

Introduction

AB4M4 is an analog module with 4 configurable inputs and 4 outputs designed for mounting on a standard DIN-Rail with proprietary MTBus. Each input can be set up via software in five different typologies: potentiometric, voltage input 0..10V or -10..+10V, current input 0..20mA or PT100. The four analog outputs are both current and voltage. The module indicates its state via four diagnostic leds.



Hardware Specification

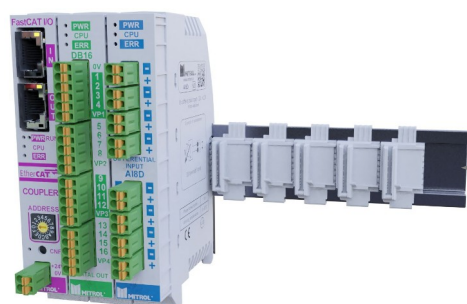
Analog Input	
Channels	4
Each Input configurable independently via software	Potentiometer; 0..10V; -10..+10V; 0..20mA; PT100
Resolution	12bit
Conversion time	1ms for all inputs
Digital filter	Configurable
Potentiometer	
Potentiometer reference voltage VPT	4,5V with short circuit protection
R potentiometer	≥1KΩ for each channel
Voltage Input	
Input type	Single ended
Voltage range	0..10V or -10..+10V
Input resistance	10KΩ
Current Input	
Input resistance	500Ω
PT100 Input	
Temperature range	-40..+250°C
Temperature resolution	0,5°C
With unplugged PT100	Full scale

Hardware Specification

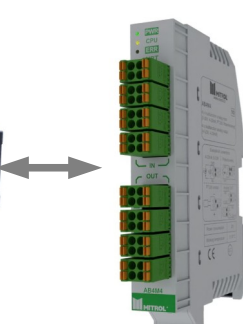
Analog voltage Output	
Channels	4
Voltage range	0..10V; -10..+10V
Resolution	12bit
Load for each channel	Max. 5mA; Load 2K Ω 1nF
Software Ramp	Present
Analog current Output	
Channels	4
Current range	0..20mA
Resolution	11bit
Max. output load	500 Ω
Software Ramp	Present

Electrical	
Electrical isolation	500Vrms
Power consumption	2W
Interface	Proprietary MTBus
Stripping length	8-9mm
Specification	EN 61131-2
Diagnostic leds	Power → ON Green CPU → Blink Yellow Error → OFF Red VPT → ON Green
	
Mechanical	
Dimensions [W x H x D]	19x120x93mm
Installation	On 35mm DIN-Rail
Enviroment	
Operating/storage temperature	0..55°C / -20..+85°C
Relative humidity	Max 95% without condensation
Degree of protection	IP20

Application



EtherCAT slave node



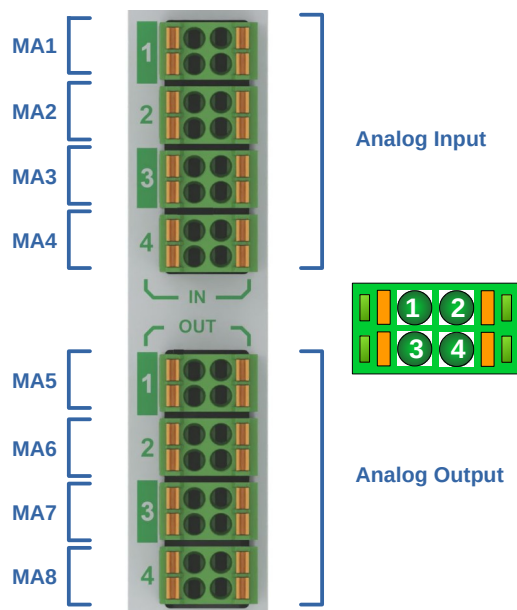
Analog Input



Analog Ouput



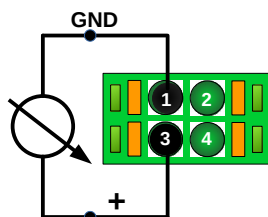
Pin Assignment



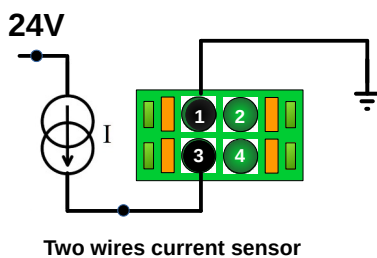
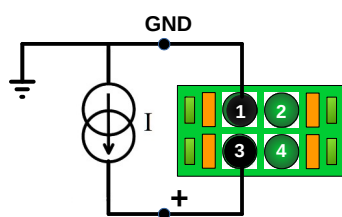
Input connections				
PIN	VOLTAGE 0..10V -10..+10V	CURRENT 0..20mA	POT	PT100
1	GND	GND	GND	GND
2	VPT	VPT	VPT	VPT
3	Vin(+)	Iin(+)	Wiper	PT(+)
4	N.C.	N.C.	N.C.	N.C.

Output connections	
PIN	VOLTAGE -10..+10V CURRENT 0..20mA
1	GND
2	GND
3	Vout(+)
4	Iout(+)

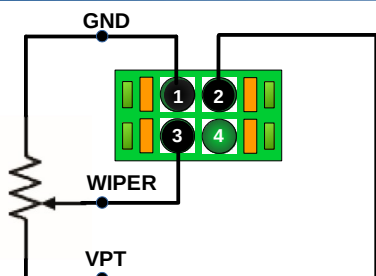
Input Wire Connections



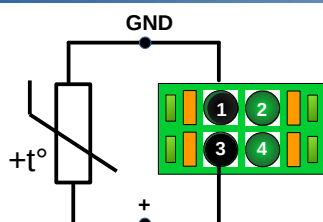
VOLTAGE INPUT



CURRENT INPUT



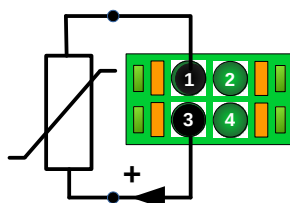
POTENTIOMETRIC INPUT



PT100 INPUT

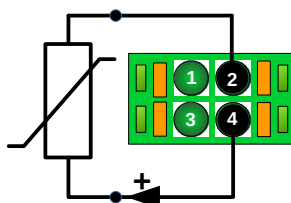
Output Wire Connections

LOAD Min. 1K Ω
-10..+10V



OUTPUT VOLTAGE

LOAD Max. 500 Ω
0..20mA



CURRENT OUTPUT

Dimensions (Units: mm)
