

Commander SE - Setting the standards.



From 0.25 to 37 kW, in a robust, no-nonsense AC drive that saves you money...

- 0.25 to 2.2 kW, single phase, 200 to 240 V
- 0.75 to 7.5 kW, three phase, 200 to 240 V
- 0.75 to 37 kW, three phase, 380 to 480 V

Reducing complexity and cost is what Control Techniques' Commander SE is all about. SE stands for Simple and Easy... And it is: **SIMPLE** to understand and **EASY** to install and operate.

With the Commander SE users need never fight with technology. The drive's first 10 parameters cover most applications quickly, easily and cost effectively.

*Just take these simple steps to savings...
it really is ...Simple & Easy...*

Simple steps to success...



▶ Practical installation and connection

- Plenty of space to wire - no fiddling about
- Easy access ensures good terminations - no loose connections
- Sensible sized terminals - no screw thread breakages
- Removable terminal blocks - fast changeover, easy wiring
- No searching for manuals - wiring diagram in cover
- No optional keypad needed - able to programme straight from the box



▶ Commissioning made easy

80% of Applications can be done with **only 10** parameters

- You don't need to be a drives engineer to operate Commander SE
- Who else puts all the parameters you need on the front of the drive?
- Simple parameter access, easy learning with 'getting started card'



▶ Built to save expense

- Robust, industrial housing - for greater dependability
- Cooler running components from spacious design - increased reliability
- Internally fitted options - save cubicle space
- Fits in 200 mm standard enclosure - to 18.5 kW
- Modbus RTU RS485 as standard
- Designed to mount on footprint EMC filter - to 18.5 kW



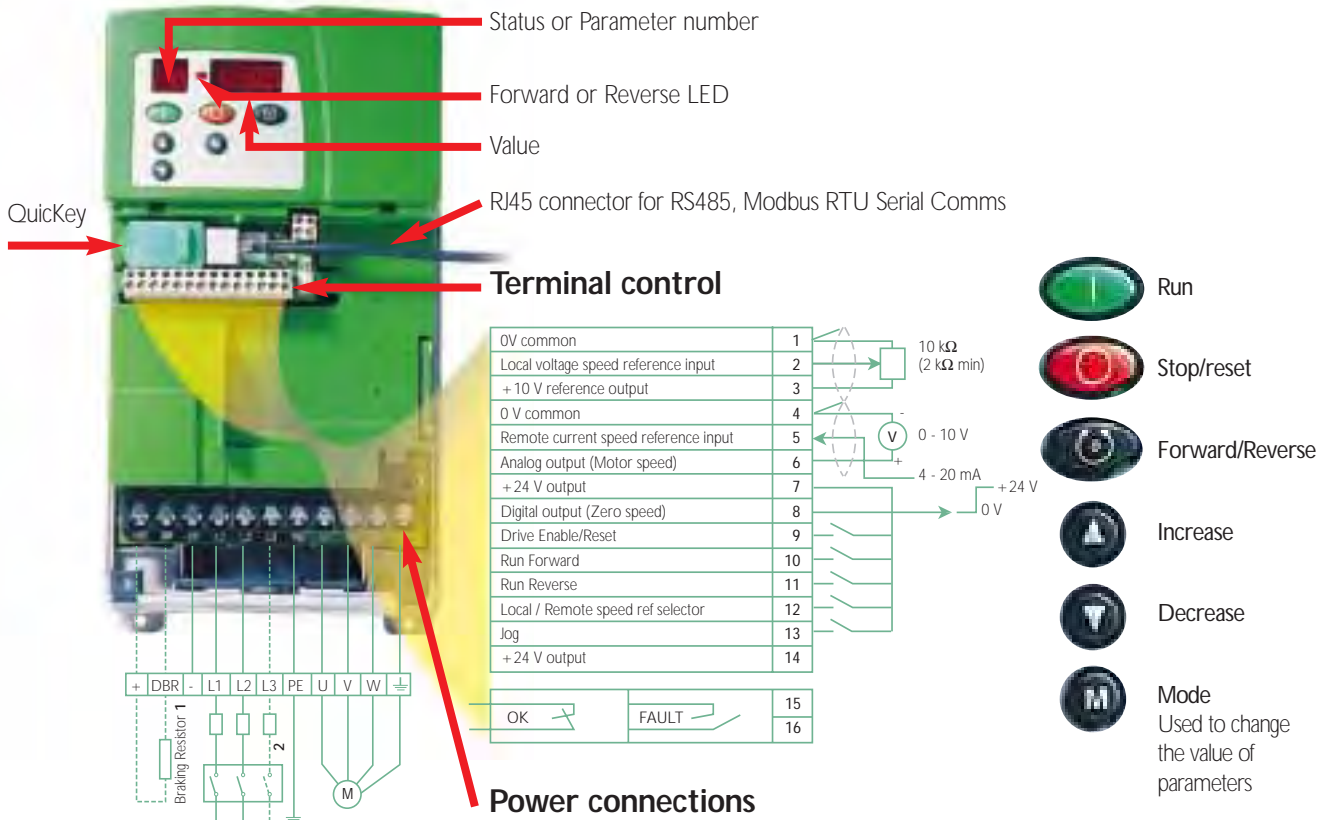
▶ *What happens when you need more from your Variable Speed Drive System?*

Use serial communications to access the integrated advanced functions:-

- PID control for pressure, flow or temperature control
- Brake control
- Dual motor control
- Torque control
- Threshold comparator

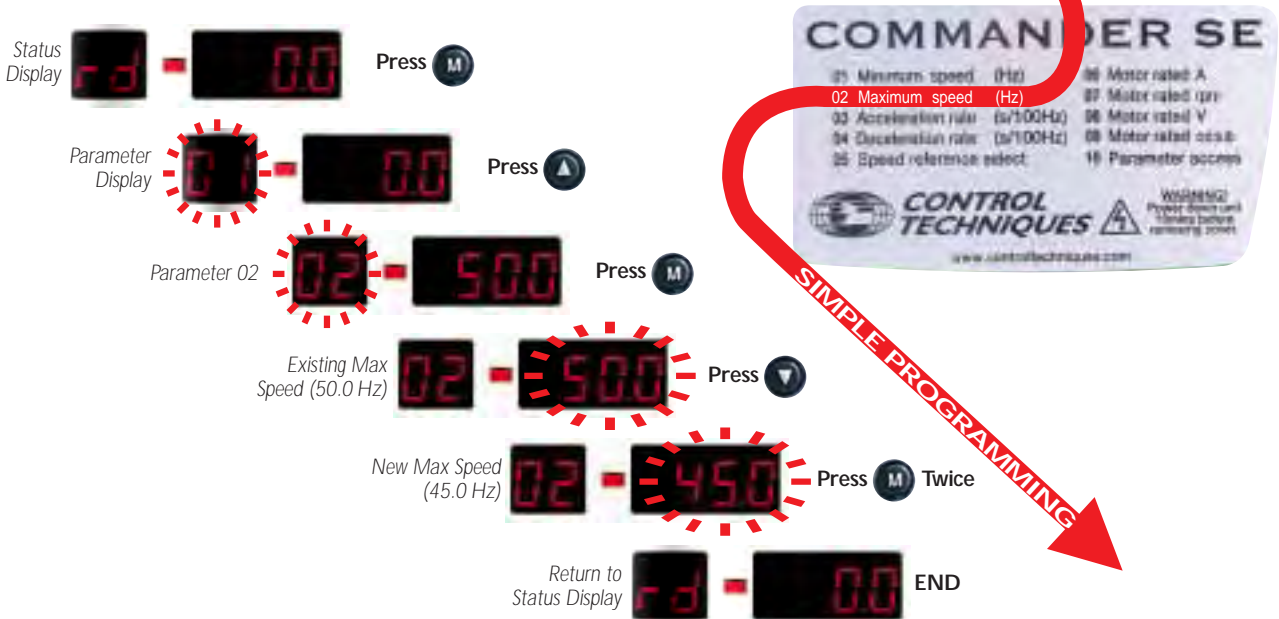


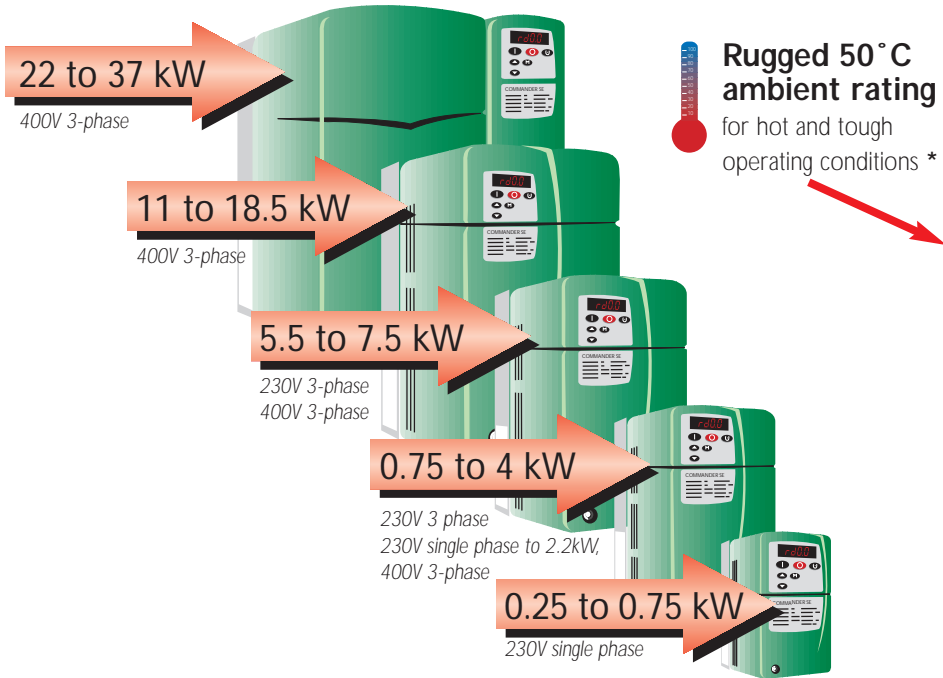
It really is this easy to set up



Notes 1 Braking Resistor and DC Bus connections are not available on size 1
 2 Not used for single phase

To change the maximum speed - simply use the front cover





Intelligent Thermal Management

Commander SE's Intelligent Thermal Management technology reduces nuisance tripping and ensures minimum motor noise - while fully protecting the drive

Clear visibility of key parameters to help commissioning

SE text keypad

- Alpha numeric 32 character display
- Access to all parameters
- Panel mount or hand held

QuickKey

- Copy the parameter settings quickly and reliably
- Cloning and parameter storage

Sensible cable management

Space to terminate cables

Fieldbus

Modbus RTU as standard. Modbus RTU

Other communication made simple with the widest possible range of fieldbus options to include **DeviceNet**  

CANopen



200mm

Fits into an industry standard 200mm deep cubicle up to 18.5kW

* 40°C ambient (18.5 to 37 kW)



Advanced set up and commissioning with SE Soft

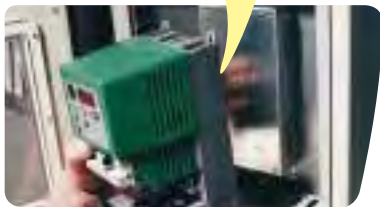
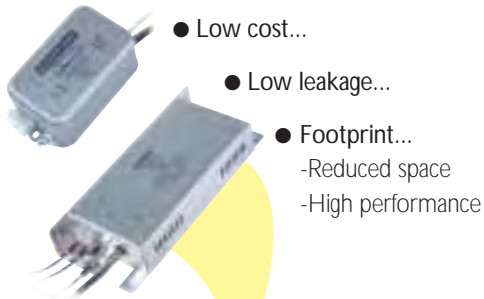
- Windows™ based commissioning software for both control and display of all parameters
- Special drive set up wizard for first time users
- Storage of parameter settings
- Access to advanced parameters



Ultimate control

When you need ultimate control, Commander SE's advanced parameters give the user, via serial communications, access to advanced features such as: PID Controller, kW hour meter, 8 preset speeds, motorised potentiometer, second motor map, logic functions, and lots more.....

EMC Filter choices



**Bi-directional
±10V input
reference option.**

General Characteristics

- Maximum overload 150% of rated current for 60s
- Intelligent Thermal Management (ITM)
- 8 preset speeds
- Flying start
- Mains dip ride through
- No spin autotune for fast performance optimisation

Control

- Open loop vector control
- Speed or torque control
- Speed reference input: 0-10 V, 0-20 mA, 4-20 mA, (-10 to +10 V option)
- 5 digital inputs: enable, run forward, run reverse, local/remote, jog
- Switching frequency 3 – 6 (default) – 12 kHz
- Output frequency 0 to 1000 Hz
- Accel and Decel ramps (linear and S type)
- Positive or negative logic control
- Serial communication
 - Modbus RTU RS485 via RJ45 connector
 - Baud rate 4800,9600, or 19200 Å
- DC injection braking as standard
- Dynamic braking transistor as standard (from 0.75 kW)

Environment

- IP20 Nema 1 rating
- Ambient temperature -10 to +50°C @ 3 kHz switching (40°C from 18.5kW)
- Humidity 95% maximum (non-condensing)
- Electromagnetic Immunity complies with EN61800-3 and EN50082-2
- Electromagnetic Emissions complies with EN61800-3 (first and second environment) with EMC filter. Complies with EN50081-1 (size 1) and EN50081-2 with EMC filter

Protection

- Undervoltage, Supply and DC Link overvoltage, Phase loss, Drive overload, Instantaneous overcurrent, Over temp, Short circuit, Ground fault, Over heat, Motor thermal, Watchdog

Advanced functions

- "AND", "OR" functions (with time delay)
- Motorised potentiometer functions
- User definable alarm: adjustable threshold (current, speed, power etc) reached indication
- Timer and energy meter
- Second motor map
- PID controller

Commander SE rating and EMC filter selection

Commander SE								EMC Filter									
Model order code	Supply volts ±10%	Number of input phases	Frame size	kW rating	HP rating	100% Output current	150% Output current	Filter current rating (A)	Mounting style	Motor Cable Industrial (m)	Schaffner order code	CT order code	L (mm)	H (mm)	W (mm)	Weight (kg)	
SE11200025	200-240	1	1	0.25	0.33	1.5	2.3	12	Low Cost	20	FS5594-12-07	4200-6101	114	46	58	0.49	
SE11200037	200-240	1	1	0.37	0.5	2.3	3.5		Footprint	75	FS5581-12-07	4200-6102	242	40	100	0.60	
SE11200055	200-240	1	1	0.55	0.75	3.1	4.7		Low Leakage	15	FS5581-12-07-LL	4200-6103	242	40	100	0.60	
SE11200075	200-240	1	1	0.75	1	4.3	6.5										
SE2D200075	200-240	1 or 3*	2	0.75	1	4.3	6.5	26/16	Low Cost	50	FS5594-26-07	4200-6204	119	57	86	0.70	
									Footprint	15	FS5901-17-07	4200-6304				0.60	
SE2D200110	200-240	1 or 3*	2	1.1	1.5	5.8	8.7	26/16	Footprint	100	FS5581-26-07	4200-6201	330	45	148	1.20	
										100	FS5569-16-07	4200-6202				1.10	
SE2D200150	200-240	1 or 3*	2	1.5	2	7.5	11.3	26/16	Low Leakage	15	FS5581-26-07-LL	4200-6205	330	45	148	1.20	
SE2D200220	200-240	1 or 3*	2	2.2	3	10	15.0			45	FS5569-16-07-LL	4200-6207				1.10	
SE23200400	200-240	3	2	4	5	17	25.5	26	Low Cost	15	FS5901-30-07	4200-6303	132	69	117	0.80	
									Footprint	100	FS5569-26-07	4200-6203	330	45	148	1.30	
									Low Leakage	45	FS5569-26-07-LL	4200-6209	330	45	148	1.30	
SE23400075	380-480	3	2	0.75	1	2.1	3.2	16	Low Cost	15	FS5901-17-07	4200-6304	119	57	86	0.60	
SE23400110	380-480	3	2	1.1	1.5	3	4.5		Footprint	100	FS5569-16-07	4200-6202	330	45	148	1.10	
SE23400150	380-480	3	2	1.5	2	4.2	6.3		Low Leakage	20	FS5569-16-07-LL	4200-6207	330	45	148	1.10	
SE23400220	380-480	3	2	2.2	3	5.8	8.7										
SE23400300	380-480	3	2	3	4	7.6	11.4										
SE23400400	380-480	3	2	4	5	9.5	14.3										
SE33200550	200-240	3	3	5.5	7.5	25	37.5	30.5	Book End	15	FS5901-30-07	4200-6303	133	70	118	0.80	
SE33200750	200-240	3	3	7.5	10	28.5	42.8		Footprint	100	FS5569-30-07	4200-6302	385	50	190	1.70	
SE33400550	380-480	3	3	5.5	7.5	13	19.5	17.1	Low Cost	15	FS5901-17-07	4200-6304	119	58	86	0.60	
SE33400750	380-480	3	3	7.5	10	16.5	24.8		Footprint	100	FS5569-17-07	4200-6301	385	50	190	1.60	
SE43401100	380-480	3	4	11	15	24.5	36.8	33	Low Cost	15	FS5901-33-07	4200-6402	143	80	128	1.09	
SE43401500	380-480	3	4	15	20	30.5	45.8		Footprint	100	FS5569-33-07	4200-6401	467	55	246	3.10	
SE43401850	380-480	3	4	18.5	25	37	55.5	37	Low Cost	20	FS5901-37-07	4200-6404	143	80	128	1.2	
									Footprint	100	FS5569-37-07	4200-6403	467	60	246	3.1	
SE53402200	380-480	3	5	22	30	46	69	50	Book End	100	FS5113-50-53	4200-6116	337	100	90	3.8	
SE53403000	380-480	3	5	30	40	60	90	63	Book End	100	FS5113-63-34	4200-6117	377	103	150	3.8	
SE53403700	380-480	3	5	37	50	70	105	100	Book End	100	FS5113-100-35	4200-6106	380	107	150	7.8	

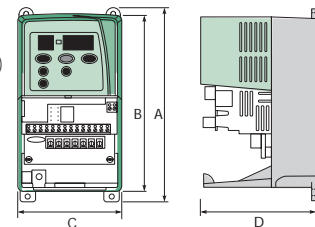
*The details in *italic* relate to 3 input phases where applicable

Commander SE 2 3 4 00075

Options

Model	Description
SE Soft	Universal Keypad - hand held or door mounted, plain text display PC Windows™ based setup software for advanced programming
	Cable screening clamps SE11: size 1, SE12: size 2, SE13: size 3, SE14: size 4, SE15: size 5
SE51	+10 to -10 V analogue input card for bi-directional speed ref.
SE55	QuickKey™ cloning module for rapid, accurate parameter transfer
SE71	RS232 to RS485 (2 wire) converter for connecting between the drive and PC when using SE Soft
SE73	Profibus DP - 12 MB
SE74	Interbus
SE77	CAN Open
SE77	DeviceNet

kW rating
 voltage (200V or 400V)
 no. of input phases
 (D= single or 3 phase)
 frame size
 family name



Dimensions

Frame Size	A		B		C		D	
	mm	in	mm	in	mm	in	mm	in
1	191	7.52	176	6.86	102	4	130	5.12
2	280	11.02	260	10.1	147	5.79	130	5.12
3	336	13.23	315	12.4	190	7.48	155	6.1
4	412	6.22	390	15.21	250	9.84	185	7.28
5	368	14.48	335	13.18	375	14.76	260	10.23

