



**CONTROL  
TECHNIQUES**

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## Commander SK

**THE  
BENCHMARK**

in simple drives

Simple and Compact

AC drives

0.25 to 4 kW

0.33 to 5.0 hp

# Commander SK – Simple and Compact yet Powerful

## Why Commander SK is the Benchmark in simple AC drives:

- Easy to set up – all the parameters you need (for 90% of typical applications) are on the front – who else makes it this easy?
- Easy installation – choose between simple panel mounting and DIN-rail mounting (up to 1.5 kW/2 hp)
- Simple connections – easy access terminals with clear marking
- Simple start up – simple push button set up – no need for complex programming
- Gets your machine running quickly, and reliably with the minimum of fuss



(to scale)



\* Commander SK 400V units up to 110kW will be available in mid 2005

Submitted for  
UL listing



# Drive control at your fingertips 0.25 – 4kW...



Panel mounting...  
(DIN-rail up to 1.5 kW/2 hp)

Motor status readout...

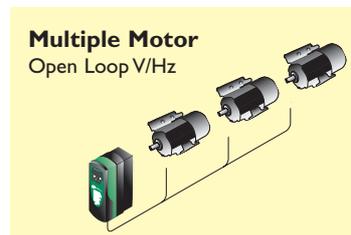
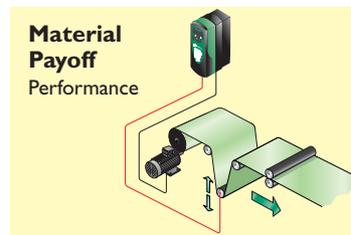
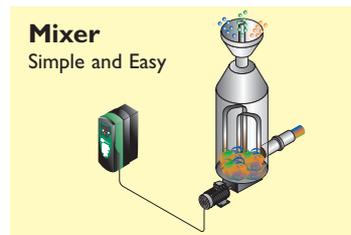
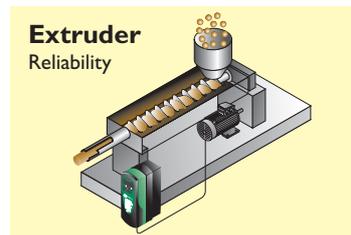
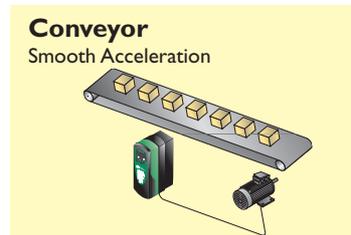
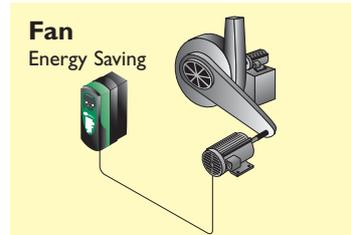
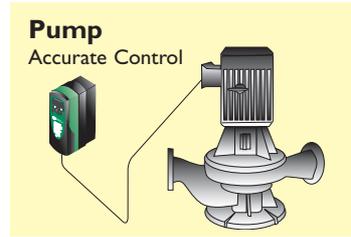
Stop/Go/Change...

Preset program upload slot...

Easy set up instructions...

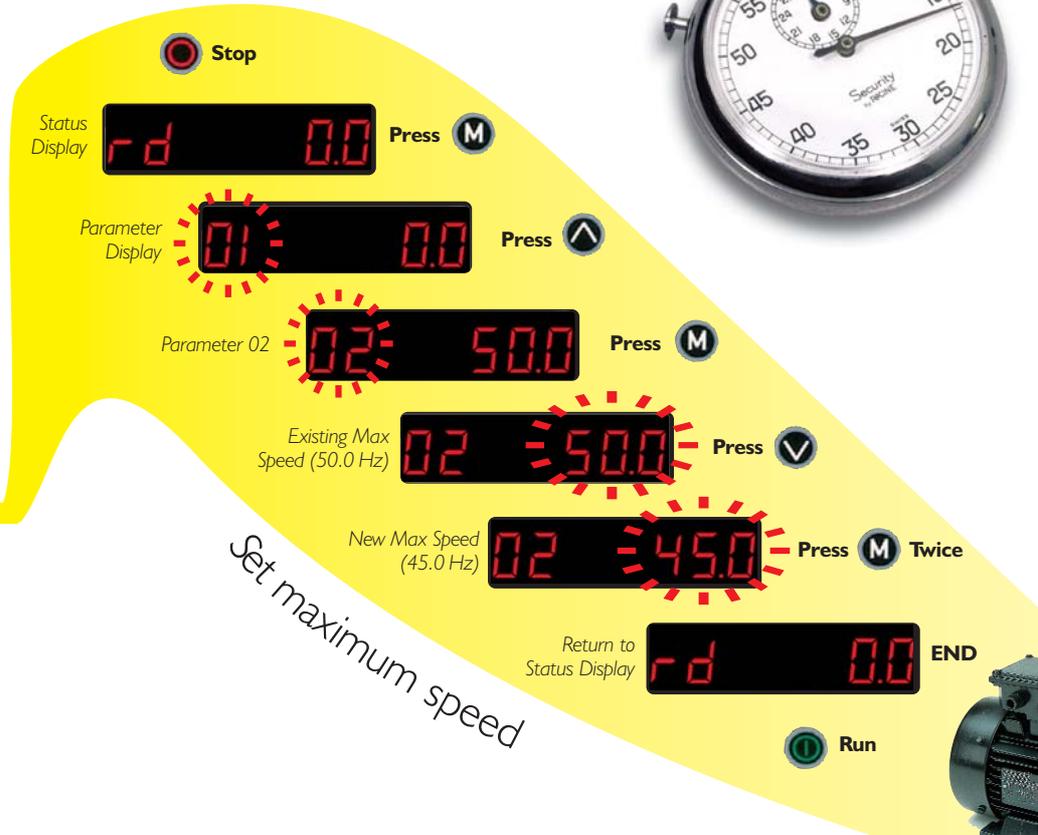
Clearly marked, practically sized connectors

Serial communications...

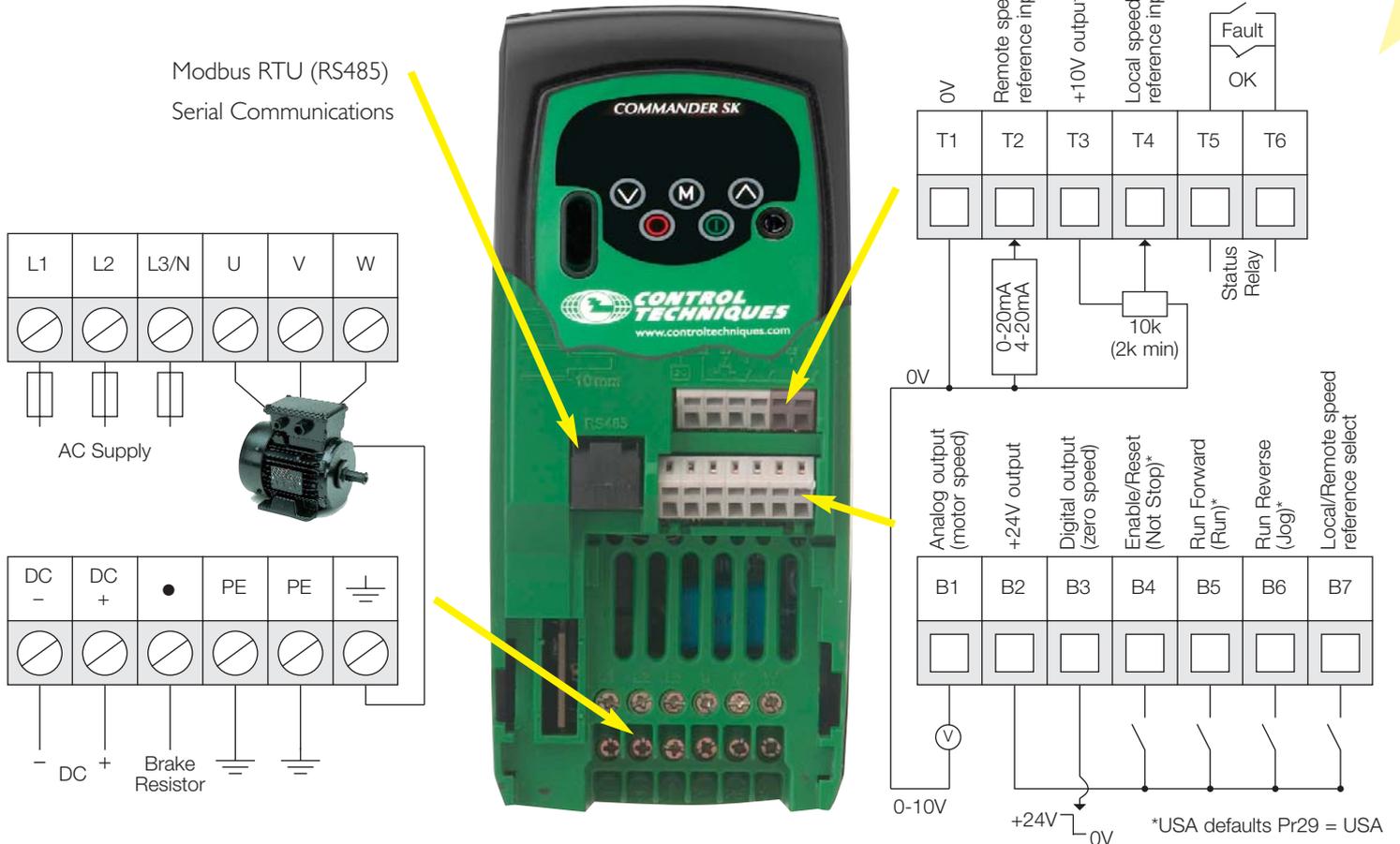


...for simple, compact, cost effective motor control, Commander SK delivers every time

# Simplicity of set up – in minutes!



# Quick to connect...



## Control

- Open loop vector control
- Speed or torque control
- Speed reference input: 0-10V, 0-20 mA, 4-20 mA, (-10 to +10V SM-I/O Lite option)
- 4 digital inputs
  - World (enable, run forward, run reverse, local/remote)
  - USA (not stop, run, jog, local/remote)
- Switching frequency: 3 (default) – 6 – 12 – 18 kHz
- Output frequency 0 to 1500 Hz
- Accel and Decel ramps (linear and S type)
- Positive logic control
- Serial communication
  - Modbus RTU RS485 via RJ45 connector
  - Baud rate 4800, 9600, 19200 or 38400 bits per second
- DC injection braking as standard
- Dynamic braking transistor as standard
- Dynamic motor flux V/Hz for energy saving
- Quadratic motor flux V/Hz for fan and pump optimisation

## Protection

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

## Dimensions

Drive size	w		h		d	
	mm	in	mm	in	mm	in
A	75	2.95	140	5.5	145	5.71
B	85	3.35	190	7.48	156	6.14
C	100	3.93	240	9.45	173	6.81

## Ratings

Order code	Size	Motor Power		Supply voltage and frequency	100% continuous output current (A)	150% overload current for 60s (A)
		kW	hp			
SKA1200025	A	0.25	0.33	1 phase 200 to 240Vac ± 10% 48 to 62Hz	1.7	2.6
SKA1200037	A	0.37	0.5		2.2	3.3
SKA1200055	A	0.55	0.75		3.0	4.5
SKA1200075	A	0.75	1.0		4.0	6.0
SKBD200110	B	1.1	1.5	1 or 3 phase 200 to 240Vac ± 10% 48 to 62Hz	5.2	7.8
SKBD200150	B	1.5	2.0		7.0	10.5
SKCD200220	C	2.2	3.0		9.6	14.4

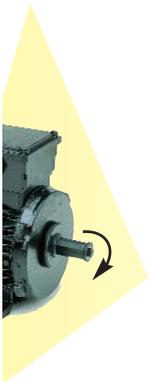
Order Code	Size	Motor Power		Supply voltage and frequency	100% continuous output current (A)	150% overload current for 60s (A)
		kW	hp			
SKB3400037	B	0.37	0.5	3 phase 380 to 480Vac ± 10% 48 to 62Hz	1.3	2.0
SKB3400055	B	0.55	0.75		1.7	2.6
SKB3400075	B	0.75	1.0		2.1	3.2
SKB3400110	B	1.1	1.5		2.8	4.2
SKB3400150	B	1.5	2.0		3.8	5.7
SKC3400220	C	2.2	3.0		5.1	7.7
SKC3400300	C	3.0	3.0		7.2	10.8
SKC3400400	C	4.0	5.0		9.0	13.5

## General Characteristics

- Maximum overload 150% of rated current for 60s
- Intelligent Thermal Management (ITM) optimises switching frequency
- 8 preset speeds
- Flying start
- Mains dip ride through
- Automatic no-spin autotune for fast performance optimisation
- Keypad access to all parameters for more demanding set-ups

## Environment

- IP20
- NEMA 1 rating with optional cover
- Ambient temperature -10 to +40°C @ 3 kHz switching
- Humidity 95% maximum (non-condensing)
- Electromagnetic Immunity complies with EN61800-3 and EN61000-6-3 and 4
- 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



For **even more** Commander SK performance 'scratch-the-surface' and reveal **the benchmark** in simple AC drives

## Other AC drives



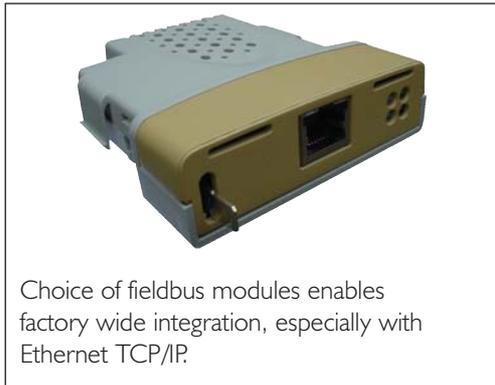
Unidrive **SP** – Solutions Platform AC drive with on board intelligence for higher power applications



Commander **SX** – IP66 simple AC drive for rugged environments

# THE BENCHMARK

in simple drives



Recipe changes, program changes and manipulation tasks can be done easily via LogicStick, saving money on extra hardware.



## Key Options for your application

Functionality at your fingertips allows Commander SK to be easy to integrate into your machine or process easily and cost effectively.

	Order Code	Description
Remote Keypad	SK-Keypad Remote	Remote panel mounting LED display
	SM-Keypad Plus	Remote panel mounting LCD multilingual display with additional help key. A PC software tool is included.
Parameter Storage	SmartStick	Upload drive parameters to the SmartStick or downloading to replacement drives.
Fieldbuses	SM-PROFIBUS DP	
	SM-DeviceNet	
	SM-CANopen	
	SM-INTERBUS	
	SM-Ethernet	<b>Ethernet TCP/IP</b>
Extra I/O	SM-I/O Lite	Additional I/O (1 x AI ( $\pm 10V$ bi-polar), 3 x DI and 1 x Relay) as well as a speed feedback input for incremental encoder for accurate speed control.
	SM-I/O Timer	As per SM-I/O Lite but with the addition of a real time clock for running.
	SM-PELV	Isolated I/O to NAMUR NE37 specification from February 2005
Software	CTSoft	Software for your PC or Laptop which allows you to store parameter settings. Use with CT Comms Cable.
	CT Comms Cable	Cable with isolation RS232 to RS485 for use with drive when using CTSoft or SyPTLite.
PLC Functions	SyPTLite	Software for your PC or Laptop which allows you to program the drive. Use LogicStick with CT Comms Cable.
	LogicStick	The LogicStick plugs into the front of the drive to allow PLC functions within the drive.
Power Hardware	Additional EMC Filters	These additional filters are designed to be used with the integral EMC filter in areas of sensitive equipment.
	Braking Resistors	For heavy or repetitive braking or deceleration.
	Gland Cover Size A, B or C	Bottom metal gland plate cover for installation.
	Top Cover Size A, B or C	Top cover for NEMA 1 installations.

# ation

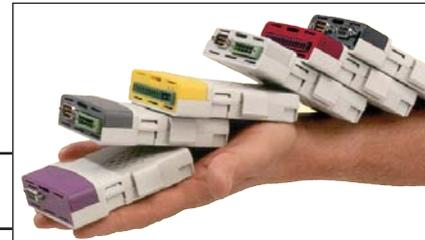
er SK to be configured  
and cost effectively.



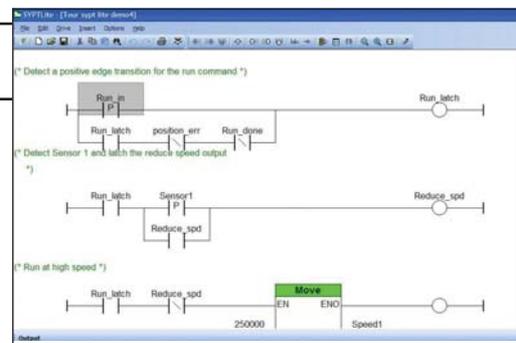
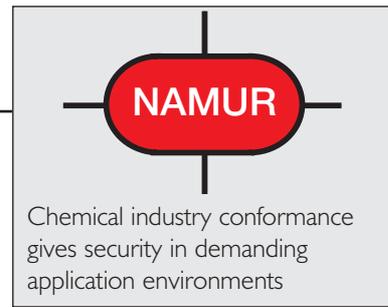
LED display to IP54 (NEMA 12) with additional function key	
LCD multilingual text keypad display to IP54 (NEMA 12) with software tool enables you to set up your own text lines	
to the SmartStick for storage or for easy setup of identical replacement drives	
10V bi-polar or 4-20mA), 1 x AO (0-10V or 4-20 mA), as well as a speed reference input to connect a standard accurate speed holding	
with the addition of a Real Time Clock for scheduling drive	
NE37 specifications for chemical industry applications –	
Laptop which allows you to commission and Use with CT Comms Cable	
2 to RS485 converter. For connecting PC/Laptop to the or SyPTLite	
Laptop which allows you to program PLC functions within with CT Comms Cable	
the front of the drive and enables you to program PLC	
designed to operate together with the drive's own of sensitive equipment	
aking or deceleration duties	
cover for installations using conduit entry	
installations	



Makes multiple drive programming fast, and 100% reliable. Perfect for storing correct factory settings for maintenance records.



'Click-in' integration and keypad set up to almost any fieldbus network and automation architecture – with the widest selection of fieldbus options



Replace nano and micro PLCs by using the LogicStick and SyPTLite giving ladder and function block programming for timers, counters, latches, etc – to get the most from SK's intelligence option.