

CD20 is build of two electronic boards

Digital board – it is the same digital board that used in all CD series 5 line or the digital board which is used in the synqnet drive, this document does not cover the digital board

Power board – design for 20 Amp rms and 40 Amp rms for two seconds, this document cover all the technical info for the ordering part number and power board information.

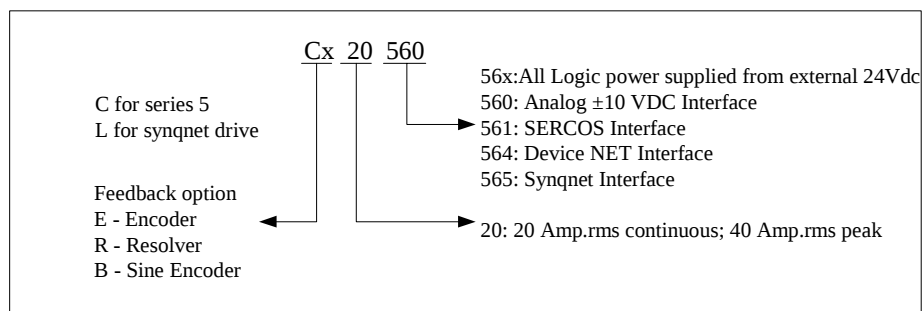
Ordering Information

Example:

CE20561 – CD series 5, 20 Amp rms Cont, Incremental encoder feedback, SERCOS interface

CR20560 – CD series 5, 20 amp rms Cont, resolver feedback, Analog Interface

LB20565 – Synqnet Drive, 20 amp rms Cont, sine encoder feedback, Synqnet Interface



INPUT POWER FILTERING

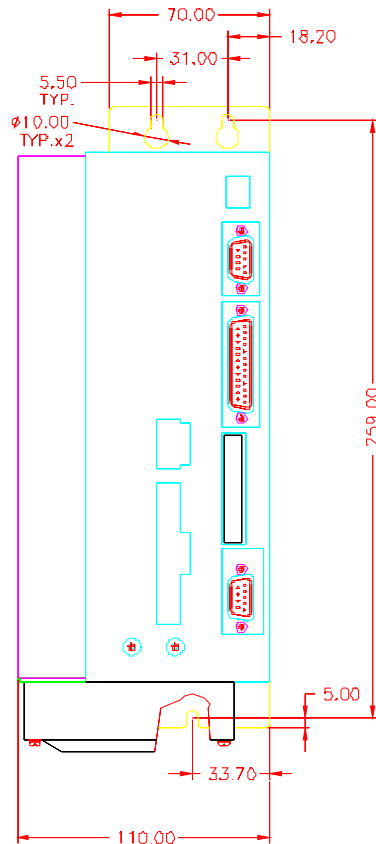
The SERVOSTAR CD electronic system components require EMI filtering in the input power leads to meet the conducted emission requirements for the industrial environment. This filtering blocks conducted-type emissions from exiting onto the power lines and provides a barrier for EMI on the power lines.

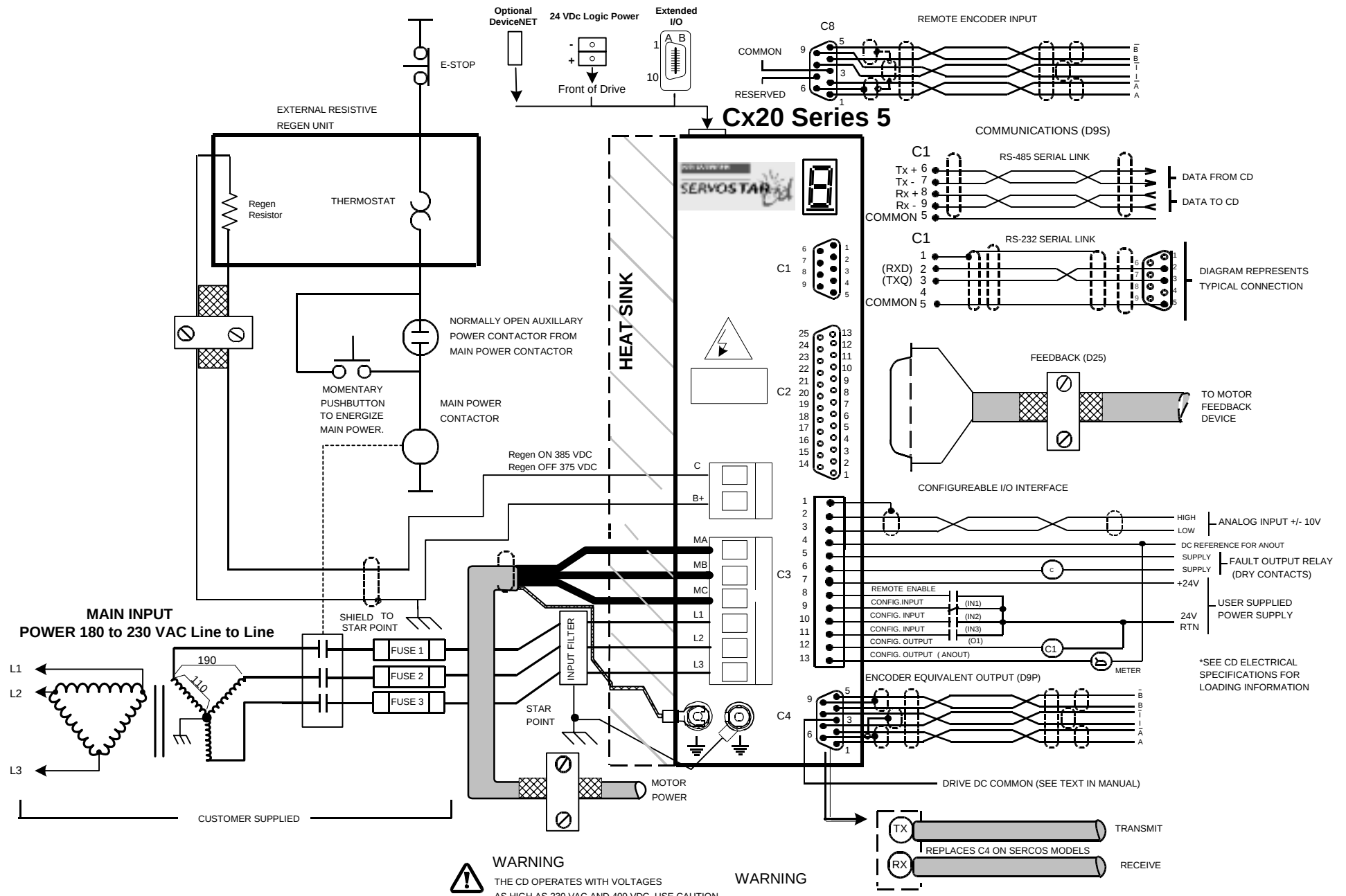
Care must be taken to adequately size the system. The type of filter is based on the voltage and current rating of the system the incoming line is three-phase. These filters are mounted as close to the incoming power as possible so noise is not capacitively coupled into other signal leads and cables. These lines may be noisy and should be separated from other sensitive cabling to avoid unwanted coupling of noise. Several manufacturers of these filters are listed below. They should be able to recommend the best filter design for most typical motor control applications. Danaher Motion has also provided specific filters recommendations that adequately attenuate the conducted noise to levels well below the CE limits. The implementation of the EMI filter should be done in accordance with the following guidelines:

- Filter should be mounted on the same panel as the drive.
- Filter should be mounted as close as possible to incoming cabinet power.
- When mounting the filter to the panel, remove any paint or material covering. Use an unpainted metallic back panel, if possible.
- Filters are provided with an earth connection. All ground connections are tied to ground.
- Filters can produce high leakage currents. ***Filters must be earthed before connecting the supply!***
- Filters should not be touched for a period of 10 seconds after removing the supply.

	Recommended EMI Line Filter for CD20	Danaher Motion Part #
	Schaffner FN3258-30-47 http://www.schaffner.com Schaffner Holding AG Nordstrasse 11 CH-4542 Luterbach Switzerland T +41 32 6816 626 F +41 32 6816 641	
	CORCOM http://www.corcom.com Telephone 847-680-7400 For Customer Service please call 1-800-468-2023 FAX 847-680-8169 Postal address 844 E. Rockland Road Libertyville, Illinois 60048	
	Fair-Rite http://www.fair-rite.com Telephone (888) FAIRRITE (324-7748) or (845)895-2055 FAX (888) FERRITE (337-7483) or (845) 895-2629 Postal address PO Box J, 1 Commercial Row Wallkill, NY 12589	
	Micrometals	
	Magnetics	
	Phoenix	
	FerriShield	
	Filter Concepts	

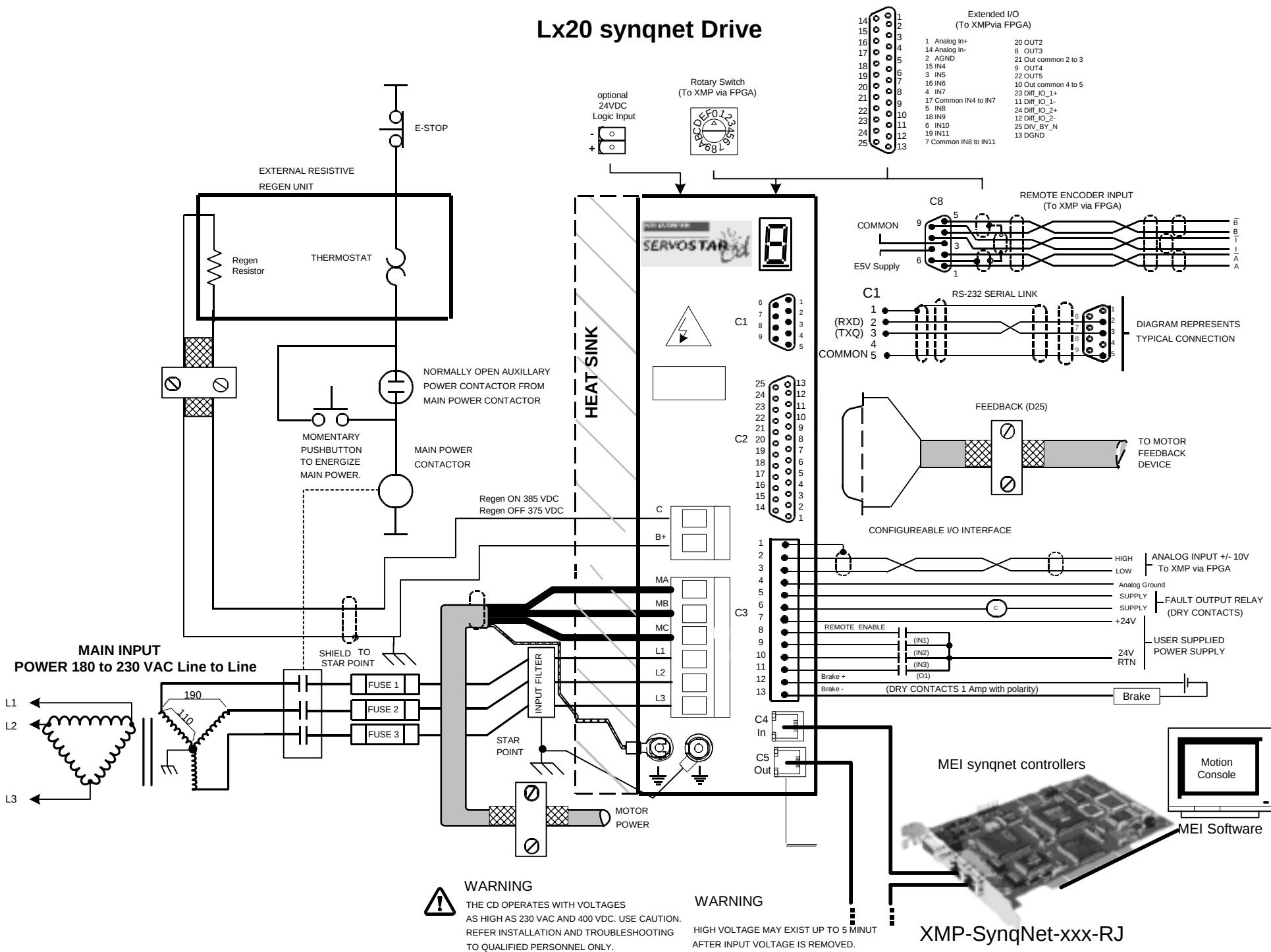
OUTLINE DIMENSIONS





*SEE CD ELECTRICAL SPECIFICATIONS FOR LOADING INFORMATION

Lx20 synqnet Drive



WARNING

THE CD OPERATES WITH VOLTAGES AS HIGH AS 230 VAC AND 400 VDC. USE CAUTION. REFER INSTALLATION AND TROUBLESHOOTING TO QUALIFIED PERSONNEL ONLY.

WARNING

HIGH VOLTAGE MAY EXIST UP TO 5 MINUT AFTER INPUT VOLTAGE IS REMOVED.

HARDWARE SPECIFICATIONS

Amplifier Model		Cx20		
Unit Weight	Lbs./Kgs.	8.8 / 4		
Mounting Hardware	English (Metric)	10-32 (M4)		
	Applied Torque	20 lb-in. (2.26 Nm.)		
Connection Hardware	Line Screw Size/Torque	M3.5/12 lb-in. (1.35 N-m)		
	BUS Screw Size/Torque			
	Motor Screw Size/Torque			
	Ground Screw Size/Torque			
Wire Size (AWG#)	Control Logic (AWG/ mm ²)	16 / 1.31		
	Configurable I/O wire gauge	22-18 AWG (0.3-0.75 mm ²) Ferrules recommended: 18 AWG Type H0 - 75/14 Weidmuller 4629.0 or equivalent 20 AWG Type H0 - 5/14 Weidmuller 6907.0 or equivalent 22 AWG Type H0 – 34/12 Weidmuller 90257.7 or equivalent		
	Regen (AWG/ mm ²) C B+	10 / 5.26		
	Motor Line (AWG/ mm ²) Main Input Ma Mb Mc L1 L2 L3	10 / 5.26		
Clearance Distance	Side-to-Side	0.5 in (12.7 mm)		
	Top/Bottom	2.5 in (63.5 mm)		
Mating Connector Hardware	CK100 Kit	Includes: C1, C2, C4, C7 (plus 2 ft./0.69 m. of stranded bus ribbon), C8		
	C1	D9 Female EDA 8S0009SS402S25 Connector 9 pins D type for Cable solder		
	C2	D25 Male EDA 8S0025SS402525 Connector 25 pins D Type For Cable solder		
	C3	Danaher Motion #: A-93899-013 Vendor Info: Weidmuller BL3.5/13 Cat.No. 161574		
	Connector Screw Torque	2.25 lb-in. (0.25 N-m)		
	C4	D9 male or Sercos or RJ45 for synqnet EDA 8S0009SS402S25 Connector 9 pins D type for Cable solder Sercos matting connector come w/ the sercos cable RJ45 shielded Ethernet cable		
	C7	10 Pin (0.1"x0.1") Female ribbon		
	C8	D9 male EDA 8S0009SS402S25 Connector 9 pins D type for Cable solder		
	C9	20 PIN connector HIROSE FX2BA-20SA-1.27R		
	Regen (AWG/ mm ²) C B+	Connector: 2 x PIN Molex MiniFit Molex P/N 42816-0212 *Terminal (Pins): Molex P/N 42815-0031		
	Motor Line (AWG/ mm ²) Main Input Ma Mb Mc L1 L2 L3	Connector: 6 x PIN Molex MiniFit Molex P/N 42816-0612 *Terminal (Pins): Molex P/N 42815-0031		
	24 V Logic (optional)	Danaher Motion #:A-81014-002 Vendor Info: PCD ELFP02210		

* Molex Crimp tooling P/N 63811-1500 for terminal pins

ELECTRICAL SPECIFICATIONS

Product Model		Cx20		
Main Input Power	Voltage (VAC _{L-L}) Nominal ±10%	180 to 230 3ϕ only		
	Line Frequency Hz	47-63		
	Input power at 180 VAC L-L	5.3 kW		
	Input power at 208 VAC L-L	6.2 kW		
	Input power at 230 VAC L-L	6.8 kW		
	Continuous Current (A)	20amps/phase		
	Peak Current (A) for 2s	40amps/phase		
	Line Fuses (FRN-R, LPN, or equiv.)	25		
Logic Input Power	+24 VDC Ext. Logic Voltage (V)	22 to 27		
	+24 VDC Ext. Logic Current (amps sink)	1.5		
	+24 VCD Ext. Logic Current (amps max surge)	2.6		
SoftStart	Max. Surge Current (A)	200		
	Max. Charge Time (msec)	50		
Protection Functions	Fault Contact Rating (A)	1		
	Fault Contact Closing Period (ms)	Close = 3 ms, Open = 2 ms		
	Over-Temperature Trip (°C/°F)	80/176		
Rated Main Output (Ma, Mb, Mc)	Continuous Power at 180 VAC L-L Line Input (45°C (113°F) Ambient)	4 kW		
	Continuous Power at 230 VAC L-L Line Input (45°C (113°F) Ambient)	5.2 kW		
	Continuous Current (A _{RMS})	20		
	Peak Current (Arms) for 2 sec	40		
	PWM Frequency (kHz)	8		
	PWM Motor Current Ripple (kHz)	16		
	Form Factor (rms/avg)	≤1.01		
Protective Functions	Under-Voltage Trip (nominal) (VDC)	100		
	Over-Voltage Trip (VDC)	400		
	Over-Temperature Trip (°C/°F)	80/176		
	Internal heat dissipation (watts)	330		
Environment	Operation temperature (°C/°F)	5/41 to 45/113		
	Storage temperature (°C/°F)	0/32 to 70/158		
	Ambient humidity (%)	10 to 90		
	Atmosphere	without corrosive gasses or dust		
	Altitude	Derate 5% per 1000 ft.(300 m) above 3300 ft. (1000 m)		
	Vibration (g)	0.5		

**MAIN INPUT
POWER 180 to 230 VAC Line to Line**

$$L - L = \sqrt{3} \times \text{Phase[VAC]}$$

$$VBUS = \sqrt{2} \times L - L = \sqrt{2} \times \sqrt{3} \times \text{Phase[VAC]}$$

$$VBUS :$$

$$160 = \sqrt{2} \times 115$$

$$290 = \sqrt{2} \times 208$$

$$325 = \sqrt{2} \times 230$$

REGEN INFORMATION

Product Model		Cx20		
External Shunt Regulator	Peak current (amps)	45		
	Minimum resistance (ohms)	4 @ 190VBUS 8 @ 320VBUS		
	watts	1kW		
	BUS Voltage (nominal) (VDC)	325		
	V _{HYS} (Regen circuit turn-off) (VDC)	375		
	V _{MAX} (Regen circuit turn-on) (VDC)	385		
External Regen Kits	TBD	✓	✓	✓