



# IMS2

## Flexible Digital Solid State Soft Starter

The IMS2 series advanced starter offers a total motor starting solution, combining high level functionality with flexibility and ease of use. This universal source matched starter can accommodate 200-690VAC 3-phase input supply and is available up to 1500 hp at 575VAC. IMS2 starter input and output power termination bus bars are field configurable by the installer (Top-Top, Top, Bottom, etc.) to suit the wiring requirements at site.



- **Universal Input Voltage (208 to 690VAC, 45 to 66Hz)**
- **Built-In Motor protection**
- **4 wire start stop control**
- **Local/Remote Reset**
- **Numeric Keypad Display**
- **Flexible bus bar configuration**
- **Modbus, Profibus and DeviceNet Options**
- **Remote Operator Option**
- **Bypass Contactor Option**
- **Constant Current/Ramp/Torque Start**

The IMS2 series starters are available in Panel Mount, NEMA 1, NEMA 3R, NEMA 4, NEMA 12 enclosures. Ratings & order codes are shown for NEMA 1 & NEMA 12 only. For other configurations consult factory.

Soft Starters

## IMS2 4•1 Crusher Duty

Additionally, the IMS2 Soft Starter series is also available in a packaged solution. The IMS2 4•1 Crusher Duty is a pre-engineered enclosed soft starter packaged solution based on the IMS2 Soft Starter. The IMS2 Crusher Duty includes the proven power section with the latest in digital technology to provide ease of set-up and reliability needed in this demanding application.



In addition to the rugged durability of the power components, the IMS2 4•1 Crusher Duty package includes the following standard features:

- **NEMA 12 (TENV) enclosure**
- **Circuit breaker with door operator**
- **Full horsepower rated bypass contactor**
- **Emergency start switch (located on the panel to select soft start or across the-line starting method)**
- **120VAC control power supply**
- **Class 20 thermal overload for the emergency bypass starting**
- **Highest PIV rated SCR's in the industry with MOV surge protection**
- **Start/Stop push-buttons on the enclosure door**
- **Run pilot light on the door**
- **Terminal strip mounted on panel for remote connections**
- **Overload Capacity 450% for 30 sec.**
- **Universal Source Matching**
- **Torque Control**
- **Serial Communication (Optional)**
- **0-10V or 4-20mA Process Output**





**IMS2 (NORMAL DUTY RATINGS & ORDER GUIDE)**

Normal Duty HP Voltage Code					ND Amps	Model Number	Module Only	NEMA 1 Fan & Filtered Packages		NEMA 12 Packages	
1 208V	2 230V	4 460V	5 575V	Order Code			Order Code (30Fvhhh11)*	with C/B Order Code (30Fvhhh11)*	with Bypass Order Code (30Fvhhh20)*	with C/B & Bypass Order Code (30Fvhhh21)*	
5	5	10	15	18	IMS20018	870-1350	30F401010	30F401011	30F401020	30F401021	
10	10	25	30	34	IMS20034	870-1351	30F402510	30F402511	30F402520	30F402521	
		30	40	41	IMS20041	870-1352	30F403010	30F403011	30F403020	30F403021	
15	15			47	IMS20047	870-1353	30F201510	30F201511	30F201520	30F201521	
20	20	50	60	67	IMS20067	870-1354	30F405010	30F405011	30F405020	30F405021	
30	30	60	75	88	IMS20088	870-1355	30F406010	30F406011	30F406020	30F406021	
		75		96	IMS20096	870-1356	30F407510	30F407511	30F407520	30F407521	
40	40	100	125	125	IMS20125	870-1357	30F410010	30F410011	30F410020	30F410021	
	50			141	IMS20141	870-1358	30F205010	30F205011	30F205020	30F205021	
60	75	150	200	202	IMS20202	870-1359	30F415010	30F415011	30F415020	30F415021	
75				238	IMS20238	870-1360	30F107510	30F107511	30F107520	30F107521	
	100	200	250	253	IMS20253	870-1361	30F420010	30F420011	30F420020	30F420021	
100		250	300	302	IMS20302	870-1362	30F425010	30F425011	30F425020	30F425021	
150	150	300	400	405	IMS20405	870-1363	30F430010	30F430011	30F430020	30F430021	
	200	400	500	513	IMS20513	870-1364	30F440010	30F440011	30F440020	30F440021	
200		450	600	585	IMS20585	870-1365	30F445010	30F445011	30F445020	30F445021	
	250	500		628	IMS20628	870-1366	30F450010	30F450011	30F450020	30F450021	
250	300	600	800	775	IMS20775	870-1367	30F460010	30F460011	30F460020	30F460021	
300	350	700	900	897	IMS20897	870-1368	30F470010	30F470011			
400	450	900	1100	1153	IMS21153	870-1369	30F490010				
500		1100	1400	1403	IMS21403	870-1370	30F4110010				
	600	1300	1500	1574	IMS21574	870-1371	30F4130010				

Call Factory for Quote

**ND = Normal Duty (Fan/Pump Application)**

Without bypass contactor = 300% / 10 sec., 350 Sec., between starts with a limit of 10 starts per hour.  
With bypass contactor = 300% / 10 sec., 350 Sec., between starts.

**IMS2 (HEAVY DUTY RATINGS & ORDER GUIDE)**

Heavy Duty HP Voltage Code					HD Amps	Model Number	Module Only	NEMA 1 Fan & Filtered Packages		NEMA 12 Packages		IMS 2•4•1 Crusher Duty
1 208V	2 230V	4 460V	5 575V	Order Code			Order Code (30Hvhhh10)*	with C/B Order Code (30Hvhhh11)*	with Bypass Order Code (30Hvhhh20)*	with C/B & Bypass Order Code (30Hvhhh21)*	with C/B & Bypass Order Code (30Hvhhh21ABEE)*	
3	3	7.5	10	12	IMS20018	870-1350	30H47P510	30H47P511	30H47P520	30H47P521	30H47P521ABEE	
5	7.5	15	20	24	IMS20034	870-1351	30H401510	30H401511	30H401520	30H401521	30H401521ABEE	
	10	20	25	28	IMS20041	870-1352	30H402010	30H402011	30H402020	30H402021	30H402021ABEE	
10			30	33	IMS20047	870-1353	30H101010	30H101011	30H101020	30H101021	30H101021ABEE	
	15	30	40	46	IMS20067	870-1354	30H403010	30H404011	30H404020	30H404021	30H404021ABEE	
15	20	40	50	59	IMS20088	870-1355	30H404010	30H404011	30H404020	30H404021	30H404021ABEE	
20			60	64	IMS20096	870-1356	30H102010	30H102011	30H102020	30H102021	30H102021ABEE	
25	30	60	75	84	IMS20125	870-1357	30H406010	30H406011	30H406020	30H406021	30H406021ABEE	
30				94	IMS20141	870-1358	30H103010	30H103011	30H103020	30H103021	30H103021ABEE	
40	50	100	125	135	IMS20202	870-1359	30H410010	30H410011	30H410020	30H410021	30H410021ABEE	
50	60	125	150	160	IMS20238	870-1360	30H412510	30H412511	30H412520	30H412521	30H412521ABEE	
				167	IMS20253	870-1361						
60	75	150	200	205	IMS20302	870-1362	30H415010	30H415011	30H415020	30H415021	30H415021ABEE	
100	100	200	250	274	IMS20405	870-1363	30H420010	30H420011	30H420020	30H420021	30H420021ABEE	
	125	250	350	342	IMS20513	870-1364	30H425010	30H425011	30H425020	30H425021	30H425021ABEE	
125	150	300	400	392	IMS20585	870-1365	30H430010	30H430011	30H430020	30H430021	30H430021ABEE	
150		350	450	424	IMS20628	870-1366	30H435010	30H435011	30H435020	30H435021	30H435021ABEE	
	200	450		521	IMS20775	870-1367	30H445010	30H445011	30H445020	30H445021	30H445021ABEE	
200	250	500	600	604	IMS20897	870-1368	30H450010	30H450011	30H450020	30H450021	30H450021ABEE	
250	300	600	800	791	IMS21153	870-1369	30H460010	30H460011	30H460020	30H460021	30H460021ABEE	
350	400	800	1000	970	IMS21403	870-1370	30H480010					
400	450	900	1100	1091	IMS21574	870-1371	30H490010					

Call Factory for Quote

**HD = Heavy Duty (Conveyor Application)**

Without bypass contactor = 450% / 30 sec., 350 Sec., between starts with a limit of 10 starts per hour.  
With bypass contactor = 450% / 10 sec., 330 Sec., between starts.

\* Choose appropriate voltage code "v" when ordering packaged starters. Most order codes shown are for 460V units.  
Choices are (1=208V, 2=230V, 4=460V, 5=575V). Code hhh=horsepower.

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### IMS2 WEIGHTS & DIMENSIONS (Module, Chassis & NEMA 12)

Model Number	Module Only		NEMA 1		NEMA 1 C/B or NEMA 12 Bypass		NEMA 12 C/B & BP Including Crusher Duty	
	Dimensions HxWxD (in)	Weight (lbs)	Dimensions HxWxD (in)	Weight (lbs)	Dimensions HxWxD (in)	Weight (lbs)	Dimensions HxWxD (in)	Weight (lbs)
IMS20018 to 0047	15 x 7.3 x 7	13.2	24 x 20 x 12	80	24 x 20 x 12	110	30 x 24 x 12	120
IMS20067 to 0125	15 x 7.3 x 10	27			30 x 24 x 12	160		
IMS20141 to 0238	16.75 x 10.7 x 11	40	30 x 24 x 12	180	36 x 30 x 16	200	36 x 30 x 16	180
IMS20253	16.75 x 15.4 x 11	50.6						
IMS20302 to 0405	27.2 x 17 x 11.6	84	36 x 30 x 16	220	48 x 36 x 16	500	48 x 36 x 16	550
IMS20513 to 0585	27.2 x 17 x 11.6	111						
IMS20628 to 0897	27.2 x 17 x 11.6	117	48 x 36 x 16	275	60 x 36 x 16	800	60 x 36 x 16	800
IMS201153 to 1574	33.3 x 22.6 x 14	267						

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### IMS2 MODULE SPECIFICATIONS:

#### Operating Conditions

Horsepower	3 thru 1500 hp
Current range	12A-1574A (nominal)
Line Voltage	3 hp, 200 - 690VAC
Supply Frequency (at start)	50Hz (±2%) or 60Hz (±2%)
Supply Frequency (during start)	> 45Hz (50Hz supply) or > 55Hz (60 Hz supply)
Supply Frequency (during run)	> 48Hz (50Hz supply) or > 58Hz (60 Hz supply)
Control Voltage	110 VAC (+10% / -15%) or 230 VAC (+10% / -15%)
Enclosure	IP00 (302-1574A), Open Chassis IP42 (18-253A), NEMA 2
Ambient Temperature	-5 – 60°C (23°F - 140°F) (Operating)
Altitude	1000m (3,300 ft)
Relative Humidity	5% to 95% Non-condensing
Overload Capacity	See Ratings Table

#### Standard Features

Rated Short Circuit current	100KA (with semiconductor fuses)
Rated Insulation Voltage	690V
Surges	2 KV line to earth, 1 KV line to line
Fast Transients	2KV / 5 KHz
Form Designation	Form 1
Electrostatic Discharge	4KV contact discharge, 8KV air discharge
Equipment Class (EMC)	Class A
Radio Frequency EM Field	0.15 MHz – 80 MHz; 140dBµV; 80MHz - 1GHz: 10V/m
Pollution Degree	Pollution Degree 3

#### Inputs

Voltage Active 24VDC, 8 mA, approx.

#### Outputs

Relay Outputs	5A @ 250VAC / 360VS, 5A @ 30VDC resistive
Analog Output (B10, B11)	4-20mA

#### Approvals & Listings

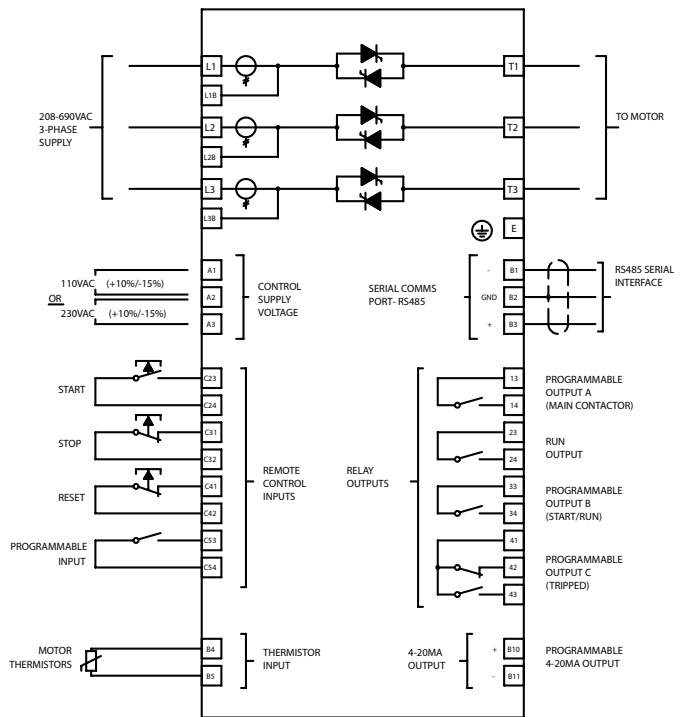
CE	IEC 60947-4-2
UL & CUL	UL 508A (size dependant)
✓	IEC 60947-4-2

### IMS2 COMMUNICATIONS OPTIONS

Description	Model Number	Order Code
Remote Keypad Kit (remote operator & Serial Interface Module)	PIM-RO-01	870-1343
Modbus Interface Module	PIM-MB-01	870-1340
Profibus Interface Module	PIM-PB-01	870-1341
DeviceNet Interface Module	PIM-DN-01	870-1342
RS-485 Serial Interface Module.	PIM-RZ-01	870-1344

**Note:** Series Communications Modules to be ordered as a separate line item and is shipped loose.

### IMS2 WIRING DIAGRAM:



**Please Consult the Factory for special CustomPak & Soft Starter Solutions**

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