



Bridging the Gap between Real World and Computer



EMA8308/D



Introduction

EMA8308 is an Ethernet analog I/O module.

Some models have 24 bit unipolar analog input which can be wired as single end or differential input. The other model have 24 bit bipolar analog input but only differential input.

As the models have 2 channel analog output with optional 12 bit or 16-bit bipolar output.

It can work as a standalone web server to provide control directly by web page. It also provide password to prevent un-authorized change.

DLL is provided for WinXP, Win7 and later or LINUX platform and sample programs come with VB source code.

Applications

- ▶ For remote analog voltage sensing
 - sensor signal sensing
 - analog voltage monitoring
- ▶ For remote voltage output
 - speed control
 - light dimmer control
 - temperature control

Ethernet Module Analog I/O

Features

- ▶ Over-voltage protection on analog input
- ▶ Over-load protection on analog output
- ▶ 24 bit accuracy
- ▶ 10 samples per second
- ▶ -10V~ +10V output (Option)
- ▶ 10/100M auto detection
- ▶ 16 Single end analog input (EMA8308)
- ▶ Multiple analog input range : 0~5V, 0~10V, 4~20mA, 0~20mA
- ▶ 8 Differential analog input (EMA8308D)
- ▶ High common mode voltage up to 10V
- ▶ Multiple analog input range : -5~ +5V, -10~ +10V 4~20mA, 0~20mA
- ▶ IP re-assignment
- ▶ UDP and MODBUS TCP protocol
- ▶ Peer to peer response time < 2ms
- ▶ Standalone function : step sequence control instructions, device to device communication

Specifications

Analog Input

- ▶ Input Channels : EMA8308 : 16 channels unipolar single
Single end or differential
EMA8308D : 8 channels differential
- ▶ Resolution : 24 bit
- ▶ Offset Error : 2.5uV(typ), 5uV(max)
- ▶ Offset Error Drift : 20nV / °C
- ▶ Input Common Mode Rejection : 120dB
- ▶ Sample Rate : 10 samples/second (pre channel)
- ▶ Input Type : differential or single end (port programmable)
- ▶ Input Range : 0~5V(23 bit), 0~10V(24 bit), 0~20mA(23 bit), 4~20mA(22 bit) (EMA8308)
-5V ~ +5V(23 bit), -10V ~ +10V(24 bit), 0~20mA(23 bit), 4~20mA(22 bit) (EMA8308D)
- ▶ Input Filter : 7.03K, 3.52K, 1.76K, 879Hz
- ▶ Over-voltage Protection : 20Vdc(max)

Analog Output (Option)

- ▶ Output Points : 2 channels
- ▶ Resolution : 16 bit (EMA8308, EMA8308D)
- ▶ Output Range : -10Vdc ~ +10Vdc
- ▶ Over Load Protection : 50mA(peak)

Standalone function

- ▶ 32 step sequence control instructions

Ethernet

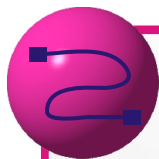
- ▶ 10/100M auto switch x 2 port
- ▶ WDT : 1~1000sec based on 0.1 sec time base for communication discontinuity detect
- ▶ Response time 2ms

Main Card General

- ▶ Power Requirement : 12Vdc ~ 24Vdc
- ▶ Operation Temperature : 0 °C ~ +70 °C
- ▶ Storage Temperature : -20 °C ~ +80 °C
- ▶ Operation Humidity : 5~95% RH, non-condensing
- ▶ Dimensions : 114.3(L)*135.8(W)*34(H) mm
4.5(L)*5.4(W)*1.4(H) in

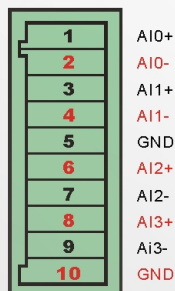


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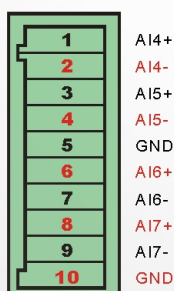
Pin Assignments

JM1 pin definitions



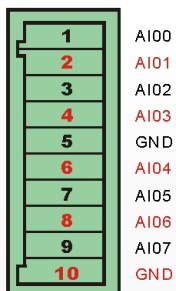
Differential analog input

JM2 pin definitions



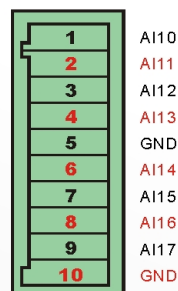
Differential analog input

JM1 pin definitions



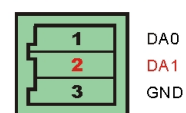
Single end analog input

JM2 pin definitions



Single end analog input

JM3 pin definitions



Analog output

Ordering Information

- **EMA8308** : Ethernet I/O module, 24 bit uni-polar 8 differential /16 single end analog input, 2 16-bit analog output
- **EMA8308D** : Ethernet I/O module, 24 bit bi-polar 8 differential analog input, 2 16-bit analog output
- **JD52038** : 110/220Vac to 24Vdc @1.5A power supply

Software Support

► PC OS Support

WinXP, Win7, Win10 and later or Linux O.S.
Embedded XP, Win CE (at request)

► Library

DLLs, VI library

► Develop Software

Visual C++, Visual Basic,
Borland C/C++ Builder, LabVIEW etc

► Example Source Code

Visual Basic

Note