

IMS₂ SOFT STARTER

AuCom
THE SOFT START SPECIALISTS



IMS₂ SOFT STARTER

AuCom's IMS2 soft starters are a total motor starting solution, combining high-level functionality with ease of use:

- advanced soft start and soft stop control
- protection functions that operate even when bypassed
- numeric feedback display
- external input/outputs for remote management
- fully programmable auto-reset

The IMS2 offers a choice of soft start and soft stop profiles to ensure optimum control for all load types. The unique torque control system gives more linear acceleration than standard constant current, and a special pump control function reduces water hammer.

In addition to leading edge soft start and soft stop, the IMS2 incorporates advanced motor and load protection features. IMS2 minimises installation time and costs and ensures that motors can be operated with confidence.

Contact your local sales engineer to learn how an IMS2 soft starter can benefit your application today.

SIMPLE TO USE

In simple installations, commissioning requires only one function setting. For advanced applications, an extensive range of 67 functions makes the IMS2 suitable for nearly all motor starting and control requirements.

GREATER CONTROL

Optimum control of motor starting and stopping for all load types is ensured by the broad range of start and stop profiles provided by the IMS2. Four starting options are provided by the IMS2, including torque control. Torque control can be used to create a more linear acceleration than previously possible with constant current control.

IN-LINE OR INSIDE DELTA

IMS2 soft starters can be connected in in-line (3-wire) or inside delta (6-wire). Inside delta connection allows control of motors 50% larger than the standard rating, and also allows easy replacement of star/delta starters without changing existing motor wiring. The IMS2 will automatically detect and configure itself for inside delta operation.



The AuCom IMS2-0047 soft starter

**THE IMS2 IS A SELF-CONTAINED SOFT STARTER
REQUIRING ONLY ONE PARAMETER TO BE SET UP
FOR A QUICK COMMISSIONING.**



SUPERIOR PERFORMANCE



The IMS2 is available in a range of sizes.

BYPASS TERMINALS

Retain motor protection and monitoring functions even when the starter is bypassed. The IMS2 has special bypass power connection terminals (L1B, L2B, L3B).

PROTECTION RATINGS

Choose either IP42 or IP54 ratings for the IMS20018 ~ 0253. Larger IMS2 soft starters are rated IP00.

STOPPING MODES

As well as constant current the IMS2 provides three other stopping options. Complementing motor deceleration options is the IMS2's pump control feature to prevent water hammer.

SERIAL COMMUNICATIONS

The IMS2 has a non-isolated RS485 serial communication link as standard. The serial link uses Modbus and AP ASCII protocols to:

- control IMS2 operation
- query IMS2 status and operating data
- read (download) function values
- write (upload) function values

REMOTE CONTROL

The IMS2 has four remote control inputs to distance the unit and operator. You may wish to locate remote control buttons on the exterior of your enclosure for operator safety or use one of the communications options for computer control (AP ASCII, Modbus RTU and Modbus ASCII).

PROGRAMMABLE RELAY & ANALOG OUTPUTS

The IMS2 has four relay outputs (3 of which are programmable and one 4-20 mA analog output (also programmable)).

MOTOR THERMAL MODEL (OVERLOAD)

Calibrates the motor thermal model for the connected motor's thermal capacity. The Motor Thermal Capacity is defined as the length of time the motor can sustain Direct-On-Line current.

The motor thermal model operates at all times: starting, running, stopping, stopped. Being a true thermal model it eliminates the need for separate starts per hour limiters. Allows safe use of the motor's maximum capability for starting and riding through overloads.



EASY TO INSTALL

WALL MOUNTABLE

The soft starter's compact size and convenient wall hangers make installation of the IMS2 easy. The IMS2 is a stand-alone enclosed unit for a tidy installation. This saves you the normal costs associated with enclosing and ventilating the starter.



ALL INCLUSIVE

The IMS2 is a fully self-contained unit that removes the need for the following equipment:

- Start/Stop/Reset pushbuttons
- LCL/RMT selector
- Run indication/fault indication
- Cabinet and ventilation system
- Bypass contactor
- Electronic motor protection relay
- Thermistor relay
- Timer relay





PROGRAMMING

ONE STEP SET UP

Programming the IMS2 is incredibly easy. Simply program in the motor nameplate FLC and the starter will calculate all the current-based settings for starting and motor protection.

SECONDARY PARAMETER SET

The IMS2 can be programmed with two motor function sets. When input A functionality is set to 0, closing Input A will activate the IMS2 secondary motor settings. Some example applications include dual speed motors, soft braking, forward & reverse (using external contactors) or duty/stand by pump setup.

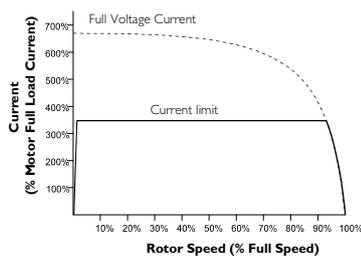
PROGRAMMABLE AUTO RESET

A fully programmable auto-reset function can be used to restart motors after user selected trip conditions. This is useful for remote installations because it avoids unnecessary site visits to reset trip states caused by temporary faults.

Programmed settings can be password protected, archived and loaded up.

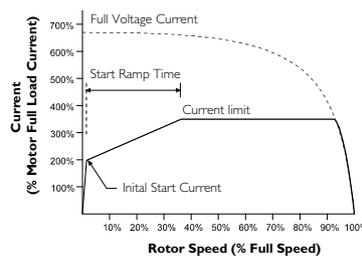


CURRENT LIMIT



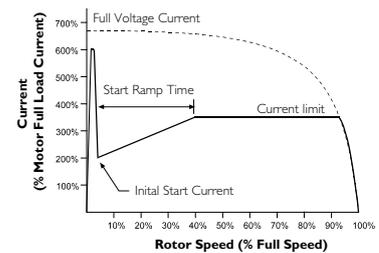
Suitable for most applications. Current is raised to the specified level and held for duration of the start.

CURRENT RAMP



Better for generator sets or if conditions may vary between starts.

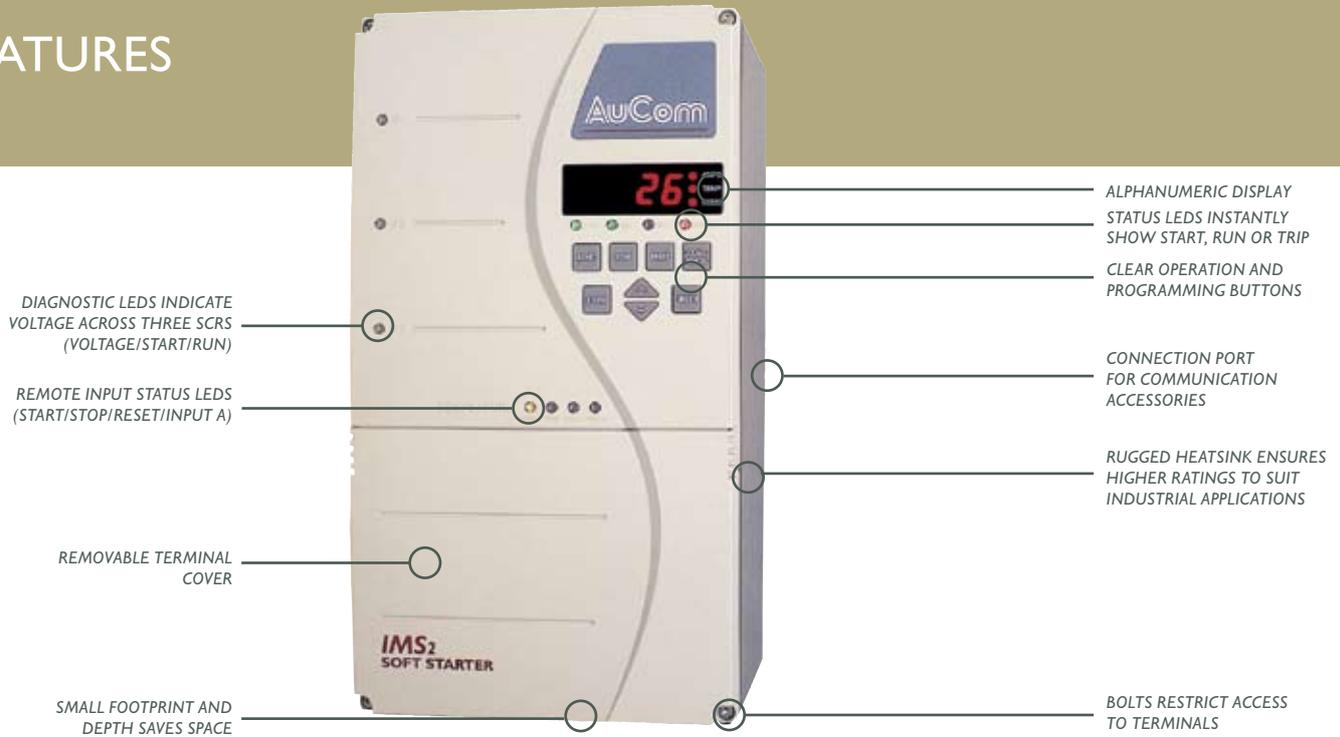
KICKSTART



Provides a short boost of torque at the beginning of the start.



FEATURES



STARTING

- Constant current mode
- Current ramp mode
- Torque control
- Kickstart

STOPPING

- Soft stop
- Pump stop
- Soft braking

INPUTS AND OUTPUTS

- Remote control inputs (3 x fixed, 1 x programmable)
- Relay outputs (1 x fixed, 3 x programmable)
- 4-20 mA output (1 x programmable)
- RS485 serial link
- Motor thermistor input

PROTECTION

- Motor thermal model
- Phase imbalance
- Phase rotation
- Electronic shearpin
- Undercurrent
- Auxiliary trip input
- Heatsink overtemperature
- Excess start time
- Supply frequency
- Shorted SCR
- Power circuit
- Motor connection
- Serial interface failure
- Motor thermistor trip
- Motor temperature

OTHER FEATURES

- IP42 or IP54 (18 ~ 253 A)
- IP00 (302 ~ 1574 A)
- Trip log (eight position)
- Dual function sets
- Delays (phase imbalance, undercurrent, electronic shearpin, out of frequency)
- High and low current flags
- Motor temperature flag
- Auto-reset
- Auto-stop
- Start counter
- Function lock/password protection
- Store/restore function settings
- Emergency mode operation
- Thermal model override



ELECTRICAL SCHEMATIC

SPECIFICATIONS

General

Current Range 18 A ~ 1574 A (inline 400VAC)
 Motor connection In-line or inside delta
 Bypass External

Supply

Mains Voltage (L1, L2, L3)
 IMS2-xxxx-V5 200 ~ 525 VAC
 IMS2-xxxx-V7 200 ~ 690 VAC
 Control Voltage (A1, A2, A3)
 IMS2-xxxx-xx-C12 110 VAC or 230 VAC (± 10%/ -15%)
 IMS2-xxxx-xx-C24 230 VAC or 400 VAC (± 10%/ -15%)
 IMS2-xxxx-xx-C45 460 VAC ~ 575 VAC (± 10%/ -15%)

Mains Frequency 50 Hz or 60 Hz

Inputs

Start (C23, C24) Active 24 VDC, 8mA approx
 Stop (C31, C32) Active 24 VDC, 8mA approx
 Reset (C41, C42) Active 24 VDC, 8mA approx
 Programmable Input A (C53, C54) Active 24 VDC, 8mA approx

Outputs

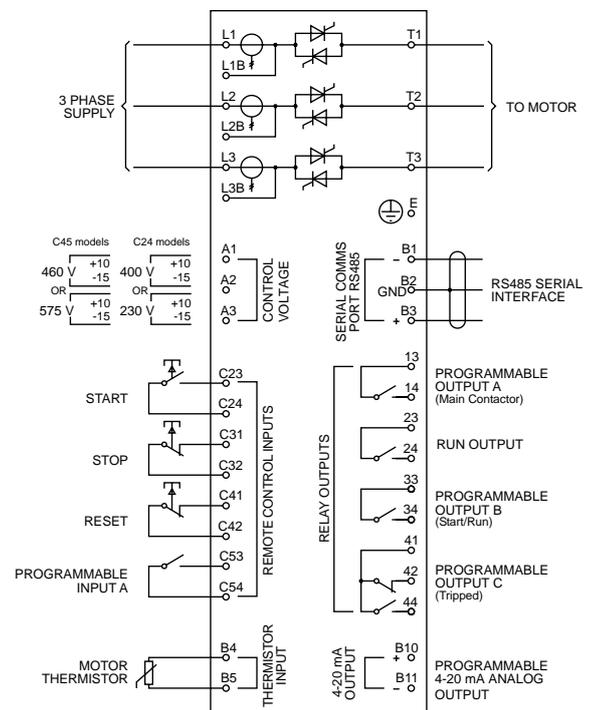
Relay outputs 5 A at 30 VDC or 250 VA resistive
 360 VA inductive
 Run Output (23, 24) Normally Open
 Programmable Relay Output A (13,14) Normally Open
 Programmable Relay Output B (33, 34) Normally Open
 Programmable Relay Output C (41, 42, 44) Changeover
 Analog Output (B10, B11) 4-20mA (maximum burden 500 Ω)

Environmental

Protection
 IMS20302 A ~ 1574 A IP00 (Open Chassis)
 IMS20018 A ~ 0253 A IP42 or IP54
 Operating temperature -5 °C , max 60 °C
 Relative Humidity 5% to 95% (max non-condensing)



ELECTRICAL SCHEMATIC



MODEL DESCRIPTION CODE

IMS2 -----

Enclosure

E0 = IP00
 E4 = IP42
 E5 = IP54

Functionality

F1 = Inside Delta
 (6 Wire) capable

Control Supply Voltage

C12 = 110 VAC & 525 VAC
 C24 = 230 VAC & 400 VAC
 C45 = 460 VAC & 575 VAC

Supply Voltage

V5 = 200 VAC ~ 525 VAC
 V7 = 200 VAC ~ 690 VAC

Nominal Current Rating

(Amperes @ AC 53a 3-10: 50-10)
 e.g. 0125 = 125 A @ AC 53a 3-10: 50-10

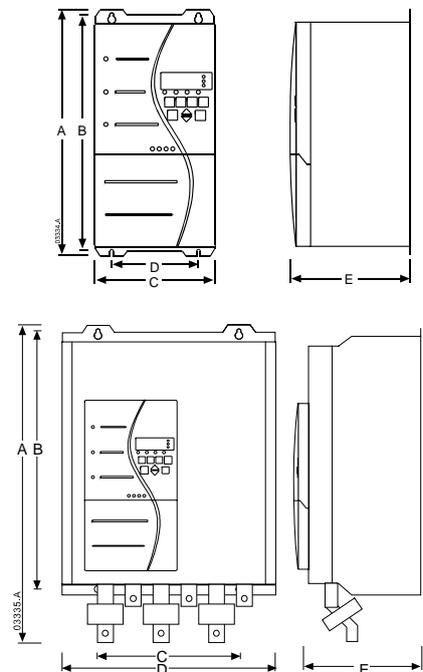


IMS2 PRODUCT RANGE



DIMENSIONS AND WEIGHTS

Model	A mm (inch)	B mm (inch)	C mm (inch)	C mm (inch)	b mm (inch)	Weight kg (lb)
IMS20018	380 (14.96)	185 (7.28)	180 (7.09)	365 (14.37)	130 (5.12)	6 (13.2)
IMS20034						
IMS20041						
IMS20047						
IMS20067	380 (14.96)	185 (7.28)	250 (9.84)	365 (14.37)	130 (5.12)	10 (22)
IMS20088						
IMS20096						
IMS20125	425 (16.73)	270 (10.63)	275 (10.83)	410 (16.14)	200 (7.87)	18 (39.6)
IMS20141						
IMS20202						
IMS20238	425 (16.73)	390 (15.35)	275 (10.83)	410 (16.14)	300 (11.81)	23 (50.6)
IMS20253						
IMS20302						38 (83.6)
IMS20405						
IMS20513						50 (110)
IMS20585						53 (116.6)
IMS20628	855 (33.27)	574 (22.60)	353 (13.90)	727 (27.83)	500 (19.68)	121 (266.2)
IMS20775						
IMS20897						
IMS21153	855 (33.27)	574 (22.60)	353 (13.90)	727 (27.83)	500 (19.68)	121 (266.2)
IMS21403						
IMS21574						



IMS20018 ~ 0253 require only 100 mm vertical clearance and larger units 200 mm. For tighter spaces the IMS2 can be mounted side by side with no clearance.



RATINGS

CURRENT RATINGS (IN-LINE CONNECTION)

Model	Light		Medium		Heavy		Severe	
	AC53a 3-10:50-10	AC53b 3-10:350	AC53a 3.5-15:50-10	AC53b 3.5-15:345	AC53a 4-20:50-10	AC53b 4-20:340	AC53a 4.5-30:50-10	AC53b 4.5-30:330
	Non-bypassed	Bypassed	Non-bypassed	Bypassed	Non-bypassed	Bypassed	Non-bypassed	Bypassed
IMS20018	18 A	18 A	16 A	18 A	14 A	16 A	12 A	14
IMS20034	34 A	34 A	32 A	34 A	28 A	34 A	24 A	28
IMS20041	41 A	41 A	39 A	41 A	34 A	41 A	28 A	34
IMS20047	47 A	47 A	44 A	47 A	39 A	47 A	33 A	39
IMS20067	67 A	67 A	60 A	62 A	52 A	54 A	46 A	47
IMS20088	88 A	88 A	78 A	82 A	68 A	71 A	59 A	61
IMS20096	96 A	96 A	85 A	90 A	74 A	78 A	64 A	66
IMS20125	125 A	125 A	112 A	120 A	97 A	103 A	84 A	88
IMS20141	141 A	141 A	122 A	127 A	107 A	111 A	94 A	96
IMS20202	202 A	202 A	177 A	187 A	155 A	162 A	135 A	140
IMS20238	238 A	238 A	211 A	224 A	185 A	194 A	160 A	166
IMS20253	253 A	253 A	218 A	228 A	191 A	198 A	167 A	172
IMS20302	302 A	302 A	275 A	285 A	239 A	245 A	205 A	209
IMS20405	405 A	405 A	376 A	395 A	324 A	336 A	274 A	282
IMS20513	513 A	513 A	481 A	513 A	411 A	435 A	342 A	356
IMS20585	585 A	585 A	558 A	585 A	474 A	504 A	392 A	410
IMS20628	628 A	628 A	595 A	626 A	508 A	528 A	424 A	436
IMS20775	775 A	775 A	756 A	775 A	637 A	672 A	521 A	542
IMS20897	897 A	897 A	895 A	897 A	749 A	798 A	604 A	632
IMS21153	1153 A	1153 A	1049 A	1153 A	917 A	1006 A	791 A	850
IMS21403	1403 A	1403 A	1302 A	1403 A	1135 A	1275 A	970 A	1060
IMS21574	1574 A	1574 A	1486 A	1574 A	1290 A	1474 A	1091 A	1207

All rated are at 45 °C < 1000 metres. To calculate inside-delta ratings, multiply by 1.5

AuCom ratings are detailed using the AC53 utilisation code specified by IEC60947-4-2.

78 A:AC-53a 3.5-15 : 50-10



90 A:AC-53b 3.5-15 : 345





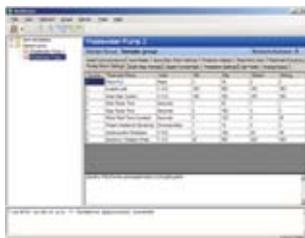
ACCESSORIES/OPTIONAL FEATURES

REMOTE OPERATOR



The Remote Operator is a user-friendly keypad for the remote operation and monitoring of the IMS2. It features operational buttons, status LEDs and motor performance information. IP54 protection when panel mounted.

PC SOFTWARE



Using AuCom's custom designed WinMaster software you can control, monitor and program your soft starter from your desktop computer.

DEVICENET CONVERTER MODULE



The RS485 ASCII/DeviceNet protocol converter connects your IMS2 to a DeviceNet network. This allows remote control and status monitoring from a central DeviceNet Master.

ADJUSTABLE BUS BARS

The power termination bus bars on models IMS20302 ~ IMS21574 can be adjusted for top and bottom input and output as required. This flexibility allows the installer to optimise the switchboard layout for new or retro-fit applications.



BOTTOM IN, BOTTOM OUT



BOTTOM IN, TOP OUT



TOP IN, BOTTOM OUT



TOP IN, TOP OUT



ABOUT AUCOM



THE SOFT START SPECIALISTS

AuCom is totally focused on soft starters, with a range of industry leading products utilising the latest technology. Plus, our experts are the go-to guys for everything soft start, as they don't just sell soft starters but share valuable information with customers through good relationships. Whether you are involved in pumping, forestry, petrochemical, mining or the marine industry, we'll work with you to find a solution.

And why are we so good?

Because all we do is soft start.



AuCom manufacturing plant in Christchurch, New Zealand.

AUCOM NETWORK WORLDWIDE



AuCom has a growing network of over 30 AuCom distributors worldwide. A complete list of distributors is available at www.aucom.com

OTHER AUCom PRODUCTS

AuCom offers a complete range of soft starters, with a solution for your soft starting requirement. Whether you need a simple product for starting only, or a comprehensive solution for your motor control and protection needs, you can trust AuCom to offer a product to match.

	Soft Start	Motor Protection	Advanced Interface	Internal Bypass	Power Range	Voltage Range
CSX	•			•	≤ 200 A	≤ 575 VAC
CSXi	•	•		•	≤ 200 A	≤ 575 VAC
IMS2	•	•	•		≤ 2361 A	≤ 690 VAC
EMX3	•	•	•	•	≤ 2400 A	≤ 690 VAC
MVS	•	•	•	•	≤ 390 A *	≤ 13.8 kV

* Ratings higher than 390 A available on request.

CSX SOFT START CONTROLLER



An advanced soft start controller designed for use in motor control centres. Easily incorporated into any control circuit and suitable for use with any type of motor protection device.

CSXi COMPACT SOFT STARTER



A compact soft starter providing constant current soft start control and essential motor protection. A complete motor control solution in a single compact design.

EMX3 ADVANCED SOFT STARTER



A complete motor management system providing constant current and current ramp as well as the new XLR-8, Adaptive Acceleration Control, available only from AuCom.

MVS MEDIUM VOLTAGE SOFT STARTER



An advanced motor management system for medium voltage motors. MVS soft starters provide a full range of soft start control, motor/load protection and other features.

For more information on AuCom products, contact your local distributor:

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