

# Enclosed PSTX - Product Overview

## *Description*

The Enclosed PSTX offers complete motor protection in only one unit and is able to handle both load and network irregularities. PT-100, earth fault protection and over/under voltage protection along with many other functions keep your motor safer than ever.

It offers three types of current limit: standard, dual and ramp. This gives you full control of your motor during start. It also allows you to use your motor in weaker networks.

## *Typical Enclosed PSTX Applications*

### Normal Duty Starts

Bow thruster  
Centrifugal pump  
Compressor  
Conveyor belt (short)  
Elevator

### Heavy Duty Starts

Centrifugal fan  
Conveyor belt (long)  
Crusher  
Mill  
Mixer  
Stirrer

## *Enclosed PSTX Standard Features*

### Main Product Features

Three-phase controlled  
Operational voltage: 440 to 480 V AC  
Wide rated control supply voltage: 100-250 V AC, 50/60 Hz  
Rated operational current: 15...1250 A  
Coated circuit boards  
Torque control for excellent control of pumps  
Service Entrance Rated  
65 kAIC SCCR Rating  
Anybus Communication for most protocols

### Additional Normal Duty Features

NEMA Type 1/12, 3R or 4 Enclosure  
Circuit Breaker for 20-70 HP Design  
Fuses for 900-1000 HP Design  
Door Mounted Keypad rated IP66 (UL Type 1, 4X, 12)  
Start Pushbutton  
Stop Pushbutton  
Hand-Off-Auto Selector Switch  
"Power On" Pilot Light  
"Run Pilot" Light  
"Fault Pilot" Light

## Additional Extreme Duty Features

NEMA 4 Enclosure

Circuit Breaker or Fuses

Door Mounted Keypad rated IP66 (UL Type 1, 4X, 12)

AC-3 Emergency Bypass

Start Pushbutton

Stop Pushbutton

Hand-Off-Auto Selector Switch

Normal-E-Bypass Selector Switch

E- Bypass Start Pushbutton

E-Bypass Stop Pushbutton

"Power On" Pilot Light

"Run Pilot" Light

"Fault Pilot" Light

"E-Bypass" Pilot Light

## Enclosed PSTX Specifications

General	Rated insulation voltage $U_i$	600 V
	Rated operational voltage $U_e$	440...480 V AC AC +10% / -15%, 50/60Hz $\pm 5\%$
	Rated control supply voltage $U_s$	100...250 V AC +10% / -15%, 50/60Hz $\pm 5\%$
	Rated control circuit voltage $U_c$	Internal or external 24 V DC
	Starting capacity at $I_e$	4 x $I_e$ for 10 sec.
	Number of starts per hour	10 for PSTX30...PSTX370 6 for PSTX470 ... PSTX1250
	Overload capability	Overload class = 10
	Ambient temperature	During operation: -25...+60 °C, (- 13...+140 °F) During storage: -40...+70 °C, (-40...+158 °F)
	Maximum altitude	4000 m (13123 ft)
	Main circuit	Built-in bypass contactor: Yes Cooling system - fan cooled: Yes (thermostat controlled)
Environmental Protection	Main circuit	IP00
	Supply and Control Circuit	IP20
HMI for Settings	Display	LCD type, graphical
	Languages	Arabic, Chinese, Czech, Dutch, English, Finnish, French, German, Greek, Indonesian, Italian, Polish, Portuguese, Russian, Spanish, Swedish and Turkish

	Keypad	2 selection keys, 4 navigation keys, start key, stop key, info key and remote/local key
Signal relays	Number of programmable signal relays	3 (each relay can be programmed to None, Run, Top of ramp, Event group 0-6, Sequence 1-3 Run, Sequence 1-3 Top of ramp or Run reverse)
	K4	Default as Run signal
	K5	Default as Top of Ramp (Bypass) signal
	K6	Default as Event group 0 (Faults)
	Rated operational voltage, Ue	250 V AC/24 V DC
	Rated thermal current Ith	5A
	Rated operational current Ie at AC-15 (Ue=250 V)	1.5A
Analog Output	Output signal reference	0...10 V, 0...10 mA, 0...20 mA, 4...20 mA
	Type of output signal	Motor current (A), Main voltage (V), Active power (kW), Active power (HP), Reactive power (kVAr), Apparant power (kVArh), Active energy (kWh), Reactive energy (kVArh), cos phi, Motor temperature (%), Thyristor temperature (%), Motor voltage (%), Main frequency (Hz), PT100 temperature (centigrade), PTC resistance (Ohm)
Control Circuit	Number of inputs	2 (start, stop)
	Number of additional programmable inputs	3 (each input can be programmed to: None, Reset, Enable, Slow speed forward (Jog), Slow speed reverse (Jog), Motor heating, Stand still brake, Start reverse, User defined protection, Emergency mode (active high), Emergency mode (active low), Fieldbus disable control, Start 1, Start 2, Start 3, Switch to remote control or Cancel brake)
Signaling indication LED	Ready	Green
	Run	Green
	Fault	Red
	Protection	Yellow
Fieldbus Connection	Built-in Modbus RTU	Yes
	Connection for Anybus	Yes
External Keypad	Detachable keypad	Yes
	Display	LCD type, graphical
	Ambient temperature	During operation: -25...+60 °C, (-13...+140 °F) During storage: -40...+70 °C, (-40...+158 °F)
	Degree of protection	IP66 (Type 1, 4X, 12)
Start and stop functions	Soft start with voltage ramp	Yes
	Soft stop with voltage ramp	Yes
	Soft start with torque control	Yes
	Soft stop with torque control	Yes
	Kick start	Yes

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Full voltage start	Yes
Sequence start	Yes, 3 different sets of settings
Current limit	Yes
Dual current limit	Yes
Current limit ramp	Yes
Torque limit	Yes
Pre-start function	Yes (Motor heating or Stand still brake)
Jog with slow speed, forward and reverse	Yes (3 speed levels)
Start reverse (external contactors)	Yes
Dynamic brake	Yes

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