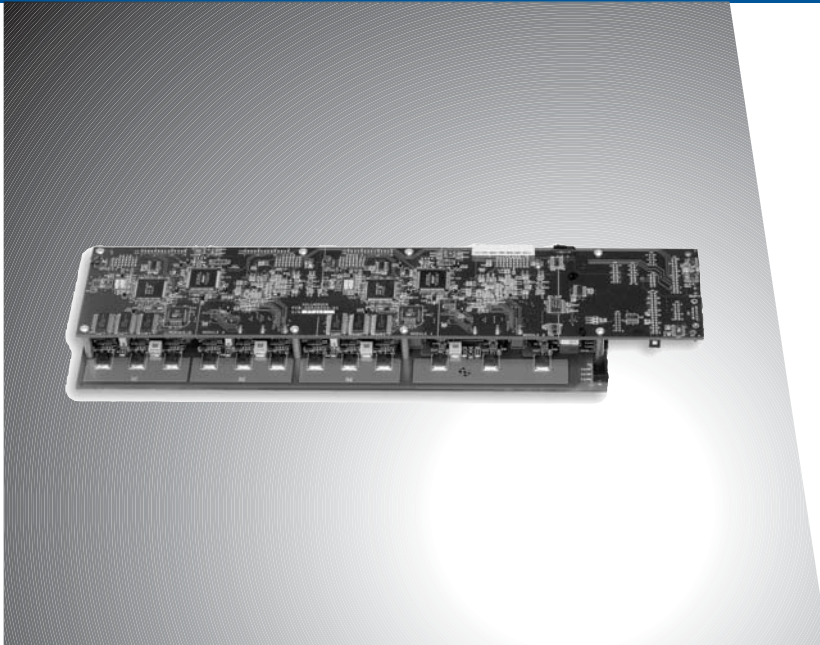


4-AXIS MULTI-DRIVE UNIT

www.DanaherMotion.com



DESCRIPTION

The Multi-Drive Unit (MDU) consists of 4 independent servodrives assembled in a single package to be mounted inside the SCARA robot body. The MDU controls frameless RBE motors, customized and packaged by Danaher Motion for the customer.

RATIONALE

By having the drives embedded inside the mechanics structure of the semiconductor application robotics, long, and complicated cables could be avoided. At the same time, the new products had to include:

- Special communication protocol to fit to exiting customer's controller .
- Two versions: 3-axis module and 4-axis for two different robotics systems .
- Exact fit to the compact robotics design.

SOLUTION

- Integrated 4-axis and 3-axis modules for meeting size and cost target.
- Open frame drive for direct mounting to the robotics structure .
- Simplified, short cables between the module, the motors, the feedback series and the I/Os, for simplified solution.

Applications

- Semiconductor wafer handling robotics

FEATURES

Operation Modes

- Current mode
- Velocity mode

Feedback

- Stegmann Hiperface Sine Encoder

I/O's

- ± 10 VDC analog reference command
- Encoder simulation generated by the MDU
- Single fault signal from the MDU to the controller
- Individual remote enable signals for each drive
- Customer-specific parallel bus for configuration and status

Benefits

- Motors and motor stack (housings) custom built to suit the robot's mechanical structure
- Custom servo drive designed to be mounted within the robot body
- Short development time: 4 months from specification to prototype integration

Rating

- 3 drives rated at $2 A_{RMS}$ continuous and $6 A_{RMS}$ peak
- 1 drive rated at $5 A_{RMS}$ continuous and $10 A_{RMS}$ peak
- Rated DC bus voltage 45 VDC

Mechanical Dimensions

1.1" (height) X 5.9" (width) X 4.96" (length)