



Product Catalog



JANUARY 2024 EDITION

Low Voltage Solid State Soft Starters

Rapid | Rugged | Global

CONTENTS

Introduction	3
Low Voltage Soft Starters Comparison	4
EMX4	
<u>Product Overview</u>	6
<u>Feature Comparison</u>	7
<u>Advanced Digital Soft Starter</u>	8
EMX4i Series Advanced Protected Chassis Soft Starters	
<u>Specifications</u>	9
<u>Advanced Chassis Units</u>	10
EMX4e Series Economical Protected Chassis Soft Starters	
<u>Economical Chassis Units</u>	13
Accessories	
<u>EMX4i</u>	16
<u>EMX4e</u>	16
CSXi Series	
<u>Specifications</u>	17
<u>Compact Chassis Units</u>	18
<u>Accessories</u>	19
<u>CSXi Pump Panel Starters</u>	20
RB Series Open Chassis Solid State Starters	
<u>Open Chassis Starters with Integral Bypass</u>	21
<u>RB2 / RB3 Product Selection Guide</u>	22
MX4PB Series Packaged Soft Starters	
<u>Product Overview</u>	24
<u>Part Number Assembler</u>	25
<u>Integral Bypass Circuit Breaker</u>	26
<u>Options</u>	30
Packaged Starters with ATL Bypass	
<u>RX4E Packaged Starter</u>	31
<u>RX2E Packaged Starter</u>	33

Introduction

Benshaw offers a complete range of open chassis, protected chassis and packaged low voltage soft starters ... each designed to meet or exceed specific application requirements.

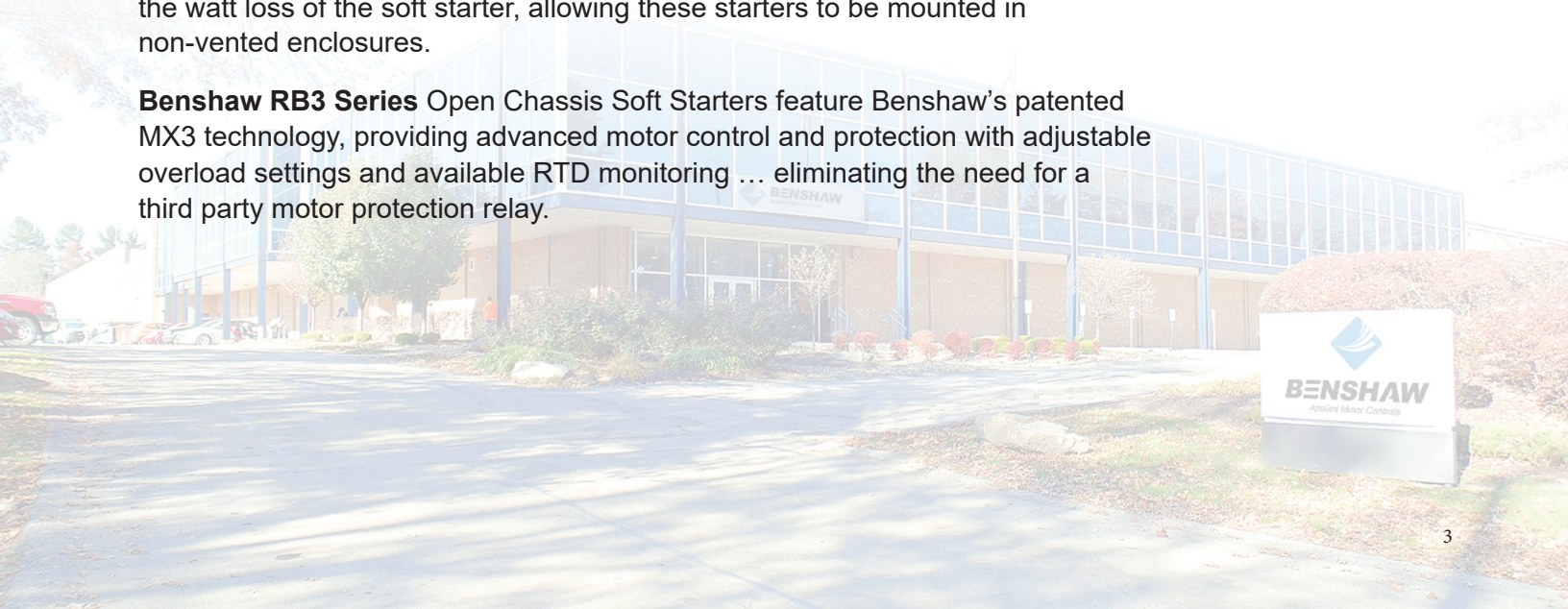
Our standard duty soft starters (CSXi Series) are ideal for a wide range of basic soft start applications. Advanced models provide “Smart Card” flexibility and added protection for standard and heavy duty (EMX4 Series) applications, and our MX2- and MX3-based starters (RB2 and RB3 Series) are well suited for use in a wide range of severe duty applications.

Benshaw CSXi Series Low Voltage Protected Chassis Soft Starters are compact, easy-to-use soft starters with built-in motor protection. CSXi Series soft starters provide greater control for starting and stopping of three phase motors, and, at only 6.5 inches (165mm) deep, are easy to mount in shallow enclosures.

Benshaw EMX4 Series Low Voltage Protected Chassis Soft Starters make it easy to access the right information ... right when you need it. EMX4 Series starters include a comprehensive graphical display, quick setup menus and comprehensive starter/motor/system protection functions, complete with alarms to alert you to any potential issues. For critical must-run applications, Power Through and Emergency Run functions provide the ability to keep running even if you lose one phase.

The **Benshaw RB2 Series** Open Chassis Soft Starter is a compact, simple to use soft starter with built-in motor protection, providing greater control in starting and stopping of three phase motors. The unit’s integral bypass contactor reduces the watt loss of the soft starter, allowing these starters to be mounted in non-vented enclosures.

Benshaw RB3 Series Open Chassis Soft Starters feature Benshaw’s patented MX3 technology, providing advanced motor control and protection with adjustable overload settings and available RTD monitoring ... eliminating the need for a third party motor protection relay.



BENSHAW LINE OF SOFT STARTERS

Benshaw offers a complete range of open chassis and packaged low voltage soft start solutions. Our standard duty soft starters (CSXi Series) are ideal for a wide range of basic soft start applications. Advanced models provide “Smart Card” flexibility and added protection for standard and heavy duty (EMX4 Series) applications, and our MX2 and MX3 motor control technology (RB2 & RB3 Series) for severe duty applications. The following comparison chart details the differences between these offerings:

Low Voltage Soft Starter Comparison

Series	CSXi	EMX4e	EMX4i	RB2	RB3
Features					
HP Range @ 230 Vac	5-75	5-200	5-450	10-350	10-350
HP Range @ 460 Vac	10-150	10-400	10-900	20-1000	20-1000
HP Range @ 575 Vac	15-200	15-500	15-1200	25-1000	20-1000
Control Voltages	110-240Vac	110-240Vac	110-240Vac	120Vac	120Vac
24V Control (optional)	•	•	•		
Run Bypass	•	•	•	•	•
HMI	opt	•	•	opt	•
LCD Keypad Programming	LED opt	•	•	opt	•
Warranty	3yrs	3yrs	3yrs	3yrs	3yrs
USB Interface	opt	std	std	N/A	N/A
Number of Inputs	start/stop only	2	2	3	8
Additional Fixed Inputs for Start/Bypass Confirm	1	1	1	2	2
Number of Outputs	1	2	2	3	6
Additional Outputs for Bypass Control	1	1	1	1	1
Real Time Clock for Data Logging		•	•		•
Event Log		•	•		•
Starts Per Hour Limiter		•	•		•
Time Between Starts Limiter		•	•		•
Zero Speed Switch Input			•		•
Communication Protocols:					
485 Modbus RTU	module	card	card	•	•
DeviceNet	module	card	card	opt	opt
Profibus	module	card	card	opt	opt
Modbus TCP	module	card	card	opt	opt
Ethernet IP	module	card	card	opt	opt
Profinet	module	card	card	N/A	N/A
NEMA/IP rating	≤ 100A = IP20 and ≥100A = IP00	≤ 100A = IP20 and ≥100A = IP00	≤ 100A = IP20 and ≥100A = IP00	Open Chassis	Open Chassis
LED Indicators	•	•	•	•	•



Series	CSXi	EMX4e	EMX4i	RB2	RB3
Standard Duty Rating					
HP Range @ 230 Vac	5-75	5-200	5-450	10-350	10-350
HP Range @ 460 Vac	10-150	10-400	10-900	20-1000	20-1000
HP Range @ 575 Vac	15-200	15-500	15-1200	25-1000	20-1000
Heavy Duty Rating					
HP Range @ 230 Vac	N/A	N/A	3-350	10-250	10-250
HP Range @ 460 Vac	N/A	N/A	10-700	20-1000	20-1000
HP Range @ 575 Vac	N/A	N/A	10-900	25-1000	25-1000
Motor Protection features:					
Current Ramp	•	•	•	•	•
Motor FLA	•	•	•	•	•
Current Limit	•	•	•	•	•
Adjustable Start Ramp Time	1	1	2	1	2
Stop Ramp Time	•	•	•	•	•
Adjustable Motor Trip Class		•	•	•	•
Auxiliary Relay	•	•	•	•	•
Phase Sequence	•	•	•	•	•
Excess Start Time	•	•	•	•	•
Simulation mode		•	•		
Automatic Timers & Schedulers			•		
Adjustable Over/Under Voltage Protection	•	•	•	•	•
Undercurrent Detection	•	•	•	•	•
Current Imbalance Detection	•	•	•	•	•
Instantaneous Electronic Overcurrent Trip	•	•	•	•	•
Residual Ground Fault Detection				•	•
Zero sequence ground fault detection		opt	opt		opt
Alarm Relay Output	•	•	•	•	•
Adjustable Overload Protection	•	•	•	•	•
Overload Lockout	•	•	•	•	•
Under/Over Frequency	•	•	•	•	•
Single-Phase Protection	•	•	•	•	•
Shorted SCR Protection	•	•	•	•	•
Mechanical Jam		•	•	•	•
Resistor Temp. Detector (RTD) Monitoring			opt		opt
Bearing RTD / Other RTD / Open RTD Alarm			opt		opt
SCR Failure Power Through			•		
Current at Stop		•	•		
Shunt Trip Output		•	•		

All low voltage soft starters from Benshaw provide:

- Mission critical reliability
- Patented soft start technology
- Integral digital protection and metering
- 24/7 service and support

EMX4 ADVANCED SOFT STARTER



Smart does not have to mean complex. The EMX4 has been designed to make your life easier with an intuitive display and connectivity functions.

Access the right information when you need it through the comprehensive graphical display and quick setup menus.

The EMX4 includes starter, motor and system protection functions, complete with alarms to alert you to any potential issues.

Optional communication cards enable network connections and the USB port allows straightforward upload, download and storage of starter performance information.

There are two models of EMX4 soft starters available: The EMX4i full featured soft starter with ratings up to 1200A or the “cost optimized” EMX4e model with limited features and ratings (up to 580A).

RELY ON EMX4

Whether you are responsible for installation, maintenance or operation the EMX4 has you covered.

Feature	Benefit
Quick Application Setup	Easy commissioning
Simulation Mode	Easy and fast testing during installation and commissioning No need for line power or motor
Automatic Timers and Schedulers	Fast and easy automation No need for external logic or timers
Emergency Mode	Continued operation in emergency situations
USB Port	Easy data retrieval without the need for PC or network No need for an adaptor or cable Easy firmware updates Easy and fast commissioning
Pluggable Terminals	Fast installation and unit exchange

Guaranteed ... for three full years.

Only Benschaw has a three year guarantee.

Every Benschaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benschaw, we believe that because we build them better, we can guarantee them longer.





EMX4 ADVANCED SOFT STARTER

Which Starter Do I Need?



EMX4i

- Standard and heavy duty ratings
- 3 starting modes
- 2 stopping modes
- Comprehensive protections
- Multi-language display
- Kickstart
- DC brake and soft brake
- Pump clean
- SCR Failure Power Through
- Daily on/off scheduling

24 - 1250 A

EMX4i Ratings:

- 230 VAC 5-450 HP
- 460 VAC 10-900 HP
- 575 VAC 15-1200HP

EMX4e

- Standard duty rating only
- 3 starting modes
- 2 stopping modes
- Comprehensive protections
- Multi-language display

24-580 A

EMX4e Ratings:

- 230 VAC 5-200 HP
- 460 VAC 10-400 HP
- 575 VAC 15-500 HP

EMX4 SERIES

ADVANCED DIGITAL SOFT STARTER

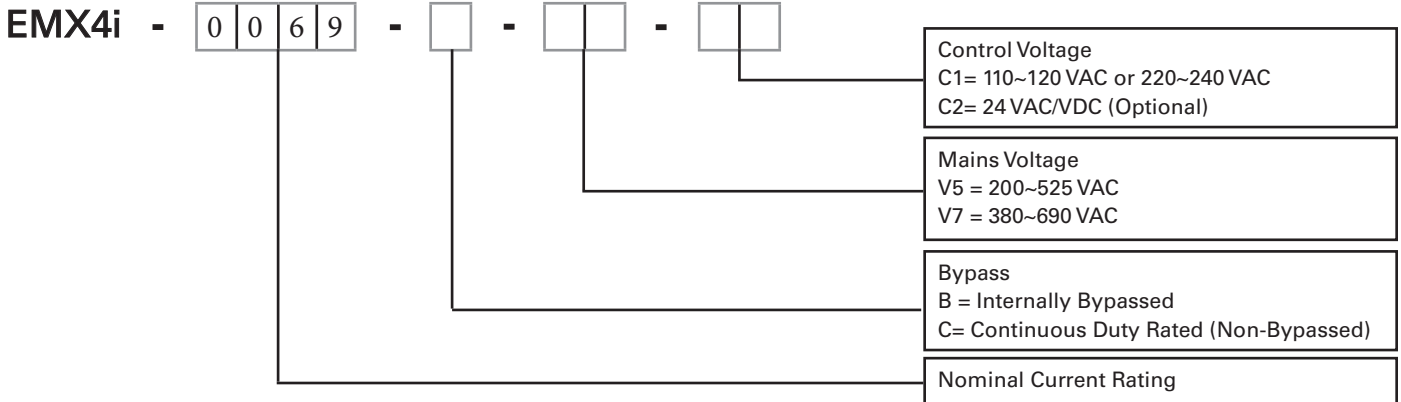
Feature Sets	EMX4e	EMX4i	Feature Sets	EMX4e	EMX4i
MOTOR CONTROL			INTEGRATION AND MANAGEMENT		
Motor Sets	1	2	Multi-Language Graphical Display	√	√
Constant Current & Current Ramp Start		√	Configurable Display Screen	√	√
Adaptive Control Starting/Stopping	√	√	I/O and Network Expansion Options	√	√
Kickstart		√	USB Port and Data Logging	√	√
Coast to Stop & Time Voltage Ramp Stop	√	√	Analog Output	√	√
DC Brake		√	Emergency Mode	√	√
Soft Brake		√	Voltage Measurement		√
Jog (Forward and Reverse)		√	SCR Fail Power Through	√	√
Inside Delta (6 wire) Control		√	Daily On/Off Scheduling		√
Soft Trip		√	Run Simulation	√	√
Pump Clean		√	COMMUNICATION OPTIONS		
Reversing Contactor Control		√	Modbus RTU	√	√
Trip Fail Safe	√	√	Profibus	√	√
MOTOR PROTECTION			Device Net	√	√
Motor Thermistor	√	√	Modbus TCP	√	√
Current Imbalance	√	√	ProfiNET	√	√
Under/Overcurrent	√	√	Ethernet IP	√	√
Under/Overvoltage		√	SMART CARD OPTIONS		
Under/Overpower (Dry Pump Protection)		√	Pumping Smart Card	√	√
Phase Sequence	√	√	ACCESSORIES		
Phase Loss	√	√	Remote HMI	√	√
Power Loss	√	√			
Starts Per Hour Limiting	√	√			
Restart Delay (Pump Backspin Delay)	√	√			
Current At Stop	√	√			
Ground Fault Option	√	√			

All EMX4 chassis units are available to ship immediately from our Pennsylvania warehouse. Check stock or buy online at www.benshaw.com

EMX4i SERIES

ADVANCED CHASSIS SOFT STARTER BUILT-IN BYPASS AND MOTOR PROTECTION

Model Number



Supply

Mains Voltage {L1, L2, L3}	
EMX4i-xxxxB-V5	200~525 VAC {±10%}
EMX4i-xxxxB-V7	380~690 VAC {±10%}
Control Voltage {A1, A2, A3}	
EMX4i-xxxxB-xx-C1 {A1, A2}	110~120 VAC {+10%/-15%}, 600 mA
EMX4i-xxxxB-xx-C1 {A2, A3}	220~240 VAC {+10%/-15%}, 600 mA
EMX4i-xxxxB-xx-C2 {A1, A2}	24 VAC/VDC {±20%}, 2.8 A
Mains Frequency	50 Hz~60Hz {±5 Hz}

Inputs

Input Rating	Active 24 VDC, 8 mA approx
Motor Thermistor {B4, B5}	Trip >3.6 kΩ, reset < 1.6 kΩ

Outputs

Relay Outputs	10 A @ 250 VAC resistive, 5A @ 250 VAC AC15 pf 0.3
Main Contactor {33,34}	Normally Open
Relay Output A {41,42,44}	Changeover
Relay Output B {53,54}	Normally Open
Analog Outputs {21,22}	
Maximum Load600 Ω {12 VDC @ 20 mA}
Accuracy	±5

Environmental

Operating Temperature	-10°C ~ 60°C, above 40 °C with derating
Storage Temperature	-25°C ~ + 60°C
Operating Altitude	0~1000 m, above 1000 m with derating
Humidity	5%~95% Relative Humidity
Pollution Degree	Pollution Degree 3
Vibration	IEC 60068-2-6
Protection	
EMX4i-0024B-EMX4i-0135B	IP20
EMX4i-0184B-EMX4i-1250B	IP00

Certification

CCC	GB 14048.6
CE	EN 60947-4-2
C-UL	C22.2 N° 60947-4-2
UL	UL 60947-4-2
Marine	
Lloyds	Lloyds Marine No 1 Specification
ABS	Steel Vessels Rules 2010

EMX4i SERIES



ADVANCED CHASSIS SOFT STARTER BUILT-IN BYPASS AND MOTOR PROTECTION

230 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0024B-V5-C1-H	5	17	3	14	13.2	6.0	9.1	11	\$1,557
EMX4i-0042B-V5-C1-H	10	28	7.5	22	13.2	6.0	9.1	11	\$1,617
EMX4i-0052B-V5-C1-H	10	35	10	28	13.2	6.0	9.1	11	\$1,670
EMX4i-0064B-V5-C1-H	15	52	10	48	13.2	6.0	9.1	11	\$1,745
EMX4i-0069B-V5-C1-H	20	59	15	46	13.2	6.0	9.1	11	\$1,784
EMX4i-0105B-V5-C1-H	25	77	15	52	13.2	6.0	9.1	12	\$2,143
EMX4i-0115B-V5-C1-H	30	81	20	65	13.2	6.0	9.1	12	\$2,397
EMX4i-0135B-V5-C1-H	30	99	25	77	13.2	6.0	9.1	12	\$2,730
EMX4i-0184B-V5-C1-H	40	124	30	96	19.5	8.5	9.6	28	\$3,005
EMX4i-0200B-V5-C1-H	50	131	40	104	19.5	8.5	9.6	28	\$3,147
EMX4i-0229B-V5-C1-H	60	156	40	124	19.5	8.5	9.6	28	\$3,473
EMX4i-0250B-V5-C1-H	75	195	60	156	19.5	8.5	9.6	28	\$4,643
EMX4i-0397B-V5-C1-H	100	261	75	203	20.6	8.5	9.6	34	\$5,764
EMX4i-0410B-V5-C1-H	150	377	100	302	20.6	8.5	9.6	34	\$6,692
EMX4i-0550B-V5-C1-H	150	414	125	321	20.6	8.5	9.6	42	\$7,003
EMX4i-0580B-V5-C1-H	200	477	150	361	20.6	8.5	9.6	42	\$7,291
EMX4i-0835B-V5-C1-H*	200	515	150	414	24.3	17.6	12.3	112	\$8,501
EMX4i-0940B-V5-C1-H*	200	590	150	480	24.3	17.6	12.3	112	\$9,817
EMX4i-1070B-V5-C1-H*	300	797	250	620	24.3	17.6	12.3	137	\$11,789
EMX4i-1230B-V5-C1-H*	400	985	300	768	24.3	17.6	12.3	139	\$13,468
EMX4i-1250B-V5-C1-H*	450	1180	350	904	24.3	17.6	12.3	143	\$14,723

Continuous Duty rated (Non-Bypassed*)

240 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0735C-V5-C1-H*	200	480	150	382	24.3	17.6	12.3	104	\$7,215
EMX4i-0830C-V5-C1-H*	200	576	175	431	24.3	17.6	12.3	104	\$7,380
EMX4i-1025C-V5-C1-H*	300	722	200	590	24.3	17.6	12.3	128	\$7,528
EMX4i-1170C-V5-C1-H*	350	864	300	722	24.3	17.6	12.3	130	\$8,031
EMX4i-1220C-V5-C1-H*	400	966	300	784	24.3	17.6	12.3	135	\$10,977

*Refer to EMX4i User Manual for current/HP ratings when using customer supplied, external bypass contactor.



EMX4i SERIES

ADVANCED CHASSIS SOFT STARTER BUILT-IN BYPASS AND MOTOR PROTECTION

460 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0024B-V5-C1-H	10	17	10	14	13.2	6.0	9.1	11	\$1,557
EMX4i-0042B-V5-C1-H	20	27	15	22	13.2	6.0	9.1	11	\$1,617
EMX4i-0052B-V5-C1-H	25	34	20	28	13.2	6.0	9.1	11	\$1,670
EMX4i-0064B-V5-C1-H	40	52	25	40	13.2	6.0	9.1	11	\$1,745
EMX4i-0069B-V5-C1-H	40	59	30	46	13.2	6.0	9.1	11	\$1,784
EMX4i-0105B-V5-C1-H	60	77	40	52	13.2	6.0	9.1	12	\$2,143
EMX4i-0115B-V5-C1-H	60	81	50	65	13.2	6.0	9.1	12	\$2,397
EMX4i-0135B-V5-C1-H	75	99	60	77	13.2	6.0	9.1	12	\$2,730
EMX4i-0184B-V5-C1-H	100	124	75	96	19.5	8.5	9.6	28	\$3,005
EMX4i-0200B-V5-C1-H	100	131	75	104	19.5	8.5	9.6	28	\$3,147
EMX4i-0229B-V5-C1-H	125	156	100	124	19.5	8.5	9.6	28	\$3,473
EMX4i-0250B-V5-C1-H	150	195	125	156	19.5	8.5	9.6	28	\$4,643
EMX4i-0352B-V5-C1-H	200	240	150	180	20.6	8.5	9.6	34	\$5,184
EMX4i-0397B-V5-C1-H	200	261	150	203	20.6	8.5	9.6	34	\$5,764
EMX4i-0410B-V5-C1-H	300	377	250	302	20.6	8.5	9.6	34	\$6,692
EMX4i-0550B-V5-C1-H	350	414	250	321	20.6	8.5	9.6	42	\$7,003
EMX4i-0580B-V5-C1-H	400	477	300	361	20.6	8.5	9.6	42	\$7,291
EMX4i-0835B-V5-C1-H*	400	515	300	414	24.3	17.6	12.3	112	\$8,501
EMX4i-0940B-V5-C1-H*	450	590	350	480	24.3	17.6	12.3	112	\$9,817
EMX4i-1070B-V5-C1-H*	600	797	500	620	24.3	17.6	12.3	137	\$11,789
EMX4i-1230B-V5-C1-H*	800	985	600	768	24.3	17.6	12.3	139	\$13,468
EMX4i-1250B-V5-C1-H*	900	1180	700	904	24.3	17.6	12.3	143	\$14,723

Continuous Duty rated (Non-Bypassed*)

460 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0735C-V5-C1-H*	400	480	300	382	24.3	17.6	12.3	104	\$7,215
EMX4i-0830C-V5-C1-H*	450	576	350	431	24.3	17.6	12.3	104	\$7,380
EMX4i-1025C-V5-C1-H*	600	722	500	590	24.3	17.6	12.3	128	\$7,528
EMX4i-1170C-V5-C1-H*	700	864	600	722	24.3	17.6	12.3	130	\$8,031
EMX4i-1220C-V5-C1-H*	800	966	600	784	24.3	17.6	12.3	135	\$10,977

*Refer to EMX4i User Manual for current/HP ratings when using customer supplied, external bypass contactor.

EMX4i SERIES

ADVANCED CHASSIS SOFT STARTER BUILT-IN BYPASS AND MOTOR PROTECTION

575 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0024B-V7-C1-H	15	17	10	14	13.2	6.0	9.1	11	\$1,603
EMX4i-0042B-V7-C1-H	25	28	20	22	13.2	6.0	9.1	11	\$1,665
EMX4i-0052B-V7-C1-H	30	35	25	28	13.2	6.0	9.1	11	\$1,720
EMX4i-0064B-V7-C1-H	40	52	30	40	13.2	6.0	9.1	11	\$1,798
EMX4i-0069B-V7-C1-H	50	59	40	46	13.2	6.0	9.1	11	\$1,837
EMX4i-0105B-V7-C1-H	60	77	50	52	13.2	6.0	9.1	12	\$2,422
EMX4i-0115B-V7-C1-H	75	81	60	65	13.2	6.0	9.1	12	\$2,707
EMX4i-0135B-V7-C1-H	100	99	75	77	13.2	6.0	9.1	12	\$3,078
EMX4i-0184B-V7-C1-H	100	124	75	96	19.5	8.5	9.6	28	\$3,336
EMX4i-0200B-V7-C1-H	125	131	100	104	19.5	8.5	9.6	28	\$3,481
EMX4i-0229B-V7-C1-H	150	156	100	124	19.5	8.5	9.6	28	\$3,854
EMX4i-0250B-V7-C1-H	200	195	150	156	19.5	8.5	9.6	28	\$5,155
EMX4i-0352B-V7-C1-H	200	240	150	180	20.6	8.5	9.6	34	\$5,548
EMX4i-0397B-V7-C1-H	250	261	200	203	20.6	8.5	9.6	34	\$6,168
EMX4i-0410B-V7-C1-H	350	377	300	302	20.6	8.5	9.6	34	\$7,159
EMX4i-0550B-V7-C1-H	450	414	300	321	20.6	8.5	9.6	42	\$7,284
EMX4i-0580B-V7-C1-H	500	477	350	361	20.6	8.5	9.6	42	\$7,582
EMX4i-0835B-V7-C1-H*	500	515	400	414	24.3	17.6	12.3	112	\$8,947
EMX4i-0940B-V7-C1-H*	600	590	450	480	24.3	17.6	12.3	112	\$10,334
EMX4i-1070B-V7-C1-H*	800	797	600	620	24.3	17.6	12.3	137	\$12,410
EMX4i-1230B-V7-C1-H*	1000	985	800	768	24.3	17.6	12.3	139	\$14,176
EMX4i-1250B-V7-C1-H*	1200	1180	900	904	24.3	17.6	12.3	143	\$15,499

Continuous Duty rated (Non-Bypassed*)

575 VAC

Model Number	Standard Duty 350%, 30 s, 4 starts per hour		Heavy Duty 450%, 30 s, 4 starts per hour		Dimensions (inches)			Weight (lbs)	List Price
	HP	Max Amps	HP	Max Amps	H	W	D		
EMX4i-0735C-V7-C1-H*	500	480	400	382	24.3	17.6	12.3	104	\$7,937
EMX4i-0830C-V7-C1-H*	600	576	450	431	24.3	17.6	12.3	104	\$8,117
EMX4i-1025C-V7-C1-H*	700	722	600	590	24.3	17.6	12.3	128	\$8,283
EMX4i-1170C-V7-C1-H*	900	864	700	722	24.3	17.6	12.3	130	\$8,833
EMX4i-1220C-V7-C1-H*	1000	966	800	784	24.3	17.6	12.3	135	\$12,076

*Refer to EMX4i User Manual for current/HP ratings when using customer supplied, external bypass contactor.



EMX4e SERIES

ECONOMICAL CHASSIS SOFT STARTER WITH BUILT-IN BYPASS AND MOTOR PROTECTION

230 VAC

Standard Duty
350%, 30 s, 4 starts per hour

Dimensions (inches)

Model Number	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4e-0024B-V5-C1-H	5	17	13.2	6.0	9.1	11	\$1,323
EMX4e-0042B-V5-C1-H	10	28	13.2	6.0	9.1	11	\$1,375
EMX4e-0052B-V5-C1-H	10	35	13.2	6.0	9.1	11	\$1,420
EMX4e-0064B-V5-C1-H	15	52	13.2	6.0	9.1	11	\$1,483
EMX4e-0069B-V5-C1-H	20	59	13.2	6.0	9.1	11	\$1,517
EMX4e-0105B-V5-C1-H	25	77	13.2	6.0	9.1	12	\$1,822
EMX4e-0115B-V5-C1-H	30	81	13.2	6.0	9.1	12	\$2,038
EMX4e-0135B-V5-C1-H	30	99	13.2	6.0	9.1	12	\$2,263
EMX4e-0184B-V5-C1-H	40	124	19.5	8.5	9.6	28	\$2,555
EMX4e-0200B-V5-C1-H	50	131	19.5	8.5	9.6	28	\$2,666
EMX4e-0229B-V5-C1-H	60	156	19.5	8.5	9.6	28	\$2,952
EMX4e-0250B-V5-C1-H	75	195	19.5	8.5	9.6	28	\$3,945
EMX4e-0397B-V5-C1-H	100	261	20.6	8.5	9.6	34	\$4,900
EMX4e-0410B-V5-C1-H	150	377	20.6	8.5	9.6	34	\$5,688
EMX4e-0550B-V5-C1-H	150	414	20.6	8.5	9.6	42	\$5,953
EMX4e-0580B-V5-C1-H	200	477	20.6	8.5	9.6	42	\$6,198

* See comparison of EXM4e and EMX4i on pages 4 and 5.

EMX4e SERIES

ECONOMICAL CHASSIS SOFT STARTER WITH BUILT-IN BYPASS AND MOTOR PROTECTION



460 VAC

Standard Duty
350%, 30 s, 4 starts per hour

Dimensions (inches)

Model Number	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4e-0024B-V5-C1-H	10	17	13.2	6.0	9.1	11	\$1,323
EMX4e-0042B-V5-C1-H	20	28	13.2	6.0	9.1	11	\$1,375
EMX4e-0052B-V5-C1-H	25	35	13.2	6.0	9.1	11	\$1,420
EMX4e-0064B-V5-C1-H	40	52	13.2	6.0	9.1	11	\$1,483
EMX4e-0069B-V5-C1-H	40	59	13.2	6.0	9.1	11	\$1,517
EMX4e-0105B-V5-C1-H	50	77	13.2	6.0	9.1	12	\$1,822
EMX4e-0115B-V5-C1-H	60	81	13.2	6.0	9.1	12	\$2,038
EMX4e-0135B-V5-C1-H	75	99	13.2	6.0	9.1	12	\$2,263
EMX4e-0184B-V5-C1-H	100	124	19.5	8.5	9.6	28	\$2,555
EMX4e-0200B-V5-C1-H	100	131	19.5	8.5	9.6	28	\$2,666
EMX4e-0229B-V5-C1-H	125	156	19.5	8.5	9.6	28	\$2,952
EMX4e-0250B-V5-C1-H	150	195	19.5	8.5	9.6	28	\$3,945
EMX4e-0352B-V5-C1-H	200	240	20.6	8.5	9.6	34	\$4,406
EMX4e-0397B-V5-C1-H	200	261	20.6	8.5	9.6	34	\$4,900
EMX4e-0410B-V5-C1-H	300	377	20.6	8.5	9.6	34	\$5,688
EMX4e-0550B-V5-C1-H	350	414	20.6	8.5	9.6	42	\$5,953
EMX4e-0580B-V5-C1-H	400	477	20.6	8.5	9.6	42	\$6,198

* See comparison of EXM4e and EMX4i on pages 4 and 5.

EMX4e SERIES

ECONOMICAL CHASSIS SOFT STARTER WITH BUILT-IN BYPASS AND MOTOR PROTECTION

575 VAC

Standard Duty
350%, 30 s, 4 starts per hour

Dimensions (inches)

Model Number	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4e-0024B-V7-C1-H	15	17	13.2	6.0	9.1	11	\$1,362
EMX4e-0042B-V7-C1-H	25	28	13.2	6.0	9.1	11	\$1,415
EMX4e-0052B-V7-C1-H	30	35	13.2	6.0	9.1	11	\$1,463
EMX4e-0064B-V7-C1-H	40	52	13.2	6.0	9.1	11	\$1,527
EMX4e-0069B-V7-C1-H	50	59	13.2	6.0	9.1	11	\$1,562
EMX4e-0105B-V7-C1-H	60	77	13.2	6.0	9.1	12	\$2,059
EMX4e-0115B-V7-C1-H	75	81	13.2	6.0	9.1	12	\$2,302
EMX4e-0135B-V7-C1-H	100	99	13.2	6.0	9.1	12	\$2,559
EMX4e-0184B-V7-C1-H	100	124	19.5	8.5	9.6	28	\$2,836
EMX4e-0200B-V7-C1-H	125	131	19.5	8.5	9.6	28	\$2,960
EMX4e-0229B-V7-C1-H	150	156	19.5	8.5	9.6	28	\$3,275
EMX4e-0250B-V7-C1-H	200	195	19.5	8.5	9.6	28	\$4,381
EMX4e-0352B-V7-C1-H	200	240	20.6	8.5	9.6	34	\$4,716
EMX4e-0397B-V7-C1-H	250	261	20.6	8.5	9.6	34	\$5,244
EMX4e-0410B-V7-C1-H	350	377	20.6	8.5	9.6	34	\$6,087
EMX4e-0550B-V7-C1-H	450	414	20.6	8.5	9.6	42	\$6,191
EMX4e-0580B-V7-C1-H	500	477	20.6	8.5	9.6	42	\$6,445

* See comparison of EXM4e and EMX4i on pages 4 and 5.

ACCESSORIES

ADD TO YOUR EMX4i AND EMX4e SERIES

Remote keypads for control and monitoring

List Price

KP-PIC-RC-02	Remote Keypad Kit (Keypad, card & cable)	\$467
CV-100018-00	N3R/N4 Remote Keypad Cover (8" x 8")	\$247

Communication interfaces for network integration

List Price

COM-PIC-DN-01	DeviceNet Card, EMX4	\$351
COM-PIC-MB-01	Modbus Card, EMX4	\$266
COM-PIC-PB-01	Profibus Card, EMX4	\$455
COM-PIC-MT-01	Modbus TCP Card, EMX4	\$898
COM-PIC-PN-01	Profinet Card, EMX4	\$898
COM-PIC-MB-02	Ground Fault + Modbus, RTU Card, EMX4	\$270
COM-PIC-MT-03	Ground Fault + Modbus, TCP Card, EMX4	\$928
COM-PIC-PN-03	Ground Fault + Profinet card, EMX4	\$928
COM-PIC-EI-03	Ground Fault + Ethernet IP Card, EMX4	\$928

3-wire control board option

List Price

BIPC-300200-01	3-wire control board option for wiring customer supplied (external) start/stop/reset pushbuttons, EMX4 with 120VAC control voltage	\$92
BIPC-300200-02	3-wire control board option for wiring customer supplied (external) start/stop/reset pushbuttons, EMX4 with 24VDC control voltage	\$92

Smart Cards

List Price

SCC-PC-01	Smart Card, Pump Application [EMX4]	\$386
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IP20 Finger guards for personnel safety

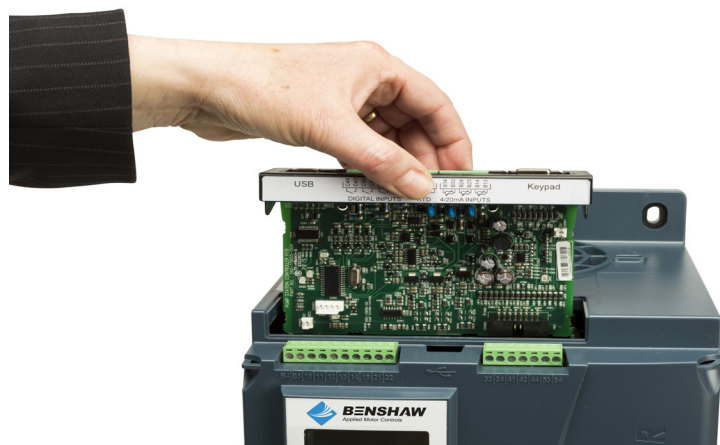
List Price

995-17309-00	Finger Guard kit, (EMX4i/e) 0184B-0580B	\$239
995-22320-00	Finger Guard kit, (EMX4i) 0835B-1250B	\$199

Additional Accessories

List Price

995-18637-00	Cover Remote Tool, EMX4	\$151
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CSXi SERIES

BASIC COMPACT SOFT STARTER

Specifications

General

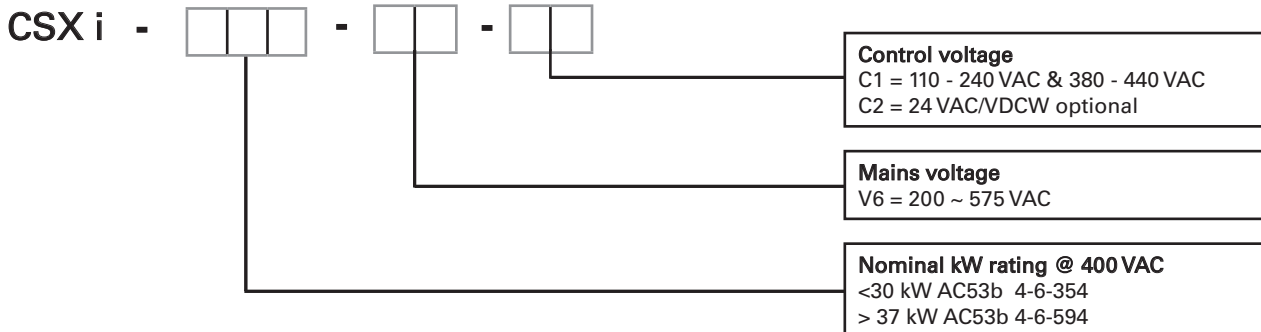
Current range 18 A ~ 200 A (nominal)
Motor connection Inline
Bypass Internal

Supply

Mains voltage
CSXi-xxxx-V6 3 x 200 VAC ~ 575 VAC (+10% / -15%)
Control voltage (A1,A2,A3)
C1 110 ~ 240 VAC (+10% / -15%)
..... or 380 ~ 440 VAC (+10% / -15%)
C2 24 VAC / 24 VDC (±20%)
Mains frequency 45 Hz to 66 Hz



Model Number



All CSXi chassis units are available for immediate shipping from our Pennsylvania warehouse. Check stock or buy online at www.benshaw.com.

Guaranteed ... for three full years.

Only Benshaw has a three year guarantee.

Every Benshaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benshaw, we believe that because we build them better, we can guarantee them longer.



CSXi SERIES

BASIC CHASSIS UNITS WITH BUILT-IN BYPASS AND MOTOR OVERLOAD



Model Number	Standard Duty (HP)			Max Amps		Dimensions (inches)			Weight (lbs)	List Price
	230 VAC	460 VAC	575 VAC	40 °C	50 °C	H	W	D		
CSXi-007-V6-C1	5	10	15	18	17	8.0	3.9	6.5	6	\$736
CSXi-015-V6-C1	10	25	30	34	32	8.0	3.9	6.5	6	\$873
CSXi-018-V6-C1	15	30	40	42	40	8.0	3.9	6.5	6	\$958
CSXi-022-V6-C1	15	30	40	48	44	8.0	3.9	6.5	6	\$1,018
CSXi-030-V6-C1	20	40	50	60	55	8.0	3.9	6.5	6	\$1,165
CSXi-037-V6-C1	25	50	60	75	68	8.5	5.7	7.6	10	\$1,653
CSXi-045-V6-C1	30	60	75	85	78	8.5	5.7	7.6	10	\$1,677
CSXi-055-V6-C1		75	100	100	100	8.5	5.7	7.6	10	\$1,886
CSXi-075-V6-C1	50	100	125	140	133	9.5	8.0	8.4	15	\$2,371
CSXi-090-V6-C1	60	125	150	170	157	9.5	8.0	8.4	15	\$2,634
CSXi-110-V6-C1	75	150	200	200	186	9.5	8.0	8.4	15	\$2,862

* Ratings are based on 6 second start time at 400% current limit.

For other duty ratings, or for assistance in selecting the correct starter for your application, please contact Benschaw Inc.



CSXi SERIES

ACCESSORIES

Remote keypads for control and monitoring

List Price

KP-PIM-RO-01	CSXi Remote Operator & Interface Kit (complete set)	\$494
KP-PIM-RZ-01	CSXi Remote Operator interface (does not include keypad)	\$215
KP-RCM01	CSXi Remote Operator (keypad only)	\$375
KP-RCM02	CSXi Remote Operator & PT Kit	\$659

Communication interfaces for network integration

List Price

COM-PIM-DN-01	DeviceNet Interface	\$338
COM-PIM-MB-01	Modbus Interface	\$234
COM-PIM-PB-01	Profibus Interface	\$429
COM-PIM-USB-01	USB Interface	\$215
COM-PIM-MT-03	Modbus TCP Interface (direct replacement for COM-PIM-MT-01)	\$778
COM-PIM-PN-02	Profinet Interface (direct replacement for COM-PIM-PN-01)	\$958
COM-PIM-EI-02	Ethernet IP Interface (direct replacement for COM-PIM-EI-01)	\$869

IP20 Finger guards for personnel safety

List Price

995-03503-00	Fingerguard Kit, CSXi 075-110	\$258
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Communication Interfaces



Finger Guard Kit



Remote Operator



CSXi SERIES



PUMP PANELS STARTERS

STANDARD ENCLOSED SOFT START PUMP PANELS

STANDARD FEATURES:

- NEMA 3R enclosure
- CSXi solid state starter with built-in bypass
- Circuit breaker with door operator (35kAIC)
- Control power transformer
- Space heater with thermostat
- Start/Stop Pushbutton, HOA, Power On/Run/Fault lights
- UL certified and listed



Model Number	Standard Duty (HP)			Max Amps		CB Rating amps	Dimensions (inches)			Weight (lbs)	List Price
	230 VAC	460 VAC	575 VAC	40 °C	50 °C		H	W	D		
CSXi-0014-4-PP-N3R-CB-PD	5	10	15	18	17	40	20	16	8	39	\$3,397
CSXi-0034-4-PP-N3R-CB-PD	10	25	30	34	32	60	20	16	8	40	\$3,675
CSXi-0040-4-PP-N3R-CB-PD	15	30	40	42	40	70	20	16	8	42	\$3,749
CSXi-0052-4-PP-N3R-CB-PD	20	40	50	60	55	100	20	16	8	43	\$3,935
CSXi-0065-4-PP-N3R-CB-PD	25	50	60	75	68	125	24	20	10	66	\$4,707
CSXi-0077-4-PP-N3R-CB-PD	30	60	75	85	78	150	24	20	10	67	\$4,738
CSXi-0096-4-PP-N3R-CB-PD	---	75	100	100	100	150	24	20	10	75	\$5,001
CSXi-0125-4-PP-N3R-CB-PD	50	100	125	140	133	200	24	20	10	80	\$5,774
CSXi-0156-4-PP-N3R-CB-PD	60	125	150	170	157	250	24	20	10	86	\$6,101
CSXi-0180-4-PP-N3R-CB-PD	75	150	200	200	186	300	24	20	10	88	\$6,462

Note: These codes are for 480 VAC units. For 230 VAC change [4] to [2]; for 575 VAC change [4] to [5].
230V and 575V models built to order.

Guaranteed ... for three full years.

Only Benshaw has a three year guarantee.

Every Benshaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benshaw, we believe that because we build them better, we can guarantee them longer.





RB SERIES

OPEN CHASSIS STARTERS WITH INTEGRAL BYPASS

AVAILABLE WITH MX² AND MX³ TECHNOLOGY RUGGED INDUSTRIAL SOLID STATE STARTERS WITH INTEGRAL BYPASS

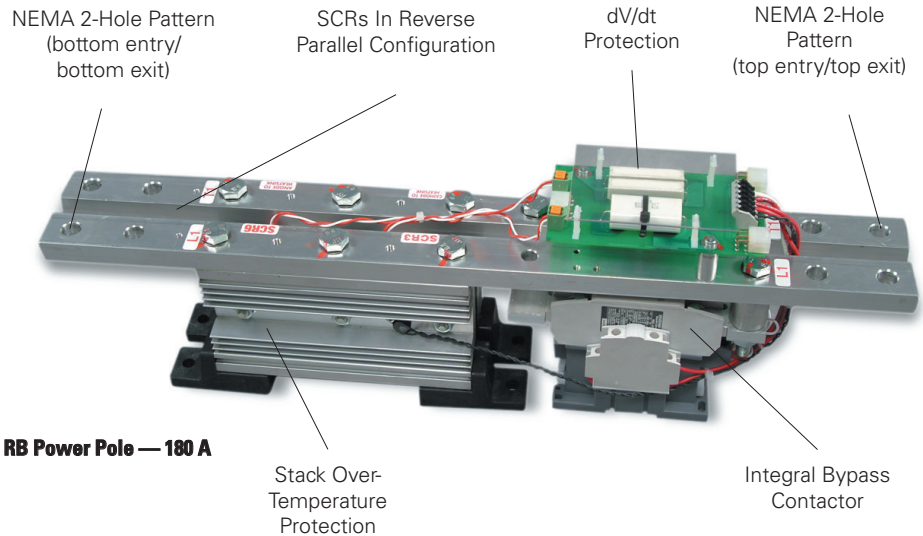
RB SERIES PRODUCT HIGHLIGHTS:

Benshaw's RB series solid state starter combines the high performance MX² or MX³ technology with a rugged, compact, integral bypass RB series power section.

The MX² or MX³ technology provides users with a powerful group of programming parameters, designed for flexibility in across a wide range of industrial applications. Both MX² and MX³ controls provide simple setup and commissioning via the Quick Start Menu.

The RB power section is a rugged, heavy duty solid state starter section designed with integral bypass contactor for a compact, efficient profile. The modular design includes separate poles for each phase for ease of maintenance.

Note: Units require 120V control power



KEY ADVANTAGES:

- Modular power stack assembly for ease of maintenance
- ModBus standard/other Fieldbus optional
- Multiple starting ramps for various applications
- Integrated metering system diagnostics
- Fieldbus
- Ethernet IP/TCP
- Profibus
- DeviceNet
- Integral bypass contactor for efficient operation, eliminating the need for external fans
- Integrated motor protection
- Dual ramp capability for loaded/unloaded applications
- Power stack has multiple ratings for application flexibility

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RB2 SERIES

OPEN CHASSIS STARTERS WITH INTEGRAL BYPASS

	RB2 Series Model Number	Horsepower				Dimensions (inches)*			Wgt. (lbs.)	List Price
		208 V	240 V	480 V	575 V	H	W	D		
Standard Duty 350% for 30 sec 115% continuous	RB2-1-S-027A-11C	7.5	10	20	25	14	10	6.9	14	\$2,352
	RB2-1-S-040A-11C	10	15	30	40	14	10	6.9	14	\$2,467
	RB2-1-S-052A-12C	15	20	40	50	14	10	8.4	17	\$2,568
	RB2-1-S-065A-12C	20	25	50	60	14	10	8.4	17	\$2,642
	RB2-1-S-077A-13C	25	30	60	75	15	10	8.4	17	\$2,761
	RB2-1-S-096A-13C	30	40	75	100	15	10	8.9	18	\$3,592
	RB2-1-S-125A-14C	40	50	100	125	21.7	12.3	9	43	\$4,048
	RB2-1-S-156A-14C	50	60	125	150	21.4	14	9	43	\$4,722
	RB2-1-S-180A-14C	60	75	150	200	21.4	14	9	43	\$5,649
	RB2-1-S-240A-15C	75	100	200	250	23.8	12.5	10.3	51	\$6,014
	RB2-1-S-302A-15C	100	125	250	300	23.8	12.5	10.3	51	\$6,617
	RB2-1-S-361A-16C	125	150	300	400	23.9	13.3	9.2	56	\$7,753
	RB2-1-S-414A-17C	150	–	350	–	27.9	18	11.1	151	\$8,482
	RB2-1-S-477A-17C	–	200	400	500	28.9	18	11.1	155	\$9,263
	RB2-1-S-515A-17C	200	–	450	–	28.9	18	11.1	155	\$9,925
	RB2-1-S-590A-18C	–	250	500	600	28.8	18	11.1	159	\$10,587
RB2-1-S-720A-19C	250	300	600	700	30.7	18.5	10.9	159	\$11,910	
RB2-1-S-838A-20C	300	350	700	800	29.1	26.1	12.5	160	\$13,896	
Heavy Duty 500% for 30 sec 125% continuous	RB2-1-S-027A-11C	7.5	10	20	25	14	10	6.9	14	\$2,352
	RB2-1-S-040A-11C	10	15	30	40	14	10	6.9	14	\$2,467
	RB2-1-S-052A-12C	15	20	40	50	14	10	8.4	17	\$2,568
	RB2-1-S-096A-13C	30	40	75	100	15	10	8.4	18	\$3,592
	RB2-1-S-156A-14C	40	50	100	125	21.4	14	9	43	\$4,722
	RB2-1-S-180A-15C	60	75	150	200	21.4	14	9	51	\$6,317
	RB2-1-S-361A-16C	75	100	200	250	23.9	13.3	9.2	56	\$7,753
	RB2-1-S-414A-17C	125	150	300	400	27.9	18	11.1	151	\$8,482
	RB2-1-S-590A-18C	200	200	450	500	28.8	18	11.1	159	\$10,587
	RB2-1-S-720A-19C	–	250	500	600	30.7	18.5	10.9	160	\$11,910
Severe Duty 600% for 30 sec 125% continuous	RB2-1-S-027A-11C	5	7.5	15	20	14	10	6.9	14	\$2,352
	RB2-1-S-040A-11C	10	10	30	40	14	10	6.9	14	\$2,467
	RB2-1-S-052A-12C	–	15	–	–	14	10	8.4	17	\$2,568
	RB2-1-S-096A-13C	25	30	60	75	15	10	8.4	18	\$3,592
	RB2-1-S-180A-14C	30	40	75	100	21.4	14	9	43	\$5,649
	RB2-1-S-180A-15C	50	60	125	150	21.4	14	9	51	\$6,317
	RB2-1-S-361A-16C	60	75	150	200	23.9	13.3	9.2	56	\$7,753
	RB2-1-S-414A-17C	100	125	250	300	28.9	18	11.1	151	\$8,482
	RB2-1-S-590A-18C	150	200	450	500	28.8	18	11.1	159	\$10,587

*Remote keypad: KPMX3CBL2M is optional for \$526



RB3 SERIES

OPEN CHASSIS STARTERS WITH INTEGRAL BYPASS

	RB3 Series Model Number	Horsepower				Dimensions (inches)*			Wgt. (lbs.)	List Price
		208 V	240 V	480 V	575 V	H	W	D		
Standard Duty 350% for 30 sec 115% continuous	RB3-1-S-027A-11C	7.5	10	20	25	14	10	7.7	14	\$3,508
	RB3-1-S-040A-11C	10	15	30	40	14	10	8.4	14	\$3,543
	RB3-1-S-052A-12C	15	20	40	50	14	10	9.2	17	\$3,670
	RB3-1-S-065A-12C	20	25	50	60	14	10	9.2	17	\$3,724
	RB3-1-S-077A-13C	25	30	60	75	15	10	9.2	17	\$4,121
	RB3-1-S-096A-13C	30	40	75	100	15	10	9.2	18	\$4,812
	RB3-1-S-125A-14C	40	50	100	125	21.7	12.3	9.7	43	\$5,157
	RB3-1-S-156A-14C	50	60	125	150	21.4	14	9.8	43	\$5,889
	RB3-1-S-180A-14C	60	75	150	200	21.4	14	9.8	43	\$6,617
	RB3-1-S-240A-15C	75	100	200	250	23.8	12.5	11.1	51	\$6,948
	RB3-1-S-302A-15C	100	125	250	300	23.8	12.5	11.1	51	\$7,573
	RB3-1-S-361A-16C	125	150	300	400	23.9	13.3	10	56	\$7,573
	RB3-1-S-414A-17C	150	–	350	–	27.9	18	11.9	151	\$9,198
	RB3-1-S-477A-17C	–	200	400	500	28.9	18	11.9	155	\$9,925
	RB3-1-S-515A-17C	200	–	450	–	28.9	18	11.9	155	\$10,587
	RB3-1-S-590A-18C	–	250	500	600	28.8	18	11.9	159	\$11,513
RB3-1-S-720A-19C	250	300	600	700	30.7	18.5	11.7	159	\$12,572	
RB3-1-S-838A-20C	300	350	700	800	29.1	26.1	13.3	160	\$14,737	
Heavy Duty 500% for 30 sec 125% continuous	RB3-1-S-027A-11C	7.5	10	20	25	14	10	7.7	14	\$3,508
	RB3-1-S-040A-11C	10	15	30	40	14	10	8.4	14	\$3,543
	RB3-1-S-052A-12C	15	20	40	50	14	10	9.2	17	\$3,670
	RB3-1-S-096A-13C	30	40	75	100	15	10	9.2	18	\$4,812
	RB3-1-S-156A-14C	40	50	100	125	21.4	14	9.7	43	\$5,889
	RB3-1-S-180A-15C	60	75	150	200	21.4	14	9.8	51	\$7,219
	RB3-1-S-361A-16C	75	100	200	250	23.9	13.3	10	56	\$7,573
	RB3-1-S-414A-17C	125	150	300	400	27.9	18	11.9	151	\$9,198
	RB3-1-S-590A-18C	200	200	450	500	28.8	18	11.9	159	\$11,513
RB3-1-S-720A-19C	–	250	500	600	30.7	18.5	11.7	160	\$12,572	
Severe Duty 600% for 30 sec 125% continuous	RB3-1-S-027A-11C	5	7.5	15	20	14	10	6.9	14	\$3,508
	RB3-1-S-040A-11C	10	10	30	40	14	10	6.9	14	\$3,543
	RB3-1-S-052A-12C	–	15	–	–	14	10	8.4	17	\$3,670
	RB3-1-S-096A-13C	25	30	60	75	15	10	8.4	18	\$4,812
	RB3-1-S-180A-14C	30	40	75	100	21.4	14	9	43	\$6,617
	RB3-1-S-180A-15C	50	60	125	150	21.4	14	9	51	\$7,219
	RB3-1-S-361A-16C	60	75	150	200	23.9	13.3	9.2	56	\$7,573
	RB3-1-S-414A-17C	100	125	250	300	28.9	18	11.1	151	\$9,198
RB3-1-S-590A-18C	150	200	450	500	28.8	18	11.1	159	\$11,513	

* Keypad is included with MX³ technology

MX4PB WITH EMX4i TECHNOLOGY



STANDARD AND HEAVY DUTY RATINGS

Prepackaged Starters with Integral Run Duty Bypass

Configure the MX4PB to fit your application

To choose a stock starter, simply select a unit from the following pages. Stock units ship the same-day.

To modify a starter, select a unit from the following pages, other options as needed from the Options section. We will modify the stock unit for next day shipment.

MX4PB configurable solid state starters stocked as:

- Combination starter with circuit breaker*
- High fault rated (65KAIC)
- Rotary disconnect operator
- EMX4i soft starter chassis
- Run duty bypass
- NEMA 4, 12 (3R enclosure with option adders)
- 240 / 480 V
- Standard 120V control power transformer
- Service entrance rated
- Door mounted keypad with NEMA 3R/4 cover (included)
- KP door mounted keypad NEMA 12 (included)
- 65KAIC rated standard
- UL certified and listed

EMX4i FEATURES

- Current limit ramp
- Soft brake
- SCR Failure PowerThrough
- Daily on/off scheduling
- Full graphical LCD display
- Real language feedback messages
- 8 languages: English, Chinese, German, Italian, French, Spanish, Brazilian Portuguese, Russian
- Real time graphs of motor operating performance
- Main menu and Quick Setup
- Logs: 384 events
- Easy and fast to operate interface
- Quick start application setup for easy commissioning
- Emergency Run (Fire Mode)
- Built-in Simulation Mode
- QR codes on display for fast and easy diagnostics
- USB port for Parameter upload/download, firmware upgrades, diagnostic logs



*also available as non-combination (without circuit breaker)

Guaranteed ... for three full years.

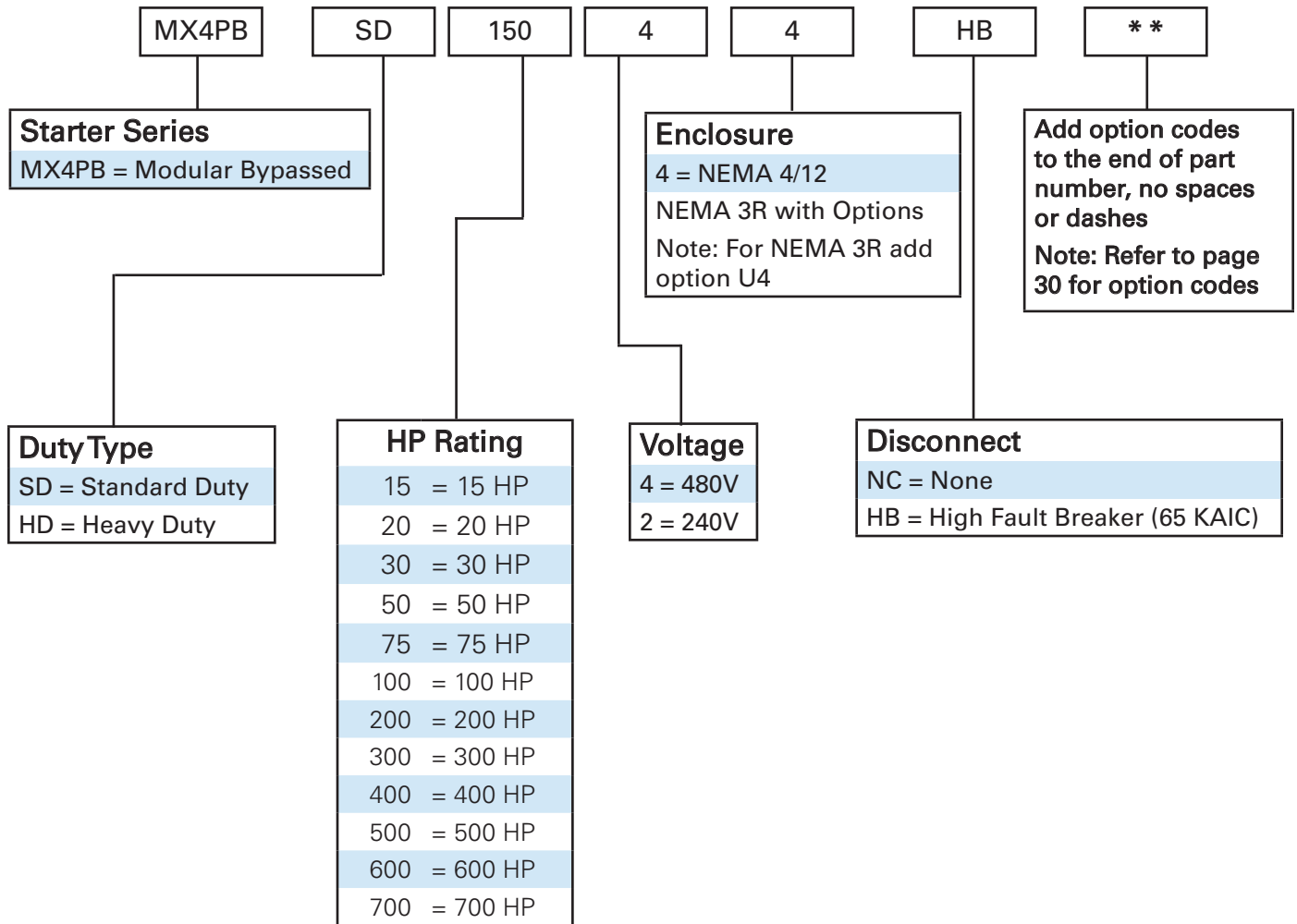
Only Benschaw has a three year guarantee.

Every Benschaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benschaw, we believe that because we build them better, we can guarantee them longer.





MX4PB PART NUMBER ASSEMBLER



MX4PB SERIES NEMA 4/12

Prepackaged Starters with Run Duty Bypass, Combination Starters with Circuit Breaker



Standard Duty / High Fault Breaker (65kA Interrupt Rating)

240 VAC

Model Number	SD High Fault HP	Max Amps	Breaker Size	V	Dimensions (Inches)			Weight (lbs)	NEMA 4/12 List Price
					H	W	D		
✘MX4PB-SD-015-2-4-HB**	15	42	70	240	24	20	12	175	\$4,686
✘MX4PB-SD-020-2-4-HB**	20	54	80	240	24	20	12	175	\$4,818
✘MX4PB-SD-030-2-4-HB**	30	80	125	240	24	20	12	200	\$5,109
✘MX4PB-SD-050-2-4-HB**	50	130	200	240	36	30	16	220	\$7,573
✘MX4PB-SD-075-2-4-HB**	75	192	300	240	36	30	16	220	\$8,867
✘MX4PB-SD-100-2-4-HB**	100	248	400	240	36	30	16	220	\$10,384
✘MX4PB-SD-150-2-4-HB**	150	360	600	240	36	30	16	220	\$11,355
✘MX4PB-SD-200-2-4-HB**	200	477	800	240	36	30	16	220	\$13,986

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Standard duty = 350% current for 30 seconds, 1.15 S.F.

✘ Built-to-order. Please allow 2 week lead time.

For NEMA 3R add option U4 (see page 30).

480 VAC

Model Number	SD High Fault HP	Max Amps	Breaker Size	V	Dimensions (inches)			Weight (lbs)	NEMA 4/12 List Price
					H	W	D		
☒MX4PB-SD-030-4-4-HB**	30	40	100	480	24	20	12	175	\$4,686
☒MX4PB-SD-050-4-4-HB**	50	65	100	480	24	20	12	175	\$4,831
☒MX4PB-SD-075-4-4-HB**	75	96	150	480	24	20	12	200	\$5,109
☒MX4PB-SD-100-4-4-HB**	100	124	200	480	36	30	16	220	\$7,573
☒MX4PB-SD-150-4-4-HB**	150	180	300	480	36	30	16	220	\$8,867
☒MX4PB-SD-200-4-4-HB**	200	240	400	480	36	30	16	220	\$10,338
☒MX4PB-SD-300-4-4-HB**	300	361	600	480	36	30	16	220	\$11,355
☒MX4PB-SD-400-4-4-HB**	400	477	800	480	36	30	16	400	\$13,986
☒MX4PB-SD-500-4-4-HB**	500	590	1000	480	79	31.5	24	566	\$25,243
☒MX4PB-SD-600-4-4-HB**	600	702	1200	480	79	31.5	24	590	\$25,935
☒MX4PB-SD-700-4-4-HB**	700	828	1200	480	79	31.5	24	592	\$26,440

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Standard duty = 350% current for 30 seconds, 1.15 S.F.

☒ Web stocked.

For NEMA 3R add option U4 (see page 30).

MX4PB SERIES NEMA 4/12

Prepackaged Starters with Run Duty Bypass Combination Starters with Circuit Breaker

Heavy Duty / High Fault Breaker (65kA Interrupt Rating)

240 VAC

Model Number	HD High Fault HP	Max Amps	Breaker Size	V	Dimensions (inches)			Weight (lbs)	NEMA 4/12 List Price
					H	W	D		
✂MX4PB-HD-015-2-4-HB**	15	42	70	240	24	20	12	175	\$4,686
✂MX4PB-HD-020-2-4-HB**	20	54	90	240	24	20	12	175	\$4,915
✂MX4PB-HD-030-2-4-HB**	30	80	150	240	36	30	16	200	\$7,596
✂MX4PB-HD-050-2-4-HB**	50	130	225	240	36	30	16	220	\$7,803
✂MX4PB-HD-075-2-4-HB**	75	192	350	240	36	30	16	220	\$10,198
✂MX4PB-HD-100-2-4-HB**	100	248	400	240	36	30	16	220	\$10,338
✂MX4PB-HD-150-2-4-HB**	150	360	600	240	36	30	16	220	\$13,149

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Heavy duty = 450% current for 30 seconds, 1.25 S.F.

For NEMA 3R add option U4 (see page 30).

✂ Built-to-order. Please allow 2 week lead time.

480 VAC

Model Number	HD High Fault HP	Max Amps	Breaker Size	V	Dimensions (inches)			Weight (lbs)	NEMA 4/12 List Price
					H	W	D		
✂MX4PB-HD-030-4-4-HB**	30	40	100	480	24	20	12	175	\$4,686
✂MX4PB-HD-050-4-4-HB**	50	65	125	480	24	20	12	175	\$7,819
✂MX4PB-HD-075-4-4-HB**	75	96	150	480	36	30	16	200	\$8,005
✂MX4PB-HD-100-4-4-HB**	100	124	200	480	36	30	16	220	\$8,414
✂MX4PB-HD-150-4-4-HB**	150	180	300	480	36	30	16	220	\$10,198
✂MX4PB-HD-200-4-4-HB**	200	240	400	480	36	30	16	220	\$10,384
✂MX4PB-HD-300-4-4-HB**	300	361	600	480	36	30	16	400	\$13,149
✂MX4PB-HD-400-4-4-HB**	400	477	800	480	79	31.5	24	557	\$20,070
✂MX4PB-HD-500-4-4-HB**	500	590	1000	480	79	31.5	24	590	\$25,935
✂MX4PB-HD-600-4-4-HB**	600	702	1200	480	79	31.5	24	592	\$26,440
✂MX4PB-HD-700-4-4-HB**	700	828	1200	480	79	31.5	24	596	\$29,387

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Heavy duty = 450% current for 30 seconds, 1.25 S.F.

For NEMA 3R add option U4 (see page 30).

✂ Built-to-order. Please allow 2 week lead time.

MX4PB SERIES NEMA 4/12



Prepackaged Starters with Run Duty Bypass, Non-Combination Starters

Standard Duty

240 VAC

Model Number	Interrupt Rating	Standard Duty HP	Max Amps	Interrupt Rating	V	Dimensions (Inches)			Weight (lbs)	NEMA 4/12 List Price
						H	W	D		
☞MX4PB-SD-015-2-4-NC**	10kA	15	42	10	240	24	20	12	175	\$3,920
☞MX4PB-SD-020-2-4-NC**	10kA	20	54	10	240	24	20	12	175	\$4,066
☞MX4PB-SD-030-2-4-NC**	10kA	30	80	10	240	24	20	12	200	\$4,139
☞MX4PB-SD-050-2-4-NC**	18kA	50	130	18	240	36	30	16	220	\$6,382
☞MX4PB-SD-075-2-4-NC**	18kA	75	192	18	240	36	30	16	220	\$6,755
☞MX4PB-SD-100-2-4-NC**	18kA	100	248	18	240	36	30	16	220	\$8,163
☞MX4PB-SD-150-2-4-NC**	30kA	150	360	30	240	36	30	16	220	\$8,226
☞MX4PB-SD-200-2-4-NC**	30kA	200	477	30	240	36	30	16	220	\$9,947

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Standard duty = 350% current for 30 seconds, 1.15 S.F.

For NEMA 3R add option U4 (see page 30).

☞ Web stocked.

480 VAC

Model Number	Interrupt Rating	Standard Duty HP	Max Amps	Interrupt Rating	V	Dimensions (inches)			Weight (lbs)	NEMA 4/12 List Price
						H	W	D		
☞MX4PB-SD-030-4-4-NC**	10kA	30	40	10	480	24	20	12	175	\$3,920
☞MX4PB-SD-050-4-4-NC**	10kA	50	65	10	480	24	20	12	175	\$4,066
☞MX4PB-SD-075-4-4-NC**	10kA	75	96	10	480	24	20	12	200	\$4,139
☞MX4PB-SD-100-4-4-NC**	18kA	100	124	18	480	36	30	16	220	\$6,382
☞MX4PB-SD-150-4-4-NC**	18kA	150	180	18	480	36	30	16	220	\$6,755
☞MX4PB-SD-200-4-4-NC**	18kA	200	240	18	480	36	30	16	220	\$8,163
☞MX4PB-SD-300-4-4-NC**	30kA	300	361	30	480	36	30	16	220	\$8,226
☞MX4PB-SD-400-4-4-NC**	30kA	400	477	30	480	36	30	16	220	\$10,091

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Standard duty = 350% current for 30 seconds, 1.15 S.F.

For NEMA 3R add option U4 (see page 30).

☞ Web stocked.



MX4PB SERIES NEMA 4/12

Prepackaged Starters with Run Duty Bypass, Non-Combination Starters

Heavy Duty

240 VAC

Model Number	Interrupt Rating	Heavy Duty HP	Max Amps	Interrupt Rating	V	Dimensions (Inches)			Weight (lbs)	NEMA 4/12 List Price
						H	W	D		
✘MX4PB-HD-015-2-4-NC**	10kA	15	42	10	240	24	20	12	175	\$3,920
✘MX4PB-HD-020-2-4-NC**	10kA	20	54	10	240	24	20	12	175	\$4,148
✘MX4PB-HD-030-2-4-NC**	18kA	30	80	18	240	36	30	16	200	\$6,650
✘MX4PB-HD-050-2-4-NC**	18kA	50	130	18	240	36	30	16	220	\$6,612
✘MX4PB-HD-075-2-4-NC**	18kA	75	192	18	240	36	30	16	220	\$8,086
✘MX4PB-HD-100-2-4-NC**	30kA	100	248	30	240	36	30	16	220	\$8,226
✘MX4PB-HD-150-2-4-NC**	30kA	150	360	30	240	36	30	16	220	\$10,020

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Heavy duty = 450% current for 30 seconds, 1.25 S.F.

For NEMA 3R add option U4 (see page 30).

✘ Built-to-order. Please allow 2 week lead time.

480 VAC

Model Number	Interrupt Rating	Heavy Duty HP	Max Amps	Interrupt Rating	V	Dimensions (inches)			Weight (lbs)	NEMA 4/12 List Price
						H	W	D		
✘MX4PB-HD-030-4-4-NC**	10kA	30	40	10	480	24	20	12	175	\$3,920
✘MX4PB-HD-050-4-4-NC**	10kA	50	65	10	480	24	20	12	175	\$6,851
✘MX4PB-HD-075-4-4-NC**	18kA	75	96	18	480	36	30	16	200	\$6,650
✘MX4PB-HD-100-4-4-NC**	18kA	100	124	18	480	36	30	16	220	\$7,469
✘MX4PB-HD-150-4-4-NC**	18kA	150	180	18	480	36	30	16	220	\$8,086
✘MX4PB-HD-200-4-4-NC**	30kA	200	240	30	480	36	30	16	220	\$8,226
✘MX4PB-HD-300-4-4-NC**	30kA	300	361	30	480	36	30	16	220	\$10,020

** Insert option code. See page 30 for a list of available options. Add options to the end of part number.

Heavy duty = 450% current for 30 seconds, 1.25 S.F.

For NEMA 3R add option U4 (see page 30).

✘ Built-to-order. Please allow 2 week lead time.

MX4PB SERIES NEMA 4/12

Prepackaged Starters with Integral Bypass

Options

Option Code		List Price
U4	Space Heater with Thermostat (add for NEMA 3R)	\$532

Control Options (only one code can be selected)

Option Code		List Price
QN	Run Light	\$149
QF	Reset Push-Buttons	\$102
CP	Start / Stop Push-Buttons	\$210
CQ	Start / Stop Push-Buttons and Run Light	\$281
CR	Start / Stop Push-Buttons, Run Light, Fault Light and Reset Push-Button	\$599
RK	Fault Light	\$149
CS	Fault Light and Reset Push-Button	\$251
CT	Run Light, Fault Light and Reset Push-Button	\$401
CU	HOA and Start / Stop Push-Buttons	\$389
CV	HOA , Start / stop Push-Buttons and Run Light	\$532
CW	HOA, Start / Stop Push-Buttons, Run Light, Fault Light and Reset Push-Button	\$784

Communication Interfaces for Network Integration

Option Code		List Price
CE	DeviceNet Card, EMX4i	\$359
CJ	Modbus Card, EMX4i	\$272
CD	Profibus Card, EMX4i	\$467
CK	Modbus TCP Card, EMX4i	\$919
CL	Profinet Card. EMX4i	\$919
CF	Ethernet IP Card, EMX4i	\$919

Note: Only one can be selected

Smart Cards

		List Price
SCC-PC-01	Smart Card, Pump Application [EMX4]	\$386

Fingerguard

		List Price
995-17309-00	Fingerguard IP20 Kit for Personnel Safety	\$239



RX4E SERIES

Prepackaged Starters with ATL Bypass Heavy Duty with EMX4i Technology

STANDARD FEATURES:

- EMX4i Soft Starter, Chassis
- Circuit breaker with Flange operator
- 65KAIC rated
- 450% rated for 30 seconds
- 1.15 service factor
- Bypass contactor, starting duty
- Class 30 overload on bypass
- Internally mounted bypass switch
- Control power transformer
- Terminal strip remote connections
- Option adder for NEMA 3R
- Door-mounted start and stop push-buttons
- Door-mounted keypad
- Door-mounted run indicating light
- Door-mounted local-off remote switch
- Door-mounted fault indicating light
- Door-mounted overload reset
- UL certified and listed

EMX4i FEATURES:

- Current limit ramp
- Soft brake
- SCR Failure PowerThrough
- Daily on/off scheduling
- Full graphical LCD display
- Real language feedback messages
- 8 languages: English, Chinese, German, Italian, French, Spanish, Brazilian Portuguese, Russian
- Real time graphs of motor operating performance
- Main menu and Quick Setup
- Logs: 384 events
- Easy and fast to operate interface
- Quick start application setup for easy commissioning
- Emergency Run (Fire Mode)
- Built-in Simulation Mode
- QR codes on display for fast and easy diagnostics
- USB port for Parameter upload/download, firmware upgrades, diagnostic logs



Guaranteed ... for three full years.

Only Benshaw has a three year guarantee.

Every Benshaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benshaw, we believe that because we build them better, we can guarantee them longer.



RX4E SERIES



Prepackaged Starters with ATL Bypass 480V, NEMA 12 and 3R

HEAVY DUTY WITH EMX4i TECHNOLOGY/ HIGH FAULT BREAKER (65kA Interrupt Rating)

Model Number	Amps	HP 480 V	Breaker Size	Dimensions (inches)			Wgt. (lbs.)	NEMA 12 List Price	NEMA 3R List Price
				H	W	D			
RX4E-050-480-XXKP-HB	65	50	100	26	24	12	215	\$6,925	☞ \$7,845
RX4E-075-480-XXKP-HB	96	75	225	48	24	12	220	\$8,434	☞ \$9,187
RX4E-100-480-XXKP-HB	124	100	225	48	24	12	230	\$9,380	☞ \$10,654
RX4E-125-480-XXKP-HB	156	125	225	48	24	12	320	\$9,439	☞ \$11,105
RX4E-150-480-XXKP-HB	180	150	300	48	24	12	325	\$9,787	☞ \$11,858
RX4E-200-480-XXKP-HB	240	200	400	48	24	12	335	\$12,684	☞ \$13,928
RX4E-250-480-XXKP-HB	302	250	400	48	36	16	510	\$14,181	☞ \$15,462
RX4E-300-480-XXKP-HB	361	300	600	48	36	16	515	\$14,635	☞ \$15,779
RX4E-400-480-XXKP-HB	477	400	800	72	39.5	18	765	\$23,425	☞ \$24,765
RX4E-500-480-XXKP-HB	590	500	1000	72	39.5	18	790	\$29,340	☞ \$29,778
RX4E-600-480-XXKP-HB	720	600	1200	72	39.5	18	815	\$29,862	☞ \$30,299

☞ NEMA 3R web stocked.
 XX Add 12 or 3R to part number.



REDISTART RX2E SERIES

Prepackaged Starters with ATL Bypass Heavy Duty 480V, NEMA 12 and 3R, Dual Redundant

RX2E SERIES PRODUCT HIGHLIGHTS:

RX2E starters provide solid state reduced voltage starting for normal operation and full voltage emergency backup starting with complete electronic motor protection at the flip of a switch. This unique dual redundant design is the ideal solution for critical applications where downtime is extremely disruptive to production operations and cannot be tolerated. Benshaw's MX solid state controls provide precise digital starting and stopping, motor protection, metering, diagnostics and communications standard.

Units are built to order with MX² technology, but are also available with MX³ technology.

Rugged. Reliable. Ready.



STANDARD FEATURES:

- NEMA 12, dual redundant, combination/circuit breaker
- Shunt trip on main circuit breaker
- 500% — 30 seconds rated solid state starter, UL certified and listed
- 1800 PIV rated SCRs, UL certified and listed
- 125% continuous duty rated solid state starter, UL certified and listed
- Selector switch for selecting solid state or full voltage operation mounted inside enclosure
- Full HP rated bypass contactor with a 1.15 service factor, wired for normal bypass operation and full voltage start and run operation, with normally open auxiliary contact
- Separately mounted "SPE" series overload relay wired for full voltage start and run operation.
- 110 volt control power transformer with primary and secondary fuses
- Door-mounted start and stop push-buttons
- Door-mounted keypad
- Door-mounted run indicating light
- Door-mounted local-off remote switch
- Door-mounted overload reset
- Terminal strip mounted inside enclosure for remote start/stop connection
- Auxiliary relay with (2) Form C run contacts
- Benshaw MX² or MX³ programmable motor controller with soft start, soft stop and motor protection capabilities
- RS485 ModBus communications
- Analog I/O
- Available with MX³ technology

Guaranteed ... for three full years.

Only Benshaw has a three year guarantee.

Every Benshaw solid state starter is guaranteed for three full years. Other manufacturers limit their warranties to just one year. But at Benshaw, we believe that, because we build them better, we can guarantee them longer.



REDISTART RX2E/RX3E SERIES

Packaged Starters with ATL Bypass Heavy Duty 480V

COMBINATION/DUAL REDUNDANT PACKAGED STARTER WITH CIRCUIT BREAKER, EMERGENCY ACROSS-THE-LINE BYPASS/NEMA12/NEMA3R

RX2E SERIES WITH MX2 TECHNOLOGY



Model Number	Amps	HP		CB		Dimensions (inches)			Wgt. (lbs.)	NEMA 12 List Price	NEMA 3R List Price
		480 V	Trip	H	W	D					
RX2E-050-480-XX	65	50	100	26	24	12	215	\$7,887	☒	\$8,617	
RX2E-075-480-XX	96	75	225	26	24	12	220	\$9,146	☒	\$9,611	
RX2E-100-480-XX	124	100	225	48	24	12	230	\$10,201	☒	\$11,176	
RX2E-125-480-XX	156	125	225	48	24	12	320	\$10,290	☒	\$12,130	
RX2E-150-480-XX	180	150	300	48	24	12	325	\$10,478	☒	\$12,304	
RX2E-200-480-XX	240	200	400	48	36	12	335	\$13,717	☒	\$15,130	
RX2E-250-480-XX	302	250	400	70	30	18	510	\$15,637	☒	\$17,152	
RX2E-300-480-XX	361	300	600	70	30	18	515	\$16,568	☒	\$19,677	
RX2E-400-480-XX	477	400	800	87	37	20	765	\$22,000	☒	\$25,561	
RX2E-500-480-XX	590	500	1200	87	37	20	790	\$28,125	☒	\$30,574	
RX2E-600-480-XX	720	600	1200	87	37	20	815	\$28,994	☒	\$30,938	

☒ NEMA 3R web stocked.

XX Add 12 or 3R to part number 500% current for 30 seconds.

RX3E SERIES WITH MX3 TECHNOLOGY

Model Number	Amps	HP		CB		Dimensions (inches)			Wgt. (lbs.)	NEMA 12 List Price	NEMA 3R* List Price
		480 V	Trip	H	W	D					
✳ RX3E-050-480-XX	65	50	100	48	24	13	240	\$8,996		\$9,499	
✳ RX3E-075-480-XX	96	75	225	48	24	13	245	\$9,511		\$10,328	
✳ RX3E-100-480-XX	124	100	225	48	24	17	255	\$11,093		\$11,784	
✳ RX3E-125-480-XX	156	125	225	48	36	17	355	\$12,023		\$12,618	
✳ RX3E-150-480-XX	180	150	300	48	36	17	360	\$12,210		\$13,428	
✳ RX3E-200-480-XX	240	200	400	48	36	17	370	\$15,463		\$16,323	
✳ RX3E-250-480-XX	302	250	400	70	30	18	565	\$16,824		\$17,572	
✳ RX3E-300-480-XX	361	300	600	70	30	18	570	\$17,359		\$18,143	
✳ RX3E-400-480-XX	477	400	800	87	37	20	850	\$24,013		\$25,733	
✳ RX3E-500-480-XX	590	500	1200	87	37	20	875	\$32,349		\$33,757	
✳ RX3E-600-480-XX	720	600	1200	87	37	20	905	\$33,757		\$35,157	

✳ Built-to-order. Please allow 2 week lead time.

XX Add 12 or 3R to part number 500% current for 30 seconds.



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Low Voltage and Medium Voltage Variable Frequency Drives



General, pump & industrial, open, N1, washdown and packaged assemblies.
.5-1000HP @ 460V



Benshaw Medium Voltage drive technology, high performance, high reliability.
Up to 14,000HP @ 2.3-13.8KV

Medium Voltage Soft Starters, ATL Starters and Switchgear

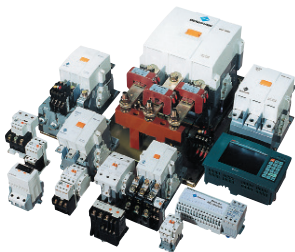


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MV switchgear assemblies, standalone or MCC/lineup.
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