



**CONTROL  
TECHNIQUES**

[www.controltechniques.com](http://www.controltechniques.com)



## 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...

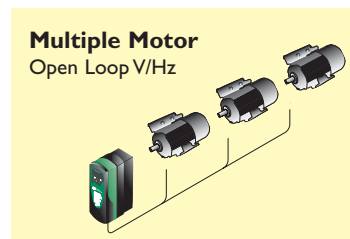
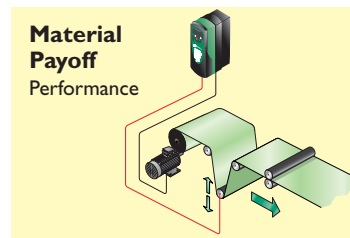
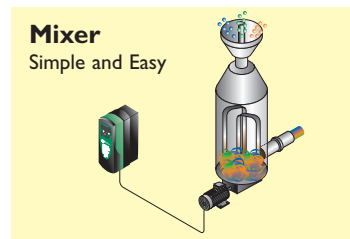
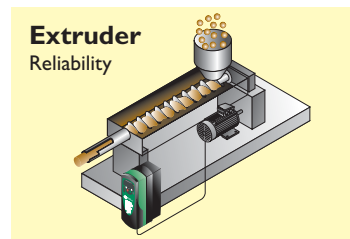
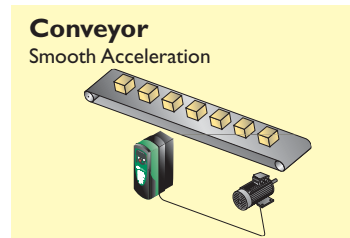
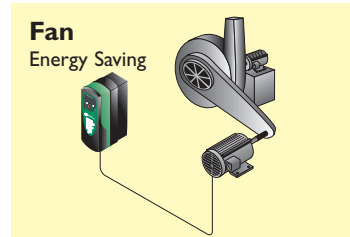
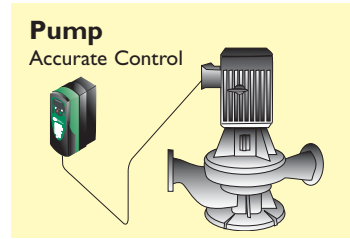
Stop/Go/Change...

Preset program upload slot...

Easy set up instructions...

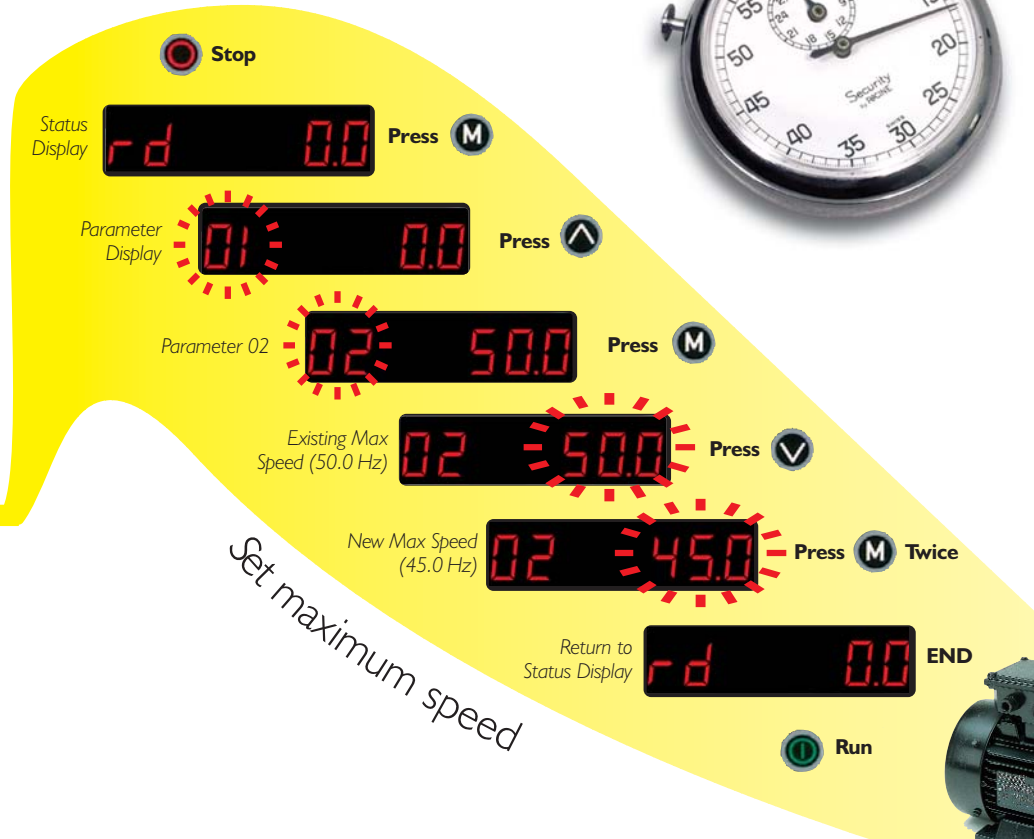
Clearly marked, practically sized connectors

Serial communications...

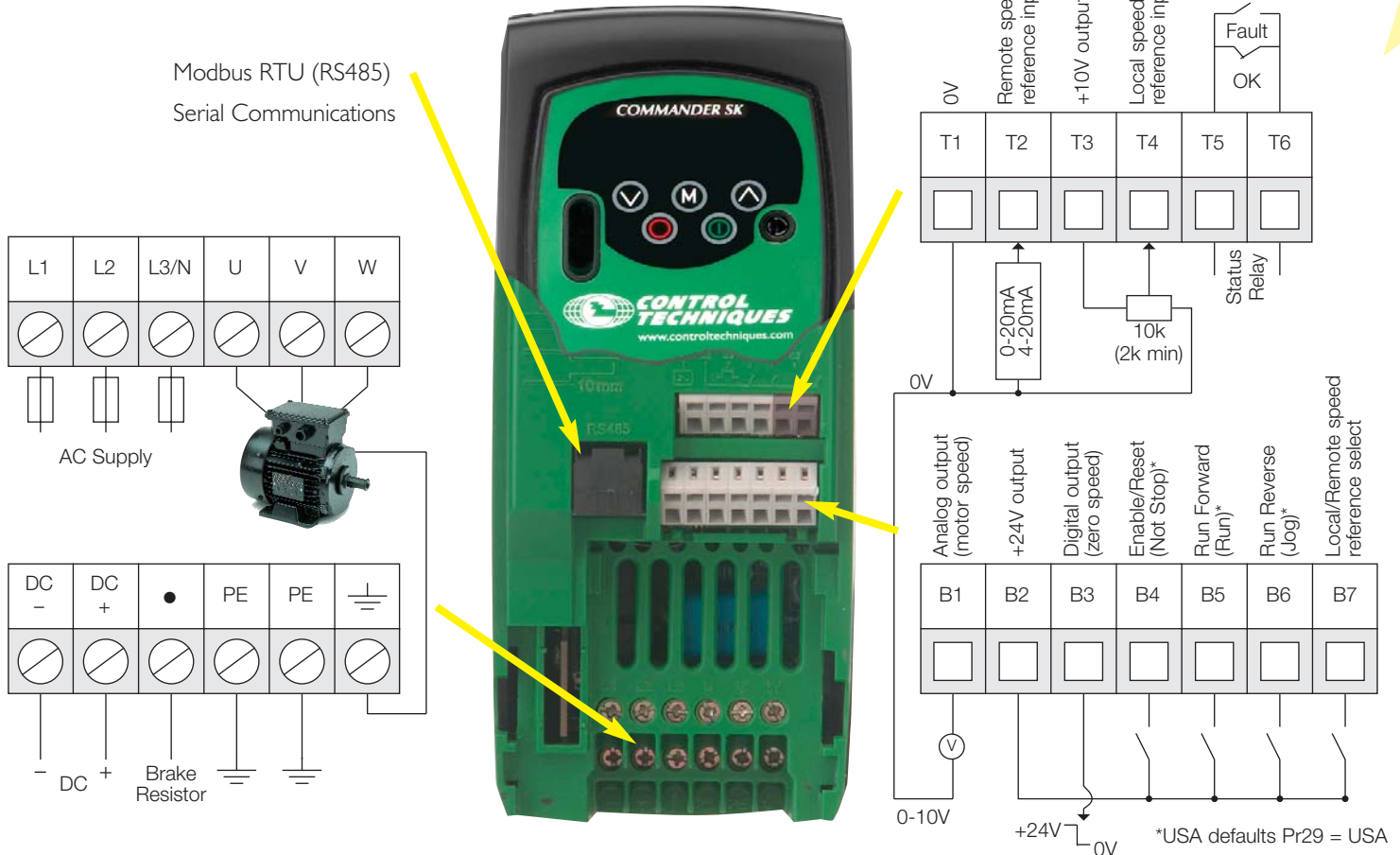


...for simple, compact, cost effective motor control, Commander SK delivers every time

# 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

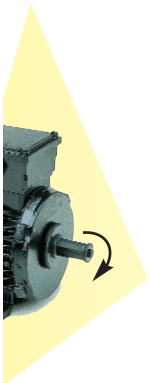
Order Code	Size	Motor Power		Supply voltage and frequency	100% continuous output current (A)	150% overload current for 60s (A)
		kW	hp			
SKB3400037	B	0.37	0.5	3 phase 380 to 480Vac ± 10% 48 to 62Hz	1.3	2.0
SKB3400055	B	0.55	0.75		1.7	2.6
SKB3400075	B	0.75	1.0		2.1	3.2
SKB3400110	B	1.1	1.5		2.8	4.2
SKB3400150	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



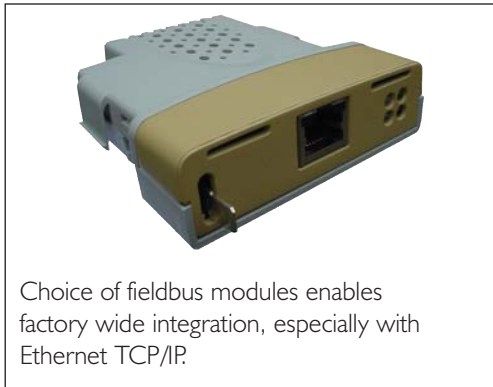
Unidrive **SP** – Solutions Platform AC drive with on board intelligence for higher power applications



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 in conduit.
	Top Cover Size A, B or C	Top cover for NEMA 1 installations.

# ation

er SK to be configured  
and cost effectively.

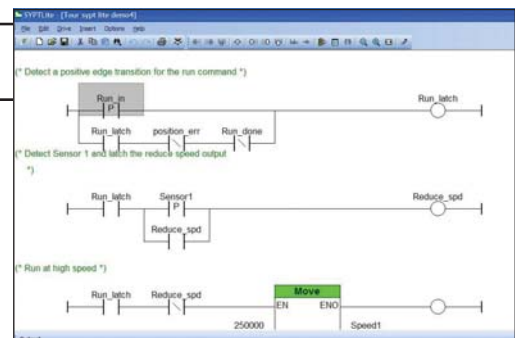
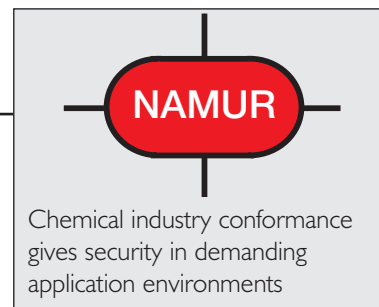
LED display to IP54 (NEMA 12) with additional function key	
LCD multilingual text keypad display to IP54 (NEMA 12) with software tool enables you to set up your own text lines)	
to the SmartStick for storage or for easy setup of identical replacement drives	
	
	
	
	
10V bi-polar or 4-20mA), 1 x AO (0-10V 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 systems 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.

# Driving the world...

## Drive & Application Centres

### AUSTRALIA

Melbourne Application Centre  
A.C.N. 003 815 281  
Tel: 613 973 81777  
Fax: 613 9729 3200  
After Hours: 61 2 9963 5271

Sydney Drive Centre  
A.C.N. 003 815 281  
Tel: 61 2 9838 7222  
Fax: 61 2 9838 7764  
After Hours: 61 2 9963 5271

### AUSTRIA

Linz Drive Centre  
Tel: 43 7229 789480  
Fax: 43 7229 7894810  
After Hours: 43 7215 3502

### BELGIUM

Brussels Drive Centre  
Tel: 32 1574 0700  
Fax: 32 1574 0799

### CANADA

Toronto Drive Centre  
Tel: 1 905 201 4699  
Fax: 1 905 201 4694  
After Hours: 1 800 893 2321

### CHINA

Shanghai Drive Centre  
Tel: 86 21 5426 0668  
Fax: 86 21 5426 0669

Beijing Application Centre  
Tel: 86 10 856 31122 ext 820  
Fax: 86 10 856 35029

### CZECH REPUBLIC

Brno Drive Centre  
Tel: 420 541 192111  
Fax: 420 541 192115  
After Hours: 420 541 192 119

### DENMARK

Copenhagen Drive Centre  
Tel: 45 4369 6100  
Fax: 45 4369 6101  
After Hours: 45 4369 6100

### FINLAND

Helsinki Drive Centre  
Tel: 358 985 2661  
Fax: 358 985 26823  
After Hours: 358 500 423271

### FRANCE

Angouleme Drive Centre  
Tel: 33 5 4564 5454  
Fax: 33 5 4564 5400

### GERMANY

Bonn Drive Centre  
Tel: 49 2242 8770  
Fax: 49 2242 877277  
After Hours: 49 1714 964777

### CHENNAI DRIVE CENTRE

Tel: 49 3722 52030  
Fax: 49 3722 520330  
After Hours: 49 1714 964777

### DARMSTADT DRIVE CENTRE

Tel: 49 6251 17700  
Fax: 49 6251 177098  
After Hours: 49 1714 964777

### GREECE

Athens Application Centre  
Tel: 0030 210 57 86086/088  
Fax: 0030 210 57 86087

### HOLLAND

Rotterdam Drive Centre  
Tel: 31 184 420555  
Fax: 31 184 420721  
After Hours: 31 184 420555

### HONG KONG

Hong Kong Application Centre  
Tel: 852 2979 5271  
Fax: 852 2979 5220  
After Hours: 852 2979 5271

### INDIA

Mumbai Application Centre  
Tel: 91 20 612 7956, 612 8415  
Fax: 91 20 611 3312

### KOLKATA APPLICATION CENTRE

Tel: 91 33 2357 5302/2357 5306  
Fax: 91 33 2357 3435  
After Hours: 91 98 3004 8562

### CHENNAI DRIVE CENTRE

Tel: 91 44 2496 1123/  
2496 1130/2496 1083  
Fax: 91 44 2496 1602  
After Hours: 91 44 2496 1083

### NEW DELHI APPLICATION CENTRE

Tel: 91 11 2 576 4782/  
91 11 2 581 3166  
Fax: 91 11 51 539216

### IRELAND

Dublin Drive Centre  
Tel: 353 45 448200  
Fax: 353 45 433622

### ITALY

Milan Drive Centre  
Tel: 39 02575 751  
Fax: 39 02575 12858  
After Hours: 39 02575 751

### VICENZA DRIVE CENTRE

Tel: 39 0444 396200  
Fax: 39 0444 341317  
After Hours: 39 02 575 751

### KOREA

Seoul Application Centre  
Tel: 82 31 703 7169  
Fax: 82 31 703 7168  
After Hours: 82 31 703 7185

### MALAYSIA

Kuala Lumpur Drive Centre  
Tel: 603 5634 9776  
Fax: 603 5633 9592  
After Hours: 60 12 333 8355

### POLAND

Warszawa Application Centre  
Tel: 48 22 4589 205/4589 206  
Fax: 48 22 4589 255

### REPUBLIC OF SOUTH AFRICA

Johannesburg Drive Centre  
Tel: 27 11 462 1740  
Fax: 27 11 462 1941  
After Hours: 27 11 462 1740

### RUSSIA

Moscow Application Centre  
Tel: 7 095 232 9472  
Fax: 7 095 956 4862

### SINGAPORE

Singapore Drive Centre  
Tel: 65 6468 8979  
Fax: 65 6468 6982  
After Hours: 65 9752 5828/  
9636 0323

### SPAIN

Barcelona Drive Centre  
Tel: 34 93 680 1661  
Fax: 34 93 680 0903  
/34 93 680 2823  
After Hours: 34 610 554540

Bilbao Application Centre  
Tel: 34 94 620 3646  
Fax: 34 94 681 1406  
After Hours: 34 61 055 4547

Valencia Drive Centre  
Tel: 34 96 154 2900  
Fax: 34 96 153 2906  
After Hours: 34 66 642 8514

### SWEDEN

Stockholm Application Centre  
Tel: 468 554 241 10  
Fax: 468 554 241 10  
After Hours: 467 044 183 29

### SWITZERLAND

Lausanne Application Centre  
Tel: 41 21 637 7070  
Fax: 41 21 637 7071  
After Hours: 41 79 357 8683

### ZURICH DRIVE CENTRE

Tel: 41 56 201 4242  
Fax: 41 56 201 4243  
After Hours: 41 79 357 8683

### TAIWAN

Taipei Application Centre  
Tel: 886 22325 9555  
Fax: 886 22705 9131  
After Hours: 886 92186 6502

### THAILAND

Bangkok Drive Centre  
Tel: 66 2580 7644  
Fax: 66 2591 4559  
A/Hours Sales: 66 1443 4095  
A/Hours Service: 66 1443 4098

### TURKEY

Istanbul Drive Centre  
Tel: 90 216 4182420  
Fax: 90 216 4182423  
After Hours: 90 216 418 2420

### UAE

Dubai Application Centre  
Tel: 971 4 883 8650  
Fax: 971 4 883 8651

### UNITED KINGDOM

Telford Drive Centre  
Tel: 44 1952 213700  
Fax: 44 1952 213701  
After Hours: 44 1952 213700

### USA

Charlotte Application Centre  
Tel: 1 704 393 3366  
Fax: 1 704 393 0900  
After Hours: 1 800 893 2321

Chicago Application Centre  
Tel: 1 630 752 9090  
Fax: 1 630 752 9555  
After Hours: 1 800 893 2321

### CLEVELAND DRIVE CENTRE

Tel: 1 440 717 0123  
Fax: 1 440 717 0133  
After Hours: 1 800 893 2321

Minneapolis US Headquarters  
Tel: 1 952 995 8000  
Fax: 1 952 995 8020/8099  
After Hours: 1 800 893 2321

### PROVIDENCE DRIVE CENTRE

Tel: 1 401 541 7277  
Fax: 1 401 541 7266  
After Hours: 1 800 893 2321

● Drive & Application Centres  
● Distributors

## Distributors

### ARGENTINA

Euro Techniques SA  
Tel: 54 11 4331 7820  
Email: eurotech@eurotechsa.com.ar

### BAHRAIN

Ilkhar Electrical Est.  
Tel: 973 271 116  
Email: ieeppower@batelco.com.bh

### BRAZIL

ACIEL Comercio e Servicos LTDA  
Tel: 55 11 5565 5798  
Email: aciel@aciell.com.br

### POSTRONIC SISTEMAS INDUSTRIAS LTDA.

Tel: 55 11 3832 2738  
Email: info@postronic.com.br

### CHILE

Ingenieria Y Desarrollo  
Tecnologia S.A.  
Tel: 56 (2) 741 9624  
Email: itd@idtd.cl

### COLOMBIA

Sistronic LTDA  
Tel: 57 1 410 04 24  
Email: jonesdug@colomnet.net.co

### CROATIA

Koncar - MES d.d.  
Tel: 385 1 366 7273  
Email: nabava@koncar-mes.hr

### CYPRUS

Achie Industrial Electronic  
Services Ltd  
Tel: 3572 5 332181  
Email: acme@cytanet.com.cy

### EGYPT

Samiram  
Tel: 202 7603877/202 7605950  
Email: corporate@samiram.com

### HUNGARY

Control-VH Kft  
Tel: 361 431 1160  
Email: info@controlvh.hu

### ICELAND

Samey ehf  
Tel: 354 510 5200  
Email: samey@samey.is

### INDONESIA

Pt Apikon Indonesia  
Tel: 65 6468 8979  
Email: ooww@controltechniques.com.my

### IRAN

Atiro  
Tel: +98 21 855 4210

### ISRAEL

Dor Drives Systems Ltd  
Tel: 972 3900 7595  
Email: info@dor1.co.il

### KENYA

Kassam & Bros Co. Ltd  
Tel: 2540 2 556 418  
650268 557136  
Email: kasbro@insightkenya.com

### KUWAIT

Saleh Jamal & Company WLL  
Tel: 965 483 2358  
Email: sjceng@almullagroup.com

### LEBANON

Black Box Automation & Control  
Tel: 961 1 443773  
Email: info@blackboxcontrol.com

### MALTA

Mekanika Limited  
Tel: 35621 442 039  
Email: mfranca@gasan.com

### MEXICO

MELCSA  
Tel: 52 5 561 1312  
Email: melcsamx@serve.net.mx  
SERVITECK, S.A de C.V  
Tel: 52 5 398 3380  
Email: servitek@data.net.mx

### MOROCCO

Leroy Somer Maroc  
Tel: 212 22 354948  
Email: lsmaroc@wanadooop.ma

### NEW ZEALAND

Electrade New Zealand  
Tel: 64 9525 1753  
Email: kevin@electrade.co.nz

### PHILIPPINES

Bussbar Corp.  
Tel: 632 776 0066  
Email: sales@bussbar.com.ph

### POLAND

APATOR CONTROL Sp.z o.o  
Tel: 48 56 6191 207  
Email: drives@apator.torun.pl

### PORTUGAL

Harker Sumner S.A  
Tel: 351 22 947 8090  
Email: drives.automation@harker.pt  
QATAR  
AFI Sitna Technologies  
Tel: 974 468 4442  
Email: jpb33@qatar.net.qa

### ROMANIA

Dor Drives International  
Tel: 40 21 337 3465  
Email: dordrive@zappmobile.ro

### SAUDI ARABIA

A. Abunayan Electric Corp.  
Tel: (9661) 477 9111  
Email: aec-salesmarketing@abunayanngroup.com

### SLOVAKIA

EMERSON S.A  
Tel: +421 32 7700 369  
Email: petersk@vuma.sk

### SLOVENIA

PS Logatec  
Tel: 386 1 750 8510  
Email: ps-log@ps-log.si

### TUNISIA

SIA Ben Djemal & CIE  
Tel: 216 1 332 923  
Email: bendjemal@planet.tn

### URUGUAY

Secoin S.A  
Tel: 5982 2093815  
Email: secoin@adinet.com.uy

### VENEZUELA

Vertix Instrumentos, S.A  
Tel: 58 281 267 4115

### VIETNAM

N.Duc Thinh  
Tel: 84 8 9490633  
Email: info@tech@nducthinh.com.vn

### YUGOSLAVIA

Master Inzenjering d.o.o  
Tel: 381 24 551 605  
Email: master@eunet.yu