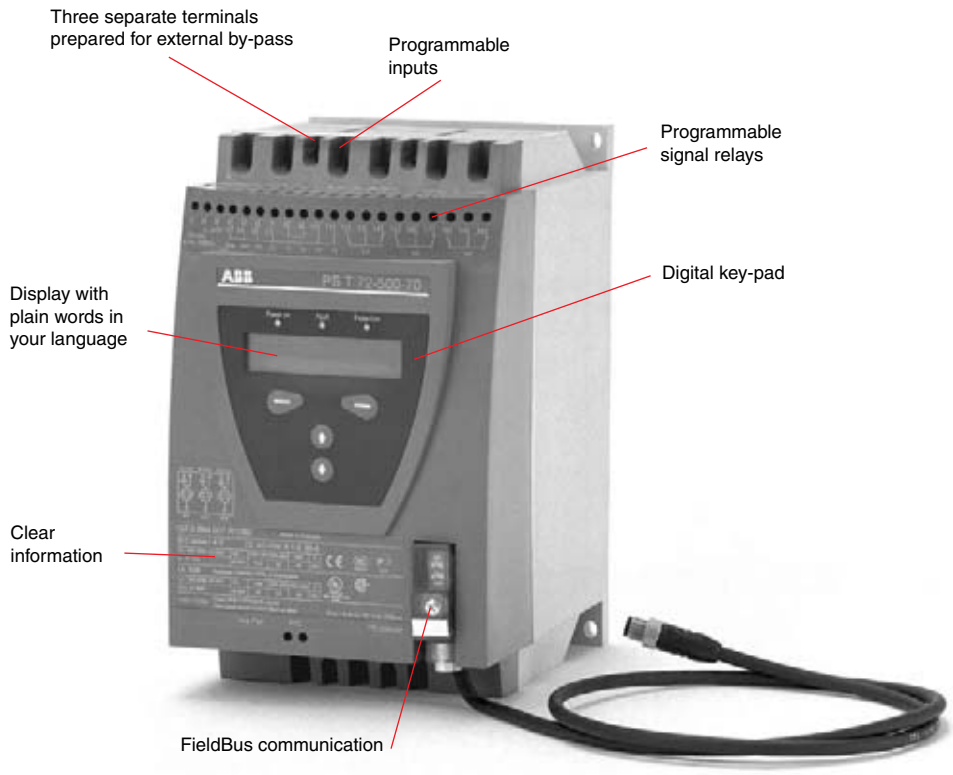
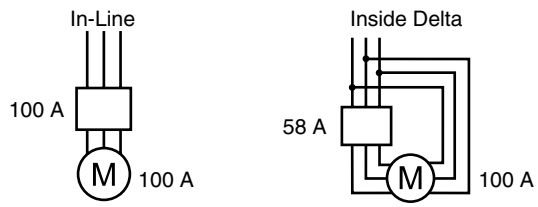


Application

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 12 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.



In-Line and Inside Delta connection of PST30 - 1050

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 almost a dozen languages including English, German, Italian, Chinese, Finnish, Swedish, French, Spanish, Dutch, Russian, Turkish 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.

General information
Application and description

Four button keypad
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.

You can also set the advanced warning parameters to allow potential problems to be identified before real problems occur. A password protection function is available to prevent unauthorized changes to the programming.

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.

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.

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 fault protections or 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 (PSTB370 – PSTB1050), there is an integrated ABB AF contactor. This gives you advantages in terms of cost-saving, (less investment in fans, cables, time), space saving (more compact soft starter; no fan that takes up space), 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.

For the smaller PST below 370A, which are not equipped with built-in contactors, the units have double connections for the main terminals on the line side. The extra terminals are used to connect an external by-pass contactor in order to enable the integrated protection functions.

PSTB1050 with integrated by-pass contactor.

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, upload and download parameters. The interface between the softstarter and the FieldBusPlug 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. The following protocols are currently available: AS-I, DeviceNet and Profibus DP. To connect the PST Softstarter to a fieldbus system, you need the accessories described on pages 6.33 to 6.34 as well as specific software for PLC set-up, which is available on the ABB web site; see the Resources section at the bottom of the Softstarter product page at www.abb-control.com/products/softstarters.htm.

Enclosed
In-Line, 5 – 1000 HP
NEMA 1, 12

Connected In-Line

Max. motor current		Maximum horsepower					NEMA1, 480V	NEMA1, 600V		NEMA12, 480V	NEMA12, 600V	
UL	IEC	208V	240V	380V	480V	600V	Catalog Number	Catalog Number	List Price	Catalog Number	Catalog Number	List Price
18	18	5 —	5 —	10 —	10 —	— 15	T010L1-48 —	— T015L1-60	**$ 1655**	T010L2-48M —	— T015L2-60M	**$ 1905**
28	30	7.5 —	10 —	15 —	20 —	— 25	T020L1-48 —	— T025L1-60	**1655**	T020L2-48M —	— T025L2-60M	**1930**
34	37	10 —	10 —	20 —	25 —	— 30	T025L1-48 —	— T030L1-60	**1685**	T025L2-48M —	— T030L2-60M	**2085**
42	44	10 —	15 —	25 —	30 —	— 40	T030L1-48 —	— T040L1-60	**1715**	T030L2-48M —	— T040L2-60M	**2165**
54	50	15 —	20 —	30 —	40 —	— 50	T040L1-48 —	— T050L1-60	**2055**	T040L2-48M —	— T050L2-60M	**2555**
68	72	20 —	25 —	40 —	50 —	— 60	T050L1-48 —	— T060L1-60	**2080**	T050L2-48M —	— T060L2-60M	**2630**
80	85	25 —	30 —	50 —	60 —	— 75	T060L1-48 —	— T075L1-60	**2705**	T060L2-48M —	— T075L2-60M	**3355**
104	105	30 —	40 —	60 —	75 —	— 100	T075L1-48 —	— T100L1-60	**2735**	T075L2-48M —	— T100L2-60M	**3460**
130	142	40 —	50 —	75 —	100 —	— 125	T100L1-48 —	— T125L1-60	**3875**	T100L2-48M —	— T125L2-60M	**4775**
156	175	50 —	60 —	100 —	125 —	— 150	T125L1-48 —	— T150L1-60	**3920**	T125L2-48M —	— T150L2-60M	**5170**
192	210	60 —	75 —	125 —	150 —	— 200	T150L1-48 —	— T200L1-60	**4370**	T150L2-48M —	— T200L2-60M	**5770**
248	250	75 —	100 —	150 —	200 —	— 250	T200L1-48 —	— T250L1-60	**4850**	T200L2-48M —	— T250L2-60M	**6550**
302	300	100 —	100 —	150 —	250 —	— 300	T250L1-48 —	— T300L1-60	**5080**	T250L2-48M —	— T300L2-60M	**7830**
361	370	125 —	150 —	200 —	300 —	— 350	T300L1-48M① —	— T350L1-60M①	**6260**	T300L2-48M① —	— T350L2-60M①	**6910**
414	400	— —	— —	250 —	350 —	— 400	T350L1-48M① —	— T400L1-60M①	**7700**	T350L2-48M① —	— T400L2-60M①	**8450**
480	470	150 —	200 —	300 —	400 —	— 500	T400L1-48M① —	— T500L1-60M①	**7700**	T400L2-48M① —	— T500L2-60M①	**8550**
590	570	200 —	250 —	350 —	500 —	— 600	T500L1-48M① —	— T600L1-60M①	**9350**	T500L2-48M① —	— T600L2-60M①	**10,350**
720	720	250 —	300 —	450 —	600 —	— 700	T600L1-48M① —	— T700L1-60M①	**10,830**	T600L2-48M① —	— T700L2-60M①	**11,830**
840	840	300 —	350 —	500 —	700 —	— 800	T700L1-48M① —	— T800L1-60M①	**12,900**	T700L2-48M① —	— T800L2-60M①	**14,000**
960	—	350 —	400 —	— —	800 —	— 900	T800L1-48M① —	— T900L1-60M①	**21,000**	T800L2-48M① —	— T900L2-60M①	**22,300**
1062	1050	400 —	450 —	600 —	900 —	— 1000	T900L1-48M① —	— T1000L1-60M①	**21,000**	T900L2-48M① —	— T1000L2-60M①	**22,300**

① Includes integrated shunt rated (AC1) bypass contactor as standard. For across the line rated (AC3) bypass contactors, see page 6.30.

Enclosed
Inside Delta, 7.5 – 1800 HP
NEMA 1, 12

Connected Inside Delta

Max. motor current		Maximum horsepower					NEMA1, 480V	NEMA1, 600V		NEMA12, 480V	NEMA12, 600V	
UL	IEC	208V	240V	380V	480V	600V	Catalog Number	Catalog Number	List Price	Catalog Number	Catalog Number	List Price
28	30	7.5 —	10 —	15 —	20 —	— 25	T020D1-48 —	— T025D1-60	**$ 1655**	T020D2-48M —	— T025D2-60M	**$ 1905**
34	37	10 —	10 —	20 —	25 —	— 30	T025D1-48 —	— T030D1-60	**1655**	T025D2-48M —	— T030D2-60M	**1905**
42	44	10 —	15 —	25 —	30 —	— 40	T030D1-48 —	— T040D1-60	**1655**	T030D2-48M —	— T040D2-60M	**1930**
54	50	15 —	20 —	30 —	40 —	— 50	T040D1-48 —	— T050D1-60	**1685**	T040D2-48M —	— T050D2-60M	**2085**
68	72	20 —	25 —	40 —	50 —	— 60	T050D1-48 —	— T060D1-60	**1715**	T050D2-48M —	— T060D2-60M	**2165**
80	85	25 —	30 —	50 —	60 —	— 75	T060D1-48 —	— T075D1-60	**2055**	T060D2-48M —	— T075D2-60M	**2555**
104	105	30 —	40 —	60 —	75 —	— 100	T075D1-48 —	— T100D1-60	**2080**	T075D2-48M —	— T100D2-60M	**2630**
130	142	40 —	50 —	75 —	100 —	— 125	T100D1-48 —	— T125D1-60	**2705**	T100D2-48M —	— T125D2-60M	**3355**
156	175	50 —	60 —	100 —	125 —	— 150	T125D1-48 —	— T150D1-60	**2735**	T125D2-48M —	— T150D2-60M	**3460**
192	210	60 —	75 —	125 —	150 —	— 200	T150D1-48 —	— T200D1-60	**3875**	T150D2-48M —	— T200D2-60M	**4775**
248	250	75 —	100 —	150 —	200 —	— 250	T200D1-48 —	— T250D1-60	**3920**	T200D2-48M —	— T250D2-60M	**5120**
302	300	100 —	100 —	150 —	250 —	— 300	T250D1-48 —	— T300D1-60	**4370**	T250D2-48M —	— T300D2-60M	**5770**
361	370	125 —	150 —	200 —	300 —	— 350	T300D1-48 —	— T350D1-60	**4850**	T300D2-48M —	— T350D2-60M	**6550**
414	400	— —	— —	250 —	350 —	— 400	T350D1-48 —	— T400D1-60	**5080**	T350D2-48M —	— T400D2-60M	**7830**
480	470	150 —	200 —	300 —	400 —	— 500	T400D1-48 —	— T500D1-60	**5080**	T400D2-48M —	— T500D2-60M	**7830**
590	570	200 —	250 —	350 —	500 —	— 600	T500D1-48M① —	— T600D1-60M①	**6260**	T500D2-48M① —	— T600D2-60M①	**6910**
720	720	250 —	300 —	450 —	600 —	— 700	T600D1-48M① —	— T700D1-60M①	**7700**	T600D2-48M① —	— T700D2-60M①	**8550**
840	840	300 —	350 —	500 —	700 —	— 800	T700D1-48M① —	— T800D1-60M①	**9350**	T700D2-48M① —	— T800D2-60M①	**10,350**
960	—	350 —	400 —	— —	800 —	— 900	T800D1-48M① —	— T900D1-60M①	**10,830**	T800D2-48M① —	— T900D2-60M①	**12,130**
1062	1050	400 —	450 —	600 —	900 —	— 1000	T900D1-48M① —	— T1000D1-60M①	**10,830**	T900D2-48M① —	— T1000D2-60M①	**12,130**
1247	1215	400 —	500 —	800 —	1000 —	— 1200	T1000D1-48M① —	— T1200D1-60M①	**10,830**	T1000D2-48M① —	— T1200D2-60M①	**12,130**
1454	1370	500 —	600 —	900 —	1200 —	— 1500	T1200D1-48M① —	— T1500D1-60M①	**12,900**	T1200D2-48M① —	— T1500D2-60M①	**14,650**
1839	1823	600 —	700 —	1200 —	1500 —	— 1800	T1500D1-48M① —	— T1800D1-60M①	**21,000**	T1500D2-48M① —	— T1800D2-60M①	**22,750**

① Includes integrated shunt rated (AC1) bypass contactor as standard. For across the line rated (AC3) bypass contactors, see page 6.30.

Enclosed
In-Line, 5 – 1000 HP
NEMA 1, Combination

Connected In-Line

Max. motor current		Maximum horsepower					NEMA1, 480V Circuit breaker	NEMA1, 600V Circuit breaker		NEMA1, 480V Fused disconnect	NEMA 1, 600V Fused disconnect	
UL	IEC	208V	240V	380V	480V	600V	Catalog Number	Catalog Number	List Price	Catalog Number	Catalog Number	List Price
18	18	5 —	5 —	10 —	10 —	— 15	T010LB1-48E —	— T015LB1-60E	**$ 2055**	T010LF1-48A —	— T015LF1-60A	**$ 2055**
28	30	7.5 —	10 —	15 —	20 —	— 25	T020LB1-48J —	— T025LB1-60J	**2065**	T020LF1-48B —	— T025LF1-60B	**2065**
34	37	10 —	10 —	20 —	25 —	— 30	T025LB1-48K —	— T030LB1-60K	**2110**	T025LF1-48B —	— T030LF1-60B	**2110**
42	44	10 —	15 —	25 —	30 —	— 40	T030LB1-48L —	— T040LB1-60L	**2315**	T030LF1-48C —	— T040LF1-60C	**2315**
54	50	15 —	20 —	30 —	40 —	— 50	T040LB1-48N —	— T050LB1-60N	**2655**	T040LF1-48C —	— T050LF1-60C	**2655**
68	72	20 —	25 —	40 —	50 —	— 60	T050LB1-48R —	— T060LB1-60R	**2680**	T050LF1-48C —	— T060LF1-60C	**2680**
80	85	25 —	30 —	50 —	60 —	— 75	T060LB1-48S —	— T075LB1-60S	**3705**	T060LF1-48D —	— T075LF1-60D	**3705**
104	105	30 —	40 —	60 —	75 —	— 100	T075LB1-48T —	— T100LB1-60T	**3735**	T075LF1-48D —	— T100LF1-60D	**3735**
130	142	40 —	50 —	75 —	100 —	— 125	T100LB1-48V —	— T125LB1-60V	**5075**	T100LF1-48D —	— T125LF1-60D	**5075**
156	175	50 —	60 —	100 —	125 —	— 150	T125LB1-48X —	— T150LB1-60X	**5720**	T125LF1-48E —	— T150LF1-60E	**5720**
192	210	60 —	75 —	125 —	150 —	— 200	T150LB1-48Y —	— T200LB1-60Y	**6170**	T150LF1-48E —	— T200LF1-60E	**6170**
248	250	75 —	100 —	150 —	200 —	— 250	T200LB1-48A —	— T250LB1-60Z	**6650**	T200LF1-48E —	— T250LF1-60E	**6650**
302	300	100 —	100 —	150 —	250 —	— 300	T250LB1-48B —	— T300LB1-60B	**7580**	T250LF1-48F —	— T300LF1-60F	**7580**
361	370	125 —	150 —	200 —	300 —	— 350	T300LB1-48DM① —	— T350LB1-60CM①	**8860**	T300LF1-48FM① —	— T350LF1-60FM①	**8860**
414	400	— —	— —	250 —	350 —	— 400	T350LB1-48EM① —	— T400LB1-60DM①	**11,300**	T350LF1-48FM① —	— T400LF1-60FM①	**11,300**
480	470	150 —	200 —	300 —	400 —	— 500	T400LB1-48FM① —	— T500LB1-60EM①	**11,800**	T400LF1-48GM① —	— T500LF1-60GM①	**11,800**
590	570	200 —	250 —	350 —	500 —	— 600	T500LB1-48GM① —	— T600LB1-60GM①	**14,550**	T500LF1-48HM① —	— T600LF1-60H①	**14,550**
720	720	250 —	300 —	450 —	600 —	— 700	T600LB1-48JM① —	— T700LB1-60JM①	**16,030**	T600LF1-48HM① —	— T700LF1-60H①	**16,030**
840	840	300 —	350 —	500 —	700 —	— 800	T700LB1-48KM① —	— T800LB1-60JM①	**19,400**	T700LF1-48JM① —	— T800LF1-60J①	**19,400**
960	—	350 —	400 —	— —	800 —	— 900	T800LB1-48KM① —	— T900LB1-60KM①	**27,500**	T800LF1-48JM① —	— T900LF1-60J①	**27,500**
1062	1050	400 —	450 —	600 —	900 —	— 1000	T900LB1-48KM① —	— T1000LB1-60KM①	**28,200**	T900LF1-48KM① —	— T1000LF1-60K①	**28,200**

① Includes integrated shunt rated (AC1) bypass contactor as standard. For across the line rated (AC3) bypass contactors, see page 6.30.

Enclosed
Inside Delta, 7.5 – 1900 HP
NEMA 1, Combination

Connected Inside Delta

Max. motor current		Maximum horsepower					NEMA1, 480V Circuit breaker	NEMA1, 600V Circuit breaker		NEMA1, 480V Fused disconnect	NEMA 1, 600V Fused disconnect	
UL	IEC	208V	240V	380V	480V	600V	Catalog Number	Catalog Number	List Price	Catalog Number	Catalog Number	List Price
28	30	7.5 —	10 —	15 —	20 —	— 25	T020DB1-48J —	— T025DB1-60J	**$ 2065**	T020DF1-48B —	— T025DF1-60B	**$ 2065**
34	37	10 —	10 —	20 —	25 —	— 30	T025DB1-48K —	— T030DB1-60K	**2080**	T025DF1-48B —	— T030DF1-60B	**2080**
42	44	10 —	15 —	25 —	30 —	— 40	T030DB1-48L —	— T040DB1-60L	**2255**	T030DF1-48C —	— T040DF1-60C	**2255**
54	50	15 —	20 —	30 —	40 —	— 50	T040DB1-48N —	— T050DB1-60N	**2285**	T040DF1-48C —	— T050DF1-60C	**2285**
68	72	20 —	25 —	40 —	50 —	— 60	T050DB1-48R —	— T060DB1-60R	**2315**	T050DF1-48C —	— T060DF1-60C	**2315**
80	85	25 —	30 —	50 —	60 —	— 75	T060DB1-48S —	— T075DB1-60S	**3055**	T060DF1-48D —	— T075DF1-60D	**3055**
104	105	30 —	40 —	60 —	75 —	— 100	T075DB1-48T —	— T100DB1-60T	**3080**	T075DF1-48D —	— T100DF1-60D	**3080**
130	142	40 —	50 —	75 —	100 —	— 125	T100DB1-48V —	— T125DB1-60V	**3905**	T100DF1-48D —	— T125DF1-60D	**3905**
156	175	50 —	60 —	100 —	125 —	— 150	T125DB1-48X —	— T150DB1-60X	**4535**	T125DF1-48E —	— T150DF1-60E	**4535**
192	210	60 —	75 —	125 —	150 —	— 200	T150DB1-48Y —	— T200DB1-60Y	**5675**	T150DF1-48E —	— T200DF1-60E	**5675**
248	250	75 —	100 —	150 —	200 —	— 250	T200DB1-48A —	— T250DB1-60Z	**5720**	T200DF1-48E —	— T250DF1-60E	**5720**
302	300	100 —	100 —	150 —	250 —	— 300	T250DB1-48B —	— T300DB1-60B	**6870**	T250DF1-48F —	— T300DF1-60F	**6870**
361	370	125 —	150 —	200 —	300 —	— 350	T300DB1-48D —	— T350DB1-60C	**7450**	T300DF1-48F —	— T350DF1-60F	**7450**
414	400	— —	— —	250 —	350 —	— 400	T350DB1-48E —	— T400DB1-60D	**8680**	T350DF1-48F —	— T400DF1-60F	**8680**
480	470	150 —	200 —	300 —	400 —	— 500	T400DB1-48F —	— T500DB1-60E	**9180**	T400DF1-48G —	— T500DF1-60G	**9180**
590	570	200 —	250 —	350 —	500 —	— 600	T500DB1-48GM① —	— T600DB1-60GM①	**11,460**	T500DF1-48HM① —	— T600DF1-60HM①	**11,460**
720	720	250 —	300 —	450 —	600 —	— 700	T600DB1-48JM① —	— T700DB1-60JM①	**12,900**	T600DF1-48HM① —	— T700DF1-60HM①	**12,900**
840	840	300 —	350 —	500 —	700 —	— 800	T700DB1-48KM① —	— T800DB1-60JM①	**15,850**	T700DF1-48JM① —	— T800DF1-60JM①	**15,850**
960	—	350 —	400 —	— —	800 —	— 900	T800DB1-48KM① —	— T900DB1-60KM①	**17,330**	T800DF1-48JM① —	— T900DF1-60JM①	**17,330**
1062	1050	400 —	450 —	600 —	900 —	— 1000	T900DB1-48KM① —	— T1000DB1-60KM①	**18,030**	T900DF1-48KM① —	— T1000DF1-60KM①	**18,030**
1247	1215	400 —	500 —	800 —	1000 —	— 1200	T1000DB1-48LM① —	— T1200DB1-60LM①	**20,830**	T1000DF1-48KM① —	— T1200DF1-60KM①	**20,830**
1454	1370	500 —	600 —	900 —	1200 —	— 1500	T1200DB1-48MM① —	— T1500DB1-60MM①	**22,900**	T1200DF1-48LM① —	— T1500DF1-60LM①	**22,900**
1839	1823	600 —	700 —	1200 —	1500 —	— 1800	T1500DB1-48NM① —	— T1800DB1-60NM①	**33,500**	T1500DF1-48NM① —	— T1800DF1-60NM①	**33,500**

① Includes integrated shunt rated (AC1) bypass contactor as standard. For across the line rated (AC3) bypass contactors, see page 6.30.