
KOLLMORGEN

# SqStep4

## Low-Voltage 4-Axis Stepper Motor SynqNet® Drive

Solutions by DANAHER MOTION

Helping you build a better machine, **faster**.

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## DESCRIPTION

The SqStep4 is a low-voltage 4-Axis micro-stepping stepper motor SynqNet Drive. This revolutionary product saves space on your machine, and lowers the system cost by utilizing shared components. The SqStep4 operates on a common 42VDC for power Bus, and a separate 24VDC logic power supply. Separation of Bus and Logic power allows bus power control to be incorporated into the machine safety chain, while not losing application information or real-time monitoring data during E-stop events. Each axis is capable of individually sourcing $3A_{RMS}$ continuous. The SqStep4 is designed as micro-stepping stepper drive for bipolar stepper motors, with servo control executed by the centralized SynqNet motion controller. Control of individual drive axes current amplitude and microstepping resolution is achieved by programming a set of parameters that reflect the physical characteristics of the electro-mechanical system. Extensive I/O support is provided, including dedicated Home, Over-travel limits, brake control signals, and general-purpose opto-isolated. In addition to status information being accessible via SynqNet, 2 LEDs provide drive status display.

## SynqNet®

SynqNet® (http://www.synqnet.org) is an all-digital motion control interface for connections between controllers and drives, I/O devices, and other custom nodes. SynqNet motion network is based on the industry standard IEEE802.3 physical layer for robust electrical isolation and cable/connector availability with an open data layer implemented by Motion Engineering Inc. The 100BASE-T media system is based on specifications published in the ANSI TP-PMD physical media standard. The 100BASE-T system operates over two pairs of wires, one pair for receive-data signals and the other pair for transmit-data signals.

# FEATURES

### Feedback

- Differential Incremental and index pulse encoder (A/B/I)
- Single Ended Incremental encoder and index (A/B/I)

### Stepper Control

- Digital current reference running at 10 kHz
- Per Axis current reduction time control
- Per Axis micro-stepping control
- Per Axis current reduction amplitude control
- Per Axis current amplitude control

### Machine I/O (individual for each axis)

- Home digital input opto-isolated
- Two Over-travel limits digital inputs opto-isolated
- Enable output opto-isolated

### Controller I/O

- 4 general purpose digital inputs opto-isolated
- 4 general purpose digital outputs opto-isolated

### Real-Time data monitoring

- Bus voltage
- Drive temperature

### Robust Design

- Self-protecting power modules
- Protection against short circuit, over-voltage, under-voltage, drive over-temperature, over-current Short circuit Phase to Chasiss and feedback loss

### Rating

| DC Input [VDC] | Output Continuous Current Per Phase (RMS/Phase) @ 45˚C | |
|---|---|---|
| 42 | 1.5 | |
| 42 | 3 | with additional heat sink |

24VDC @ 0.5 Amp logic input supply to separate from main supply

### Mechanical Dimensions

255 mm (length) X 55mm (height) X 120 mm (depth)

# Ordering Information

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