

X SERIES

Servo Drives

Bus Voltage Input

- 20 - 100 VDC
- 100 – 365 VDC

Control Modes

- Gearing
- Position
- Velocity
- Torque

Command Interface

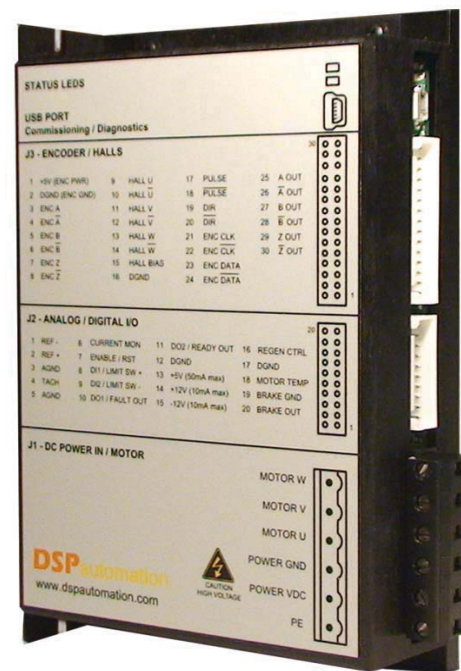
- Step/Direction
- \pm 10V Velocity or Torque Command
- Master encoder (gearing)
- Network (EtherCAT, CANopen)
- Discrete I/O

Communication

- USB
- Network

Servomotor Feedback

- Incremental quadrature A/B encoder
- Resolver
- Serial Encoder (BiSS, EnDAT 2.2)
- Digital Halls



The X Series servo drive is for powering brushless or brush servomotors. The VDC input bus allows for lower cost multi-axis solutions and space saving. Logic control power is internally generated from the dc bus. An option is available for 24 VDC isolated control power supplied externally by the end user. The small package design outputs up to 3.6 kW continuous power.

The X Series all digital servo drive utilizes a 32 bit digital signal processor (DSP) and 16 bit A/D's and D/A's for control loops and servomotor feedback inputs to provide ultimate high performance. The drive controls the failsafe brake and thermal sensing from the servomotor. Servomotor feedback is a determining factor in performance of a servo system. The X Series comes standard with BiSS and EnDAT 2.2 serial encoder or SSI interface.

The X Series supports EtherCAT, www.ethercat.org and CANopen, www.canopen.org. Other networks are available on request.



Setup and Commissioning

A USB port on the servo drive is used for communication between the servo drive and PC (personal computer). DSP Automation provides easy to use Window™ software for setup and commission.

Setup requires setting the parameters for the **servo drive** and the **servomotor**. These parameters are easily set by the user or DSP Automation will preset for the customer if requested.

Commissioning the system for optimum performance is a challenge for most users. DSP Automation provides standard and advanced control adjustments for the optimum performance required for the application. An integrated two channel oscilloscope provides instantaneous feedback for visually viewing the dynamic performance of the system.

DSP Automation does not leave the task of commissioning the servo system to the experience of our customers. We provide full support to guarantee success. To qualified customers, a DSP Automation engineer will be at the customer's location for commissioning and training for the first system.

Technical Specifications X Series (VDC)

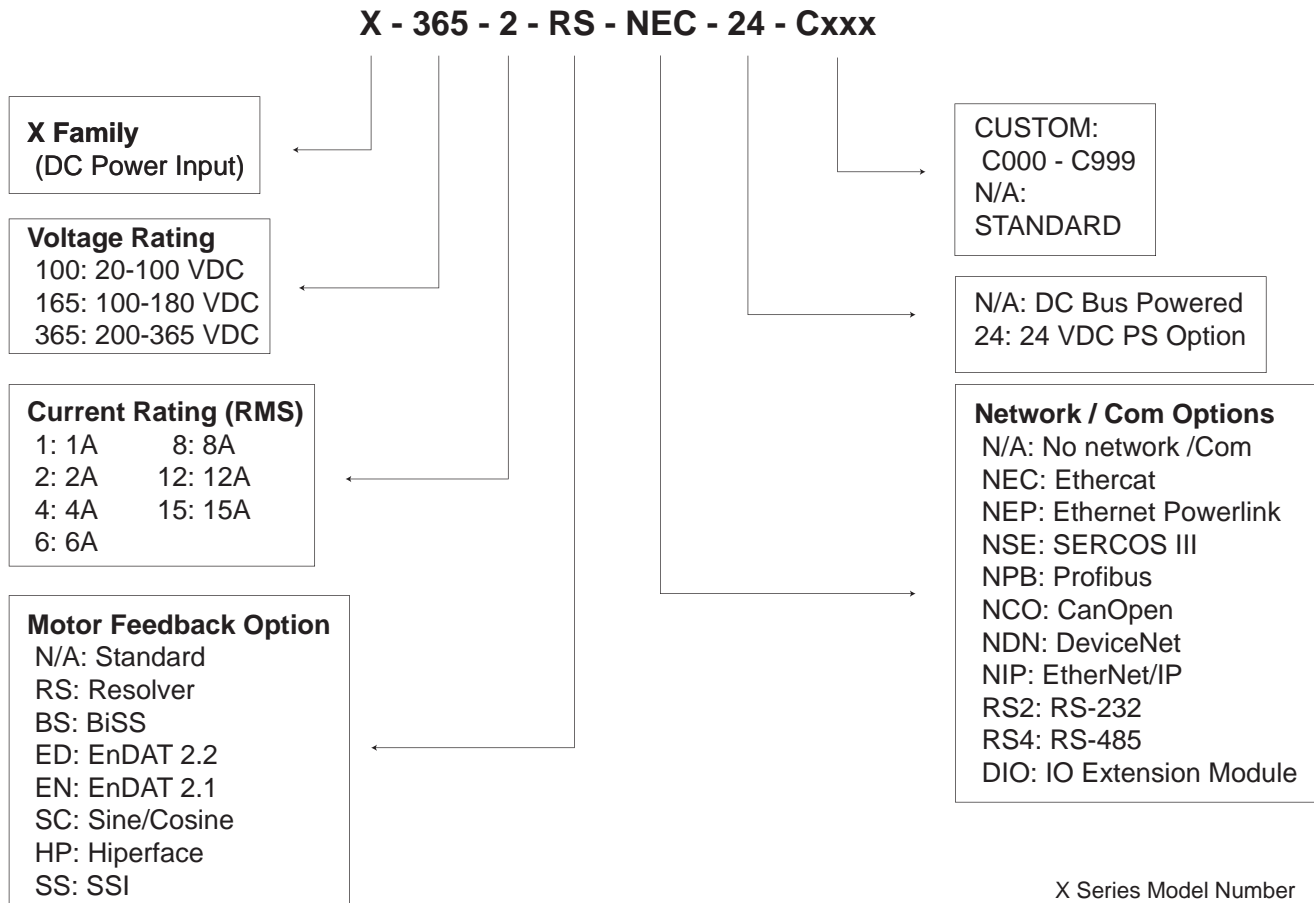
Input Voltage	20 – 100 VDC or 100 - 365 VDC							
Output Current	Continuous current @ 40° C (A rms)	1	2	4	6	8	12	15
	Peak (A rms)	3	6	12	18	24	30	30
	Peak Current Time (sec.)	3						

Performance Specifications

Control Logic Voltage	Internal DC/DC converter		
Current Loop BW	3.0kHz		
Velocity Loop BW	600Hz		
PWM Frequency	20kHz		
Emulated Encoder Max Output Frequency	2.5 MHz		
Commissioning/ Diagnostics	Software (USB port), LEDs		
Encoder Feedback	Incremental Encoder / Halls Absolute Serial: Single / Multiturn, 17-25bit, BiSS / EnDAT 2.2 / SSI Tachometer: (+/-50V max.) 16-bit A/D Resolution		
Operating Modes	Torque, Velocity, Pulse & Direction, Encoder Follower, Sensorless (Brushed only)		
Motor Temperature Sensor	NTC, PTC, Thermostat		
Motor Current Waveform	Sinusoidal		
Analog Input	+/-10V, 16-bit A/D Resolution, software scalable		
Analog Output	+/-10V, Software Selectable/scalable		
Digital Inputs	3 Inputs, 5-28VDC control voltage		
Digital Outputs	2 Software Selectable Outputs, 5-28VDC, 100mA max.		
Servomotor Brake Control	Software Selectable Output, 24-28VDC, 3A max. (user supplied power)		
Operating Ambient Temperature	0 °C to 50 °C		
Relative Humidity	5 - 95% non-condensing		
Regen Capability	Internal Resistor	30W cont., 1kW peak	External Resistor Up to 100% of Drive Capacity

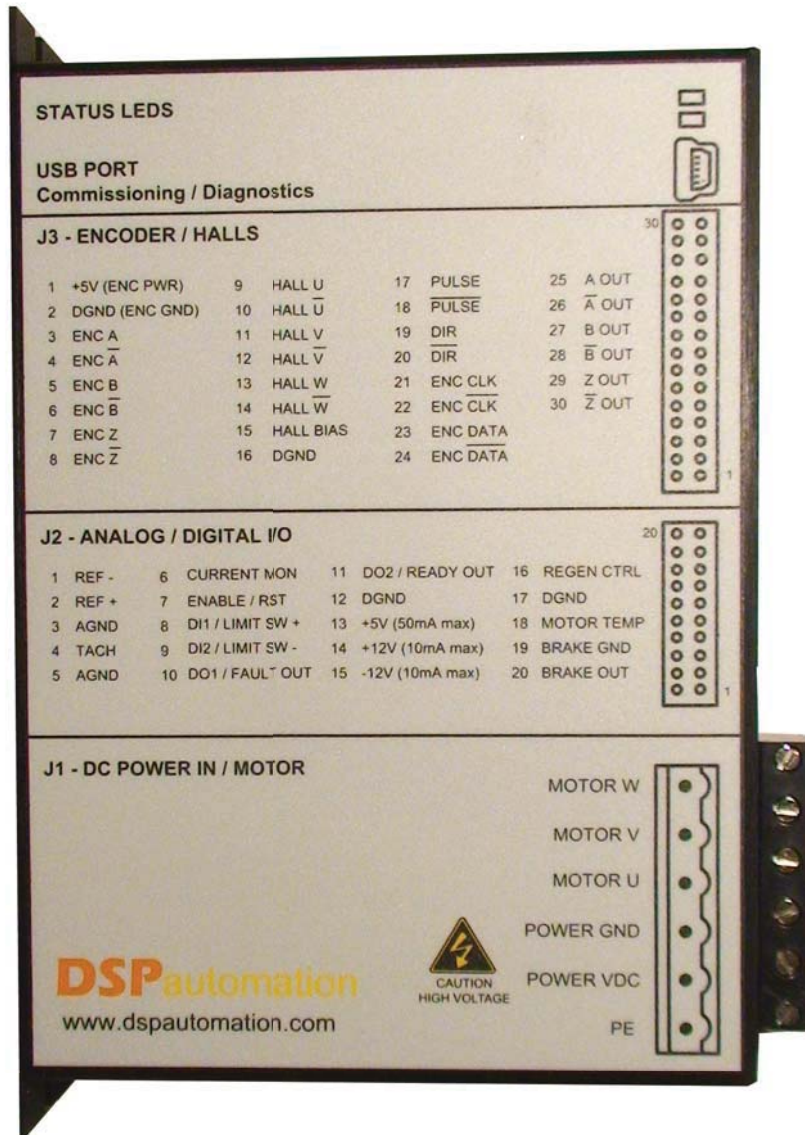


SERVO DRIVE MODEL NUMBER



Examples:

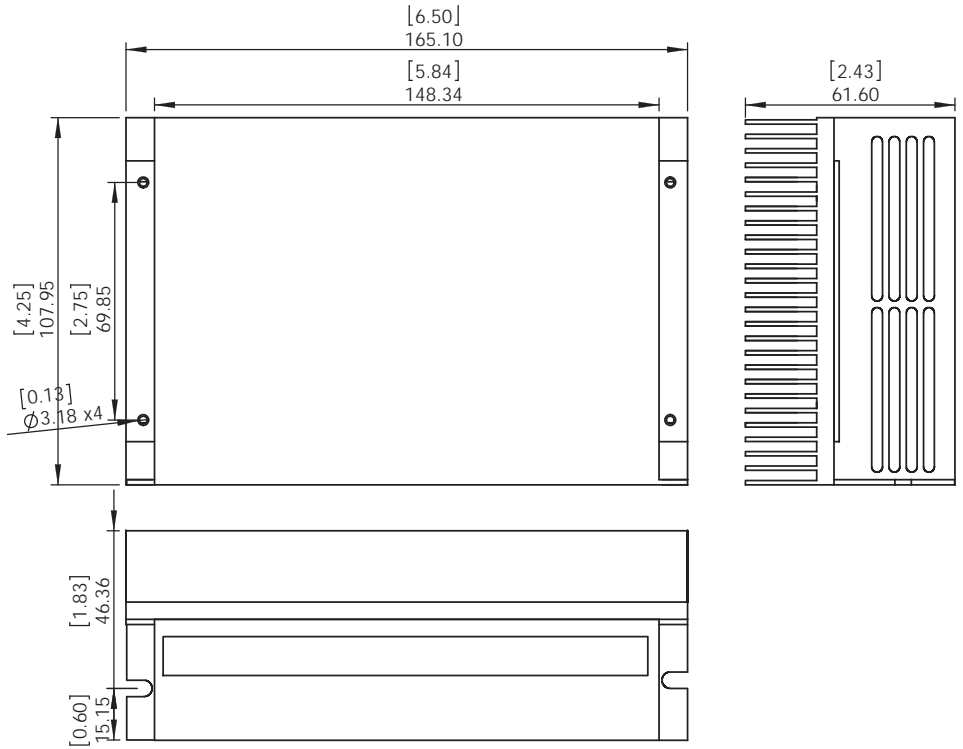
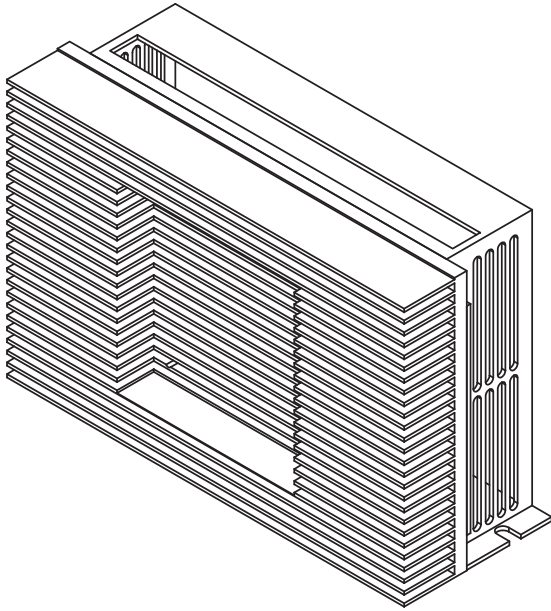
- 45 VDC bus, 8 amps continuous with standard incremental encoder input _ **X-100-8**
- 300 VDC bus, 4 amps continuous with standard incremental encoder input _ **X-365-4**
- 160 VDC bus, 6 amps continuous with resolver _ **X-365-6-RS**
- 300 VDC bus, 2 amps continuous with BiSS serial encoder and CANopen network _ **X-365-2-BS-NCO**





X SERIES (8-15 amps cont.)

MOUNTING DRAWING, UNITS: MM (INCH)



X SERIES (1-6 amps cont.)

MOUNTING DRAWING, UNITS: MM (INCH)

