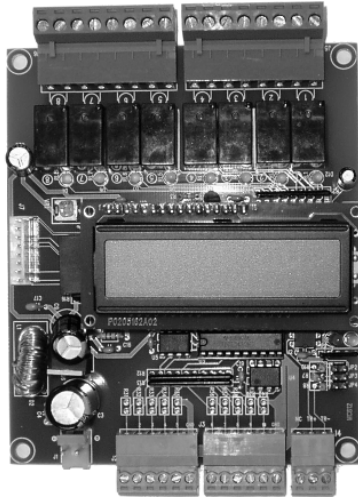# MC812 A/D CONTROL BOARD

Features

- RS485 Communication Interface

- 10 Analog Inputs(0~4.095V, 12BITS)

- 8 on-board relay outputs, each with a LED for status indication

- LCD(16x2 chars) Display

- Real Clock

- Keypad Support, 16(4X4)Keys

- 32 K EEPROM

- Support *i-Control System*

- Support *Easy Control*

- Provide ActiveX Control for your application software.

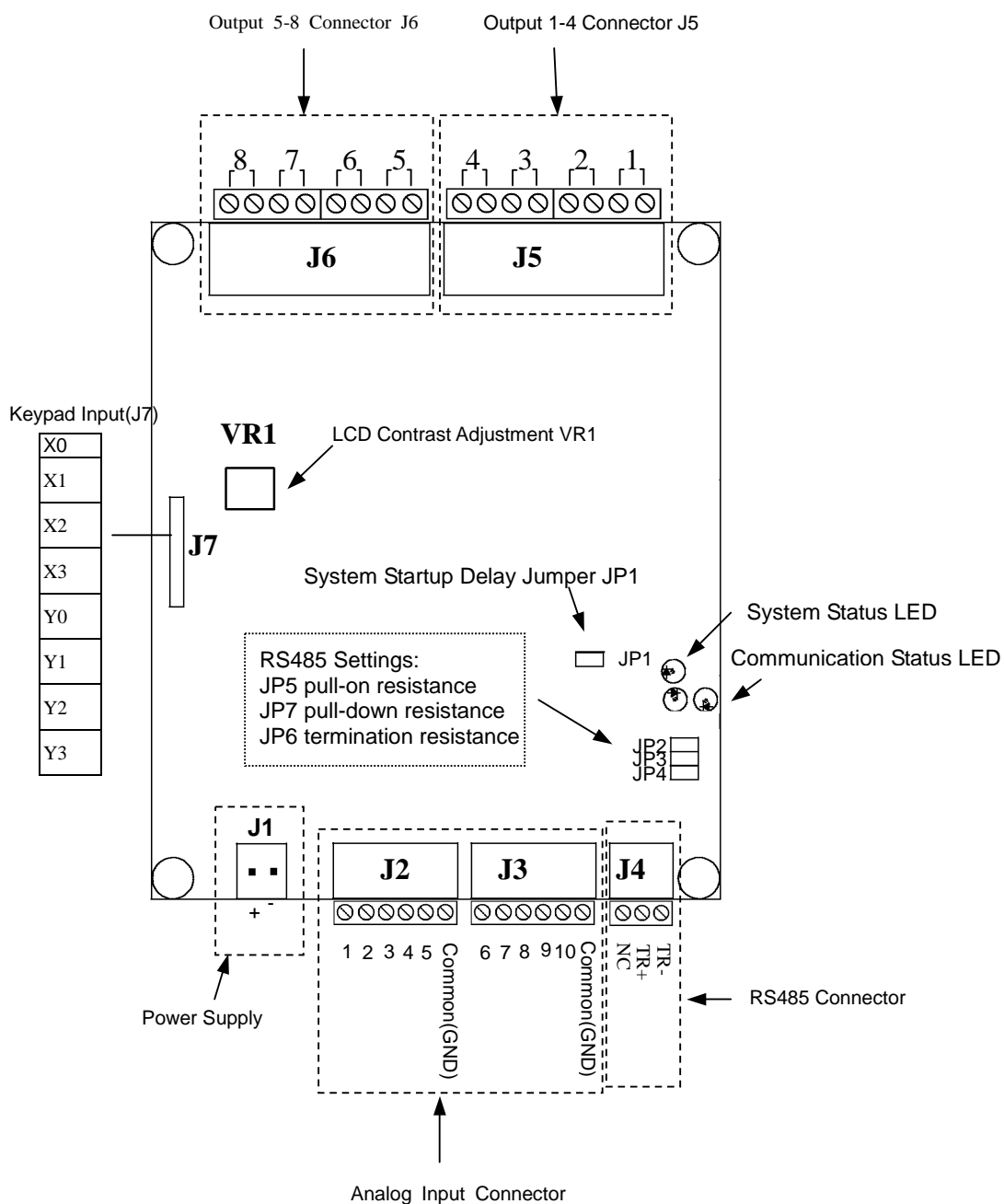# User's Manual

DEVICE CODE: 812

IMPORTANT

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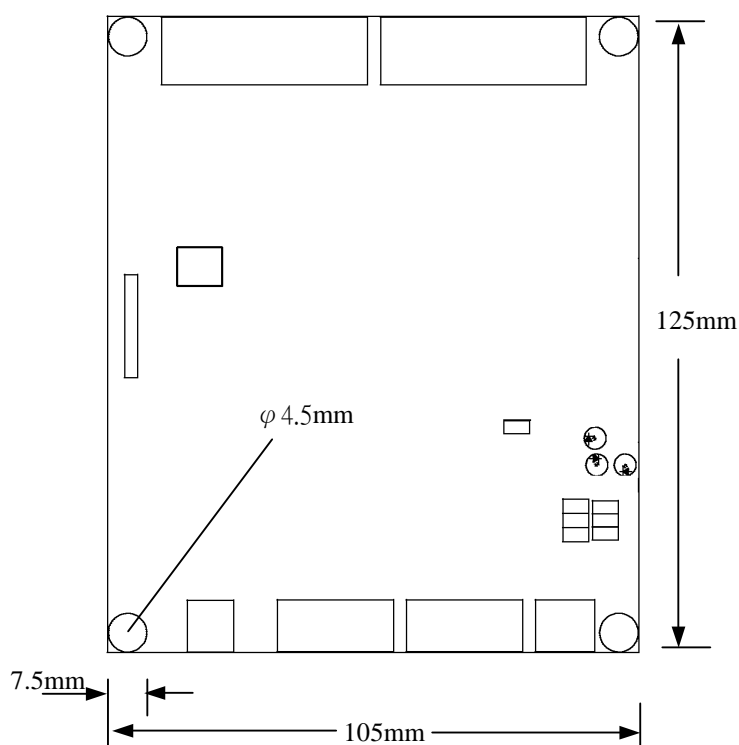
Document Overview

Connectors

Output 5-8 Connector J6   Output 1-4 Connector J5

8 7 6 5   4 3 2 1

J6   **J5**

Keypad Input(J7)

X0
X1
X2   **J7**
X3
Y0
Y1
Y2
Y3

VR1   LCD Contrast Adjustment VR1

System Startup Delay Jumper JP1

System Status LED

Communication Status LED

RS485 Settings:
JP5 pull-on resistance
JP7 pull-down resistance
JP6 termination resistance

JP1

JP2
JP3
JP4

J1   **J2**   **J3**   **J4**

+ -   1 2 3 4 5 Common(GND)   6 7 8 9 10 Common(GND)   TR-
TR+
NC

Power Supply

RS485 Connector

Analog Input Connector

PCB Size

φ 4.5mm

125mm

7.5mm

105mm

Technical Specifications

Maximum boards	256(addressed by device ID)
(In same control network)	more than 256 (addressed by serial number)
Communication Interface	RS485
Analog Input	10(0~4.095v, 12bits)
Keypad Support	16(4x4)Keys
Output	8 (Relays)
	Max switching current /voltage: 2A/60VDC, 2A/60VAC
Real Clock	1
LCD	32(16x2) chars
Power supply	9 – 30 VDC 5W
Consumption	2 W (max)
Dimensions	105mmx 125 mm

Power Supply (J1)

The device requests an DC power supply and connect to J1. Please refer to Connectors

DC: 8 - 30 V 5W

Reset

The device reset and set default output state at power-up, the state of the outputs does not change even a system software or hardware reset (Watchdog Timer - WDT) may occur.

There is no any reset button on the device, Watchdog Timer (WDT) has been installed in the device.

Communication Interface (J4, JP2, JP3, JP4)

The device built-in a RS485 communication interface, the connector is J2. Please refer to Connectors

The communication baud rate can be software configured.

Communication Interface hardware settings

There are three jumpers used on the device for interface configuration, they are Jumpers J2, J4, J5 which are used to insert the termination resistors which may be required for the RS485 interface, described in Table below.

Jumper	Short/Open	Description
JP2	Short(Default)	Enable pull-on resistance
	Open	Disable pull-on resistance
JP4	Short(Default)	Enable pull-down resistance
	Open	Disable pull-down resistance
JP3	Short	Enable terminal resistance
	Open (Default)	Disable terminal resistance

Note: Termination resistance must be enabled across the data lines at circuit end-points.

Analog Inputs(J2, J3)

The device has 10 analog inputs, Input voltage range is 0 to 4.095v, the A/D converter has 12-bit resolution, the accuracy is 2%.

Connector: J2, J3. Please refer to Connectors.

Note: All COMMON are connected to Ground of the device.

Output Connector (J5, J6)

The device features 8 on-board relays.

Max switching current/voltage: 2A/60VAC, 2A/60VDC

Connector: J5, J6. Please refer to Connectors.

Keypad (J7)

A keypad can be connected to J6, please refer to Connectors

J7: 16(4x4) keys

LCD

A LCD (16x2chars) is installed in the device, to know about the LCD operation, please refer to Easy Control Manual.

LCD Contrast Adjustment: VR1

Device ID

The default Device ID is 0, the ID can be changed by set system variable IDEX, Please refer to Easy Control manual.

Easy Control Resource

Please install software [Easy Control]. To download the newest version, you can go to

http://www.easy-controls.com/download/

Properties Settings

Choose the menu [Device] - [Properties] to open the dialog window and press button [Help] to get the detail of the settings.

System variable

Choose the menu [Device] - [Resource] to get the list of the variable in the system.

Data for remote reading

Choose the menu [Device] - [Resource] to get the detail.

System Startup Delay Jumper (JP1)

Short the jumper, system will delay five seconds to start, if you have trouble to upload new program to the device after system start, you can upload new program to the device in this period.

Device Code

Device code is 812.

Develop Application Software

To develop your owner application software, you need to install Mcioctrl2.0 ActiveX Control, you can download the ActiveX Control, user's manual and sample code from website http://www.easy-controls.com/download/.

Customer service

You can access Customer Service support through the following avenue.

Tel: (852)-27827895

Fax: (852)-27825650

Email: support@ easy-controls.com

http://www.easy-controls.com