

Packaged Soft Starters NEW

TYPICAL APPLICATIONS

Normal Duty Applications: Fans, Pump (Centrifugal & Submersible), Compressor (Screw type), Grinder, Bottle Washer.

Heavy Duty Applications: Compressor (Reciprocating type), Conveyors, Mixer, Hammer Mill, Palletizer, Separator, Shredder, Bandsaw, Chipper, Sander, Agitator, Rock Crusher.

Combination Packaged Starters (CSXi, IMS2 & EMX3)

Packages include: NEMA -1 (PPBF) & NEMA-12 (TENV) Enclosure,

NEMA-1 is without at speed run bypass contactor,

NEMA-12 is with at speed run bypass contactor, Input line fusing.

Option: Circuit breaker with door operator, 120 VAC control power transformer.



Crusher Duty Packaged Starters (IMS2•4•1 & EMX3•4•1)

The IMS2•4•1 and EMX3•4•1 are pre-engineered enclosed soft starter packaged solutions based on the IMS2 and EMX3 Soft Starters. They include the latest in digital technology to provide ease of set-up and reliability needed in this demanding application.

Packages include: NEMA-12 (TENV) Enclosure, Circuit breaker with door operator, Bypass contactor has 2 modes of operation; at speed run bypass or for emergency across-the-line bypass contactor, 120 VAC control power transformer, Emergency Start Switch (mounted inside on panel to select soft starter start mode or across- the- line start mode), Class 20 thermal over-load for across the line start mode, Start / Stop Push button (door mounted), Run Pilot Light (door mounted) , Input line fusing.



COMBINATION PACKAGED STARTERS

CSXi series (NORMAL DUTY RATINGS & ORDER GUIDE)

Module					NEMA 12 w/o CB	NEMA 12 w/ CB
208V (8)	230V (2)	460V (4)	ND Amps	Model Number	Order Code String (4)	Order Code String (4)
5	5	10	18	CSXi-007	SCSiN401020	SCSiN401021
7.5	7.5	15	34	CSXi-015	SCSiN401520	SCSiN401521
10	10	20	34	CSXi-015	SCSiN402020	SCSiN402021
		25	34	CSXi-015	SCSiN402520	SCSiN402521
	15	30	42	CSXi-018	SCSiN403020	SCSiN403021
20	20	40	60	CSXi-030	SCSiN404020	SCSiN404021
25	25	50	75	CSXi-037	SCSiN405020	SCSiN405021
	30	60	85	CSXi-045	SCSiN406020	SCSiN406021
30		75	100	CSXi-055	SCSiN407520	SCSiN407521
40	50	100	140	CSXi-075	SCSiN410020	SCSiN410021
60	60	125	170	CSXi-090	SCSiN412520	SCSiN412521
	75	150	200	CSXi-110	SCSiN415020	SCSiN415021

CSXi series (HEAVY DUTY RATINGS & ORDER GUIDE)

Module					NEMA 12 w/o CB	NEMA 12 w/ CB
208V (8)	230V (2)	460V (4)	HD Amps	Model Number	Order Code String (4)	Order Code String (4)
5	5	10	17	CSXi-007	SCSiH401020	SCSiH401021
		15	30	CSXi-015	SCSiH401520	SCSiH401521
7.5	10	20	30	CSXi-015	SCSiH402020	SCSiH402021
10		25	36	CSXi-018	SCSiH402520	SCSiH402521
		30	40	CSXi-022	SCSiH403020	SCSiH403021
20	20	40	65	CSXi-037	SCSiH404020	SCSiH404021
		50	65	CSXi-037	SCSiH405020	SCSiH405021
25-30	30	60	96	CSXi-055	SCSiH406020	SCSiH406021
		75	96	CSXi-055	SCSiH407520	SCSiH407521
	50	100	142	CSXi-090	SCSiH410020	SCSiH410021
50	60	125	165	CSXi-110	SCSiH412520	SCSiH412521

Numbers in () are the voltage code suffix also used in 6th digit of the package order string.

ND = Normal Duty (Fan/Pump Application) verify the motor amps. Then select the starter amps to be equal or greater than motor amps. CSX-007 to 030, 400% starting current, with a maximum 6 second start time that requires 354 seconds between starts. CSX-037 to 110, 400% starting current, with a maximum 6 second start time that requires 594 seconds between starts.

HD = Heavy Duty (Conveyors Application) verify the motor amps, Then select the starter amps to be equal or greater than motor amps. CSX-007 to 030, 400% starting current, with a maximum 20 second start time that requires 340 seconds between starts. CSX-037 to 110, 400% starting current, with a maximum 20 second start time that requires 580 seconds between starts.

WEIGHTS & DIMENSIONS (NEMA 12)

NEMA 12	Weight (lbs)	HxWxD (in)
CSXi-007 to CSXi-030	70	20 x 16 x 12
CSXi-037 to CSXi-055	70	20 x 16 x 12
CSXi-075 to CSXi-110	101	24 x 20 x 12
NEMA 12 with C/B	Weight (lbs)	HxWxD (in)
CSXi-007 to CSXi-030	85	20 x 16 x 12
CSXi-037 to CSXi-055	85	20 x 16 x 12
CSXi-075 to CSXi-110	125	24 x 20 x 12

Consult Factory for higher HP range and Input Voltage.

COMBINATION PACKAGED STARTERS continued

IMS2 series (NORMAL DUTY RATINGS & ORDER GUIDE)

IMS2 Normal Duty 300% HP					Module	NEMA 1 Fan & Filtered without Bypass		NEMA 12 with Bypass	
208V (8)	230V (2)	460V (4)	575V (5)	ND Amps		w/o CB	w/ CB	w/o CB	w/ CB
Model Number	Order Code String (4)	Order Code String (4)	Order Code String (4)	Order Code String (4)					
5	5	10	15	18	IMS20018	SIMSN401010	SIMSN401011	SIMSN401020	SIMSN401021
	7.5	15	20	34	IMS20034	SIMSN401510	SIMSN401511	SIMSN401520	SIMSN401521
10	10	20	25	34	IMS20034	SIMSN402010	SIMSN402011	SIMSN402020	SIMSN402021
		25	30	34	IMS20034	SIMSN402510	SIMSN402511	SIMSN402520	SIMSN402521
		30	40	41	IMS20041	SIMSN403010	SIMSN403011	SIMSN403020	SIMSN403021
20	20	40	50	67	IMS20067	SIMSN404010	SIMSN404011	SIMSN404020	SIMSN404021
	25	50	60	67	IMS20067	SIMSN405010	SIMSN405011	SIMSN405020	SIMSN405021
30	30	60	75	88	IMS20088	SIMSN406010	SIMSN406011	SIMSN406020	SIMSN406021
		75		96	IMS20096	SIMSN407510	SIMSN407511	SIMSN407520	SIMSN407521
40	40	100	125	125	IMS20125	SIMSN410010	SIMSN410011	SIMSN410020	SIMSN410021
50	50	125	150	202	IMS20202	SIMSN412510	SIMSN412511	SIMSN412520	SIMSN412521
60	75	150	200	202	IMS20202	SIMSN415010	SIMSN415011	SIMSN415020	SIMSN415021
	100	200	250	253	IMS20253	SIMSN420010	SIMSN420011	SIMSN420020	SIMSN420021
100		250	300	302	IMS20302	SIMSN425010	SIMSN425011	SIMSN425020	SIMSN425021
150	150	300	400	405	IMS20405	SIMSN430010	SIMSN430011	SIMSN430020	SIMSN430021
		350		513	IMS20513	SIMSN435010	SIMSN435011	SIMSN435020	SIMSN435021
	200	400	500	513	IMS20513	SIMSN440010	SIMSN440011	SIMSN440020	SIMSN440021
200		450	600	585	IMS20585	SIMSN445010	SIMSN445011	SIMSN445020	SIMSN445021
	250	500		628	IMS20628	SIMSN450010	SIMSN450011	SIMSN450020	SIMSN450021
250	300	600	800	775	IMS20775	SIMSN460010	SIMSN460011	SIMSN460020	SIMSN460021
300	350	700	900	897	IMS20897	SIMSN470010	SIMSN470011	SIMSN470020	SIMSN470021
	400	800		1153	IMS21153	SIMSN480010	SIMSN480011	SIMSN480020	SIMSN480021

ND = Normal Duty verify the motor amps. Then select the starter amps to be equal or greater then motor amps.
IMS2018 to 1574, 300% starting current with a maximum 10 second start time that requires 360 seconds between starts.

IMS2 series (HEAVY DUTY RATINGS & ORDER GUIDE)

IMS2 Heavy Duty 450% HP					Module	NEMA 1 Fan & Filtered without Bypass		NEMA 12 with Bypass	
208V (8)	230V (2)	460V (4)	575V (5)	HD Amps		w/o CB	w/ CB	w/ Bypass	w/ CB
Model Number	Order Code String (4)	Order Code String (4)	Order Code String (4)	Order Code String (4)					
3	3	7.5	10	12	IMS20018	SIMSH407P510	SIMSH407P511	SIMSH407P520	SIMSH407P521
5	5	10	15	24	IMS20034	SIMSH401010	SIMSH401011	SIMSH401020	SIMSH401021
	7.5	15	20	24	IMS20034	SIMSH401510	SIMSH401511	SIMSH401520	SIMSH401521
7.5	10	20	25	28	IMS20041	SIMSH402010	SIMSH402011	SIMSH402020	SIMSH402021
10		25	30	33	IMS20047	SIMSH402510	SIMSH402511	SIMSH402520	SIMSH402521
	15	30	40	46	IMS20067	SIMSH403010	SIMSH403011	SIMSH403020	SIMSH403021
15	20	40	50	59	IMS20088	SIMSH404010	SIMSH404011	SIMSH404020	SIMSH404021
25	25	50		84	IMS20125	SIMSH405010	SIMSH405011	SIMSH405020	SIMSH405021
	30	60	75	84	IMS20125	SIMSH406010	SIMSH406011	SIMSH406020	SIMSH406021
		75	100	135	IMS20202	SIMSH407510	SIMSH407511	SIMSH407520	SIMSH407521
40	50	100	125	135	IMS20202	SIMSH410010	SIMSH410011	SIMSH410020	SIMSH410021
50	60	125	150	160	IMS20238	SIMSH412510	SIMSH412511	SIMSH412520	SIMSH412521
60	75	150	200	205	IMS20302	SIMSH415010	SIMSH415011	SIMSH415020	SIMSH415021
100	100	200	250	274	IMS20405	SIMSH420010	SIMSH420011	SIMSH420020	SIMSH420021
	125	250	350	342	IMS20513	SIMSH425010	SIMSH425011	SIMSH425020	SIMSH425021
125	150	300	400	392	IMS20585	SIMSH430010	SIMSH430011	SIMSH430020	SIMSH430021
150		350	450	424	IMS20628	SIMSH435010	SIMSH435011	SIMSH435020	SIMSH435021
	200	400	500	521	IMS20775	SIMSH440010	SIMSH440011	SIMSH440020	SIMSH440021
		450		521	IMS20775	SIMSH445010	SIMSH445011	SIMSH445020	SIMSH445021
200	250	500	600	604	IMS20897	SIMSH450010	SIMSH450011	SIMSH450020	SIMSH450021
250	300	600	800	791	IMS21153	SIMSH460010	SIMSH460011	SIMSH460020	SIMSH460021
300	350	700	900	970	IMS21403	SIMSH470010	SIMSH470011	SIMSH470020	SIMSH470021
350	400	800		970	IMS21403	SIMSH480010	SIMSH480011	SIMSH480020	SIMSH480021

HD = Heavy Duty (Conveyor Application) verify the motor amps. Then select the starter amps to be equal or greater then motor amps.
IMS2018 to 1574, 450% starting current with a maximum 30 second start time that requires 360 seconds between starts.

Numbers in () are the voltage code suffix also used in 6th digit of the package order string.

COMBINATION PACKAGED STARTERS continued

EMX3 series (NORMAL DUTY RATINGS & ORDER GUIDE)

EMX3 Normal Duty 300% HP					Module	NEMA 1 Fan & Filtered without Bypass		NEMA 12 with Bypass			
208V (8)	230V (2)	460V (4)	575V (5)	ND Amps	Model Number	Order Code String (4)	Order Code String (4)	w/ Bypass String (4)	w/ CB Order Code String (4)		
5	7.5	15	20	23	EMX30023B	The standard enclosure offering for this product range with the bypass contactor built into the starter is NEMA- 4/12.		SEMXXN401520	SEMXXN401521		
	10	20	25	43	EMX30043B			SEMXXN402020	SEMXXN402021		
10		25	30	43	EMX30043B			SEMXXN402520	SEMXXN402521		
	15	30	40	43	EMX30043B			SEMXXN403020	SEMXXN403021		
15	20	40	50	53	EMX30053B			SEMXXN404020	SEMXXN404021		
	25	50	60	76	EMX30076B			SEMXXN405020	SEMXXN405021		
25		60	75	76	EMX30076B			SEMXXN406020	SEMXXN406021		
30	30	75	100	97	EMX30097B			SEMXXN407520	SEMXXN407521		
	50	100	125	170	EMX30170B			SEMXXN410020	SEMXXN410021		
60	60	125	150	170	EMX30170B			SEMXXN412520	SEMXXN412521		
75	75	150	200	220	EMX30220B			SEMXXN415020	SEMXXN415021		
	100	200	250	255	EMX30255C			SEMXXN420010	SEMXXN420011	SEMXXN420020	SEMXXN420021
		250	300	360	EMX30360C			SEMXXN425010	SEMXXN425011	SEMXXN425020	SEMXXN425021
125	150	300	350	360	EMX30360C			SEMXXN430010	SEMXXN430011	SEMXXN430020	SEMXXN430021
150		350	450	430	EMX30430C			SEMXXN435010	SEMXXN435011	SEMXXN435020	SEMXXN435021
200		400	500	620	EMX30620C			SEMXXN440010	SEMXXN440011	SEMXXN440020	SEMXXN440021
		450	620	620	EMX30620C			SEMXXN445010	SEMXXN445011	SEMXXN445020	SEMXXN445021
	250	500	600	620	EMX30620C			SEMXXN450010	SEMXXN450011	SEMXXN450020	SEMXXN450021
250	300	600	800	790	EMX30790C			SEMXXN460010	SEMXXN460011	SEMXXN460020	SEMXXN460021
300	350	700	900	930	EMX30930C			SEMXXN470010	SEMXXN470011	SEMXXN470020	SEMXXN470021
400	500	800		1200	EMX31200C	SEMXXN480010	SEMXXN480011	SEMXXN480020	SEMXXN480021		

ND = Normal Duty verify the motor amps. Then select the starter amps to be equal or greater than motor amps.
 EMX30023B to 53B, 300% starting current with a maximum 10 second start time that requires 350 seconds between starts.
 EMX30076B to 220B has 590 seconds between starts.
 EMX30255C to 1600C, 300% starting current with a maximum 10 second start time that requires 360 seconds between starts.

EMX3 series (HEAVY DUTY RATINGS & ORDER GUIDE)

EMX3 Heavy Duty 450% HP					Module	NEMA 1 Fan & Filtered w/o Bypass		NEMA 12 w/ Bypass			
208V (8)	230V (2)	460V (4)	575V (5)	HD Amps	Model Number	Order Code String (4)	Order Code String (4)	Order Code String (4)	Order Code String (4)		
3	5	10	10	15	EMX30023B	The standard enclosure offering for this product range with the bypass contactor built into the starter is NEMA- 4/12.		SEMXXH401020	SEMXXH401021		
5	7.5	15	15	29	EMX30043B			SEMXXH401520	SEMXXH401521		
7.5	10	20	25	29	EMX30043B			SEMXXH402020	SEMXXH402021		
10		25	30	37	EMX30053B			SEMXXH402520	SEMXXH402521		
		30		37	EMX30053B			SEMXXH403020	SEMXXH403021		
	20	40	50	58	EMX30097B			SEMXXH404020	SEMXXH404021		
	25	50	60	78	EMX30105B			SEMXXH405020	SEMXXH405021		
25		60	75	78	EMX30105B			SEMXXH406020	SEMXXH406021		
30	30	75	100	97	EMX30170B			SEMXXH407520	SEMXXH407521		
50	50	100	150	148	EMX30220B			SEMXXH410020	SEMXXH410021		
60	60	125		171	EMX30255C			SEMXXH412510	SEMXXH412511	SEMXXH412520	SEMXXH412521
	75	150	200	259	EMX30360C			SEMXXH415010	SEMXXH415011	SEMXXH415020	SEMXXH415021
75	100	200	250	259	EMX30360C			SEMXXH420010	SEMXXH420011	SEMXXH420020	SEMXXH420021
100		250	300	301	EMX30430C			SEMXXH425010	SEMXXH425011	SEMXXH425020	SEMXXH425021
125	125	300	400	419	EMX30620C			SEMXXH430010	SEMXXH430011	SEMXXH430020	SEMXXH430021
150	150	350	450	419	EMX30620C			SEMXXH435010	SEMXXH435011	SEMXXH435020	SEMXXH435021
200	200	400		567	EMX30790C			SEMXXH440010	SEMXXH440011	SEMXXH440020	SEMXXH440021
		450		567	EMX30790C			SEMXXH445010	SEMXXH445011	SEMXXH445020	SEMXXH445021
	250	500	600	644	EMX30930C			SEMXXH450010	SEMXXH450011	SEMXXH450020	SEMXXH450021
300	300	600	700	983	EMX31200C			SEMXXH460010	SEMXXH460011	SEMXXH460020	SEMXXH460021
350	350	700	800	983	EMX31200C	SEMXXH470010	SEMXXH470011	SEMXXH470020	SEMXXH470021		
400	400	800	900	983	EMX31200C	SEMXXH480010	SEMXXH480011	SEMXXH480020	SEMXXH480021		

HD = Heavy Duty (Conveyor Application) verify the motor amps. Then select the starter amps to be equal or greater than motor amps.
 EMX30023B to 53B, 450% starting current with a maximum 30 second start time that requires 330 seconds between starts.
 EMX30076B to 220B has 570 seconds between starts.
 EMX30255C to 1600C, 450% starting current with a maximum 30 second start time that requires 360 seconds between starts.

Numbers in () are the voltage code suffix also used in 6th digit of the package order string.

Consult Factory for higher HP range and Input Voltage.

Soft Starters

CRUSHER DUTY STARTERS

Applications: Compressor (Reciprocating type), Conveyors, Mixer, Hammer Mill, Palletizer, Separator, Shredder, Bandsaw, Chipper Sander, Agitator, Rock Crusher.

IMS2 series CRUSHER DUTY (HEAVY DUTY RATINGS & ORDER GUIDE)

IMS2 Heavy Duty 450% HP					Module	NEMA 12
208V (8)	230V (2)	460V (4)	575V (5)	HD Amps	Model Number	Order Code String (4)
3	3	7.5	5-10	12	IMS20018	SIMSH47P521-ABR
5	5	10	15	24	IMS20034	SIMSH401021-ABR
	7.5	15	20	24	IMS20034	SIMSH401521-ABR
7.5	10	20	25	28	IMS20041	SIMSH402021-ABR
10		25	30	33	IMS20047	SIMSH402521-ABR
	15	30	40	46	IMS20067	SIMSH403021-ABR
15	20	40	50	59	IMS20088	SIMSH404021-ABR
25	25	50		84	IMS20125	SIMSH405021-ABR
	30	60	75	84	IMS20125	SIMSH406021-ABR
		75	100	135	IMS20202	SIMSH407521-ABR
40	40-50	100	125	135	IMS20202	SIMSH410021-ABR
50	60	125	150	160	IMS20238	SIMSH412521-ABR
60	75	150	200	205	IMS20302	SIMSH415021-ABR
75-100	100	200	250	274	IMS20405	SIMSH420021-ABR
	125	250	300-350	342	IMS20513	SIMSH425021-ABR
125	150	300	400	392	IMS20585	SIMSH430021-ABR
150		350	450	424	IMS20628	SIMSH435021-ABR
	200	400	500	521	IMS20775	SIMSH440021-ABR
		450		521	IMS20775	SIMSH445021-ABR
200	250	500	600	604	IMS20897	SIMSH450021-ABR
250	300	600	700-800	791	IMS21153	SIMSH460021-ABR
300	350	700	900	970	IMS21403	SIMSH470021-ABR
350	400	800		970	IMS21403	SIMSH480021-ABR

Soft Starters

EMX3 series CRUSHER DUTY (HEAVY DUTY RATINGS & ORDER GUIDE)

EMX3 Heavy Duty 450% HP					Module	NEMA 12
208V (8)	230V (2)	460V (4)	575V (5)	HD Amps	Model Number	Order Code String (4)
3	5	10	10	15	EMX30023B	SEMXXH401021-ABR
5	7.5	15	15	29	EMX30043B	SEMXXH401521-ABR
7.5	10	20	25	29	EMX30043B	SEMXXH402021-ABR
10		25	30	37	EMX30053B	SEMXXH402521-ABR
		30		37	EMX30053B	SEMXXH403021-ABR
	20	40	50	58	EMX30097B	SEMXXH404021-ABR
	25	50	60	78	EMX30105B	SEMXXH405021-ABR
25		60	75	78	EMX30105B	SEMXXH406021-ABR
30	30	75	100	97	EMX30170B	SEMXXH407521-ABR
50	50	100	150	148	EMX30220B	SEMXXH410021-ABR
60	60	125		171	EMX30255C	SEMXXH412521-ABR
	75	150	200	259	EMX30360C	SEMXXH415021-ABR
75	100	200	250	259	EMX30360C	SEMXXH420021-ABR
100		250	300	301	EMX30430C	SEMXXH425021-ABR
125	125	300	400	419	EMX30620C	SEMXXH430021-ABR
150	150	350	450	419	EMX30620C	SEMXXH435021-ABR
200	200	400		567	EMX30790C	SEMXXH440021-ABR
		450	500	567	EMX30790C	SEMXXH445021-ABR
	250	500	600	644	EMX30930C	SEMXXH450021-ABR
300	300	600	700	983	EMX31200C	SEMXXH460021-ABR
350	350	700	800	983	EMX31200C	SEMXXH470021-ABR
	400	800	900	983	EMX31200C	SEMXXH480021-ABR

Numbers in () are the voltage code suffix also used in 6th digit of the package order string.

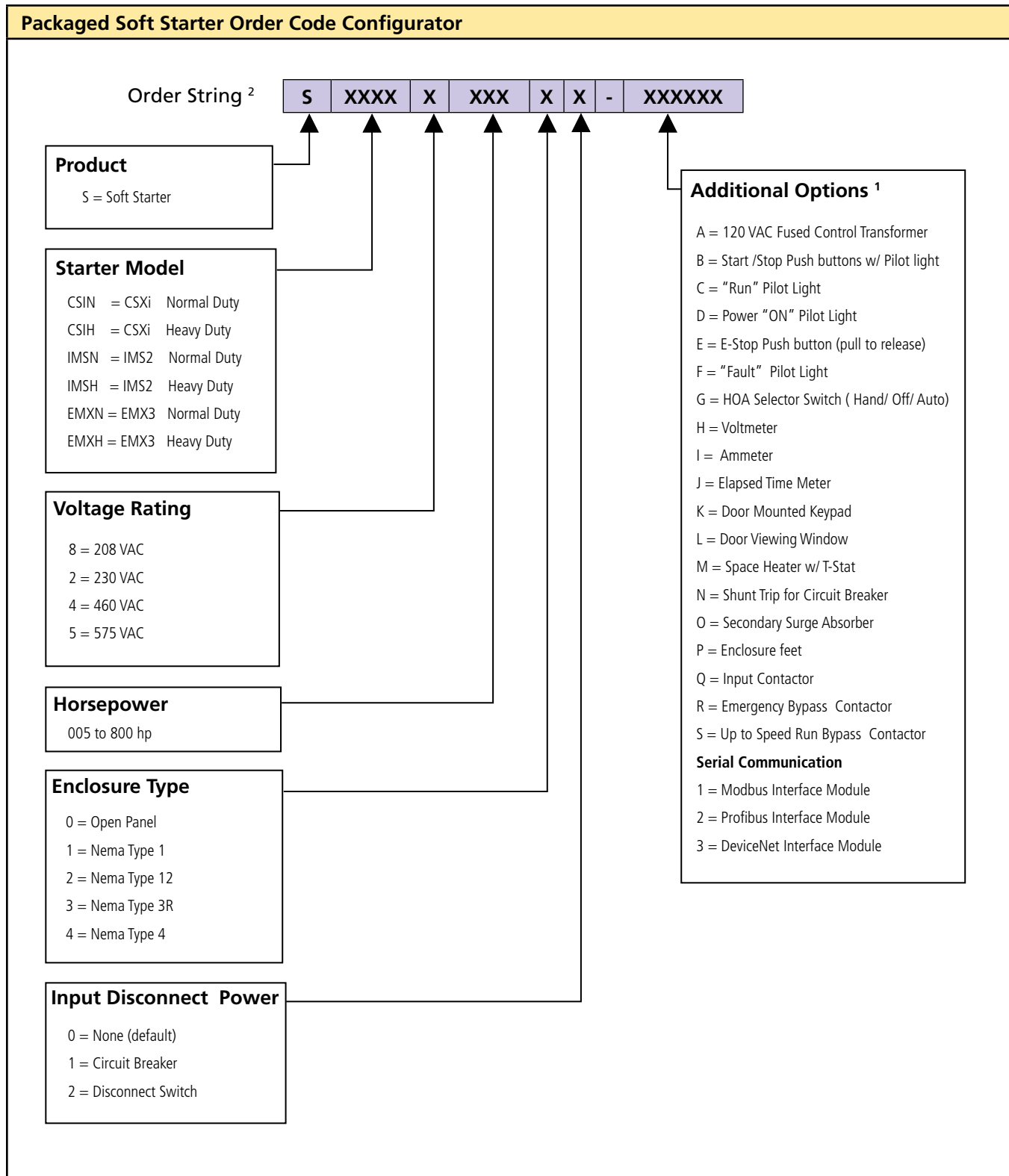
HD = Heavy Duty (Conveyor Application) verify the motor amps. Then select the starter amps to be equal or greater than motor amps.

IMS2018 to 1574, 450% starting current with a maximum 30 second start time that requires 360 seconds between starts.

EMX30023B to 53B, 450% starting current with a maximum 30 second start time that requires 330 seconds between starts.

EMX30076B to 220B has 570 seconds between starts.

EMX30255C to 1600C, 450% starting current with a maximum 30 second start time that requires 360 seconds between starts.



1) E-Stop PB, option E, requires the circuit breaker with a shunt trip to provide isolation between the starter and the motor. Consult Factory for options not listed in the Order Code Configurator.
 2) Order string requires 11 character to make up a packaged Order Code.

OPTIONS

Option: Description for the package starter order string

Order Code	Enclosure Description
0	Open Panel: Module mounted on an open chassis panel with additional space for input power option. Open panel without a run bypass contactor requires 4.5 Watts multiplied by motor amps to be dissipated by others. Add the suffix S in the order string.
1	NEMA Type 1: Enclosure is fan and filtered. This option is not available when there is an internal at speed run bypass contactor built into the soft starter. NEMA 1 is available on all IMS2 and the EMX30255C to 1600C modules.
2	NEMA Type 12: Enclosure is (TENV) includes internal or external at speed run bypass contactor.
3	NEMA Type 3R: Enclosure is (TENV) includes internal or external at speed run bypass contactor.
4	NEMA Type 4: Enclosure is (TENV) includes internal or external at speed run bypass contactor.

Input Disconnect Power:

Order Code	Input Power Disconnect Description
0	No Circuit Breaker. (end user is responsible for branch circuit protection)
1	Circuit Breaker (C/B) with through-the-door handle, thermal-magnetic overload protection.
2	Non-Fused Disconnect Switch (NFD) with through-the-door handle. Semiconductor input fusing is included in all the starter packages.

Additional Options:

Option Code	Option Description
A	Control Power Transformer with primary & secondary fusing to provide 120 VAC control supply
B	Start / Stop Lighted Push button with Run Indication
C	"Run" Pilot Light
D	"Power On" Pilot Light
E	Emergency Stop Push button (Pull to Release)
F	"Fault" Pilot Light
G	Hand / Off / Auto Selector Switch
H	AC Voltmeter with Fusing to monitor the voltage in one phase
I	AC Ammeter including Current Transformer to monitor the current in one phase
J	Elapsed Time Meter
K	Door Mounted Keypad
L	Viewing window in door for viewing of keypad inside enclosure.
M	Provides 60 Watt space heater and thermostat to protect against condensation in low temperature non-ventilated applications when starter is not used for long periods.
N	Shunt trip is interlocked with the starter fault contact and overload to automatically trip the circuit breaker and remove power from starter, in the event of a fault. This option only available with a combination starter with circuit breaker.
O	Secondary Surge Absorber, in addition to standard MOV's. Connected to starter inputs to provide a degree of protection against line side transients
P	Enclosure Feet, adds 12" to height of enclosure.
Q	Input Contactor is interlocked with starter to completely isolate starter and motor from line voltage each time the stop circuit is activated. This prevents power line voltage transients from degrading the MOV protection. May affect enclosure size.
R	Emergency Bypass circuit allows full voltage starting in event of soft starter failure. Includes bimetal thermo class 20 overload to protect motor across the line mode. Panel mounted selector switch for soft start / across the line start mode. Only available with the Bypass option for the IMS2 & EMX3 Models
S	Open panel with a speed run bypass contactor.

Serial Communications

Option Code	Serial Communications option Descriptions
1	Modbus Communications Interface Module CSXi, & EMX3 packages
2	Profibus-DP Communications Interface Module CSXi, & EMX3 packages
3	DeviceNet Communications Interface Module CSXi, IMS2 & EMX3 packages

Accessories

CSX & CSXi Models	Model Number	Order Code
Remote Keypad Kit Includes (RCM01) & (PIM-RZ-01)	PIM-RO-01	870-1343
RS485 Serial Interface Module	PIM-RZ-01	870-1344
Remote Keypad	RCM01	870-1345
Pump Application Interface Module	PIM-PA-01	870-1383

EMX3 Models	Model Number	Order Code
Remote Keypad Kit	995-04939-00	870-1346
I/O Expansion Card	995-04803-00	870-1347
RTD/Ground Fault Expansion Card	995-04804-00	870-1348
Finger Guard Kit for the EMX30145 to 0220B only. (prevents accidental contact with live terminals)	995-06348-00	870-1349

IMS2 Models	Model Number	Order Code
Remote Keypad Kit	RCM01	870-1380

Serial Communications

CSX & CSXi & EMX3 Models	Model Number	Order Code
Modbus Interface Module	PIM-MB-01	870-1340
Profibus Interface Module	PIM-PB-01	870-1341
DeviceNet Interface Module	PIM-DN-01	870-1342

IMS2 Models	Model Number	Order Code
DeviceNet Interface Module	DCM01	870-1382

Note: IMS2 Models - Modbus Communications in AP ASCII, Modbus RTU and Modbus ASCII protocols are standard.

Dimensions & Weights (approximate)

CSX/CSXi Module			NEMA 4/12		NEMA 4/12 & CB	
Model # CSX CSXi	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)
7	8 x 4 x 7	5	20 x 16 x 12	70	20 x 16 x 12	85
15						
18						
22						
30						
37	9 x 6 x 8	9	24 x 20 x 12	102	24 x 20 x 12	125
45						
55						
75	10 x 8 x 9	14	24 x 20 x 12	102	24 x 20 x 12	125
90						
110						

Dimensions & Weights (approximate)

IMS2 Module			NEMA 1		NEMA 1 & CB or NEMA 4/12 Bypass		NEMA 4/12 & CB or Crusher Duty	
Model #	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)
IMS20018	15 x 8 x 7	14	24 x 20 x 12	80	24 x 20 x 12	110	30 x 24 x 12	120
IMS20034								
IMS20041								
IMS20047								
IMS20067	15 x 8 x 10	27	30 x 24 x 12	95	30 x 24 x 12	160	30 x 24 x 12	160
IMS20088								
IMS20096								
IMS20125								
IMS20141	17 x 11 x 11	40	30 x 24 x 12	180	36 x 30 x 16	200	36 x 30 x 16	180
IMS20202								
IMS20238								
IMS20253								
IMS20302	28 x 17 x 12	84	36 x 30 x 16	220	48 x 36 x 16	500	48 x 36 x 16	550
IMS20405		111						
IMS20513		117	48 x 36 x 16	275	60 x 36 x 16	800	60 x 36 x 16	800
IMS20585								
IMS20628	34 x 23 x 14	267	72 x 36 x 18	550	90 x 36 x 24	1100	90 x 36 x 24	1100
IMS20775								
IMS20897								
IMS21153								
IMS21403	34 x 23 x 14	267	72 x 36 x 18	550	90 x 36 x 24	1100	90 x 36 x 24	1100
IMS21574								

Soft Starters

EMX3 Module			NEMA 1		NEMA 1 & CB or NEMA 12		NEMA 4/12 & CB or Crusher Duty	
Model #	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)	Dimension H x W x D (in)	Weight (lbs)
EMX30023B	12 x 7 x 8	8	24 x 20 x 12	80	24 x 20 x 12	100	30 x 24 x 12	120
EMX30043B								
EMX30053B								
EMX30076B								
EMX30097B	12 x 7 x 9	11	30 x 24 x 12	160	30 x 24 x 12	160	30 x 24 x 12	160
EMX30105B								
EMX30170B	18 x 12 x 10	36	30 x 24 x 12	180	36 x 30 x 16	200	36 x 30 x 16	180
EMX30220B								
EMX30255C	17 x 16 x 11	56	36 x 30 x 16	220	36 x 30 x 16	200	36 x 30 x 16	180
EMX30360C	22 x 17 x 12	112	48 x 36 x 16	275	48 x 36 x 16	500	48 x 36 x 16	550
EMX30430C								
EMX30620C								
EMX30790C								
EMX30930C	30 x 23 x 15	300	72 x 36 x 18	550	90 x 36 x 24	1100	90 x 36 x 24	1100
EMX31200C								
EMX31410C	30 x 23 x 15	300	72 x 36 x 18	550	90 x 36 x 24	1100	90 x 36 x 24	1100
EMX31600C								