

# MB1-2DA

## 2 Channels Analog Output Module



### Introduction

MB1-2DA is one of the analog output modules of MERITEK MBs series PLC. It provides 2 channels 12 bit D/A output. Base on the different jumper settings it can provide varieties of current or voltage output signal. The output code can be configured as unipolar or bipolar which makes the relation of output code and real output signal more intuitive.

### Specifications

**Total Channels** –2 Channels

**Resolution**- 12 bit

**Signal Resolution** – 1.22mV(Voltage),  
2.44uA(Current)

**I/O Points Occupied** –  
2 RO(Output Register)

**Conversion Time**- Updated each scan

**Accuracy**-  $\pm 1\%$

**Max. and Min. output loading**-

Voltage Output- 500~1M $\Omega$

Current Output- 0~500 $\Omega$

**Output Range**-

-10~+10V, -5~+5V, 0~10V, 0~5V

-20~+20mA, -10~+10mA, 0~20mA, 0~10mA

**Indicator(s)** - 5V PWR LED

**Internal Power Consumption**-

5V, 20mA

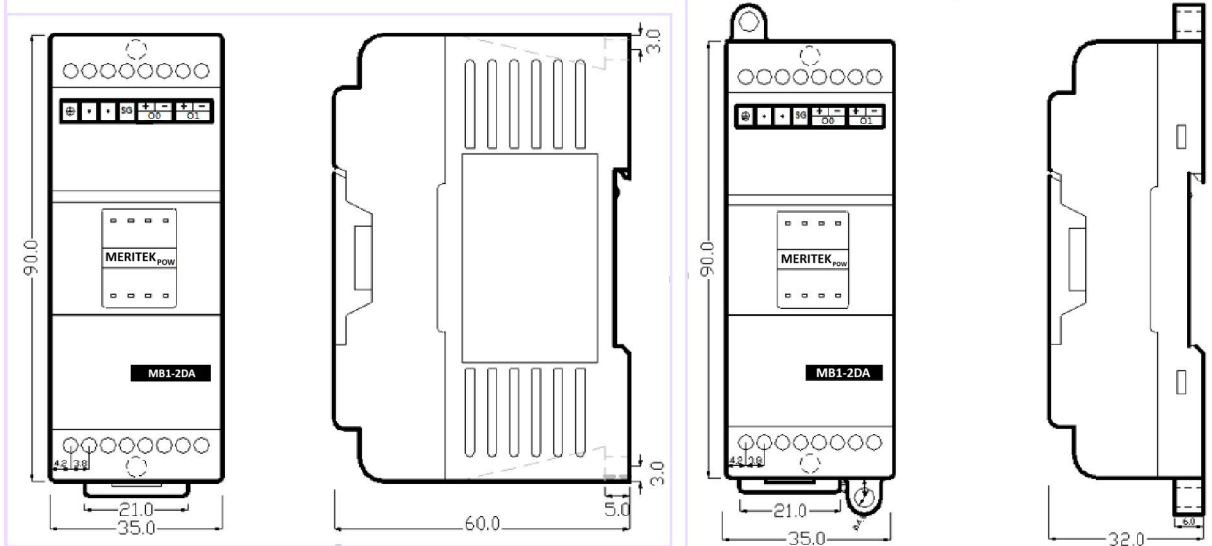
24V, 70mA max

**Operating Temperature**- 0 ~ 55 °C

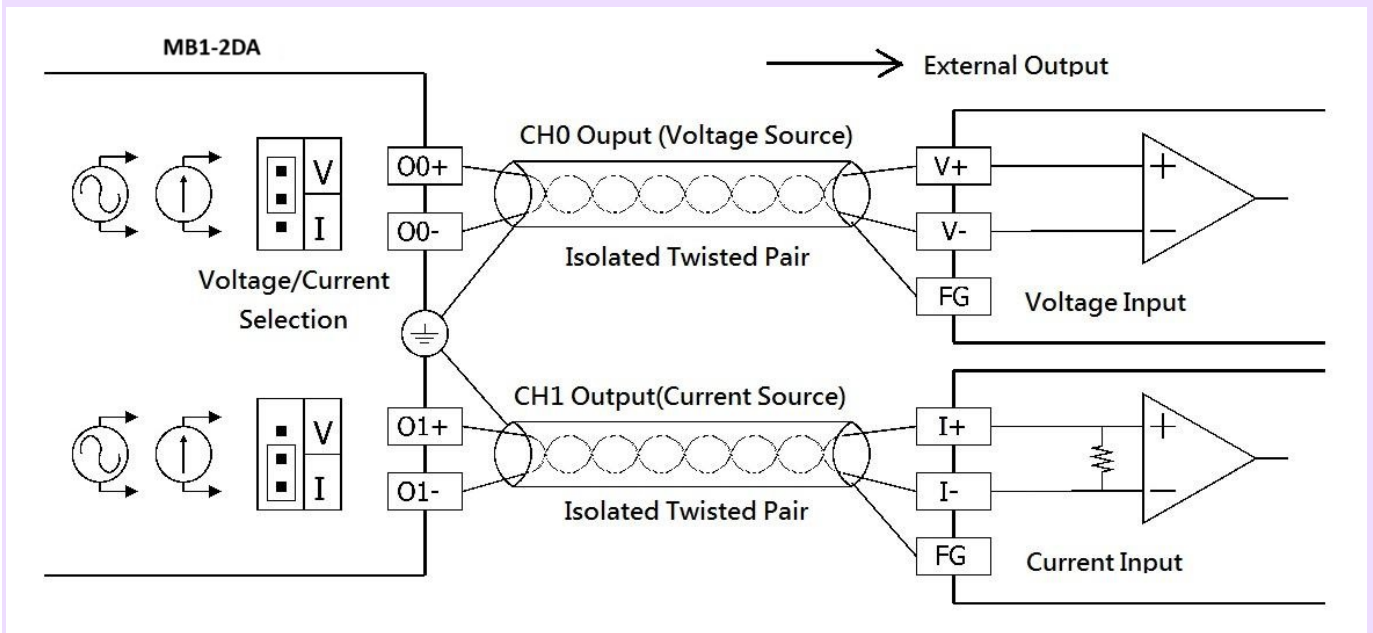
**Storage Temperature**- -20 ~ 80 °C

**Dimensions**- 35(W)X90(H)X60(D) mm  
35(W)X90(H)X32(D) mm

### Dimensions



### Wiring Diagram



### Jumper Setup

#### Output Code Format Selection



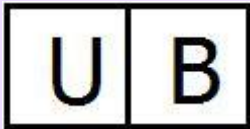
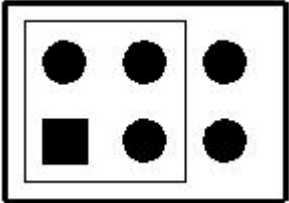
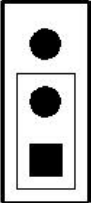
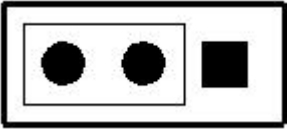
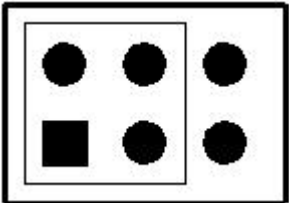
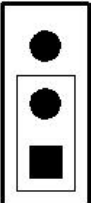
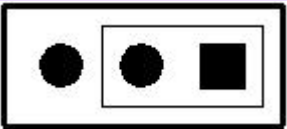
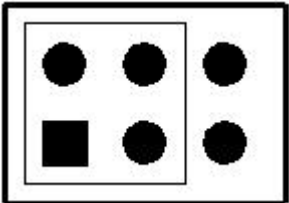
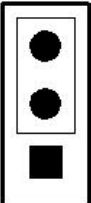

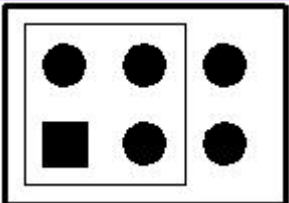
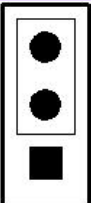
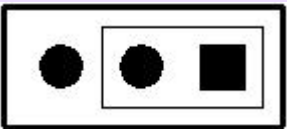
There are two formats of output code can be selected, one is Unipolar and the other is Bipolar. The range of the Unipolar code value is 0~4095 while the Bipolar is -2048~2047. The extreme two ends of the code value corresponding to the minimal and maximal analog output level respectively. For example, if the analog signal is set to -10V~+10V range, for the same code value 0, the Bipolar code will result 0V output, while the Unipolar code will result -10V output, for the code value 2047, the Bipolar code will result 10V output, while the Unipolar code will result 0V output. The JP1 are shared for CH0, CH1 which means both channels cannot configure to different output code format.

Code Format	Range	JP1 Setting
Bipolar	-2048 ~ 2047	<div>U B</div> <div>● ● ■</div>
Unipolar	0 ~ 4095	<div>U B</div> <div>● ● ■</div>

### Output Signal Type Selection

The output signal type of each channel can be set individually. There are three jumpers for each channel to control the output signal type. The corresponding jumpers for each channel are shown at below:

Please lookup the arrangement of jumper from the following table according to the desired output signal type.

Signal Type	JP5/JP7	JP9/JP10	JP6/JP8
			
0 ~ 20mA			
-20mA ~ +20mA			
0 ~ 10mA			
-10mA ~ +10mA			

0 ~ 10V			
-10V ~ +10V			
0 ~ 5V			
-5V ~ +5V			

The JP5, JP9, JP6 jumpers are used for CH0 output signal type setting while the JP7, JP10, JP8 jumpers are used for CH1.

The default factory settings of MB1-2DA analogue output module are

**Output code format** – Bipolar(-2048~+2047)

**Output signal type and range** – Bipolar(-10V ~ +10V)

For those applications that require the setting differ than the above default setting should make some modification according to the tables listed above