



**BENSHAW**  
Applied Motor Controls



# 2021 Product Catalog

## Low Voltage Solid State Starters

Rapid | Rugged | Global



Benshaw's standard products are stocked in warehouses in the USA and Canada. . . ready for shipment to support your critical needs:

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# 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
<b>Features</b>					
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			•		•
<b>Communication Protocols:</b>					
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
<b>Standard Duty Rating</b>					
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
<b>Heavy Duty Rating</b>					
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
<b>Motor Protection features:</b>					
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

# LOW VOLTAGE SOLID STATE STARTERS

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# 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 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.



# 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
<b>MOTOR CONTROL</b>			<b>INTEGRATION AND MANAGEMENT</b>		
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		√	<b>COMMUNICATION OPTIONS</b>		
Reversing Contactor Control		√	Modbus RTU	√	√
Trip Fail Safe	√	√	Profibus	√	√
<b>MOTOR PROTECTION</b>			Device Net	√	√
Motor Thermistor	√	√	Modbus TCP	√	√
Current Imbalance	√	√	ProfiNET	√	√
Under/Overcurrent	√	√	Ethernet IP	√	√
Under/Overtage		√	<b>SMART CARD OPTIONS</b>		
Under/Overpower (Dry Pump Protection)		√	Pumping Smart Card	√	√
Phase Sequence	√	√	<b>ACCESSORIES</b>		
Phase Loss	√	√	Remote HMI	√	√
Power Loss	√	√			
Starts Per Hour Limiting	√	√			
Restart Delay (Pump Backspin Delay)	√	√			
Current At Stop	√	√			
Ground Fault Option	√	√			

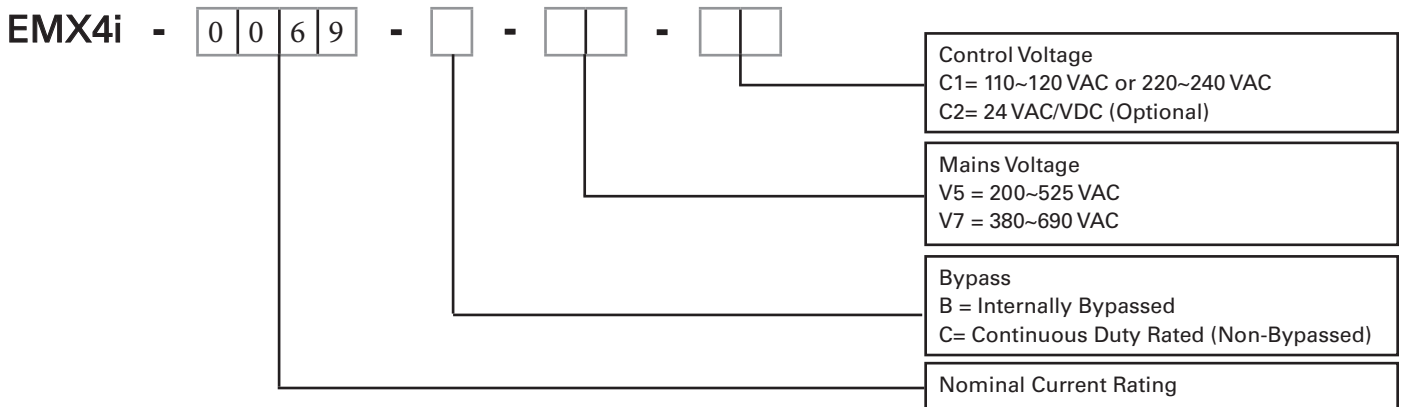
All EMX4 chassis units are available to ship immediately from our Pennsylvania warehouse. Check stock or buy online at [www.benshaw.com](http://www.benshaw.com)



# EMX4i SERIES

## ADVANCED CHASSIS UNITS WITH BUILT-IN BYPASS AND MOTOR OVERLOAD

### 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 Load.....	600 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 UNITS WITH BUILT-IN BYPASS AND MOTOR OVERLOAD



#### 230 VAC

Standard Duty 350%, 30 s, 4 starts per hour      Heavy Duty 450%, 30 s, 4 starts per hour      Dimensions (inches)

Model Number	HP	Max Amps	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4i-0024B-V5-C1-H	5	17	3	14	13.2	6.0	9.1	11	\$1,333
EMX4i-0042B-V5-C1-H	10	28	7.5	22	13.2	6.0	9.1	11	\$1,384
EMX4i-0052B-V5-C1-H	10	35	10	28	13.2	6.0	9.1	11	\$1,430
EMX4i-0064B-V5-C1-H	15	52	10	48	13.2	6.0	9.1	11	\$1,494
EMX4i-0069B-V5-C1-H	20	59	15	46	13.2	6.0	9.1	11	\$1,527
EMX4i-0105B-V5-C1-H	25	77	15	52	13.2	6.0	9.1	12	\$1,835
EMX4i-0115B-V5-C1-H	30	81	20	65	13.2	6.0	9.1	12	\$2,052
EMX4i-0135B-V5-C1-H	30	99	25	77	13.2	6.0	9.1	12	\$2,281
EMX4i-0184B-V5-C1-H	40	124	30	96	19.5	8.5	9.6	28	\$2,573
EMX4i-0200B-V5-C1-H	50	131	40	104	19.5	8.5	9.6	28	\$2,686
EMX4i-0229B-V5-C1-H	60	156	40	124	19.5	8.5	9.6	28	\$2,973
EMX4i-0250B-V5-C1-H	75	195	60	156	19.5	8.5	9.6	28	\$3,975
EMX4i-0397B-V5-C1-H	100	261	75	203	20.6	8.5	9.6	34	\$4,935
EMX4i-0410B-V5-C1-H	150	377	100	302	20.6	8.5	9.6	34	\$5,729
EMX4i-0550B-V5-C1-H	150	414	125	321	20.6	8.5	9.6	42	\$5,996
EMX4i-0580B-V5-C1-H	200	477	150	361	20.6	8.5	9.6	42	\$6,242
EMX4i-0835B-V5-C1-H*	200	515	150	414	24.3	17.6	12.3	112	\$7,278
EMX4i-0940B-V5-C1-H*	200	590	150	480	24.3	17.6	12.3	112	\$8,405
EMX4i-1070B-V5-C1-H*	300	797	250	620	24.3	17.6	12.3	137	\$10,094
EMX4i-1230B-V5-C1-H*	400	985	300	768	24.3	17.6	12.3	139	\$11,531
EMX4i-1250B-V5-C1-H*	450	1180	350	904	24.3	17.6	12.3	143	\$12,606

#### Continuous Duty rated (Non-Bypassed\*)

#### 240 VAC

Standard Duty 350%, 30 s, 4 starts per hour      Heavy Duty 450%, 30 s, 4 starts per hour      Dimensions (inches)

Model Number	HP	Max Amps	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4i-0735C-V5-C1-H*	200	480	150	382	24.3	17.6	12.3	104	\$6,178
EMX4i-0830C-V5-C1-H*	200	576	175	431	24.3	17.6	12.3	104	\$6,318
EMX4i-1025C-V5-C1-H*	300	722	200	590	24.3	17.6	12.3	128	\$6,446
EMX4i-1170C-V5-C1-H*	350	864	300	722	24.3	17.6	12.3	130	\$6,875
EMX4i-1220C-V5-C1-H*	400	966	300	784	24.3	17.6	12.3	135	\$9,398

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

# EMX4i SERIES



## ADVANCED CHASSIS UNITS WITH BUILT-IN BYPASS AND MOTOR OVERLOAD

### 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	\$1,333
EMX4i-0042B-V5-C1-H	20	27	15	22	13.2	6.0	9.1	11	\$1,384
EMX4i-0052B-V5-C1-H	25	34	20	28	13.2	6.0	9.1	11	\$1,430
EMX4i-0064B-V5-C1-H	40	52	25	40	13.2	6.0	9.1	11	\$1,494
EMX4i-0069B-V5-C1-H	40	59	30	46	13.2	6.0	9.1	11	\$1,527
EMX4i-0105B-V5-C1-H	60	77	40	52	13.2	6.0	9.1	12	\$1,835
EMX4i-0115B-V5-C1-H	60	81	50	65	13.2	6.0	9.1	12	\$2,052
EMX4i-0135B-V5-C1-H	75	99	60	77	13.2	6.0	9.1	12	\$2,281
EMX4i-0184B-V5-C1-H	100	124	75	96	19.5	8.5	9.6	28	\$2,573
EMX4i-0200B-V5-C1-H	100	131	75	104	19.5	8.5	9.6	28	\$2,696
EMX4i-0229B-V5-C1-H	125	156	100	124	19.5	8.5	9.6	28	\$2,973
EMX4i-0250B-V5-C1-H	150	195	125	156	19.5	8.5	9.6	28	\$3,975
EMX4i-0352B-V5-C1-H	200	240	150	180	20.6	8.5	9.6	34	\$4,439
EMX4i-0397B-V5-C1-H	200	261	150	203	20.6	8.5	9.6	34	\$4,935
EMX4i-0410B-V5-C1-H	300	377	250	302	20.6	8.5	9.6	34	\$5,729
EMX4i-0550B-V5-C1-H	350	414	250	321	20.6	8.5	9.6	42	\$5,996
EMX4i-0580B-V5-C1-H	400	477	300	361	20.6	8.5	9.6	42	\$6,242
EMX4i-0835B-V5-C1-H*	400	515	300	414	24.3	17.6	12.3	112	\$7,278
EMX4i-0940B-V5-C1-H*	450	590	350	480	24.3	17.6	12.3	112	\$8,405
EMX4i-1070B-V5-C1-H*	600	797	500	620	24.3	17.6	12.3	137	\$10,094
EMX4i-1230B-V5-C1-H*	800	985	600	768	24.3	17.6	12.3	139	\$11,531
EMX4i-1250B-V5-C1-H*	900	1180	700	904	24.3	17.6	12.3	143	\$12,606

### 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	\$6,178
EMX4i-0830C-V5-C1-H*	450	576	350	431	24.3	17.6	12.3	104	\$6,318
EMX4i-1025C-V5-C1-H*	600	722	500	590	24.3	17.6	12.3	128	\$6,446
EMX4i-1170C-V5-C1-H*	700	864	600	722	24.3	17.6	12.3	130	\$6,875
EMX4i-1220C-V5-C1-H*	800	966	600	784	24.3	17.6	12.3	135	\$9,398

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

# EMX4i SERIES

## ADVANCED CHASSIS UNITS WITH BUILT-IN BYPASS AND MOTOR OVERLOAD

### 575 VAC

Standard Duty 350%, 30 s, 4 starts per hour      Heavy Duty 450%, 30 s, 4 starts per hour      Dimensions (inches)

Model Number	HP	Max Amps	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4i-0024B-V7-C1-H	15	17	10	14	13.2	6.0	9.1	11	\$1,372
EMX4i-0042B-V7-C1-H	25	28	20	22	13.2	6.0	9.1	11	\$1,426
EMX4i-0052B-V7-C1-H	30	35	25	28	13.2	6.0	9.1	11	\$1,473
EMX4i-0064B-V7-C1-H	40	52	30	40	13.2	6.0	9.1	11	\$1,540
EMX4i-0069B-V7-C1-H	50	59	40	46	13.2	6.0	9.1	11	\$1,573
EMX4i-0105B-V7-C1-H	60	77	50	52	13.2	6.0	9.1	12	\$2,074
EMX4i-0115B-V7-C1-H	75	81	60	65	13.2	6.0	9.1	12	\$2,319
EMX4i-0135B-V7-C1-H	100	99	75	77	13.2	6.0	9.1	12	\$2,577
EMX4i-0184B-V7-C1-H	100	124	75	96	19.5	8.5	9.6	28	\$2,856
EMX4i-0200B-V7-C1-H	125	131	100	104	19.5	8.5	9.6	28	\$2,981
EMX4i-0229B-V7-C1-H	150	156	100	124	19.5	8.5	9.6	28	\$3,299
EMX4i-0250B-V7-C1-H	200	195	150	156	19.5	8.5	9.6	28	\$4,413
EMX4i-0352B-V7-C1-H	200	240	150	180	20.6	8.5	9.6	34	\$4,750
EMX4i-0397B-V7-C1-H	250	261	200	203	20.6	8.5	9.6	34	\$5,281
EMX4i-0410B-V7-C1-H	350	377	300	302	20.6	8.5	9.6	34	\$6,130
EMX4i-0550B-V7-C1-H	450	414	300	321	20.6	8.5	9.6	42	\$6,236
EMX4i-0580B-V7-C1-H	500	477	350	361	20.6	8.5	9.6	42	\$6,492
EMX4i-0835B-V7-C1-H*	500	515	400	414	24.3	17.6	12.3	112	\$7,661
EMX4i-0940B-V7-C1-H*	600	590	450	480	24.3	17.6	12.3	112	\$8,848
EMX4i-1070B-V7-C1-H*	800	797	600	620	24.3	17.6	12.3	137	\$10,625
EMX4i-1230B-V7-C1-H*	1000	985	800	768	24.3	17.6	12.3	139	\$12,138
EMX4i-1250B-V7-C1-H*	1200	1180	900	904	24.3	17.6	12.3	143	\$13,270

### Continuous Duty rated (Non-Bypassed\*)

### 575 VAC

Standard Duty 350%, 30 s, 4 starts per hour      Heavy Duty 450%, 30 s, 4 starts per hour      Dimensions (inches)

Model Number	HP	Max Amps	HP	Max Amps	H	W	D	Weight (lbs)	List Price
EMX4i-0735C-V7-C1-H*	500	480	400	382	24.3	17.6	12.3	104	\$6,796
EMX4i-0830C-V7-C1-H*	600	576	450	431	24.3	17.6	12.3	104	\$6,950
EMX4i-1025C-V7-C1-H*	700	722	600	590	24.3	17.6	12.3	128	\$7,091
EMX4i-1170C-V7-C1-H*	900	864	700	722	24.3	17.6	12.3	130	\$7,562
EMX4i-1220C-V7-C1-H*	1000	966	800	784	24.3	17.6	12.3	135	\$10,338

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

# EMX4e SERIES

## ECONOMICAL CHASSIS UNITS



### 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	\$1,133
EMX4e-0042B-V5-C1-H	10	28	13.2	6.0	9.1	11	\$1,177
EMX4e-0052B-V5-C1-H	10	35	13.2	6.0	9.1	11	\$1,216
EMX4e-0064B-V5-C1-H	15	52	13.2	6.0	9.1	11	\$1,270
EMX4e-0069B-V5-C1-H	20	59	13.2	6.0	9.1	11	\$1,299
EMX4e-0105B-V5-C1-H	25	77	13.2	6.0	9.1	12	\$1,560
EMX4e-0115B-V5-C1-H	30	81	13.2	6.0	9.1	12	\$1,745
EMX4e-0135B-V5-C1-H	30	99	13.2	6.0	9.1	12	\$1,938
EMX4e-0184B-V5-C1-H	40	124	19.5	8.5	9.6	28	\$2,187
EMX4e-0200B-V5-C1-H	50	131	19.5	8.5	9.6	28	\$2,283
EMX4e-0229B-V5-C1-H	60	156	19.5	8.5	9.6	28	\$2,527
EMX4e-0250B-V5-C1-H	75	195	19.5	8.5	9.6	28	\$3,378
EMX4e-0397B-V5-C1-H	100	261	20.6	8.5	9.6	34	\$4,195
EMX4e-0410B-V5-C1-H	150	377	20.6	8.5	9.6	34	\$4,870
EMX4e-0550B-V5-C1-H	150	414	20.6	8.5	9.6	42	\$5,097
EMX4e-0580B-V5-C1-H	200	477	20.6	8.5	9.6	42	\$5,306

\* See comparison of EXM4e and EMX4i on pages 3 and 4.

# EMX4e SERIES

## ECONOMICAL CHASSIS UNITS



### 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	\$1,133
EMX4e-0042B-V5-C1-H	20	28	13.2	6.0	9.1	11	\$1,177
EMX4e-0052B-V5-C1-H	25	35	13.2	6.0	9.1	11	\$1,216
EMX4e-0064B-V5-C1-H	40	52	13.2	6.0	9.1	11	\$1,270
EMX4e-0069B-V5-C1-H	40	59	13.2	6.0	9.1	11	\$1,299
EMX4e-0105B-V5-C1-H	50	77	13.2	6.0	9.1	12	\$1,560
EMX4e-0115B-V5-C1-H	60	81	13.2	6.0	9.1	12	\$1,745
EMX4e-0135B-V5-C1-H	75	99	13.2	6.0	9.1	12	\$1,938
EMX4e-0184B-V5-C1-H	100	124	19.5	8.5	9.6	28	\$2,187
EMX4e-0200B-V5-C1-H	100	131	19.5	8.5	9.6	28	\$2,283
EMX4e-0229B-V5-C1-H	125	156	19.5	8.5	9.6	28	\$2,527
EMX4e-0250B-V5-C1-H	150	195	19.5	8.5	9.6	28	\$3,378
EMX4e-0352B-V5-C1-H	200	240	20.6	8.5	9.6	34	\$3,773
EMX4e-0397B-V5-C1-H	200	261	20.6	8.5	9.6	34	\$4,195
EMX4e-0410B-V5-C1-H	300	377	20.6	8.5	9.6	34	\$4,870
EMX4e-0550B-V5-C1-H	350	414	20.6	8.5	9.6	42	\$5,097
EMX4e-0580B-V5-C1-H	400	477	20.6	8.5	9.6	42	\$5,306

\* See comparison of EXM4e and EMX4i on pages 3 and 4.

# EMX4e SERIES

## ECONOMICAL CHASSIS UNITS

### 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	\$1,166
EMX4e-0042B-V7-C1-H	25	28	13.2	6.0	9.1	11	\$1,212
EMX4e-0052B-V7-C1-H	30	35	13.2	6.0	9.1	11	\$1,253
EMX4e-0064B-V7-C1-H	40	52	13.2	6.0	9.1	11	\$1,308
EMX4e-0069B-V7-C1-H	50	59	13.2	6.0	9.1	11	\$1,338
EMX4e-0105B-V7-C1-H	60	77	13.2	6.0	9.1	12	\$1,763
EMX4e-0115B-V7-C1-H	75	81	13.2	6.0	9.1	12	\$1,971
EMX4e-0135B-V7-C1-H	100	99	13.2	6.0	9.1	12	\$2,190
EMX4e-0184B-V7-C1-H	100	124	19.5	8.5	9.6	28	\$2,428
EMX4e-0200B-V7-C1-H	125	131	19.5	8.5	9.6	28	\$2,534
EMX4e-0229B-V7-C1-H	150	156	19.5	8.5	9.6	28	\$2,804
EMX4e-0250B-V7-C1-H	200	195	19.5	8.5	9.6	28	\$3,750
EMX4e-0352B-V7-C1-H	200	240	20.6	8.5	9.6	34	\$4,037
EMX4e-0397B-V7-C1-H	250	261	20.6	8.5	9.6	34	\$4,490
EMX4e-0410B-V7-C1-H	350	377	20.6	8.5	9.6	34	\$5,211
EMX4e-0550B-V7-C1-H	450	414	20.6	8.5	9.6	42	\$5,301
EMX4e-0580B-V7-C1-H	500	477	20.6	8.5	9.6	42	\$5,519

\* See comparison of EXM4e and EMX4i on pages 3 and 4.

## 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)	\$400
CV-100018-00	N3R/N4 Remote Keypad Cover (8" x 8")	\$211

#### Communication interfaces for network integration

List Price

COM-PIC-DN-01	DeviceNet Card, EMX4	\$308
COM-PIC-MB-01	Modbus Card, EMX4	\$192
COM-PIC-PB-01	Profibus Card, EMX4	\$400
COM-PIC-MT-01	Modbus TCP Card, EMX4	\$742
COM-PIC-PN-01	Profinet Card, EMX4	\$742
COM-PIC-EI-01	Ethernet IP Card, EMX4	\$742
COM-PIC-MB-02	Ground Fault + Modbus, RTU Card, EMX4	\$226
COM-PIC-MT-02	Ground Fault + Modbus, TCP Card, EMX4	\$775
COM-PIC-PN-02	Ground Fault + Profinet card, EMX4	\$775
COM-PIC-EI-02	Ground Fault + Ethernet IP Card, EMX4	\$775

#### 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	\$81
BIPC-300200-02	3-wire control board option for wiring customer supplied (external) start/stop/reset pushbuttons, EMX4 with 24VDC control voltage	\$81

#### Smart Cards

List Price

SCC-PC-01	Smart Card, Pump Application [EMX4]	\$338
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#### IP20 Finger guards for personnel safety

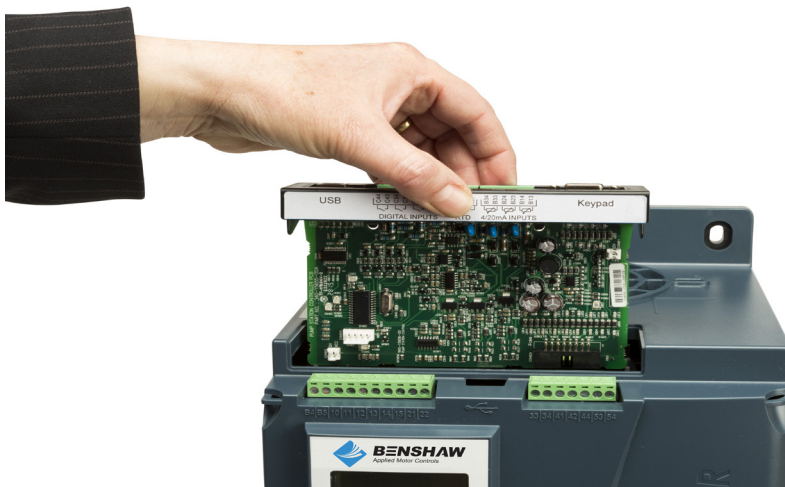
List Price

995-17309-00	Finger Guard kit	\$199
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#### Additional Accessories

List Price

995-18637-00	Cover Remote Tool, EMX4	\$129
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## 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	\$630
CSXi-015-V6-C1	10	25	30	34	32	8.0	3.9	6.5	6	\$748
CSXi-018-V6-C1	15	30	40	42	40	8.0	3.9	6.5	6	\$820
CSXi-022-V6-C1	15	30	40	48	44	8.0	3.9	6.5	6	\$871
CSXi-030-V6-C1	20	40	50	60	55	8.0	3.9	6.5	6	\$997
CSXi-037-V6-C1	25	50	60	75	68	8.5	5.7	7.6	10	\$1,415
CSXi-045-V6-C1	30	60	75	85	78	8.5	5.7	7.6	10	\$1,435
CSXi-055-V6-C1	—	75	100	100	100	8.5	5.7	7.6	10	\$1,614
CSXi-075-V6-C1	50	100	125	140	133	9.5	8.0	8.4	15	\$2,030
CSXi-090-V6-C1	60	125	150	170	157	9.5	8.0	8.4	15	\$2,255
CSXi-110-V6-C1	75	150	200	200	186	9.5	8.0	8.4	15	\$2,450

\* 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 Benshaw Inc.

# CSXi SERIES

## ACCESSORIES

### Remote keypads for control and monitoring

		List Price
KP-PIM-RO-01	CSXi Remote Operator & Interface Kit (complete set)	\$423
KP-PIM-RZ-01	CSXi Remote Operator interface (does not include keypad)	\$179
KP-RCM01	CSXi Remote Operator (keypad only)	\$313
KP-RCM02	CSXi Remote Operator & PT Kit	\$550

### Communication interfaces for network integration

		List Price
COM-PIM-DN-01	DeviceNet Interface	\$282
COM-PIM-MB-01	Modbus Interface	\$195
COM-PIM-PB-01	Profibus Interface	\$359
COM-PIM-USB-01	USB Interface	\$179
COM-PIM-MT-01	Modbus TCP Interface	\$666
COM-PIM-PN-01	Profinet Interface	\$820
COM-PIM-EI-01	Ethernet IP Interface	\$726

### IP20 Finger guards for personnel safety

		List Price
995-03503-00	Fingerguard Kit, CSXi 075-110	\$214

**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



Model Number	Standard Duty (HP)			Max Amps		CB	Dimensions (inches)			Weight (lbs)	List Price
	230 VAC	460 VAC	575 VAC	40 °C	50 °C		Rating amps	H	W		
CSXi-0014-4-PP-N3R-CB-PD	5	10	15	18	17	40	20	16	8	39	\$2,909
CSXi-0034-4-PP-N3R-CB-PD	10	25	30	34	32	60	20	16	8	40	\$3,146
CSXi-0040-4-PP-N3R-CB-PD	15	30	40	42	40	70	20	16	8	42	\$3,210
CSXi-0052-4-PP-N3R-CB-PD	20	40	50	60	55	100	20	16	8	43	\$3,368
CSXi-0065-4-PP-N3R-CB-PD	25	50	60	75	68	125	24	20	10	66	\$4,031
CSXi-0077-4-PP-N3R-CB-PD	30	60	75	85	78	150	24	20	10	67	\$4,057
CSXi-0096-4-PP-N3R-CB-PD	—	75	100	100	100	150	24	20	10	75	\$4,281
CSXi-0125-4-PP-N3R-CB-PD	50	100	125	140	133	200	24	20	10	80	\$4,943
CSXi-0156-4-PP-N3R-CB-PD	60	125	150	170	157	250	24	20	10	86	\$5,224
CSXi-0180-4-PP-N3R-CB-PD	75	150	200	200	186	300	24	20	10	88	\$5,532

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 MX<sup>2</sup> AND MX<sup>3</sup> TECHNOLOGY RUGGED INDUSTRIAL SOLID STATE STARTERS WITH INTEGRAL BYPASS

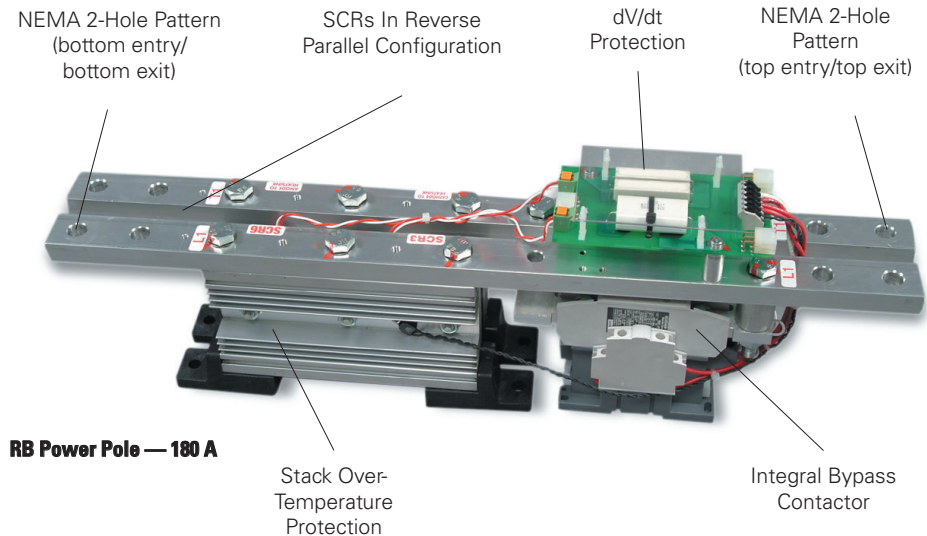
#### RB SERIES PRODUCT HIGHLIGHTS:

Benshaw's RB series solid state starter combines the high performance MX<sup>2</sup> or MX<sup>3</sup> technology with a rugged, compact, integral bypass RB series power section.

The MX<sup>2</sup> or MX<sup>3</sup> technology provides users with a powerful group of programming parameters, designed for flexibility in across a wide range of industrial applications. Both MX<sup>2</sup> and MX<sup>3</sup> 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

**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.



## 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	\$2,014
	RB2-1-S-040A-11C	10	15	30	40	14	10	6.9	14	\$2,112
	RB2-1-S-052A-12C	15	20	40	50	14	10	8.4	17	\$2,199
	RB2-1-S-065A-12C	20	25	50	60	14	10	8.4	17	\$2,261
	RB2-1-S-077A-13C	25	30	60	75	15	10	8.4	17	\$2,364
	RB2-1-S-096A-13C	30	40	75	100	15	10	8.9	18	\$3,075
	RB2-1-S-125A-14C	40	50	100	125	21.7	12.3	9	43	\$3,466
	RB2-1-S-156A-14C	50	60	125	150	21.4	14	9	43	\$4,043
	RB2-1-S-180A-14C	60	75	150	200	21.4	14	9	43	\$4,836
	RB2-1-S-240A-15C	75	100	200	250	23.8	12.5	10.3	51	\$5,150
	RB2-1-S-302A-15C	100	125	250	300	23.8	12.5	10.3	51	\$5,665
	RB2-1-S-361A-16C	125	150	300	400	23.9	13.3	9.2	56	\$6,638
	RB2-1-S-414A-17C	150	–	350	–	27.9	18	11.1	151	\$7,262
	RB2-1-S-477A-17C	–	200	400	500	28.9	18	11.1	155	\$7,931
RB2-1-S-515A-17C	200	–	450	–	28.9	18	11.1	155	\$8,498	
RB2-1-S-590A-18C	–	250	500	600	28.8	18	11.1	159	\$9,064	
RB2-1-S-720A-19C	250	300	600	700	30.7	18.5	10.9	159	\$10,197	
RB2-1-S-838A-20C	300	350	700	800	29.1	26.1	12.5	160	\$11,897	
Heavy Duty 500% for 30 sec 125% continuous	RB2-1-S-027A-11C	7.5	10	20	25	14	10	6.9	14	\$2,014
	RB2-1-S-040A-11C	10	15	30	40	14	10	6.9	14	\$2,112
	RB2-1-S-052A-12C	15	20	40	50	14	10	8.4	17	\$2,199
	RB2-1-S-096A-13C	30	40	75	100	15	10	8.4	18	\$3,075
	RB2-1-S-156A-14C	40	50	100	125	21.4	14	9	43	\$4,043
	RB2-1-S-180A-15C	60	75	150	200	21.4	14	9	51	\$5,408
	RB2-1-S-361A-16C	75	100	200	250	23.9	13.3	9.2	56	\$6,638
	RB2-1-S-414A-17C	125	150	300	400	27.9	18	11.1	151	\$7,262
	RB2-1-S-590A-18C	200	200	450	500	28.8	18	11.1	159	\$9,064
RB2-1-S-720A-19C	–	250	500	600	30.7	18.5	10.9	160	\$10,197	
Severe Duty 600% for 30 sec 125% continuous	RB2-1-S-027A-11C	5	7.5	15	20	14	10	6.9	14	\$2,014
	RB2-1-S-040A-11C	10	10	30	40	14	10	6.9	14	\$2,112
	RB2-1-S-052A-12C	–	15	–	–	14	10	8.4	17	\$2,199
	RB2-1-S-096A-13C	25	30	60	75	15	10	8.4	18	\$3,075
	RB2-1-S-180A-14C	30	40	75	100	21.4	14	9	43	\$4,836
	RB2-1-S-180A-15C	50	60	125	150	21.4	14	9	51	\$5,408
	RB2-1-S-361A-16C	60	75	150	200	23.9	13.3	9.2	56	\$6,638
	RB2-1-S-414A-17C	100	125	250	300	28.9	18	11.1	151	\$7,262
RB2-1-S-590A-18C	150	200	450	500	28.8	18	11.1	159	\$9,064	

\*Remote keypad: KPMX3CBL2M is optional for \$450.00

# 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	\$3,002
	RB3-1-S-040A-11C	10	15	30	40	14	10	8.4	14	\$3,033
	RB3-1-S-052A-12C	15	20	40	50	14	10	9.2	17	\$3,142
	RB3-1-S-065A-12C	20	25	50	60	14	10	9.2	17	\$3,188
	RB3-1-S-077A-13C	25	30	60	75	15	10	9.2	17	\$3,528
	RB3-1-S-096A-13C	30	40	75	100	15	10	9.2	18	\$4,120
	RB3-1-S-125A-14C	40	50	100	125	21.7	12.3	9.7	43	\$4,414
	RB3-1-S-156A-14C	50	60	125	150	21.4	14	9.8	43	\$5,042
	RB3-1-S-180A-14C	60	75	150	200	21.4	14	9.8	43	\$5,665
	RB3-1-S-240A-15C	75	100	200	250	23.8	12.5	11.1	51	\$5,948
	RB3-1-S-302A-15C	100	125	250	300	23.8	12.5	11.1	51	\$6,484
	RB3-1-S-361A-16C	125	150	300	400	23.9	13.3	10	56	\$7,313
	RB3-1-S-414A-17C	150	–	350	–	27.9	18	11.9	151	\$7,874
	RB3-1-S-477A-17C	–	200	400	500	28.9	18	11.9	155	\$8,498
	RB3-1-S-515A-17C	200	–	450	–	28.9	18	11.9	155	\$9,064
RB3-1-S-590A-18C	–	250	500	600	28.8	18	11.9	159	\$9,857	
RB3-1-S-720A-19C	250	300	600	700	30.7	18.5	11.7	159	\$10,764	
RB3-1-S-838A-20C	300	350	700	800	29.1	26.1	13.3	160	\$12,618	
Heavy Duty 500% for 30 sec 125% continuous	RB3-1-S-027A-11C	7.5	10	20	25	14	10	7.7	14	\$3,002
	RB3-1-S-040A-11C	10	15	30	40	14	10	8.4	14	\$3,033
	RB3-1-S-052A-12C	15	20	40	50	14	10	9.2	17	\$3,142
	RB3-1-S-096A-13C	30	40	75	100	15	10	9.2	18	\$4,120
	RB3-1-S-156A-14C	40	50	100	125	21.4	14	9.7	43	\$5,042
	RB3-1-S-180A-15C	60	75	150	200	21.4	14	9.8	51	\$6,180
	RB3-1-S-361A-16C	75	100	200	250	23.9	13.3	10	56	\$7,313
	RB3-1-S-414A-17C	125	150	300	400	27.9	18	11.9	151	\$7,874
	RB3-1-S-590A-18C	200	200	450	500	28.8	18	11.9	159	\$9,857
RB3-1-S-720A-19C	–	250	500	600	30.7	18.5	11.7	160	\$10,764	
Severe Duty 600% for 30 sec 125% continuous	RB3-1-S-027A-11C	5	7.5	15	20	14	10	6.9	14	\$3,002
	RB3-1-S-040A-11C	10	10	30	40	14	10	6.9	14	\$3,033
	RB3-1-S-052A-12C	–	15	–	–	14	10	8.4	17	\$3,142
	RB3-1-S-096A-13C	25	30	60	75	15	10	8.4	18	\$4,120
	RB3-1-S-180A-14C	30	40	75	100	21.4	14	9	43	\$5,665
	RB3-1-S-180A-15C	50	60	125	150	21.4	14	9	51	\$6,180
	RB3-1-S-361A-16C	60	75	150	200	23.9	13.3	9.2	56	\$7,313
	RB3-1-S-414A-17C	100	125	250	300	28.9	18	11.1	151	\$7,874
RB3-1-S-590A-18C	150	200	450	500	28.8	18	11.1	159	\$9,857	

\* Keypad is included with MX<sup>3</sup> 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:

- EMX4i Soft Starter Chassis
- Combination circuit breaker
- High fault rated (65KAIC)
- Rotary disconnect operator
- Run duty bypass
- NEMA 4, 12 (3R enclosure with option adders)
- 240 / 480 V
- Standard 120 V control power transformer
- Service entrance rated
- Door mounted keypad with NEMA 3R/4 cover (included)
- KP door mounted keypad N12 (included)
- 65KAIC rated standard

#### EMX4i FEATURES

- Current limit ramp
- Soft brake
- SCR Failure Power Through
- 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.**

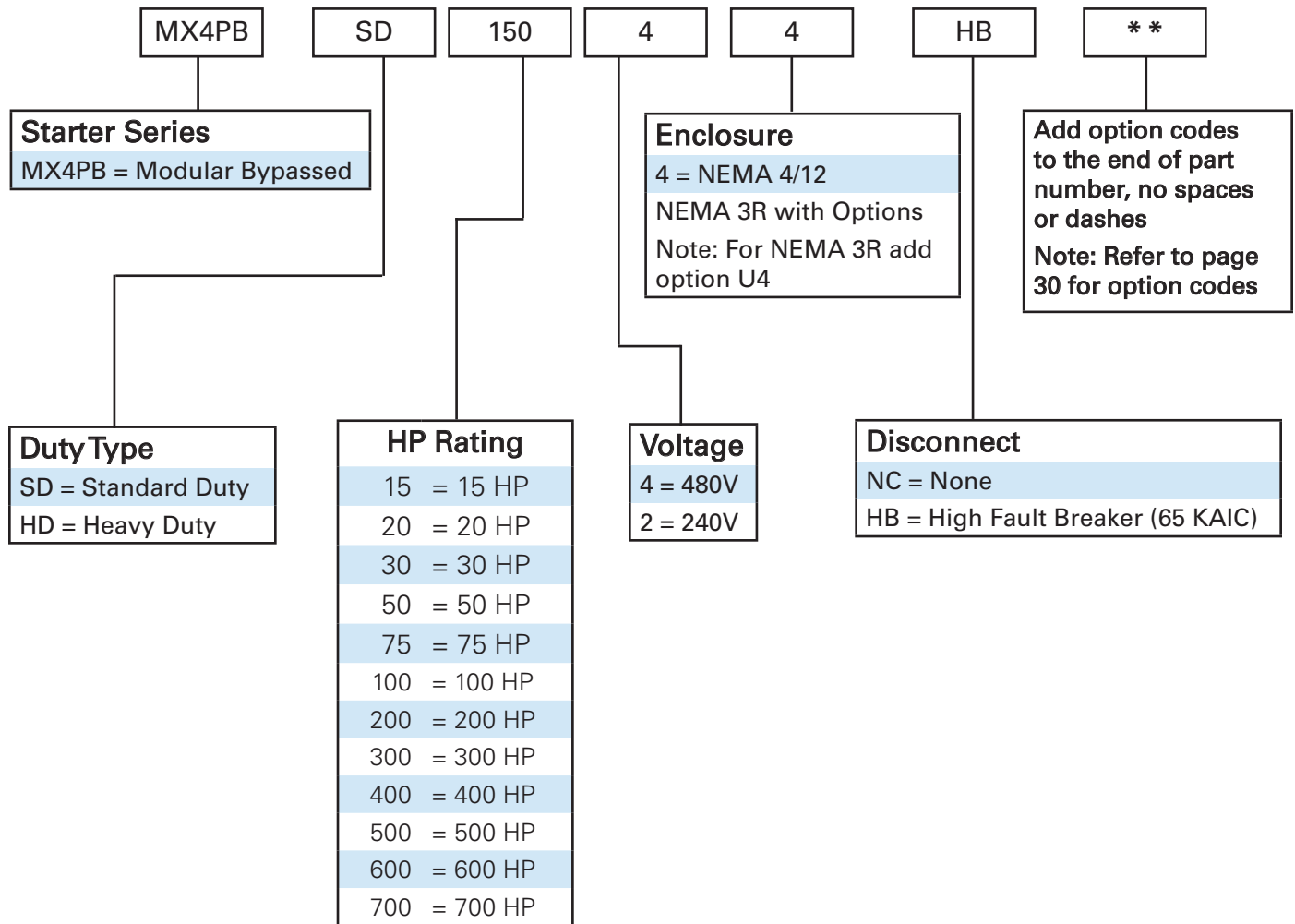
**Only Benshaw has a three year guarantee.**

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.





# 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	\$4,012
✘MX4PB-SD-020-2-4-HB**	20	54	80	240	24	20	12	175	\$4,125
✘MX4PB-SD-030-2-4-HB**	30	80	125	240	24	20	12	200	\$4,374
✘MX4PB-SD-050-2-4-HB**	50	130	200	240	36	30	16	220	\$6,484
✘MX4PB-SD-075-2-4-HB**	75	192	300	240	36	30	16	220	\$7,592
✘MX4PB-SD-100-2-4-HB**	100	248	400	240	36	30	16	220	\$8,890
✘MX4PB-SD-150-2-4-HB**	150	360	600	240	36	30	16	220	\$9,722
✘MX4PB-SD-200-2-4-HB**	200	477	800	240	36	30	16	220	\$11,974

\*\* 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	\$4,012
☒MX4PB-SD-050-4-4-HB**	50	65	100	480	24	20	12	175	\$4,137
☒MX4PB-SD-075-4-4-HB**	75	96	150	480	24	20	12	200	\$4,374
☒MX4PB-SD-100-4-4-HB**	100	124	200	480	36	30	16	220	\$6,484
☒MX4PB-SD-150-4-4-HB**	150	180	300	480	36	30	16	220	\$7,592
☒MX4PB-SD-200-4-4-HB**	200	240	400	480	36	30	16	220	\$8,890
☒MX4PB-SD-300-4-4-HB**	300	361	600	480	36	30	16	220	\$9,722
☒MX4PB-SD-400-4-4-HB**	400	477	800	480	36	30	16	400	\$11,974
☒MX4PB-SD-500-4-4-HB**	500	590	1000	480	79	31.5	24	566	\$21,612
☒MX4PB-SD-600-4-4-HB**	600	702	1200	480	79	31.5	24	590	\$22,205
☒MX4PB-SD-700-4-4-HB**	700	828	1200	480	79	31.5	24	592	\$22,637

\*\* 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	\$4,012
✘MX4PB-HD-020-2-4-HB**	20	54	90	240	24	20	12	175	\$4,208
✘MX4PB-HD-030-2-4-HB**	30	80	150	240	36	30	16	200	\$6,503
✘MX4PB-HD-050-2-4-HB**	50	130	225	240	36	30	16	220	\$6,680
✘MX4PB-HD-075-2-4-HB**	75	192	350	240	36	30	16	220	\$8,731
✘MX4PB-HD-100-2-4-HB**	100	248	400	240	36	30	16	220	\$8,851
✘MX4PB-HD-150-2-4-HB**	150	360	600	240	36	30	16	220	\$11,258

\*\* 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	\$4,012
✘MX4PB-HD-050-4-4-HB**	50	65	125	480	24	20	12	175	\$6,694
✘MX4PB-HD-075-4-4-HB**	75	96	150	480	36	30	16	200	\$6,854
✘MX4PB-HD-100-4-4-HB**	100	124	200	480	36	30	16	220	\$7,204
✘MX4PB-HD-150-4-4-HB**	150	180	300	480	36	30	16	220	\$8,731
✘MX4PB-HD-200-4-4-HB**	200	240	400	480	36	30	16	220	\$8,851
✘MX4PB-HD-300-4-4-HB**	300	361	600	480	36	30	16	400	\$11,258
✘MX4PB-HD-400-4-4-HB**	400	477	800	480	79	31.5	24	557	\$17,183
✘MX4PB-HD-500-4-4-HB**	500	590	1000	480	79	31.5	24	590	\$22,205
✘MX4PB-HD-600-4-4-HB**	600	702	1200	480	79	31.5	24	592	\$22,637
✘MX4PB-HD-700-4-4-HB**	700	828	1200	480	79	31.5	24	596	\$25,161

\*\* 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	\$3,356
☞MX4PB-SD-020-2-4-NC**	10kA	20	54	10	240	24	20	12	175	\$3,481
☞MX4PB-SD-030-2-4-NC**	10kA	30	80	10	240	24	20	12	200	\$3,544
☞MX4PB-SD-050-2-4-NC**	18kA	50	130	18	240	36	30	16	220	\$5,464
☞MX4PB-SD-075-2-4-NC**	18kA	75	192	18	240	36	30	16	220	\$5,784
☞MX4PB-SD-100-2-4-NC**	18kA	100	248	18	240	36	30	16	220	\$6,988
☞MX4PB-SD-150-2-4-NC**	30kA	150	360	30	240	36	30	16	220	\$7,043
☞MX4PB-SD-200-2-4-NC**	30kA	200	477	30	240	36	30	16	220	\$8,517

\*\* 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).

Available for same day shipment, or modified for next day shipment.

☞ 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	\$3,356
☞MX4PB-SD-050-4-4-NC**	10kA	50	65	10	480	24	20	12	175	\$3,481
☞MX4PB-SD-075-4-4-NC**	10kA	75	96	10	480	24	20	12	200	\$3,544
☞MX4PB-SD-100-4-4-NC**	18kA	100	124	18	480	36	30	16	220	\$5,464
☞MX4PB-SD-150-4-4-NC**	18kA	150	180	18	480	36	30	16	220	\$5,784
☞MX4PB-SD-200-4-4-NC**	18kA	200	240	18	480	36	30	16	220	\$6,988
☞MX4PB-SD-300-4-4-NC**	30kA	300	361	30	480	36	30	16	220	\$7,043
☞MX4PB-SD-400-4-4-NC**	30kA	400	477	30	480	36	30	16	220	\$8,640

\*\* 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).

Available for same day shipment, or modified for next day shipment.

☞ 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	\$3,356
✘MX4PB-HD-020-2-4-NC**	10kA	20	54	10	240	24	20	12	175	\$3,552
✘MX4PB-HD-030-2-4-NC**	18kA	30	80	18	240	36	30	16	200	\$5,694
✘MX4PB-HD-050-2-4-NC**	18kA	50	130	18	240	36	30	16	220	\$5,661
✘MX4PB-HD-075-2-4-NC**	18kA	75	192	18	240	36	30	16	220	\$6,923
✘MX4PB-HD-100-2-4-NC**	30kA	100	248	30	240	36	30	16	220	\$7,043
✘MX4PB-HD-150-2-4-NC**	30kA	150	360	30	240	36	30	16	220	\$8,578

\*\* 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).

Available for same day shipment, or modified for next day shipment.

✘ 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	\$3,356
✘MX4PB-HD-050-4-4-NC**	10kA	50	65	10	480	24	20	12	175	\$5,865
✘MX4PB-HD-075-4-4-NC**	18kA	75	96	18	480	36	30	16	200	\$5,694
✘MX4PB-HD-100-4-4-NC**	18kA	100	124	18	480	36	30	16	220	\$5,464
✘MX4PB-HD-150-4-4-NC**	18kA	150	180	18	480	36	30	16	220	\$6,923
✘MX4PB-HD-200-4-4-NC**	30kA	200	240	30	480	36	30	16	220	\$7,043
✘MX4PB-HD-300-4-4-NC**	30kA	300	361	30	480	36	30	16	220	\$8,578

\*\* 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).

Available for same day shipment, or modified for next day shipment.

✘ 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)	\$456

### Control Options (only one code can be selected)

Option Code		List Price
QN	Run Light	\$128
QF	Reset Push-Buttons	\$87
CP	Start / Stop Push-Buttons	\$179
CQ	Start / Stop Push-Buttons and Run Light	\$241
CR	Start / Stop Push-Buttons, Run Light, Fault Light and Reset Push-Button	\$513
RK	Fault Light	\$128
CS	Fault Light and Reset Push-Button	\$215
CT	Run Light, Fault Light and Reset Push-Button	\$343
CU	HOA and Start / Stop Push-Buttons	\$333
CV	HOA , Start / stop Push-Buttons and Run Light	\$456
CW	HOA, Start / Stop Push-Buttons, Run Light, Fault Light and Reset Push-Button	\$671

### Communication interfaces for network integration

Option Code		List Price
CE	DeviceNet Card, EMX4i	\$308
CJ	Modbus Card, EMX4i	\$234
CD	Profibus Card, EMX4i	\$400
CK	Modbus TCP Card, EMX4i	\$787
CL	Profinet Card. EMX4i	\$787
CF	Ethernet IP Card, EMX4i	\$787

Note: Only one can be selected

### Smart Cards

		List Price
SCC-PC-01	Smart Card, Pump Application [EMX4]	\$338

### Fingerguard

		List Price
995-17309-00	Fingerguard IP20 Kit for Personnel Safety	\$199

# 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

### EMX4i FEATURES:

- Current limit ramp
- Soft brake
- SCR Failure Power Through
- 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.**

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# 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	\$5,930	\$6,473
☞ RX4E-075-480-XXKP-HB	96	75	225	48	24	12	220	\$7,221	\$7,580
☞ RX4E-100-480-XXKP-HB	124	100	225	48	24	12	230	\$8,031	\$8,789
☞ RX4E-125-480-XXKP-HB	156	125	225	48	24	12	320	\$8,082	\$9,507
☞ RX4E-150-480-XXKP-HB	180	150	300	48	24	12	325	\$8,379	\$9,784
☞ RX4E-200-480-XXKP-HB	240	200	400	48	24	12	335	\$10,860	\$11,926
☞ RX4E-250-480-XXKP-HB	302	250	400	48	36	16	510	\$12,141	\$13,238
☞ RX4E-300-480-XXKP-HB	361	300	600	48	36	16	515	\$12,531	\$13,510
☞ RX4E-400-480-XXKP-HB	477	400	800	72	39.5	18	765	\$20,056	\$20,432
☞ RX4E-500-480-XXKP-HB	590	500	1000	72	39.5	18	790	\$25,120	\$25,495
☞ RX4E-600-480-XXKP-HB	720	600	1200	72	39.5	18	815	\$25,568	\$25,942

☞ 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 MX<sup>2</sup> technology, but are also available with MX<sup>3</sup> 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 MX<sup>2</sup> or MX<sup>3</sup> programmable motor controller with soft start, soft stop and motor protection capabilities
- RS485 ModBus communications
- Analog I/O
- Available with MX<sup>3</sup> 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		Dimensions (inches)			Wgt. (lbs.)	NEMA 12 List Price	NEMA 3R List Price
		480 V	CB Trip	H	W	D			
☒ RX2E-050-480-XX	65	50	100	26	24	12	215	\$6,391	\$6,982
☒ RX2E-075-480-XX	96	75	225	26	24	12	220	\$7,831	\$8,229
☒ RX2E-100-480-XX	124	100	225	48	24	12	230	\$8,734	\$9,568
☒ RX2E-125-480-XX	156	125	225	48	24	12	320	\$8,810	\$10,385
☒ RX2E-150-480-XX	180	150	300	48	24	12	325	\$8,971	\$10,535
☒ RX2E-200-480-XX	240	200	400	48	36	12	335	\$11,744	\$12,954
☒ RX2E-250-480-XX	302	250	400	70	30	18	510	\$12,900	\$14,152
☒ RX2E-300-480-XX	361	300	600	70	30	18	515	\$14,185	\$15,528
☒ RX2E-400-480-XX	477	400	800	87	37	20	765	\$17,361	\$20,172
☒ RX2E-500-480-XX	590	500	1200	87	37	20	790	\$22,881	\$24,128
☒ RX2E-600-480-XX	720	600	1200	87	37	20	815	\$24,080	\$26,488

☒ Web stocked.

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

#### RX3E SERIES WITH MX3 TECHNOLOGY

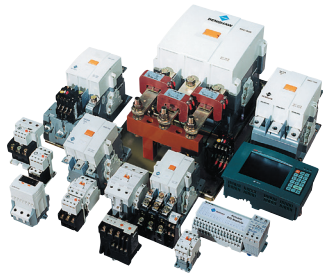
Model Number	Amps	HP		Dimensions (inches)			Wgt. (lbs.)	NEMA 12 List Price	NEMA 3R* List Price
		480 V	CB Trip	H	W	D			
✳ RX3E-050-480-XX	65	50	100	48	24	13	240	\$7,702	\$8,132
✳ RX3E-075-480-XX	96	75	225	48	24	13	245	\$8,143	\$8,842
✳ RX3E-100-480-XX	124	100	225	48	24	17	255	\$9,498	\$10,089
✳ RX3E-125-480-XX	156	125	225	48	36	17	355	\$10,293	\$10,804
✳ RX3E-150-480-XX	180	150	300	48	36	17	360	\$10,454	\$11,497
✳ RX3E-200-480-XX	240	200	400	48	36	17	370	\$13,239	\$13,975
✳ RX3E-250-480-XX	302	250	400	70	30	18	565	\$14,405	\$15,045
✳ RX3E-300-480-XX	361	300	600	70	30	18	570	\$14,862	\$15,534
✳ RX3E-400-480-XX	477	400	800	87	37	20	850	\$20,559	\$22,032
✳ RX3E-500-480-XX	590	500	1200	87	37	20	875	\$27,697	\$28,901
✳ RX3E-600-480-XX	720	600	1200	87	37	20	905	\$28,901	\$30,100

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

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

# Other Products Available from Benschaw

## Full Voltage Motor Controls



Contactors, overload relays,  
MSPs & packaged assemblies.  
5-600HP @ 460V

## Reduced Voltage Motor Control



Standard & custom assemblies,  
lineups, MTM.  
Up to 25,000HP @ 2.3-13.8KV

## Variable Frequency Drives



General, pump & industrial,  
open, N1, washdown or  
packaged assemblies.  
.5-1,000HP @ 460V



Benschaw M2L drive technology,  
high performance, high reliability.  
Up to 14,000HP @ 2.3-13.8KV

## Circuit Protection



Seven compact frame sizes,  
comprehensive set of accessories.  
15-1,200A @ 460V



MV switchgear assemblies,  
standalone or MCC/lineup.  
1,200-4,000A @ 4.16-13.8KV

Access to all Benschaw catalogs by following the link:  
<https://benshaw.com/motor-control-solutions/resources/documents/>

## 24/7 Technical Support

Benshaw is dedicated to providing comprehensive 24-hour-a-day, 7-day-a-week phone support. Benshaw provides repair, spare parts, field engineering, retrofit and training services, when and where you need us. You can count on our experienced team, backed by the latest diagnostics and repair tools and an extensive part inventory to support your operations.

Call 1.800.203.2416

24/7 Hotline Support from our operations in Pittsburgh and Listowel (Canada):

- Technical phone support
- Overnight parts shipment
- 24-hour service dispatch
- Coordination of all service capabilities

## Repairs

Repairs are made on Benshaw equipment by trained, experienced personnel, using the latest diagnostic and test equipment.

Field Services are performed on-site by skilled technicians, engineers or complete team if needed, including:

- Start-up commissioning
- Field repairs
- Field analysis/data collection
- Preventative maintenance
- Retrofits

## The Benshaw Product Line

A wide range of motor controls and drives is available.

- Solid-state starters fractional up to 30,000HP at 15kV
- LV AC drives to 800HP, MV AC drives to 10,000HP
- Electromechanical controls to 800A

Benshaw express is a 24/7 online inventory and order entry system for authorized Benshaw distributors:

- 24/7 shipment
- Air or truck delivery

Visit us online at  
Benshaw.com and  
benshawexpress.com,  
or contact:

### **BENSHAW, Inc.**

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Pittsburgh, PA 15238  
Phone: 412.968.0100  
Fax: 412.968.5415

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Specifications are subject to change without notice.

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**BENSHAW**  
*Applied Motor Controls*