



EMERSON[™]
Industrial Automation

Commander SK

AC Drives – Simple to Use,
Compact to Fit, Power to Perform

0.25 to 132 kW (0.33 to 200 HP)
100V / 200V / 400V / 575V / 690V



**CONTROL
TECHNIQUES**

www.controltechniques.com

COMMANDER SK – SIMPLE & COMPACT YET POWERFUL

- Easy installation – choose between simple panel mounting and DIN-rail mounting (up to 1.5 kW/ 2HP)
- Simple connections – easy access terminals with clear marking
- Easy to set up – all the parameters you need for typical applications are shown on the front facia – it could not be easier
- Simple start up – simple push button set up – no need for complex programming
- Built in EMC filter
- Display Keypad included as standard
- Software and Documentation CD included as standard
- Communications Port RS485 – Modbus RTU as standard
- Available up to 132 kW / 200HP
- Unbeatable Performance – Try it! Compare it!
- **NEW** Ultra-compact frame size D
400V - 5.5kW and 7.5kW (7.5HP and 10HP)
200V - 3kW (1 phase & 3 phase) and 4kW (3HP and 5HP)
- **NEW** 100/120VAC frame size A up to 0.37kW (0.5HP)



COMMANDER SK ORDER CODES

100 / 120 VAC +/- 10% 1 phase (200 / 240 VAC output)	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
NEW SKA1100025				1.7	0.25	0.33
NEW SKA1100037				2.2	0.37	0.5
SKB1100075				4	0.75	1
SKB1100110				5.2	1.1	1.5

200 / 240 VAC +/- 10% 1 phase	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
SKA1200025				1.7	0.25	0.33
SKA1200037				2.2	0.37	0.5
SKA1200055				3	0.55	0.75
SKA1200075				4	0.75	1
SKBD200110				5.2	1.1	1.5
SKBD200150				7	1.5	2
SKCD200220				9.6	2.2	3
NEW SKDD200300				12.6	3	3

200 / 240 VAC +/- 10% 3 phase	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
SKBD200110				5.2	1.1	1.5
SKBD200150				7	1.5	2
SKCD200220				9.6	2.2	3
NEW SKDD200300				12.6	3	3
NEW SKD3200400				17	4	5
SK2201	15.5	4	5	12.6	3	3
SK2202	22	5.5	7.5	17	4	5
SK2203	28	7.5	10	25	5.5	7.5
SK3201	42	11	15	31	7.5	10
SK3202	54	15	20	42	11	15
SK4201	68	18.5	25	56	15	20
SK4202	80	22	30	68	18.5	25
SK4203	104	30	40	80	22	30

575 VAC +/- 10% 3 phase	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
SK3501	5.4	3	3	4.1	2.2	2
SK3502	6.1	4	5	5.4	3	3
SK3503	8.4	5.5	7.5	6.1	4	5
SK3504	11	7.5	10	9.5	5.5	7.5
SK3505	16	11	15	12	7.5	10
SK3506	22	15	20	18	11	15
SK3507	27	18.5	25	22	15	20
SK4603	36	22	30	27	18.5	25
SK4604	43	30	40	36	22	30
SK4605	52	37	50	43	30	40
SK4606	62	45	60	52	37	50
SK5601	84	55	75	63	45	60
SK5602	99	75	100	85	55	75
SK6601	125	90	125	100	75	100
SK6602	144	110	150	125	90	125

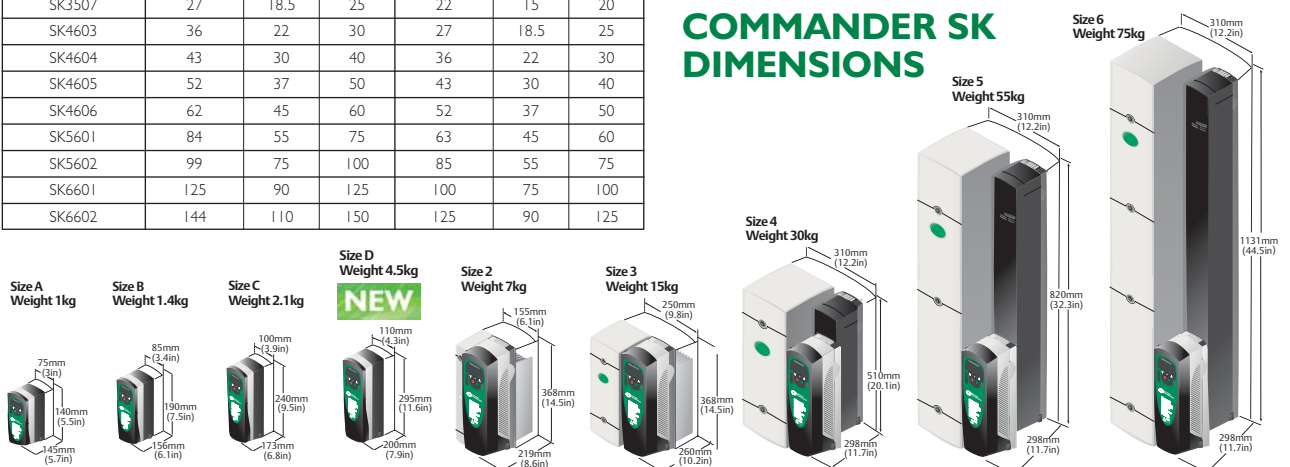
380 / 480 VAC +/- 10% 3 phase	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
SKB3400037				1.3	0.37	0.5
SKB3400055				1.7	0.55	0.75
SKB3400075				2.1	0.75	1
SKB3400110				2.8	1.1	1.5
SKB3400150				3.8	1.5	2
SKC3400220				5.1	2.2	3
SKC3400300				7.2	3	3
SKC3400400				9	4	5
NEW SKD3400550				13	5.5	7.5
NEW SKD3400750				16.5	7.5	10
SK2401	15.3	7.5	10	13	5.5	10
SK2402	21	11	15	16.5	7.5	10
SK2403	29	15	20	25	11	20
SK2404				29	15	20
SK3401	35	18.5	25	32	15	25
SK3402	43	22	30	40	18.5	30
SK3403	56	30	40	46	22	30
SK4401	68	37	50	60	30	50
SK4402	83	45	60	74	37	60
SK4403	104	55	75	96	45	75
SK5401	138	75	100	124	55	100
SK5402	168	90	125	156	75	125
SK6401	205	110	150	180	90	150
SK6402	236	132	200	210	110	150

690 VAC +/- 10% 3 phase	Normal Duty			Heavy Duty		
	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)	Max Continuous Current (A)	Typical Output (kW)	Motor Power (HP)
SK4601	22	18.5	25	19	15	20
SK4602	27	22	30	22	18.5	25
SK4603	36	30	40	27	22	30
SK4604	43	37	50	36	30	40
SK4605	52	45	60	43	37	50
SK4606	62	55	75	52	45	60
SK5601	84	75	100	63	55	75
SK5602	99	90	125	85	75	100
SK6601	125	110	150	100	90	125
SK6602	144	132	175	125	110	150

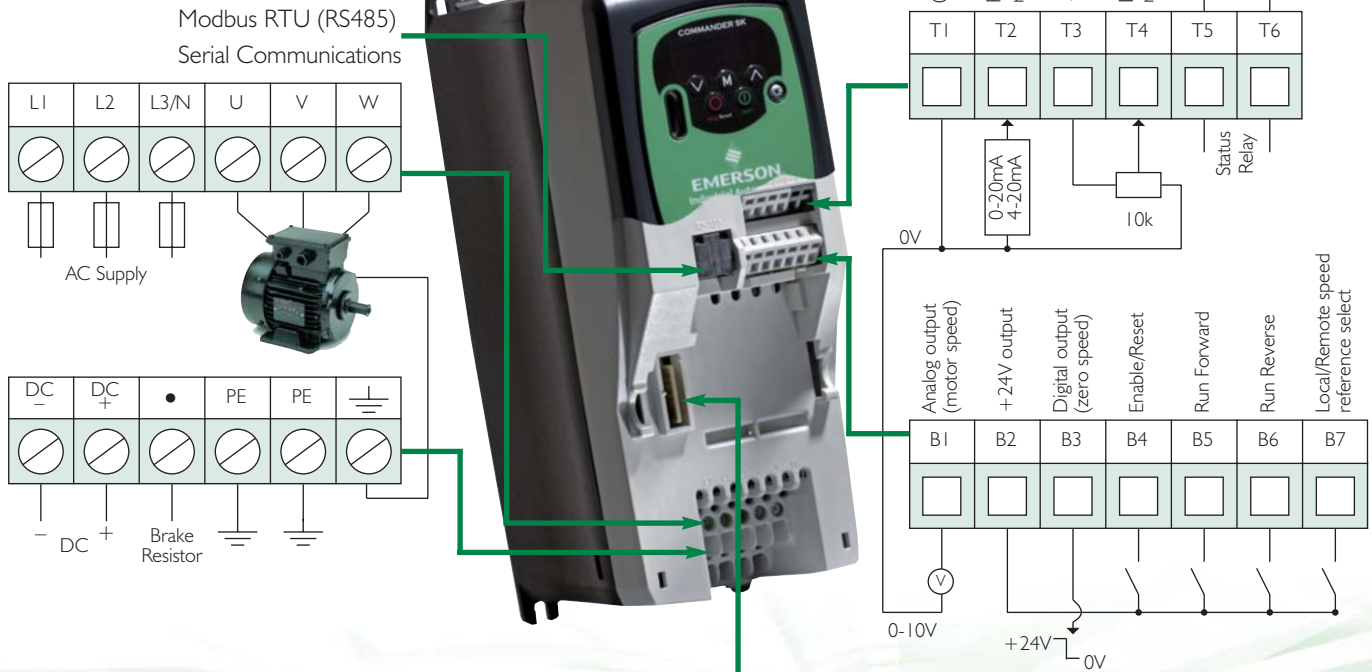
Normal Duty 110% overload current for 215 s. For applications which use self-ventilated induction motors and require a low overload capability (e.g. fans, pumps)

Heavy Duty 150% overload current for 60 s. For constant torque applications which require a high overload capability (e.g. cranes, hoists)

COMMANDER SK DIMENSIONS



QUICK TO CONNECT...

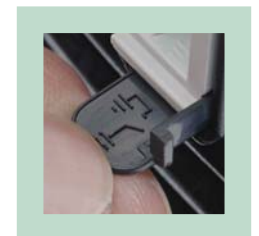


SIMPLICITY OF SET UP TO DRIVE YOUR MACHINE AT OPTIMUM EFFICIENCY

- Automatic no-spin autotune for rapid performance optimisation
- 8 preset speeds available for greater application flexibility
- Keypad access to all parameters – basic and advanced menus
- Open loop vector control. Speed or Torque control
- Speed reference input: 0-10V, 0-20mA, 4-20mA (-10V to +10V SM-I/O Lite option)
- Switching frequency from 3kHz up to 18kHz – quiet motor operation
- Output frequency from 0 to 1500 Hz
- Linear and S type acceleration and deceleration ramps
- Modbus RTU RS485 via RJ45 connector as standard
- DC injection braking as standard
- Dynamic braking transistor as standard
- Energy savings with dynamic motor flux V/Hz
- Fan and pump energy optimisation with quadratic motor flux V/Hz

Environment

- IP20
- UL Type I kit and cover kit options up to Size D
- Ambient temperature -10°C to 40°C
- Electromagnetic Immunity complies with EN61800-3, EN61000-6-1 and EN61000-6-2
- Humidity 95% maximum (non-condensing)
- Electromagnetic Emissions complies with EN61800-3 (second environment) as standard. Complies with EN61000-6-3 (residential) and EN61000-6-4 (industrial) generic standards with optional footprint EMC filter



Tab to easily connect/disconnect internal EMC filter

COMMANDER SK CAN DO EVEN MORE...

Commander SK is delivered to you ready to run, however, a comprehensive range of accessories allow you to expand the features to achieve even more with your drive.



1 Operator Interface Options

Interface with your Commander SK with a comprehensive range of optional remote keypads and operator interfaces; these can be used to commission and control the drive.

- SK Keypad – A simple LED keypad with a high IP65 rating
- SM-Keypad Plus – A plain text, multi-language LCD keypad
- HMI Panels – A range of fully configurable LCD touch screen displays



2 Installation Options

Flexible installation accessories help you to optimise the drive for your application.

- An internal braking transistor is standard on Commander SK, by fitting an optional braking resistor you can decelerate even heavier loads more rapidly
- Additional EMC Filters supplement the drives internal filter to allow you to meet even more stringent standards
- The robust SK Cable Bracket makes it easier to support heavy cables and conduit glands to the drives
- UL Type I kit and cover kit options up to Size D

Control Techniques
click-in option modules

3 Communication, Programming and Control Options

Add intelligence and connectivity to your drive with a range of integration accessories. As an example Ethernet and internet connectivity allows you to connect your PC to a drive located anywhere in the world, Commander SK is as simple or sophisticated as you need it to be.

- **Communications** – All major fieldbus communications are supported through Control Techniques click-in option modules
- **I/O Modules** – A range of Control Techniques click-in I/O options are available that allow you to further extend the functionality of the drive
- **SmartStick** – Inserting the SmartStick into the front fascia of the drive enables parameters to be copied from one drive to another. This is especially useful for replicating a configuration across multiple drives
- **LogicStick** – Inserting the LogicStick into the front fascia of the drive adds the required memory storage for the use of the onboard PLC features. This is an advantage in applications where traditionally a small external PLC would normally be used

- **Serial and USB cables** – These are safe isolated cables to link your PC with the drive
- **PC software tools** – Included with the drive, these provide the means to gain easy access to the advanced features

Note: Click in option modules may only be fitted on drives from Size B up wards.



SIMPLE TO USE...

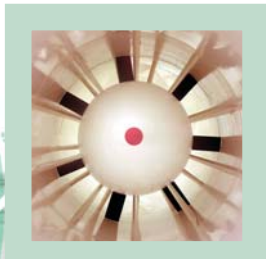
Commander SK is an easy drive – easy to connect, easy to configure and easy to install.

Easy to install - Flexibility allows you to install the drive in the best way for your application.

- All drive sizes can be mounted on a flat surface
- DIN rail fixing integrated on small sizes
- Provision for "through hole mounting" is standard from Size 2 upwards. This allows the heat from the drive to be dissipated externally meaning the size of the cubicle can be greatly reduced

Easy to connect - All connectors are generously sized and clearly labelled.

Easy to configure - The configuration settings you need for most applications are detailed on the front facia of the drive.



COMPACT TO FIT...

Commander SK is a compact drive - A compact footprint with space saving features.

Commander SK gives you back valuable space with its compact footprint and extra features that can eliminate the requirement for additional components such as EMC filters. In simple applications the onboard PLC feature saves you money by removing the need for an external PLC and power supplies. Integrated fieldbus options minimise the need for external I/O to interface with the drive.



POWER TO PERFORM...

Commander SK – Reliable and productive with exceptional motor performance as you would expect from a Control Techniques drive.

Control Techniques have a fine heritage in manufacturing high performance drives; Commander SK is designed with the same principles to give you an easy to apply performance drive for your standard AC motors. Technology is used to achieve this, on power-up the drive automatically measures the motor characteristics to ensure you get the best motor performance straight out of the box, every time - how could we make it easier?



COMMANDER SK – THE MOST POWERFUL EASY AC DRIVE IN THE WORLD...

Dynamic Performance that Exceeds Expectations

Though simple to operate, Commander SK has the performance characteristics to allow it to solve applications normally requiring more complex and expensive drives. Commander SK is robust and ideal for industrial applications demanding high cycle rates and tight speed control, such as indexers and fuel pumps. Its superior shaft performance makes it incredibly responsive to either demand or load changes. The ability to hold torque down to 1 Hz makes it ideal for material handling applications. Selectable switching frequencies allow for quiet motor operation.



Replace PLCs

The Commander SK from Control Techniques establishes its dominant status in simple general purpose drives providing a level of performance and flexibility not found in any other low-cost, open loop AC drive. It is the first economical drive that a user can add PLC functionality into, to save both space and cost on systems. The LogicStick and the free of charge SyPTLite programming software can be used to replace a nano or micro PLC, or to replace relays and timers.

Lower Cost Solution from Premium Technology

Commander SK includes premium functions as standard: logic functions, comparators, motorised potentiometer, PID regulator, dynamic braking transistor with optional external braking resistor and DC injection braking as standard. Optional functions include SM-I/O Lite that can control an external encoder and even allow real-time clock functions with SM-I/O Timer.

Dynamic performance, PLC on board, premium functions and plug-in options ensure that in more complex applications Commander SK can deliver more than the average general purpose drive – giving you lower cost solutions and better productivity in your motor control applications.



Powerful and Reliable

Commander SK has been developed, tested and proven in the harshest operating conditions by Control Techniques dedicated electrical, mechanical and software engineering groups. The result: a strong drive that gets your machine running quickly and consistently with the highest productivity.

COMMANDER SK – THE SIMPLE DRIVE WITH AWARD WINNING DESIGN

The Design Business Association, Design Effectiveness Awards Industrial Product 2006

There is no better scheme to demonstrate and celebrate the impact that good design can have on business performance than the DBA Design Effectiveness Awards.

Industrial Product Design of the Year, Plastics Industry Awards 2006

The Plastics Industry Awards is the industry's most prestigious awards initiative; a sign of excellence.



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