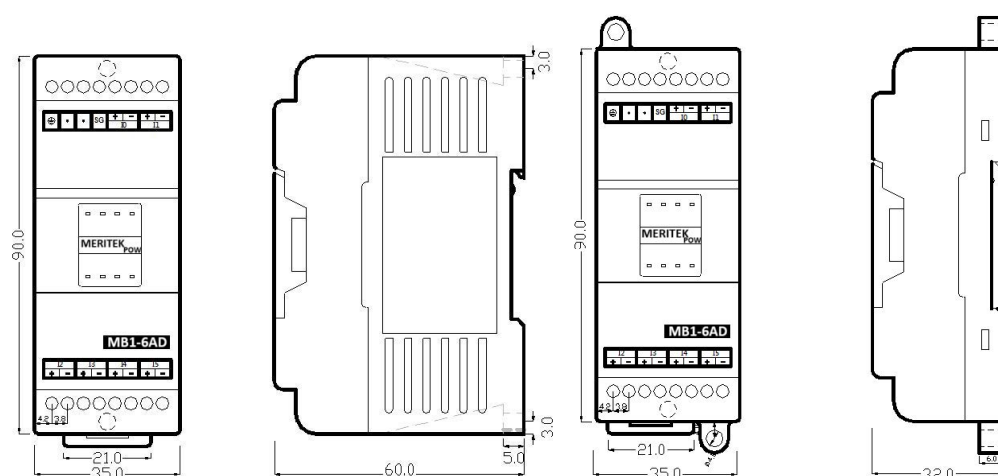


MB1-6AD – Right Side 6 Channel A/D Input Module

Introduction

MB1-6AD is one of the analog input modules of MERITEK MB1 series PLC. It provides 6 channels A/D input with 12 bit effective resolution. Base on the different jumper settings it can measure the varieties of current or voltage signal. The reading value is represented by a 12 bit value. In order to filter out the field noise imposed on the signal, it also provides the average of sample input function.

Dimension

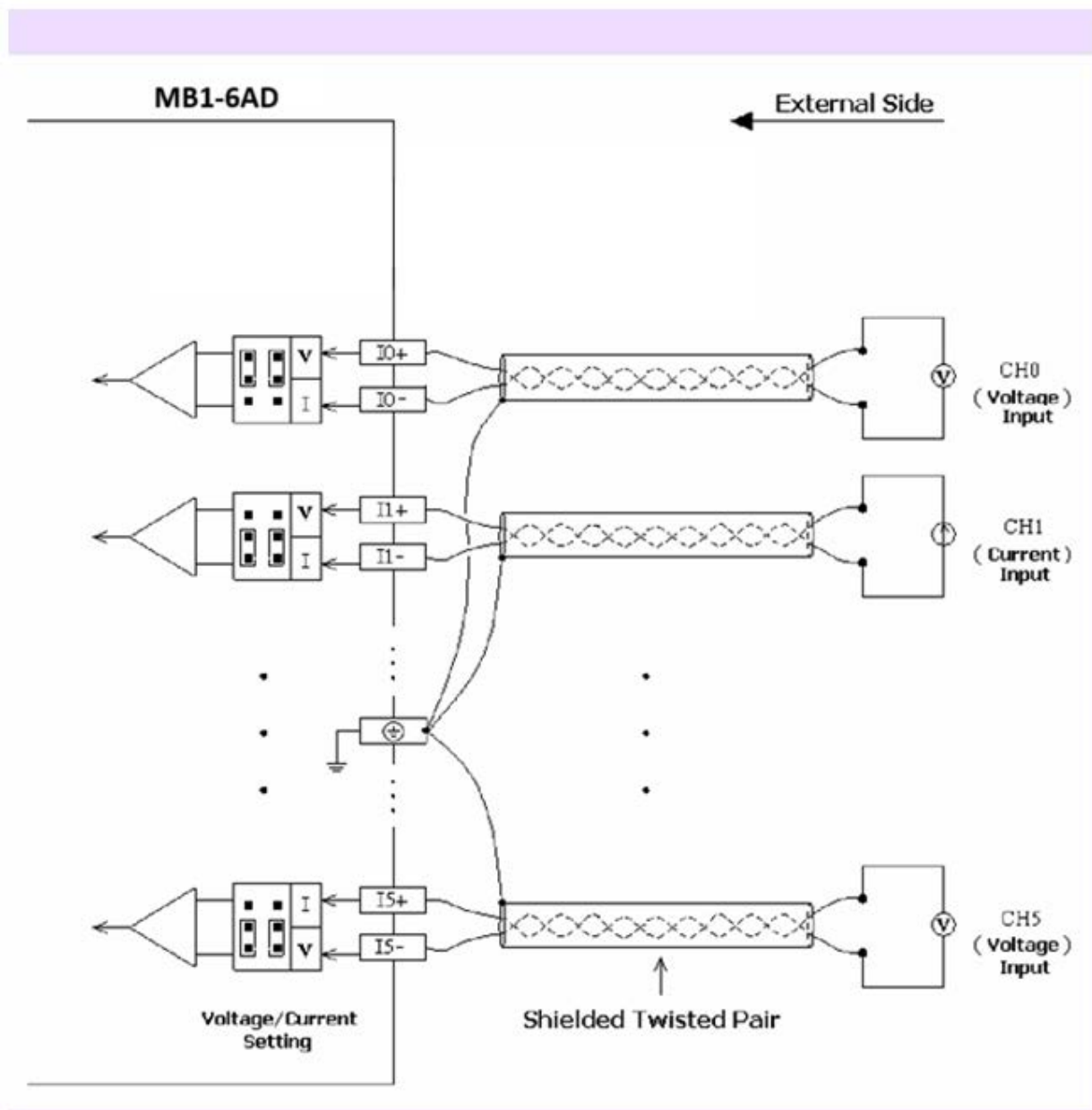


Specifications

Expansion Type	Right Side
Total Channels	6 CH
Resolution	12 bit
Signal Resolution	1.22mV(Voltage), 2.44uA(Current)
I/O Points Occupied	6 IR(Input Register)
Conversion Time	Updated each scan
Accuracy	±1 %
Max. Absolute Input Rating	±12V(Range:-10~10V), 0~12V(Range:-0~10V), ±6V(Range:-5~5V), 0~6V(Range:0~5V), ±24mA(Range:-20~20mA), 0~24mA(Range:0~20mA), ±12mA(Range:-10~10mA), 0~12mA(Range:0~10mA)
Software Filter	Moving Average
Average Samples	1~16 configurable
Input Impedance	63.2KΩ(Voltage), 250Ω(Current)
Measurement Range	-10~+10V, -5~+5V, 0~10V, 0~5V, -20~+20mA, -10~+10mA, 0~20mA, 0~10mA

Isolation	None
Indicator(s)	5V PWR LED
Supply Power	24V-15%/+20%, 2VA
Internal Power Consumption	5V, 100mA
Operating Temperature	0 ~ 60 °C
Storage Temperature	-20 ~ 80 °C
Case Type Support	Standard Case and Slim Case
Dimensions	Standard Case: 35(W)x90(H)x60(D) mm Slim Case: 35(W)x90(H)x32(D) mm

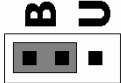

Wiring Diagram



Jumper Setting

➤ Input Code Format Selection

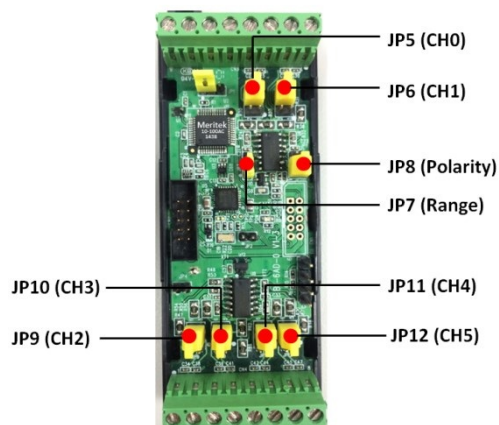
There are two input data formats can be selected which are bipolar and unipolar. The range of input value is 0~4095 for unipolar format while bipolar is -2048~2047. The two extreme values of each range corresponding to the minimal and maximal input signal. For example, if chose the -10V~+10V type signal, for 10V input signal the input value is 4095 for unipolar format while the bipolar format is 2047. Normally the input code format setting is consistent with input signal type (bipolar coded for bipolar input signal, unipolar coded for unipolar input signal). Only when use the FUN32 for offset conversion should set the bipolar code for unipolar input signal (Please refer the FUN32 description). The code format of all input channels are set by the same JP1 jumper. The location and the setting of jumper of JP1 are shown at below.


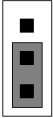
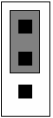

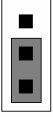
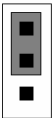
Code Format	Value Range	JP1 Setting
Bipolar	-2048 ~ +2047	
Unipolar	0 ~ +4095	


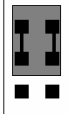


➤ Input Signal Type setting

The current or voltage type setting of each channel can be set individually while the range and polarity setting share the same jumpers. All locations of jumper for input signal type setting are shown at below.



Signal Type	Polarity Setting (JP8)	Range Setting (JP7)
0~10V or 0~20mA	U B 	
0~5V or 0~10mA		
-10V~10V or -20~20mA	U B 	
-5~5V or -10~10mA		

Signal Type	CH0(JP5)/ CH1(JP6)/ CH2(JP9)/ CH3(JP10)/ CH4(JP11)/ CH5(JP12)
Current	
Voltage	

CH0~CH5 share the JP7 and JP8 jumper, therefore all channels must be of the same type that is one of the four types listed at above table. Only the current/voltage setting can be chosen arbitrary.

The default factory settings of MB1-6AD analog input module are

Input code format – Bipolar (-2048~+2047)

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

For those applications that require the setting differ than the above default setting should make some modifications of jumper position according to above tables.

While application, besides the setting of jumper should be conducted, the configurations of AI module of Winproladder also need to be performed.