

Extreme duty Softstarters



General information

For ordinary jobs, the ABB series starters provide smooth reduced voltage starting. For those occasions and applications that go beyond the ordinary, the PST Extreme Series enclosed starters go right along, too.

Designed to perform reliably in nearly any environment, on almost any application, the PST Extreme Series softstarters combine the best of ABB's wide range of industrial low voltage controls.

What's Included:

Short circuit protection

To handle the role of short-circuit protection and disconnect, the PST Extreme series counts on the T-Max molded case circuit breakers (MCCB's). ABB MCCB's deliver big performance in small packages.

Emergency start bypass

For routine bypass or starting in event of an emergency, the PST Extreme series relies on the highly acclaimed AF contactor series. The AF series contactors are designed for reliable performance under the most adverse conditions. All AF contactors feature a wide voltage range electronic coil. In addition to extremely low pull-in and holding power requirement, the low (55%) dropout voltage prevents damaging chattering and insures consistent operation in poor power quality conditions.

Redundant electronic overload

Every PST softstarter features an adjustable electronic overload. The PST Extreme Series softstarters (50HP and larger) go one step further and come equipped with the ABB "E" range of adjustable electronic overloads. Used only in the event of emergency bypass operation, these overload feature four classes of trip curves to insure the motor protection level matches the application demands.

The PST Softstarter

Designed for heavy-duty use and performance the ABB PST is optimized for extreme duty. While most softstarters offer voltage ramp starting, the PST series does more. By using closed loop current control in addition to voltage ramping the PST helps get every bit of performance from even weak power systems. Built and tested to provide 500% rated current for 30 seconds, using the PST means that typical applications can be sized based on Motor HP without resorting to complex, application based de-rate tables. Just check the Motor HP and Voltage, get the part number and order.

The often overlooked details

Overlooked little things can lead to big problems and so the PST Extreme Series pays attention to the details. Besides the major components every PST extreme series enclosed softstarter ships with:

- A UL 508A Label
- A UL Service entrance rating
- A door mounted ABB Hand-off-auto switch (NEMA 4 rated)
- Three (3) vibration resistant, LED type pilot lights (NEMA 4 rated)
- A door interlocked disconnect handle (NEMA 4 rated)
- Padlockable and Defeatable

PST Softstarters from ABB

Designed for critical applications in nearly any environment the ABB PST Extreme Series enclosed softstarters provide reliable, reduced voltage starting for the ordinary and full voltage starting for the extreme cases. Every PST Extreme Series softstarter package provide the best of ABB's combination starters integrated with the PST series softstarter, packaged in a weatherproof (NEMA Type 4) enclosure ready to perform the most extreme applications with complete reliability.



Features of the ABB PST Softstarter

Starting and Stopping

| | |
|------------------------------|------------------|
| Motor Full load current | 10-1839A |
| Start Ramp Time | 0-120s |
| Initial Voltage (Start Ramp) | 30-70% |
| Current Limit | 2 - 7x Motor FLA |
| Kick Start (Voltage Level) | 50-100% |
| Kick Start (time) | 0.1-1.5 Seconds |
| Stop Ramp Time | 0-120s |
| Stop Ramp Step Down Voltage | 30-100% |
| Stop Ramp End Voltage | 30-70% |

Motor Protection

| | |
|-----------------------------------------------------------------------------|------------------------|
| Electronic overload (starting) class settings Internal bypass AC 1 Rated | 10a, 10, 20 ,30 or off |
| Electronic overload (running) class settings Emergency Rated bypass AC 3 | 10a, 10, 20, 30 or off |
| Locked rotor protection trip range | 0.5 - 8.0x FLA or off |
| Locked rotor protection trip time delay | 0.2 - 10s |
| Under load trip level | 0.4-0.8 x FLA or off |
| Underload trip time | 1-30s |
| Phase imbalance trip level | 10-80% or off |
| Phase loss protection | Yes |
| Phase reversal protection | Yes-or off |

Communications

| | |
|-----------------------------|---------------------------------------|
| Via ABB FieldbusPlug | |
| Available protocols include | Profibus, Devicenet, AS-I, Modbus RTU |

Warnings

| |
|--------------|
| High Current |
| Low Current |
| Overload |
| SCR overtemp |

480 & 240 V Extreme duty softstarters

Softstarters
Extreme duty

480 V

| HP @ 480VAC | Enclosure size H x W x D | SCCR ratings @ 600V | Weight | Catalog number | List Price |
|-------------|--------------------------|---------------------|--------|----------------|------------|
| 50 | 24x24x12 | 10kA | 35 | T050LB4-48/XD | \$ 5,860 |
| 75 | 24x24x12 | 10kA | 50 | T075LB4-48/XD | 6,678 |
| 100 | 36x36x12 | 18kA | 65 | T100LB4-48/XD | 7,252 |
| 125 | 36x36x12 | 18kA | 80 | T125LB4-48/XD | 7,765 |
| 150 | 36x36x12 | 18kA | 95 | T150LB4-48/XD | 8,495 |
| 200 | 36x36x12 | 18kA | 170 | T200LB4-48/XD | 9,292 |
| 250 | 48x36x16 | 18kA | 180 | T250LB4-48/XD | 11,252 |
| 300 | 48x36x16 | 30kA | 300 | T300LB4-48/XD | 12,025 |
| 400 ① | 60x36x16 | 30kA | 450 | T400LB4-48/XD | 16,465 |
| 500 ① | 60x36x16 | 42kA | 570 | T500LB4-48/XD | 20,171 |
| 600 ① | 72x37x24 | 42kA | 630 | T600LB4-48/XD | 20,658 |

240 V

| HP @ 240VAC | Enclosure size H x W x D | SCCR ratings @ 600V | Weight | Catalog number | List Price |
|-------------|--------------------------|---------------------|--------|----------------|------------|
| 25 | 24x24x12 | 10kA | 35 | T025LB4-24/XD | \$ 5,860 |
| 30 | 24x24x12 | 10kA | 50 | T030LB4-24/XD | 6,678 |
| 40 | 24x24x12 | 10kA | 65 | T040LB4-24/XD | 7,252 |
| 50 | 36x36x12 | 18kA | 80 | T050LB4-24/XD | 7,765 |
| 60 | 36x36x12 | 18kA | 95 | T060LB4-24/XD | 8,495 |
| 75 | 36x36x12 | 18kA | 170 | T075LB4-24/XD | 9,292 |
| 100 | 36x36x12 | 18kA | 180 | T100LB4-24/XD | 11,252 |
| 150 | 48x36x16 | 18kA | 300 | T150LB4-24/XD | 12,025 |
| 200 ① | 60x36x16 | 30kA | 450 | T200LB4-24/XD | 16,465 |
| 250 ① | 60x36x16 | 30kA | 570 | T250LB4-24/XD | 20,171 |
| 300 ① | 72x37x24 | 42kA | 630 | T300LB4-24/XD | 20,658 |

Features

- Softstarter is one size larger than required full load amperes of the motor to get additional starting capacity (Extreme Duty).
- Short circuit protection
- Redundant electronic overload
- Emergency start bypass
- Torque control
- A door interlocked disconnect handle (NEMA 4 rated)- Padlockable/Defeatable
- Door mounted ABB Hand-OFF-Auto switch (NEMA 4 rated)
- Three (3) vibration resistant, LED type pilot lights (NEMA 4 rated)
- A UL 508A Label
- Suitable for Service entrance 3 wire
- NEMA 4 enclosure



Back panel view

250 HP
Unit Shown

① Larger horsepower units will include floor mounting kit.