

DIVA Automation

Innovation in Motion

DA1010

DC Motor
Controller Chip

Original release, 3 August, 2005

Description

The DA1010 is a pre-programmed microcontroller that implements the stored program capability as well as the servo filter and serial communications of the DIVA Automation SuprMotr© family of controllers.

It is being offered here as a chip-level product for use by OEMs with electronic circuit production capability.

A complete reference design and manufacturing documentation package is included.

Minimum circuit requirements are a motor driver, a **DA2000** incremental encoder interface and a crystal.

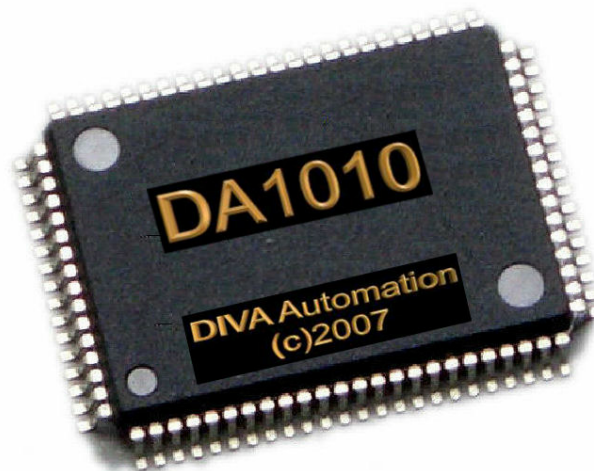
Unique characteristics

- **Small size:** 0.9" x 0.67" (80-pin quad flat pack)
- **Operates from a single 5 V** power supply @ **6 mA**.
- Supports serial **EEPROM** for **permanent storage** of servo parameters and stored programs.
- Supports **High speed multi-drop RS-232** communications for coordinated control of up to 16 axes through a single RS-232 channel.

Standard features

- Controls one DC motor, with **incremental encoder position feedback**.
- **Simultaneous control** of position, velocity and torque.
- **Dual 0-5 V analog outputs**.
- **On-board trapezoidal trajectory** generator with asymptotic homing mode.
- **Programmable gain** characteristics. 1 KHz update rate.
- **Low power:** Less than 30 mW internal dissipation.
- On board command interpreter with **over 50 commands**, including **fully-integrated** support for the general purpose **analog** and **digital I/O** lines.

- **Visual BASIC** and **LabView** user interface and communications terminals included.
- **32-bit precision** for position, velocity and acceleration registers.
- **Programmable limits** for allowable error.
- **Stored program** operation.
- **Perpetual guarantee**.
- **Dual limit switch and reference switch** support.
- **Up to 72** general-purpose **I/O** lines, including eight, 8-bit **A/D** conversion channels and two, 8-bit **D/A** channels.
- **Low cost**.
- **Easy to use**.



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