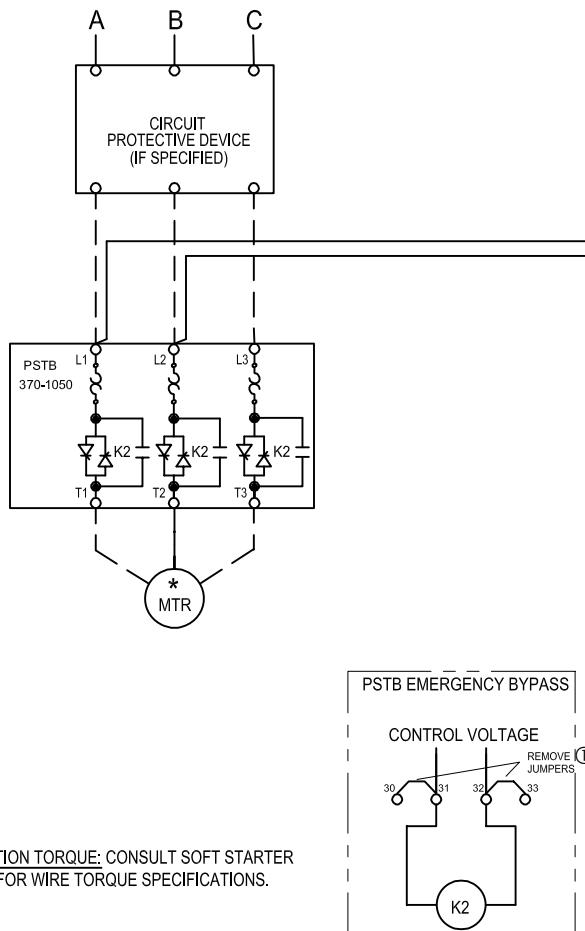
Circuit diagrams

PSTB370 – PSTB1050

In-Line

Softstarters
Type PST

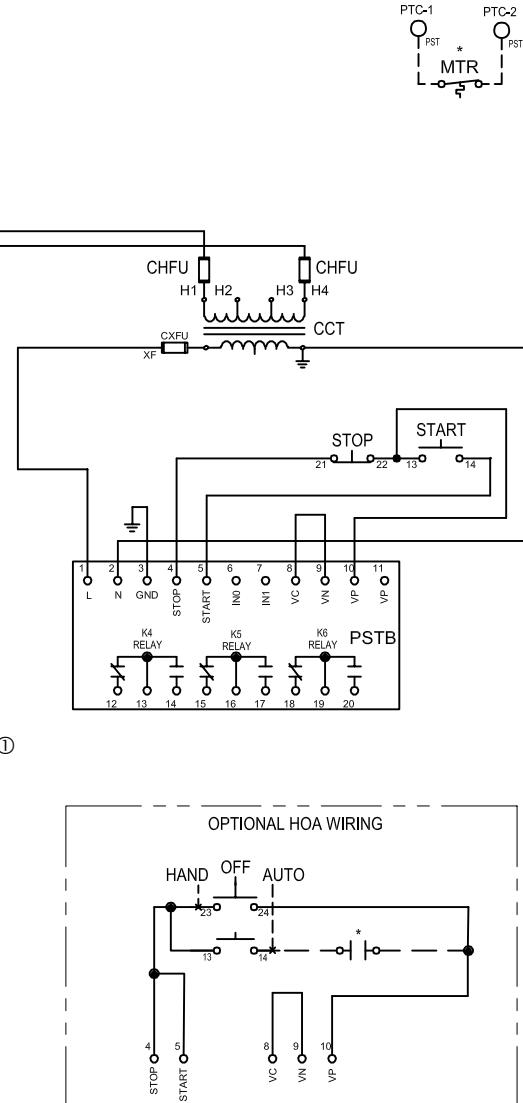
INCOMING LINES



PST NOTES:

1. PROG. INPUT In0 FACTORY SET FOR RESET FAULT/OL.
2. PROG. RELAY K4 FACTORY SET FOR RUN.
3. PROG. RELAY K5 FACTORY SET FOR TOP OF RAMP
4. PROG. RELAY K6 FACTORY SET FOR EVENT.
5. FUNCTION MOT 1 le MUST BE SET TO MOTOR FLA.

LEGEND	
CCT	CONTROL CIRCUIT TRANSFORMER
CHFU	CCT PRIMARY FUSE
CXFU	CCT SECONDARY FUSE
B	BYPASS CONTACTOR
PTC	Thermal Couple
o 13	Conn Point on Device with Number
*	Remote Device
Ø	Conn Point at Terminal Block



NOTES

1. ALL CONTROL WIRING TO BE 14 GA.
COLOR OF CONTROL WIRE SHALL BE
PER VOLTAGE ON CONTACTOR COILS:

RED-ALL AC VOLTAGES
WHITE MAY BE USED ON THE
GROUNDED SIDE OF THE AC
CIRCUIT IF SPECIFIED.

BLUE-ALL DC VOLTAGES
2. ALL DEVICES ARE SHOWN DE-ENERGIZED.
3. DO NOT USE SELECTOR SWITCHES WITH
AUTO-RESET OVERLOAD RELAYS.

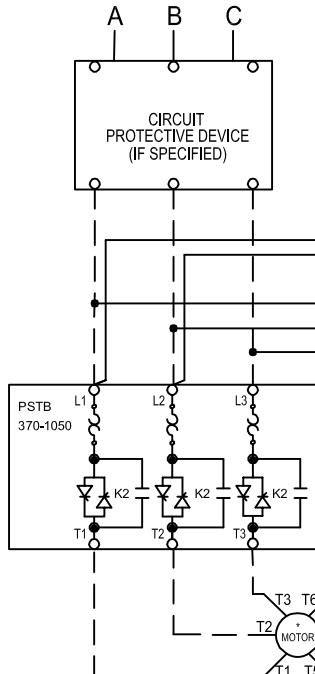
① See page 6.35 for across the line rated (AC3) contactor ratings.

Circuit diagrams

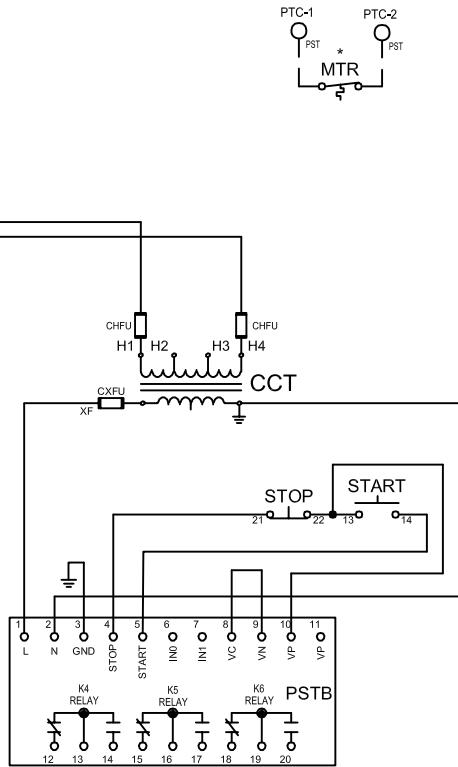
PSTB370 – PSTB1050

Inside Delta

INCOMING LINES

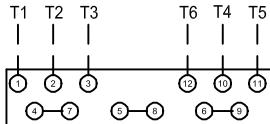


ISOLATION
CONTACTOR
RECOMMENDED



MOTOR MARKINGS ARE AS
DEFINED BY NEMA MG1-2.62
FOR 12 LEAD WYE START,
DELTA RUN MOTOR
CONNECTIONS. ALWAYS
CONFIRM CORRECT LEAD
MARKINGS WITH NAMEPLATE
DIAGRAMS.

12 LEAD MOTOR

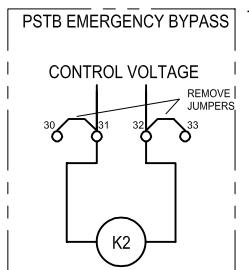


6 LEAD MOTOR



CONNECTION TORQUE: CONSULT SOFT STARTER
MANUAL FOR WIRE TORQUE SPECIFICATIONS.

LEGEND	
CCT	CONTROL CIRCUIT TRANSFORMER
CHFU	CCT PRIMARY FUSE
CXFU	CCT SECONDARY FUSE
B	BYPASS CONTACTOR
PTC	TERMAL COUPLE
o 13	CONN POINT ON DEVICE WITH NUMBER
*	REMOTE DEVICE
Ø	CONNECTION POINT AT TERMINAL BLOCK
I	ISOLATION CONTACTOR



PST NOTES:

1. PROG. INPUT In0 FACTORY SET FOR RESET FAULT/OL.
2. PROG. RELAY K4 FACTORY SET FOR RUN.
3. PROG. RELAY K5 FACTORY SET FOR TOP OF RAMP
4. PROG. RELAY K6 FACTORY SET FOR EVENT.
5. FUNCTION MOT 1 le MUST BE SET TO MOTOR FLA.

- NOTES
1. ALL CONTROL WIRING TO BE 14 GA.
COLOR OF CONTROL WIRE SHALL BE
PER VOLTAGE ON CONTACTOR COILS:

RED-ALL AC VOLTAGES
WHITE MAY BE USED ON THE
GROUNDED SIDE OF THE AC
CIRCUIT IF SPECIFIED.

BLUE-ALL DC VOLTAGES

2. ALL DEVICES ARE SHOWN DE-ENERGIZED.
3. DO NOT USE SELECTOR SWITCHES WITH
AUTO-RESET OVERLOAD RELAYS.

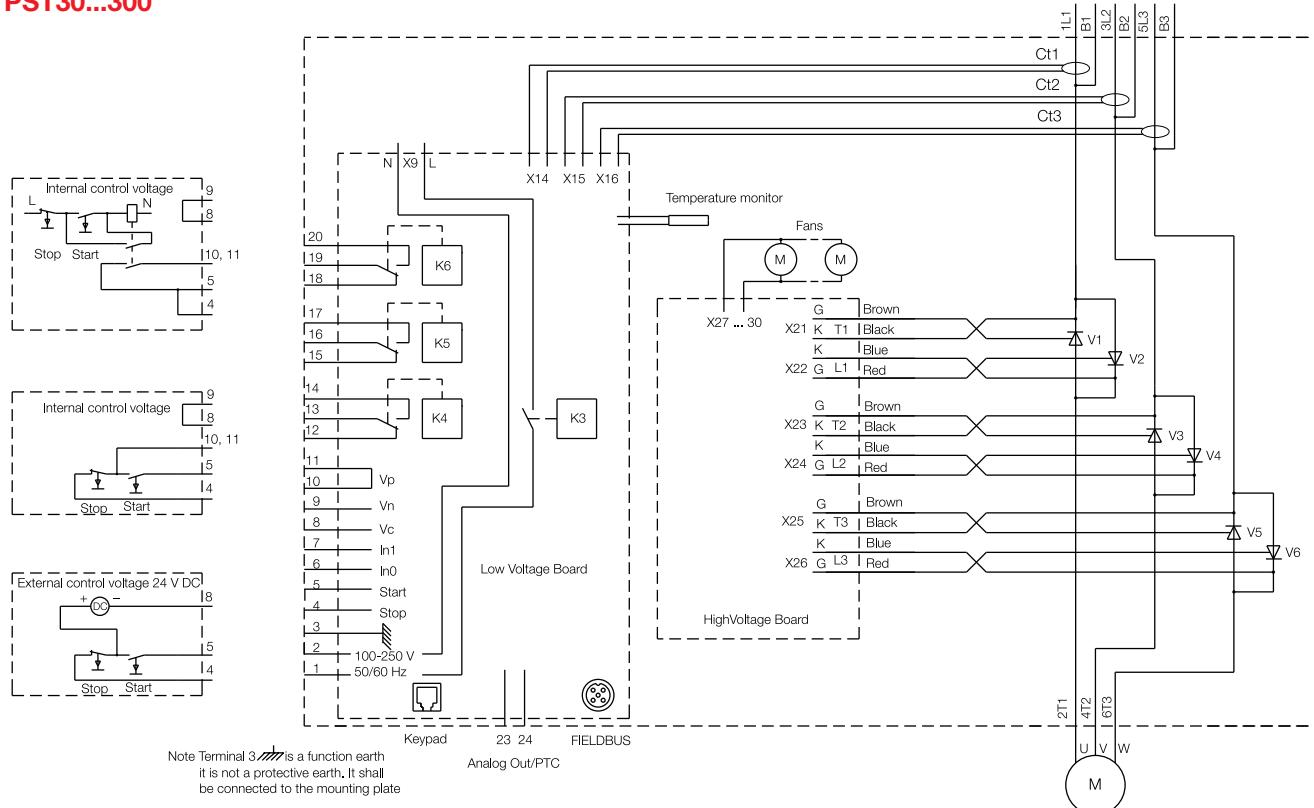
① See page 6.35 for across the line rated (AC3) contactor ratings.

Circuit diagrams

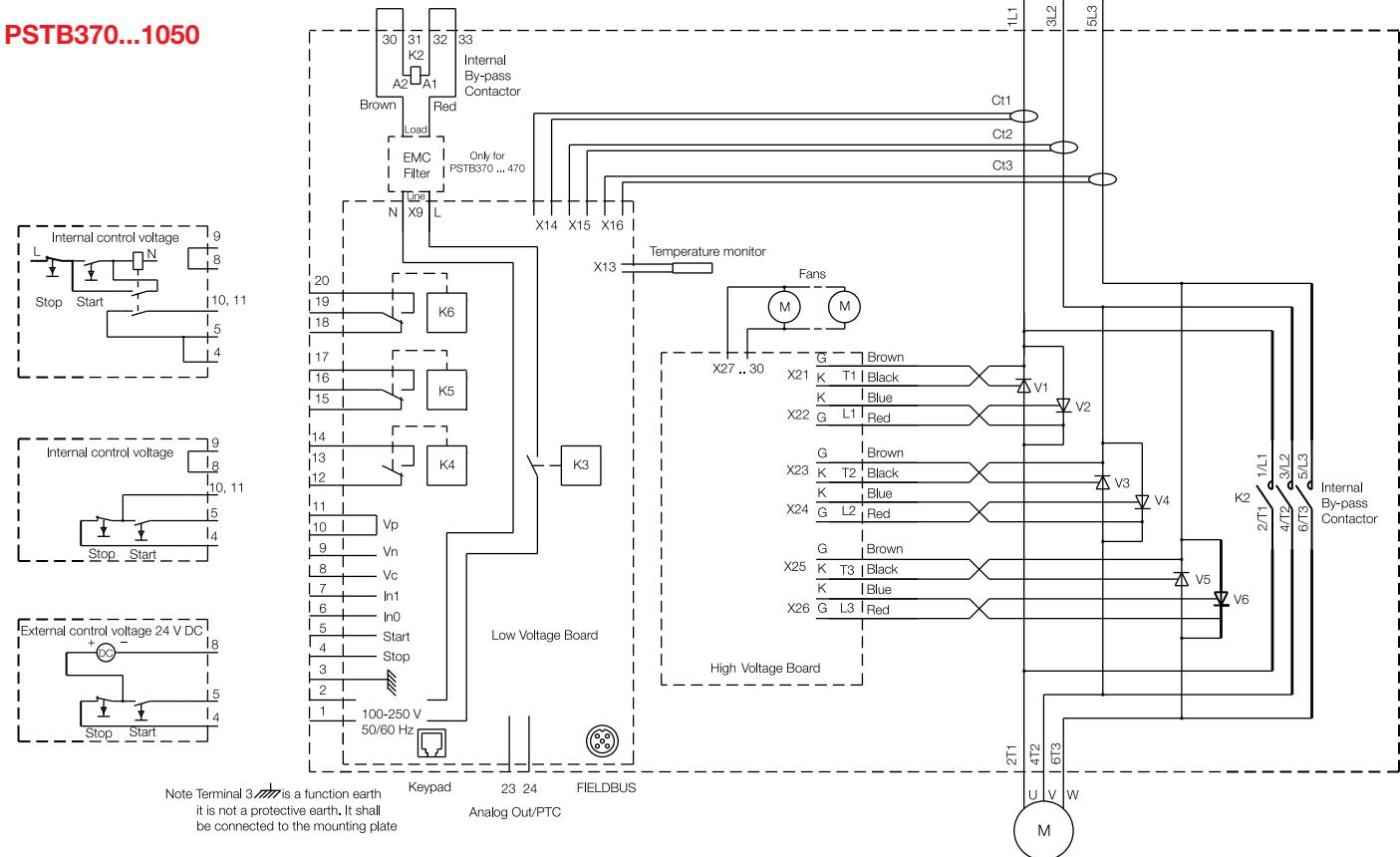
PST(B)30 - 1050

Softstarters
Type PST

PST30...300



PSTB370...1050



Notes