













# SERVOSTAR® CD DRIVES

Kollmorgen GOLDLINE® XT & SERVOSTAR® CD System



## SERVOSTAR® CD FEATURES

### Servo Control

- Advanced patented sinewave commutation technology provides smooth, precise low-speed control and high-speed performance
- Accurate torque control due to precision balanced current loops with closed loop sensors
- Velocity loop bandwidths to 400 Hz
- Self-tuning to the load
- S-curve acceleration feature for reducing acceleration “jerk” and machine wear
- Patented torque angle control enhances motor performance
- Fully digital control loops
- Compact and attractive rugged metal package for space-saving, modern appearance - metal package minimizes electrical noise emission and susceptibility
- Pole Placement, PI, and PDFF control options
- Low Pass or Notch Filters for compliant & resonant machines
- Command modes: Torque (analog or serial); Velocity (analog or serial); Position (analog, serial, stored or pulse)
- Three current ratings: 3/9, 6/18 & 10/20 amp RMS/phase continuous/peak current
- 3 to 1 peak/continuous current rating (2 to 1 on 10 amp product)

### Analog Command:

- 14 Bit analog conversion
- Simple absolute & incremental moves thru internal profile generator

### Easy Connectivity

- Built in encoder equivalent output can eliminate the need for an additional position feedback device
- RS232 or RS485 Communication
- Unique multi-drop configuration allows a PC or PLC to communicate to multiple SERVOSTAR CD amplifiers via single RS-232 connection
- SERVOSTAR CD's versatile communication capabilities make it easy to integrate machine control data directly from the factory floor to your information system
- Analog  $\pm 10$  V, pulse/direction, master encoder, serial port, command options
- SERCOS interface™

### Robust Design

- Protection against miswired connection on 24 volt I/O
- ESD rugged circuit design and fully metallic enclosure
- Self-protecting intelligent power modules
- Full protection against short circuit, overvoltage, undervoltage, heatsink overtemperature, motor overtemperature, overspeed, overcurrent, and feedback loss
- UL , cUL listed, and CE
- Flash memory

### Windows® Start-up Environment – MOTIONLINK®

- Advanced motion “wizard” automatically walks you through set-up
- Auto configuration function checks for correct wiring of motor and feedback
- PC “Oscilloscope” for measuring real-time motion performance

### Motion Indexing

- Stores up to 4 motion profiles in memory
- Start motion through serial command or digital I/O
- Homing functions

### Configurable I/O

- 3 digital inputs, 1 digital output, & 1 analog output can be configured to a variety of functions to customize the SERVOSTAR CD to individual machines

# SERVOSTAR® CD DRIVES

## Kollmorgen GOLDLINE® XT & SERVOSTAR® CD System

### AMPLIFIER SPECIFICATIONS

#### Electrical characteristics

- Closed loop velocity bandwidth up to 400 Hz
- Motor current ripple frequency (16-32 kHz)
- Long term speed regulation (0.01%)
- Position loop update rate 500 µs (2 kHz)
- Velocity loop update rate 250 µs (4 kHz)
- Commutation update rate 62.5 µs (16 kHz)
- Current loop update rate 62.5 µs (16 kHz)

#### Fault protection

- Output phase to phase short circuit protection
- Overvoltage
- Undervoltage
- Overtemperature (motor and amplifier)
- Overspeed
- Overcurrent
- Feedback loss
- Foldback
- Supply loss
- Excessive position error

#### Environmental

- Operation range
  - Ambient 5 to 45°C
  - Storage -20°C to 70°C
- Humidity (non-condensing) 10% to 90%

#### Velocity Loop Compensation

- Vel: PI, PDFF or Pole Placement selectable algorithms
- Factory preset or field tunable
- **MOTIONLINK** software provides tuning programming via RS-232 or RS-485 serial interface
- Adjustable filters

#### Position Loop Compensation

- PID

#### Operational modes

- Torque control — from analog or serial command
- Velocity control — from analog or serial command
- Pulse following/Up-Down count
- Gearing from quad encoder input
- Position control

#### Inputs

- Analog command: ±10 V
- Remote enable: 24 V
- Three multi-purpose 24 V inputs configurable to: CW limit switch, CCW limit switch, gear enable, start motion, second current limit, change velocity to torque mode, home switch, search for home, move to home registration capture, active disable, control fault relay, hold position plus using two inputs, up to four stored indexes or speeds can be executed
- Pulse command: up/down, pulse/direction, pulse or quadrature encoder format into RS-485 receivers or opto isolators

#### Communications

- RS-232 or RS-485 serial interface 9600 or 19.2 kb
- Drive-to-Drive multidrop
- SERCOS interface™

#### Outputs

- Fault: contact closure rated for 1 amp, 24 volt
- One multi-purpose 24 V output configurable to: speed exceeded, current exceeded, amplifier in foldback, brake enable, motion complete, in position, zero speed detect, encoder INIT complete
- ±10 V, 12-bit analog output, configurable, for monitoring of various parameters

#### Diagnostics

- Seven segment LED display
- Error history log
- Internal variable monitoring
- PC scope

#### Motor Feedback

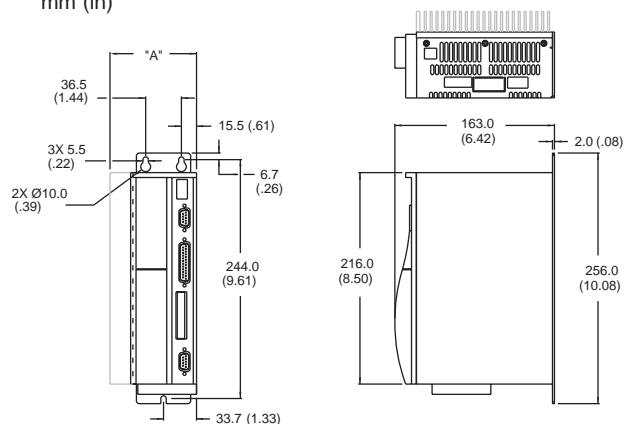
- Resolver, Incremental Encoder, Sine Encoder (including HEIDENHAIN EnDat™ support) or halls-only operation
- Auxiliary encoder feedback, used for Dual Loop or Master/Slave Operation.
- Commutation initialization with minimal motion

### AMPLIFIER RATINGS

Model	Cx03	Cx06	Cx10
Output Continuous Current Per Phase (RMS/phase)	3	6	10
Output Peak Current Per Phase (1/2 sec)	9	18	20
Rated Output Continuous Power (kW)	1.1	2.2	3.5
Internal Power Dissipation (watts)	60	80	132
PWM Switching Frequency (kHz)	16	8	8
AC Input Line Voltage (V) (1 phase)	115-230	115-230	230, 3 phase
Rated Input Power (kW)	1.7	2.8	4.6

### SERVOSTAR CD Cx03/06/10

mm (in)



MODEL	SIZE (amp)	DIM. "A"
Cx03	3	67.4 (2.65)
Cx06	6	88.4 (3.48)
Cx10	10	99.1 (3.90)