

DIVA Automation

Innovation in Motion

SuprMotrR

Servo Controller
for DC Motors

Original release, 12/10/2008

Description

The **SuprMotrR** is a member of the SuprMotr family of controllers, developed by DIVA Automation over a period of several years. This particular branch of the family utilizes a National Semiconductor **LM629** Servo Controller for the servo functions.

The **DiMAC** macro command language, communications capability and additional input/output functions are common to all **SuprMotr** products, with only slight variations to fit the product.

Features

Key features of the **SuprMotrR** are:

- w A single, palm-sized board provides a **complete servo control system**, with communications, encoder interface, sequence control, motor driver and PLC functions.
- w **Small size.** (1.75" x 3.245")
Small enough to be integrated almost anywhere.
- w **Fully autonomous operation.**
Requires no connection to host computer after one-time setup.
- w LM629 Servo Controller for simultaneous control of **position**, **velocity**, and **acceleration**, with **PID** filtering. (see appendix for detailed specifications)
- w All **servo parameters fully programmable**. Includes: velocity, acceleration, PID filter gain factors,

maximum error allowed, limit switch polarity, index polarity, servo windup limit, move modes and breakpoints.

- w User-defined **macro commands** allow complex control modes to be easily programmed.
- w A velocity mode is provided for applications with rotary stages.
- w A sophisticated indexing procedure locates a reference position to within one encoder count.
- w **LMD18200** Motor Driver (**3 A** continuous current, 6 A for 200 mS). High efficiency PWM drive.
- w **Non-volatile** (permanent) **storage** of servo parameter setups and user programs.
- w **On-board control center** with over 75 easily understood commands.
- w **Storage** for 250 or more user commands.

- w **Automatic execution** of stored program on power up.
- w Inputs for two **limit switches**.
- w **Differential encoder inputs**, up to 1 MHz, with index capability.
- w A high speed programmable baud rate **RS-232 communications link** allows up to 32 **SuprMotrR** controllers to share a single RS-232 channel, with individual addressing.
- w Requires a **single** motor power **voltage** of 12-36V. An on-board regulator supplies the logic and encoder voltages from the motor supply.
- w The SuprMotrR is available in **many configurations** for the Original Equipment Manufacturer. Unnecessary features and functions may be removed to reduce cost.



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