



MODEL SPECIFICATIONS AND FEATURES

Power Class	4005	4010	4013	4018	4024	4032	4042	4048
Horsepower (Hp) at 460v	3	5	7.5	10	15	20	25	30
Output Current In (A)	5.0	10	13	18	24	32	42	48
Max. Current 1min (A)	7.6	15	20	27	36	48	63	72
Overloadability	1.5 x In, 1min/10min							
Max. Output Voltage	Equals to supply voltage							
Supply								
Supply Voltage	380-500Vac							
Allowable Voltage Fluctuation	+/- 10%							
Nominal Supply Frequency	50/60Hz +/- 5%							
I/O Functions								
Digital Inputs	S1, S2, DID3, DID4, DID5: 42 ... 240Vac; 15mA							
Analog Input	Ain: 0 ... +10V; 200kΩ load; accuracy 0.5%							
Analog Output	Aout: 4 ... 20mA; accuracy 0.5%							
Relay Outputs	ROD1 (brake contactor), ROA1 (programmable) relay outputs rated max. 250VAC, 8A							
Control Features								
Control Method	Open loop vector control							
Frequency Control Range	0 ... 250Hz							
Frequency Command	Electronic potentiometer, 2-5 step controller or 0 ... 10V analog signal							
Limit Switch Functions	Slowdown and stop limit configurations for both directions							
Braking Torque	150%							
Speed Control Range	S _n ... 100% (S _n = motor nominal slip)							
Speed Accuracy	1% of nominal speed at speed range 10 ... 100%							
	1/3 of motor nominal slip at speed below 10%							
Protections								
Motor Overload Protection	Thermistor/Klixon based thermal protection using additional relay, and software calculations							
Overload Protection	Fault is detected if the current momentarily exceeds 280% or RMS rated current							
Undervoltage / Blown Fuse	Fault is detected if DC voltage drops below 333V							
Overvoltage Protection	Fault is detected if DC voltage exceeds 911V							
Momentary Power Loss	Immediate fault stop							
Inverter Overtemperature	Temperature sensor on the heat sink							
Mechanical Brake	Circuit breaker included on XS panels (from 4018 upward)							
Ground Fault	Provided by electronic circuitry							
Ambient Conditions								
Ambient Temperature	-10°C ... +50°C (14°F ... 122°F) for 40% Duty Cycle							
Storage Temperature	-40°C ... +70°C (-31°F ... 158°F) dry. Power on >1hr per year.							
Humidity	<95%RH (no condensation)							
Altitude	Maximum 1000m at In. Above 1000m: In. reduces 1% per each 100m.							
	Above 3000m: consult factory							
Vibration	Operation: maximum displacement amplitude 3mm at 2-9Hz							
	Maximum acceleration amplitude 0.5g (5m/s ²) at 9-200Hz							
Conforms to LV and EMC Directives								
Power Class Dimensions	4005	4010	4013	4018	4024	4032	4042	4048
H x W x D (Inches)	7.2 x 3.3 x 6.8	11.5 x 5 x 7.48		15.4 x 5.6 x 8.4			20.4 x 7.6 x 9.3	

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Drivecon Inc. may alter or amend the technical specifications identified herein at any time with or without notice.

Bulletin# XS/08



XS Series Crane Inverter Control Systems

Driving The Future

AC Variable Frequency Drives
Engineered Systems
Master Switches
Pendant Stations
Radio / Wireless Remote Controls
Variable Frequency Drive Accessories

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XS SERIES DRIVES... PROVEN TECHNOLOGY & RELIABILITY... MADE SIMPLE

The XS SERIES is a powerful yet compact and easy to use AC Vector Drive designed for all open-loop trolley traverse and crane travel applications. It is ideal for jib crane motion control and for many other types of material handling equipment.

The slim bookshelf design allows for better heat dissipation, panel layout spacing and weight/cost savings.

The simple I/O card slot provides multifunctional connections to automation, and full programming capabilities.

Drivecon's exclusive crane-specific software offers optimal control over all operating requirements. Plus you get the same level of quality, reliability and safety offered by its "BIG BROTHER" the XT SERIES inverter.

FEATURES

The XS SERIES inherited many features from the XT SERIES such as:

- Integrated AC line reactor & brake chopper for maximum protection (except 4005)
- Flexibility in programming via a simple seven-segment removable LCD panel or via our exclusive NCDrive PC software
- Commonality of I/O cards between all power classes as well as with the XT SERIES
- Low torque and automatic torque maximizer (starting torque > 200%)
- Suitable for multi-motor applications
- Temperature-controlled fan
- Ease of start-up with minimum parameter settings thanks to the true auto-tuning function



PERFORMANCE

- Available from 3 to 30 Hp @ 380-500 VAC
- Precise vector control speed accuracy
- Frequency control range up to 250 Hz
- Three control methods available without changes in hardware or software:
 - Electronic Stepless Potentiometer Control (EP) - 2 or 3 steps
 - Multistep Control (MS) - up to 5 steps
 - Automation Control (AU) for any device with an analog signal
- Inputs configuration for slow down/stop, end of travel limit switch and motor overloads
- Most drive and motor vital features are continuously monitored such as over current, over/under voltage, output phase loss, inverter temperature and many others
- Precise and smooth load positioning through advanced brake control. This feature allows the motor rotation direction to be changed without setting the brake, thus reducing brake wear and shock loads on the crane structure
- Reverse plugging feature allows for a faster response by shortening acceleration/ deceleration ramp times
- Drivecon's XS SERIES drive features a true auto-tuning function

This exclusive feature is the fastest and most reliable way to get your motor running at peak performance. The drive automatically calculates and sets vital parameters. Once auto-tuning is complete, the drive will advise you whether the tuning was successful, thus eliminating any guess-work and poor performance.



SAFETY FEATURES

- Removable display eliminates unauthorized access to drive parameters
- Precise brake control ensures that the motor generates enough torque before releasing the brake, as well as before setting the brake when stopping
- 10 Active faults and 5 historic faults are stored in the drive memory
- Control unit separate and shielded from power supply unit
- Brake to stop feature provides stopping control in case of emergency or sudden obstacles



PRE-ENGINEERED CONTROL PANELS

Drivecon's pre-engineered control panels are the most cost effective and practical solution for your newly built crane or modernization. All panels are designed using specifically selected sub-components to provide a reliable and safe control package.

Standard XS SERIES Panels Include:

- Line reactor (Except 4005)
- Line suppressor (4005 only)
- DB chopper
- 120V input control card
- Brake contactor
- Branch circuit protection
- Motor overload protection
- DB resistors
- All wiring to single terminal strip
- All wires marked at both ends
- NEMA 12 enclosure
- 2 wiring diagrams
- 2 instruction manuals
- 2 year limited warranty
- UL and CSA panels are available upon request



WORLDWIDE EXPERIENCE...LOCAL SUPPORT & SERVICE

For over a decade, Drivecon has been a supplier of drive systems to crane manufacturers for a wide range of applications including aerospace, automotive, power generation, steel, paper and many other industries.

Drivecon has the products, knowledge, experience and technology to design, fabricate and support all your controls and electrification needs. Our products range from standard and custom Variable Frequency Drive (VFD) panels, motors, radio controls, pendant stations and quick connect festoon systems to complete turnkey modernization projects. Furthermore, we provide 24/7 technical support as well as repairs for all major brands of VFDs.

In addition, Drivecon goes beyond its local capabilities; our global network of world class suppliers, partners and affiliates are specialists in controls and electrification for the overhead materials handling industry.

