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Commander SX

IP66, NEMA 4X

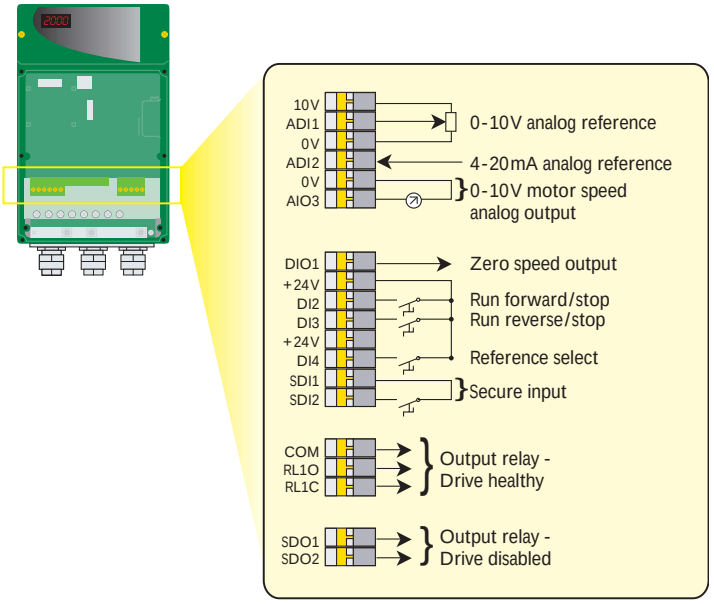
AC drive 0.37 to 7.5 kW
0.5hp to 10 hp



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Commander SX - ‘cabinet-free’ drive solutions





From 0.37 to 7.5 kW (0.5 to 10hp) the Commander SX has been designed as a robust, IP66, NEMA 4X wall mounting AC drive for applications in food, drink, paper, textile and packaging machines where dirt, dust and other pollutants need to be regularly washed away.

Why Commander SX ?

- IP66, NEMA 4X enclosed drive - no need for separate cabinet.
- Designed for ‘direct to wall’ or ‘next-to-motor’ mounting - avoiding cabling, cabinet and installation costs.
- Easy setup and commissioning - the first 10 parameters cover 80% of applications.
- More than 10 common preset drive applications.
- Surface and corners designed to maximise washdown effectiveness.
- Integral EMC filter (to generic and drive standards) for units up to 4 kW (5hp) - IP66 EMC filters, from 5.5 kW (7.5hp) as option.
- Robust industrial housing with simple speed control interface - no drive installation specialists required.
- Industrial standard EN954-1 categories 2 and 3 achieved through addition of PX-Secure option.

IP66 NEMA 4X

- For tough, wet and dusty environments.
- Designed for factory washdown with pressure hose, and detergents.
- Wall or machine mounting - no extra cabinets required.

Integral braking IGBT and resistor

- Heavy duty optional IP66 resistors also available.

Automatic autotune

- For fast reliable set up.



Encoder option

- Internally fitted encoder option for incremental encoders up to 32,000 lines per revolution.

Commander SX design features

- **XPressKey** for quick and easy parameter setup, transfer and storage.



Handheld LCD text keypad

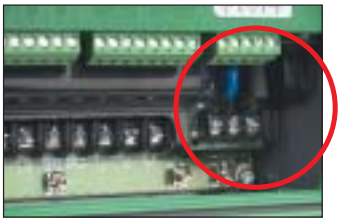


- For parameter set up and commissioning.
- Bright backlit for clarity.
- Online help functions.
- Dual language.



Brake module option

- For motor mechanical brake release - internally fitted.



Secure Input

- This input, when opened, causes the drive to be disabled. When applied in the correct manner it prevents torque on the motor shaft is guaranteed with a very high level of integrity, even if components were to fail. When the PX-Secure option is fitted it allows the use of a security function meeting EN954-1 categories 2 or 3.

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General Characteristics

Advanced set up and commissioning with SXSoft

- 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.



World class fieldbus flexibility

Modbus RTU
(as standard)



Onboard EMC filter

- For frame sizes 1 and 2 (4kW @ 400V).
- Meets both generic and drive EMC standards.

Optional EMC filter

- For frame size 3 (from 5.5kW @ 400V) rated to IP66.
- For long motor cable lengths.



Removable gland plate

- For rapid commissioning and easy maintenance.
- Gland fitting options.
- Designed for standard conduit

Environment

- IP66 NEMA 4X rating, for mounting in close proximity to the motor and application.
- Ambient temperature 40 ºC (104ºF) without derating. Up to 50 ºC operation with a maximum derating of only one motor size.
- Removable gland plate for easy termination and removal of control and motor cables.
- Complies with EN954-1 Cat 3 with PX-Secure option.
- EMC cable gland option for shielded cable management.
- Electromagnetic Immunity complies with EN61800-3 (Drive standard) and EN61000-6-2 (generic standard).
- Electromagnetic Emissions complies with EN61800-3 (Drive standard - 1st and 2nd environment) with integral EMC filter.
- Complies with EN61000-6-3 and EN61000-6-4 (Generic standard) with integral EMC filter.
- Earth leakage current less than 3 mA with integral EMC filter in circuit.
- European Hygienic Engineering and Design Group EHEDG and FDA hygienic recommendations have been adopted for the food industry:
  - No paint.
  - Anodised aluminium heat sink.
  - Polycarbonate covers.
  - All slopes > 3 degrees incline.
  - Roughness < 0.8 microns.
  - No zones where liquids can accumulate.

Control

- Open loop vector control.
- V/F control.
- Closed loop vector with PX-Encoder option.
- Speed reference input 0-10 V, 0-20 mA, 4-20 mA.
- 5 digital inputs. Enable, Run forward, Run reverse, Jog, local / remote select.
- Switching frequency 3-11 kHz with 4 .5kHz as default.
- Acceleration and Deceleration ramps (linear and S-type).
- Serial communication as standard
  - Modbus RTU RS485 via RJ45 connector.
- DC injection braking as standard.
- Integral dynamic braking transistor and resistor.
- PID Controller.

Protection

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

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technical data...

Commander SX 200 to 240VAC ± 10% 3 phase					
Model order code	Frame size	kW rating	hp rating	100% Output current	150% Overload current for 60s
SX13200037XX	1	0.37	0.5	2.5	3.7
SX13200055XX	1	0.55	0.75	3.5	5.2
SX13200075XX	1	0.75	1	4.5	6.7
SX23200110XX	2	1.1	1.5	6	9
SX23200150XX	2	1.5	2	8	12
SX23200220XX	2	2.2	3	10	15
SX33200300XX	3	3	4	14	21
SX33200400XX	3	4	5	16.5	24.8

Commander SX 380 to 480VAC ± 10% 3 phase					
Model order code	Frame size	kW rating	hp rating	100% Output current	150% Overload current for 60s
SX13400075XX	1	0.75	1	2.5	3.7
SX13400110XX	1	1.1	1.5	3.5	5.2
SX13400150XX	1	1.5	2	4.5	6.7
SX23400220XX	2	2.2	3	6	9
SX23400300XX	2	3	4	8	12
SX23400400XX	2	4	5	10	15
SX33400550XX	3	5.5	7.5	14	21
SX33400750XX	3	7.5	10	16.5	24.8

Commander SX 2 3 4 00075 XX

- PB - Standard 6 button version
- PT - Potentiometer version
- DV - Display only (consult factory)
- kW rating
- Voltage (400 V)
- 3 phase input
- frame size
- family name

Integral EMC filter as standard						
Model order code	Mounting style	Motor Cable Industrial (m)	CT order code	D (mm)	H (mm)	W (mm)
SX13400075XX SX13400110XX SX13400150XX SX23400220XX SX23400300XX SX23400400XX	Integral EMC filter as standard					
SX33400550XX SX33400750XX	IP66 Bookcase	20	TBA	130	175	40

Note: The PT and DV versions require PX-LCD or SXSoft to commission the drive.

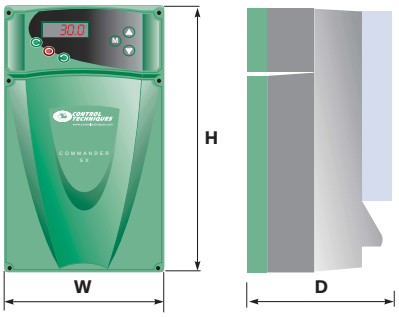
** Rated current at 4.5kHz (default) switching frequency.*
Higher switching frequencies are available with some derating.



Options

Order Code	Description
XPressKey	Parameter saving and copying
PX-LCD	Hand-held LCD text keypad
SXSoft	PC Windows™ based setup software
CT Comms Cable	Cable between PC and Drive for SXSoft
PX-I/O	I/O extension module
SM-PROFIBUS-DP	PROFIBUS DP-12 MB
SM-DeviceNet	DeviceNet fieldbus interface
SM-INTERBUS	INTERBUS fieldbus interface
SM-CANopen	CANopen fieldbus interface
PX-Encoder	Incremental encoder feedback module
PX-Brake Contactor	Motor mechanical brake contactor
PX-Secure	Compliance with EN954-1 cat 2 & 3
PX-Brake Contactor Secure	Motor mechanical brake contactor with EN954-1 cat 2 & 3
Resistors	Braking resistor available to match duty
FS6376-16-07	IP66 RFI filter
PX-Cabling Kit	Cable gland kit

Dimensions



Frame Size	H		W		D	
	mm	in	mm	in	mm	in
1	330	12.99	180	7.08	189	7.44
2	330	12.99	180	7.08	223	8.78
3	330	12.99	281	11.06	233	9.17

H = Height including mounting brackets

CE N1652 c UL us LISTED 2 YEAR Digital Drive Warranty

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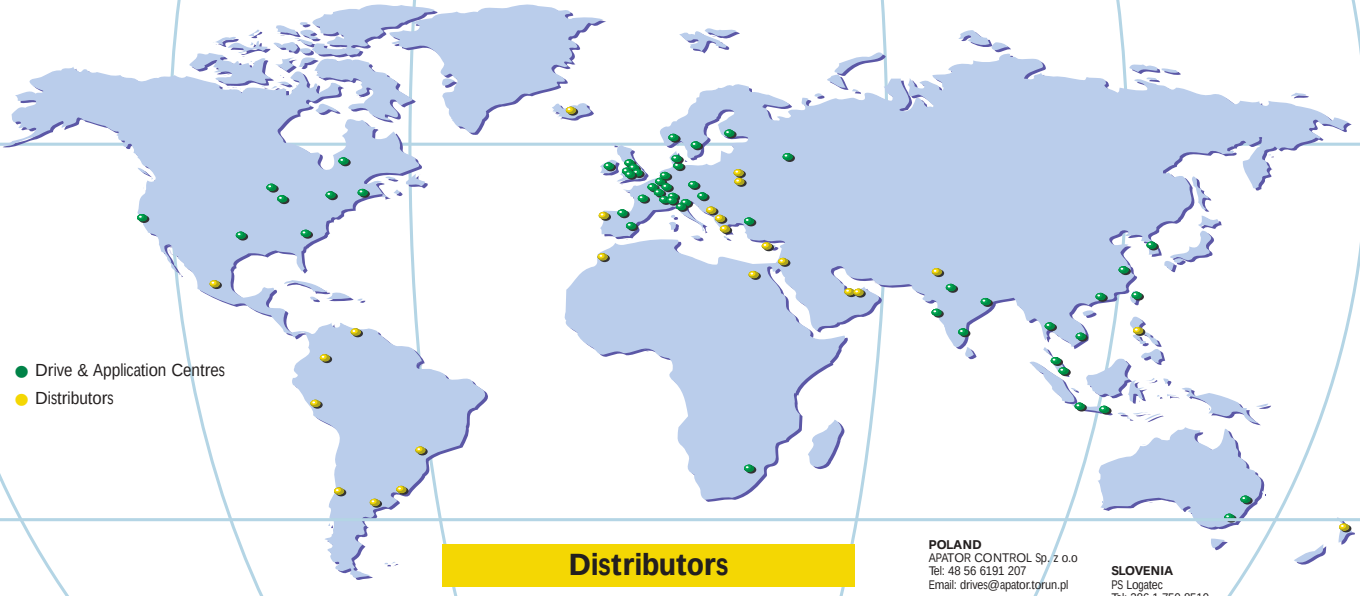
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Tel: 54 11 4331 7620
Email:
eurotech@eurotechsa.com.ar

BAHRAIN
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Tel: 973 271 116
Email: jeepower@batelco.com.bh

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

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

IRAN
Atiro
Tel: +98 21 855 4210

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

JORDAN
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Email: nasrbros@firstnet.com.jo

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Tel: 965 483 2358
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Email: info@blackboxcontrol.com

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Tel: 35621 442 039
Email: mfrancica@gasan.com

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Email: melcsamx@iserve.net.mx

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