



Upgrading from Unidrive SP and Commander SK to Unidrive M

The benefits of upgrading from Unidrive SP and Commander SK AC drives to Unidrive M



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Unidrive M

In 2013, Control Techniques launched a new range of industrial AC drives called Unidrive M. Unidrive M's design is based on the success and popularity of Unidrive SP and Commander SK, and incorporates market-leading technologies.

The Unidrive M family comprises six drives - giving customers greater choice when selecting a suitable product for their application.



Unidrive M: compatibility with Commander SK and Unidrive SP

Mechanical

- Compatible physical dimensions, weights and surface mount footprint
- When retrofitting surface mount drives, existing mounting holes can be reused - negating the need for additional drilling. Mounting holes are in the same place or retrofit kits are available

Electrical

- Power and control wiring adopt the same philosophy as Commander SK and Unidrive SP

Parameters

- The same menu and parameter structure is adopted by Unidrive M
- Parameters can be transferred from Unidrive SP to Unidrive M using a smartcard
- Unidrive M connect can be used to transfer parameters from Unidrive SP and Commander SK to Unidrive M

Software programs

- The SI-Applications Plus option module can compile SyPTPro programs for Unidrive M



Lifecycle

Unidrive M replaces Commander SK and Unidrive SP

Unidrive M is capable of fully replacing and enhancing Commander SK and Unidrive SP installations. Therefore, Commander SK and Unidrive SP are moving into next stage of their lifecycle.



Commander SK and Unidrive SP are transitioning to become legacy products in 2015, which means they can be subject to price and lead time changes as volume production reduces.

The legacy period is expected to last for two years and will be followed by the maintenance period. When Commander SK and Unidrive SP enter the maintenance period of their lifecycle, volume production of these products will cease, but contractual obligations regarding warranty, service and repairs will continue.

The maintenance period is expected to last ten years subject to raw material and component availability. Updates will be issued to customers throughout the lifecycle period. Local sales representatives are always available to answer any customer queries.

Migration Paths

Same dimensions and parameters, great support

Superseded Product		Unidrive M	Features
<p>Commander SK</p> 	 	<p>Unidrive M100 \ M101</p> <p>Simplified feature set</p> <p>Unidrive M101 has a potentiometer</p>	<p>For Commander SK users who do not require:</p> <ul style="list-style-type: none"> • RS485 communications • Fieldbus communications • Full SK I/O connections
	 	<p>M200 \ M201</p> <p>This is the default Commander SK migration product</p> <p>Matched feature set with enhancements</p>	<p>For Commander SK users. Enhancements include:</p> <ul style="list-style-type: none"> • RFC-A (Rotor Flux Control) motor control for greater motor stability • RoHS compliance • IP21 protection • Improved robustness
	 	<p>Unidrive M300</p> <p>All Commander SK features with integrated safety inputs and other enhancements</p>	<p>For Commander SK customers who require STO inputs to their product:</p> <ul style="list-style-type: none"> • 2 x Safe Torque Off (STO) inputs • RFC-A motor control for greater motor stability • RoHS compliance • IP21 protection • Improved robustness
	  	<p>Unidrive M400</p> <p>Premium Commander SK with integrated PLC for LogicStick replacement and real text multilingual LCD keypad for improved set up and diagnostics</p>	<p>For Commander SK users who use LogicStick PLC programs or require premium features such as:</p> <ul style="list-style-type: none"> • Onboard PLC • 2 x Safe Torque Off (STO) • Increased I/O count • Real text, LCD, multilingual keypad • RFC-A motor control mode • AB inputs for encoder reference

Superseded Product		Unidrive M	Features
<p data-bbox="134 406 261 431">Unidrive SP</p> 		<p data-bbox="847 480 1011 506">Unidrive M600</p> <p data-bbox="847 527 1078 651">Simplified feature set with the addition of sensorless permanent magnet motor control</p>	<p data-bbox="1160 406 1426 468">For Unidrive SP users who do not require:</p> <ul data-bbox="1160 487 1410 587" style="list-style-type: none"> • Servo motor control • MCI/Sl-Applications support <p data-bbox="1160 597 1445 721">Closed loop vector control of induction motors can be achieved with SI-Encoder/ SI-Universal Encoder option</p>
		<p data-bbox="847 906 1011 932">Unidrive M700</p> <p data-bbox="847 953 1094 1042">Unidrive SP with integrated Ethernet and other enhancements</p>	<p data-bbox="1160 761 1437 917">For Unidrive SP users who want to use Ethernet protocols to communicate with other drives and automation components</p> <p data-bbox="1160 938 1401 963">Enhancements include:</p> <ul data-bbox="1160 985 1449 1187" style="list-style-type: none"> • Improved motor control performance • Onboard advanced motion controller • Improved encoder support
		<p data-bbox="847 1332 1011 1357">Unidrive M701</p> <p data-bbox="847 1378 1090 1468">This is the default Unidrive SP migration product</p> <p data-bbox="847 1489 1070 1551">Matched feature set with enhancements</p>	<p data-bbox="1160 1225 1437 1381">Perfect choice for Unidrive SP users as it provides the same functionality and feature set</p> <p data-bbox="1160 1402 1417 1427">Enhancements include:</p> <ul data-bbox="1160 1449 1431 1651" style="list-style-type: none"> • Improved motor control performance • Onboard advanced motion controller • Improved encoder support
		<p data-bbox="847 1742 1011 1768">Unidrive M702</p> <p data-bbox="847 1789 1114 1913">Digital version of Unidrive SP with integrated Ethernet and dual Safe Torque Off</p>	<p data-bbox="1160 1751 1431 1906">For Unidrive SP users who want to use Ethernet protocols and also require onboard dual Safe Torque Off</p>

Unidrive M600 - M700 enhancements over Unidrive SP

Performance Innovations

- Unidrive M600 and M700 improve productivity with enhanced motor control algorithms which are combined with the latest microprocessor technology
 - ⇒ More than double the current loop bandwidth for demanding performance applications
 - ⇒ New sensorless control of permanent magnet motors for applications that require maximum efficiency and reduced motor size
- Unidrive M700 maximizes machine throughput with a new onboard Advanced Motion Controller (AMC) which can be easily set up to deliver faster, more precise, dynamic machine operation
- M700 has an integrated dual port Ethernet switch which supports Ethernet I/P as well as standard Ethernet open protocols such as TCP/IP and UDP for easy integration with popular PLCs
 - ⇒ RTMoE (Real Time Motion over Ethernet) provides synchronized communication between drives using the Precision Time Protocol as defined by IEEE1588 V2
- Faster switching frequencies of up to 16 kHz in systems up to 160 kW (250 hp) and 8 kHz in systems up to 250 kW (400 hp) are available for Unidrive M to provide enhanced operations in demanding applications such as test stands

Programming and Software Innovations

- MCI200 and MCI210 are new options available for Unidrive M700 that provide advanced second processors to execute PLC programs for multi-axis machine control. Programs can be created quickly and easily using Machine Control Studio which utilizes industry standard IEC61131-3 programs
- Unidrive M600 and M700 can execute smaller deterministic Machine Control Studio programs onboard without MCI
- Unidrive M supports standard SD cards for cloning and backing up parameters and application programs
- All keypads are equipped with multi-lingual real-text displays to provide faster, easier programming with helpful descriptions of diagnostic information and drive parameters
- SI-Applications modules are available to compile and run SyPTPro application programs written for Unidrive SP. This assists the migration of standalone applications as well as Unidrive SPs that form part of a CNet or CTSync Network
- Unidrive M has a menu and programming structure that is consistent with Unidrive SP. Parameter sets can be transferred from SP to M using Unidrive M Connect software tool and Smartcards

Hardware and Installation Innovations

- Higher power range – Unidrive M modular systems can now reach 2.8 MW with up to 250 kW in a single power module
- A low switching frequency of 2 kHz can be selected to maximize the output power of large drives
- Unidrive M’s DC bus schemes use a dedicated bus bar arrangement for side-by-side mounting and can eliminate the need for many power input components such as DC fuses, reducing installation complexity, cost and space
- Unidrive M has conformally coated PCBs to ensure increased resilience in harsh environments
- Greater onboard encoder connection flexibility eliminates the need to purchase additional encoder or resolver option modules. The universal encoder port has been extended to enable two inputs, more encoder types and a simulated encoder output
- Higher power density with more compact drives means smaller control cabinets and lower system cost
- A new low power standby mode is available to reduce energy usage when Unidrive M is idle
- Higher level of integration with machine safety systems. Unidrive M702 has a dual channel Safe Torque Off (STO) which conforms to SIL3/PLe

Standard feature	SP	M600	M700	M701	M702
Open loop v/Hz	•	•	•	•	•
Open loop (RFC-A)	•	•	•	•	•
Closed loop vector	•	•	•	•	•
Active Front End regeneration capability	•	•	•	•	•
Servo	•		•	•	•
Open loop permanent magnet		•	•	•	•
Analog Inputs/Outputs	3/2	3/2	3/2	3/2	0/0
Digital Inputs/Outputs/Bidirectional Inputs or Outputs	4/1/3	4/1/3	4/1/3	4/1/3	3/3/0
Relay Output	1	1	1	1	1
Safe Torque Off	X1	X1	X1	X1	X2
Ethernet	SM-Ethernet	SI-Ethernet	Onboard	SI-Ethernet	Onboard
Onboard RS485 comms	•	•		•	
Onboard PLC	•	•	•	•	•
MCI/Apps support	•		•	•	•
SYPTpro support	•		•	•	•
On-board motion control			•	•	•
Digital lock control	•	SI-Encoder	•	•	•
SI option module slots	3	3	3	3	3
Onboard Encoder Channels	1	SI-Encoder	Up to 3 depending on type	Up to 3 depending on type	Up to 3 depending on type
Cloning via smart card	•	•	•	•	•
Cloning via SD card		•	•	•	•
IEC 61131-3 programming		•	•	•	•
Low power standby			•	•	•

Unidrive M100 - M400 enhancements over Commander SK

Performance Innovations

- Unidrive M200-M400 have a new Rotor Flux Control (RFC) mode which improves motor control and stability and delivers higher overload currents by using a closed loop current control algorithm
- Patented fan intelligence controls the fan speed in order to optimize Unidrive M's cooling profile, save energy and extend fan life, while keeping audible noise to a minimum



Programming and Software Innovations

- Transfer parameters without mains power
 - ⇒ New AI-Backup adaptor option can be used to power the drive with 24 Vdc to maintain communications and interrogate parameter settings
 - ⇒ Standard SD cards can be used with AI-Backup adaptor to transfer and clone parameter sets
- New LCD keypads have informative, multi-language, 3 line displays to make set up and diagnosis easier and faster
 - ⇒ CI-Keypad – Drive mounted LCD keypad (M400 only)
 - ⇒ Remote keypad – Rapid panel mount (1 x 32Ø hole) IP66 (M200-M400 with AI-485 adaptor)
- Unidrive M400 incorporates an onboard PLC which can execute Machine Control Studio (IEC61131-3) programs for logic and sequencing with real-time tasks – removing the need for additional PLCs

Hardware Innovations

- Simple speed adjustment can be achieved on M101\M201 through the onboard potentiometer
- Unidrive M100-M400 can survive environments as described by IEC60721-3-3 3C3 and EN60068-2-60 Meth. 4
 - ⇒ PCBs are conformal coated for increased resilience to conditions and greater reliability
 - ⇒ A patented air duct system protects critical components from environmental contamination
 - ⇒ The IP rating has been increased from IP20 to IP21
- Higher level of integration with machine safety systems. Unidrive M300 and M400 have dual channel 'Safe Torque Off' (STO) inputs which conform to SIL3/PLe
- New cable management design: a new metal bracket support has been created



Standard feature	Commander SK	M100	M200	M300	M400
Open loop v/Hz	•	•	•	•	•
RFC-A			•	•	•
Analogue I/O	2/1	1/0	2/1	2/1	2/2
Digital Inputs/Outputs/ Bidirectional I/O	4/0/1	3/0/1	4/0/1	4/0/1	5/0/2
Relay Output	1	1	1	1	1
Safe Torque Off				2	2
Onboard PLC	Logic stick required				•
Option module slots	1	0	1*	1*	1*
Encoder inputs					AB reference
Parameter cloning	Smart stick	AI-Back up Adaptor required	AI-Back up Adaptor required	AI-Back up Adaptor required	AI-Back up Adaptor required
Removable LCD Keypad					•
Overload	150 % (60 s)	150 % (60 s)	180 % (3 s)	180 % (3 s)	180 % (3 s)
RS485 comms	Onboard		AI-485 adaptor required	AI-485 adaptor required	AI-485 adaptor required

* Like SK, frame size 1 does not support SI Options. However, Unidrive M size 2 now goes down to 0.37 kW to support SI Option modules at lower powers

Migration path by product number for Unidrive SP to M600, M700, M701 or M702

Frame Size	200/240 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	200/240 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
1	SP1201	4.3	0.75	1	3	M600 to M702-03200050A	5	0.75	1	Matching holes
	SP1202	5.8	1.1	1.5		M600 to M702-03200066A	6.6	1.1	1.5	Matching holes
	SP1203	7.5	1.5	2		M600 to M702-03200080A	8	1.5	2	Matching holes
	SP1204	10.6	2.2	3		M600 to M702-03200106A	10.6	2.2	3	Matching holes
2	SP2201	12.6	3	3	4	M600 to M702-04200137A	13.7	3	3	3470-0062
	SP2202	17	4	5		M600 to M702-04200185A	18.5	4	5	3470-0062
	SP2203	25	5.5	7.5	5	M600 to M702-05200250A	25	5.5	7.5	3470-0066
3	SP3201	31	7.5	10	6	M600 to M702-06200330A	33	7.5	10	3470-0074
	SP3202	42	11	15		M600 to M702-06200440A	44	11	15	3470-0074
4	SP4201	56	15	20	7	M600 to M702-07200610A	61	15	20	3470-0078
	SP4202	68	18.5	25		M600 to M702-07200750A	75	18.5	25	3470-0078
	SP4203	80	22	30		M600 to M702-07200830A	83	22	30	3470-0078
5	SP5201	105	30	40	8	M600 to M702-08201160A	116	30	40	3470-0087
	SP5202	130	37	50		M600 to M702-08201320A	132	37	50	3470-0087

Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
1	SP1401	2.1	0.75	1	3	M600 to M702-03400025A	2.5	0.75	1	Matching holes
	SP1402	3	1.1	1.5		M600 to M702-03400031A	3.1	1.1	1.5	Matching holes
	SP1403	4.2	1.5	3		M600 to M702-03400045A	4.5	1.5	2	Matching holes
	SP1404	5.8	2.2	3		M600 to M702-03400062A	6.2	2.2	3	Matching holes
	SP1405	7.6	3	5		M600 to M702-03400078A	7.8	3	5	Matching holes
	SP1406	9.5	4	5		M600 to M702-03400100A	10	4	5	Matching holes
2	SP2401	13	5.5	7.5	4	M600 to M702-04400150A	15	5.5	10	3470-0062
	SP2402	16.5	7.5	10		M600 to M702-04400172A	17.2	7.5	10	3470-0062
	SP2403	25	11	20	5	M600 to M702-05400270A	27	11	20	3470-0066
	SP2404	29	15	30		M600 to M702-05400300A	30	15	20	3470-0066
3	SP3401	32	15	25	6	M600 to M702-06400350A	35	15	25	3470-0074
	SP3402	40	18.5	30		M600 to M702-06400420A	42	18.5	30	3470-0074
	SP3403	46	22	40		M600 to M702-06400470A	47	22	30	3470-0074
4	SP4401	60	30	50	7	M600 to M702-07400660A	66	30	50	3470-0078
	SP4402	74	37	60		M600 to M702-07400770A	77	37	60	3470-0078
	SP4403	96	45	75		M600 to M702-07401000A	100	45	75	3470-0078
5	SP5401	124	55	100	8	M600 to M702-0801340A	134	55	100	3470-0087
	SP5402	156	75	125		M600 to M702-0801570A	157	75	125	3470-0087

Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code									

6	SP6401	180	90	150	9	M600 to M702-0902000A	200	90	150	3470-0118
	SP6402	210	110	150		M600 to M702-0902240A	224	110	150	3470-0118

Frame Size	500/575 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	500/575 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code									

3	SP3501	4.1	2.2	2	5	M600 to M702-05500040A	4	2.2	3	3470-0066
	SP3502	5.4	3	3		M600 to M702-05500069A	6.9	4	5	3470-0066
	SP3503	6.1	4	5		M600 to M702-05500069A	6.9	4	5	3470-0066
	SP3504	9.5	5.5	7.5	6	M600 to M702-06500100A	10	5.5	7.5	3470-0074
	SP3505	12	7.5	10		M600 to M702-06500150A	15	7.5	10	3470-0074
	SP3506	18	11	15		M600 to M702-06500190A	19	11	15	3470-0074
	SP3507	22	15	20		M600 to M702-06500230A	23	15	20	3470-0074

4	SP4603	27	18.5	25	6	M600 to M702-06500290A	29	18.5	25	3470-0074
	SP4604	36	22	30		M600 to M702-06500350A	35	22	30	3470-0074
	SP4605	43	30	40	7	M600 to M702-07500440A	44	30	40	3470-0078
	SP4606	52	37	50		M600 to M702-07500550A	55	37	50	3470-0078

5	SP5601	63	45	60	8	M600 to M702-08500630A	63	45	60	3470-0087
	SP5602	85	55	75		M600 to M702-08500860A	86	55	75	3470-0087

6	SP6601	100	75	100	9	M600 to M702-09501040A	104	75	100	3470-0118
	SP6602	125	90	125		M600 to M702-09501310A	131	90	125	3470-0118

Frame Size	500/690 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	500/690 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code									

4	SP4601	19	15	20	7	M600 to M702-07600190A	19	15	20	3470-0078
	SP4602	22	18.5	25		M600 to M702-07600240A	24	18.5	25	3470-0078
	SP4603	27	22	30		M600 to M702-07600290A	29	22	30	3470-0078
	SP4604	36	30	40		M600 to M702-07600380A	38	30	40	3470-0078
	SP4605	43	37	50		M600 to M702-07600440A	44	37	50	3470-0078
	SP4606	52	45	60		M600 to M702-07600540A	54	45	60	3470-0078

5	SP5601	63	55	75	8	M600 to M702-08600630A	63	55	75	3470-0087
	SP5602	85	75	100		M600 to M702-08600860A	86	75	100	3470-0087

6	SP6601	100	90	125	9	M600 to M702-09601040A	104	90	125	3470-0118
	SP6602	125	110	150		M600 to M702-09601310A	131	110	150	3470-0118

Note: Heavy Duty ratings are shown

Migration path by product number for Commander SK to M100, M101, M200, M201 M300 or M400

Frame Size	100/120 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	100/120 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
A	SKA1100025	1.7	0.25	0.33	1	M100 to M400-011 00017A	1.7	0.25	0.33	Matching holes
	SKA1100037	2.2	0.37	0.5		M100 to M400-011 00024A	2.4	0.37	0.5	Matching holes
B	SKB1100075	4	0.75	1	2	M100 to M400-021 00042A	4.2	0.75	1	Matching holes
	SKB1100110	5.2	1.1	1.5		M100 to M400-021 00056A	5.6	1.1	1.5	Matching holes
Frame Size	200/240 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	200/240 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
A	SKA1200025	1.7	0.25	0.33	1	M100 to M400-012 00017A	1.7	0.25	0.33	Matching holes
	SKA1200037	2.2	0.37	0.5		M100 to M400-012 00024A	2.4	0.37	0.5	Matching holes
	SKA1200055	3	0.55	0.75		M100 to M400-012 00033A	3.3	0.55	0.75	Matching holes
	SKA1200075	4	0.75	1		M100 to M400-012 00042A	4.2	0.75	1	Matching holes
B	SKBD200110	5.2	1.1	1.5	2	M100 to M400-02200056A	5.6	1.1	1.5	Matching holes
	SKBD200150	7	1.5	2		M100 to M400-02200075A	7.5	1.5	2	Matching holes
C	SKCD200220	9.6	2.2	3	3	M100 to M400-03200100A	10	2.2	3	3470-0097
D	SKDD200300	12.6	3	3	4	M100 to M400-04200133A	13.3	3	3	3470-0101
	SKD3200400	17	4	5	4	M100 to M400-04200176A	17.6	4	5	3470-0101
2	SK2201	12.6	3	3	4	M100 to M400-04200133A	13.3	3	3	3470-0101
	SK2202	17	4	5		M100 to M400-04200176A	17.6	4	5	3470-0101
	SK2203	25	5.5	7.5	5	M200 to M400-05200250A	25	5.5	7.5	3470-0066
3	SK3201	31	7.5	10	6	M200 to M400-06200330A	33	7.5	10	3470-0074
	SK3202	42	11	15		M200 to M400-06200440A	44	11	15	3470-0074
4	SK4201	56	15	20	7	M200 to M400-07200610A	61	15	20	3470-0078
	SK4202	68	18.5	25		M200 to M400-07200750A	75	18.5	25	3470-0078
	SK4203	80	22	30		M200 to M400-07200830A	83	22	30	3470-0078
Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
B	SKB3400037	1.3	0.37	0.5	2	M100 to M400-02400013A	1.3	0.37	0.5	Matching holes
	SKB3400055	1.7	0.55	0.75		M100 to M400-02400018A	1.8	0.55	0.75	Matching holes
	SKB3400075	2.1	0.75	1		M100 to M400-02400023A	2.3	0.75	1	Matching holes
	SKB3400110	2.8	1.1	1.5		M100 to M400-02400032A	3.2	1.1	1.5	Matching holes
	SKB3400150	3.8	1.5	2		M100 to M400-02400041A	4.1	1.5	2	Matching holes
C	SKC3400220	5.1	2.2	3	3	M100 to M400-03400056A	5.6	2.2	3	3470-0097
	SKC3400300	7.2	3	3		M100 to M400-03400073A	7.3	3	3	3470-0097
	SKC3400400	9	4	5		M100 to M400-03400094A	9.4	4	5	3470-0097
D	SKD3400550	13	5.5	7.5	4	M100 to M400-04400135A	13.5	5.5	7.5	3470-0101
	SKD3400750	16.5	7.5	10		M100 to M400-04400170A	17	7.5	10	3470-0101
2	SK2401	13	5.5	7.5	4	M100 to M400-04400135A	13.5	5.5	7.5	3470-0101
	SK2402	16.5	7.5	10		M100 to M400-04400170A	17	7.5	10	3470-0101
	SK2403	25	11	20	5	M200 to M400-05400270A	27	11	20	3470-0066
	SK2404	29	15	20		M200 to M400-05400300A	30	15	20	3470-0066

Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	380/480 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
3	SK3401	32	15	25	6	M200 to M400-06400350A	35	15	25	3470-0074
	SK3402	40	18.5	30		M200 to M400-06400420A	42	18.5	30	3470-0074
	SK3403	46	22	30		M200 to M400-06400470A	47	22	30	3470-0074
4	SK4401	60	30	50	7	M200 to M400-07400660A	66	30	50	3470-0078
	SK4402	74	37	60		M200 to M400-07400770A	77	37	60	3470-0078
	SK4403	96	45	75		M200 to M400-07401000A	100	45	75	3470-0078
5	SK5401	124	55	100	8	M200 to M400-08401340A	134	55	100	3470-0087
	SK5402	156	75	125		M200 to M400-08401570A	157	75	125	3470-0087
6	SK6401	180	90	150	9A	M200 to M400-09402000A	200	90	150	3470-0118
	SK6402	210	110	150		M200 to M400-09402240A	224	110	150	3470-0118
Frame Size	500/575 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	500/575 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
3	SK3501	4.1	2.2	2	5	M200 to M400-05500040A	4	2.2	3	3470-0066
	SK3502	5.4	3	3		M200 to M400-05500069A	6.9	4	5	3470-0066
	SK3503	6.1	4	5		6.9	4	5	3470-0066	
	SK3504	9.5	5.5	5.5	6	M200 to M400-06500100A	10	5.5	7.5	3470-0074
	SK3505	12	7.5	10		M200 to M400-06500150A	15	7.5	10	3470-0074
	SK3506	18	11	15		M200 to M400-06500190A	19	11	15	3470-0074
	SK3507	22	15	20		M200 to M400-06500230A	23	15	20	3470-0074
4	SK4603	27	18.5	25	6	M200 to M400-06500290A	29	18.5	25	3470-0074
	SK4604	36	22	30		M200 to M400-06500350A	35	22	30	3470-0074
	SK4605	43	30	40	7	M200 to M400-07500440A	44	30	40	3470-0078
	SK4606	52	37	50		M200 to M400-07500550A	55	37	50	3470-0078
5	SK5601	63	45	60	8	M200 to M400-08500630A	63	45	60	3470-0087
	SK5602	85	55	75		M200 to M400-08500860A	86	55	75	3470-0087
6	SK6601	100	75	100	9A	M200 to M400-09501040A	104	75	100	3470-0118
	SK6602	125	90	125		M200 to M400-09501310A	131	90	125	3470-0118
Frame Size	500/690 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Frame Size	500/690 VAC	Max Continuous Current (A)	Typical Ouput (kW)	Motor Power (hp)	Mounting bracket
	Order code					Order code				
4	SK4601	19	15	20	7	M200 to M400-07600190A	19	15	20	3470-0078
	SK4602	22	18.5	25		M200 to M400-07600240A	24	18.5	25	3470-0078
	SK4603	27	22	30		M200 to M400-07600290A	29	22	30	3470-0078
	SK4604	36	30	40		M200 to M400-07600380A	38	30	40	3470-0078
	SK4605	43	37	50		M200 to M400-07600440A	44	37	50	3470-0078
	SK4606	52	45	60		M200 to M400-07600540A	54	45	60	3470-0078
5	SK5601	63	55	75	8	M200 to M400-08600630A	63	55	75	3470-0087
	SK5602	85	75	100		M200 to M400-08600860A	86	75	100	3470-0087
6	SK6601	100	90	125	9A	M200 to M400-09601040A	104	90	125	3470-0118
	SK6602	125	110	150		M200 to M400-09601310A	131	110	150	3470-0118

Note: Heavy Duty ratings are shown

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