

## Module Datasheet

### Introduction

SensOper MC-EX-AV8 Analog Input module is an expansion module that can be used with MC-CPU-CM4-Gx CPU module. This module was implemented for read 0-10V Analog signals. This expansion module include I2C ADC interface with an address configurable DIP switches for establish communication with a CPU module. ADS1115 16 bit ADC IC supports up to eight inputs in this module. The data rate of this module is programmable. Moreover, this module expansion supported by board-to-board connector with 40 pins.

### Features

16 Bit Analog Input	I2C ADC	Programmable Data Rate	0-10V Reading	Din Rail Mounting	Address Configurable
					<b>OxFF</b>

### Expansion

This module supports maximum four unites for single Bus expansion.



Figure 1: Front and Side view of Analog Input module

### Specifications

Table 1: Analog Input expansion module specifications

Range of Products	Modular Industrial Controller
Product Type	I/O Expansion
Programming	ADS 1115 via I2C
Address Configuration	DIP Switches
Input Count	8 x Analog 0-10V
Input Rating	0-20mA DC / 16 Bit Resolution
Protection	Over Voltage Protection
I/O Expandability	40 pin board to board connectivity

### Electrical & Mechanical

Table 2: Analog Input expansion module Electrical Characteristics

Electrical	
Rated Supply Voltage	24V DC
Power Consumption	32.6 - 40.4 W

Table 3: Analog Input expansion module Mechanical Characteristics

Mechanical	
Electrical Connection	Removable screw terminal block for inputs and outputs(pitch 5.08 mm)
Mounting	Top hat TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.54 rail conforming to IEC 60715
Height	113.6 mm
Depth	99.60 mm
Width	22 mm
Module Weight	0.21 kg

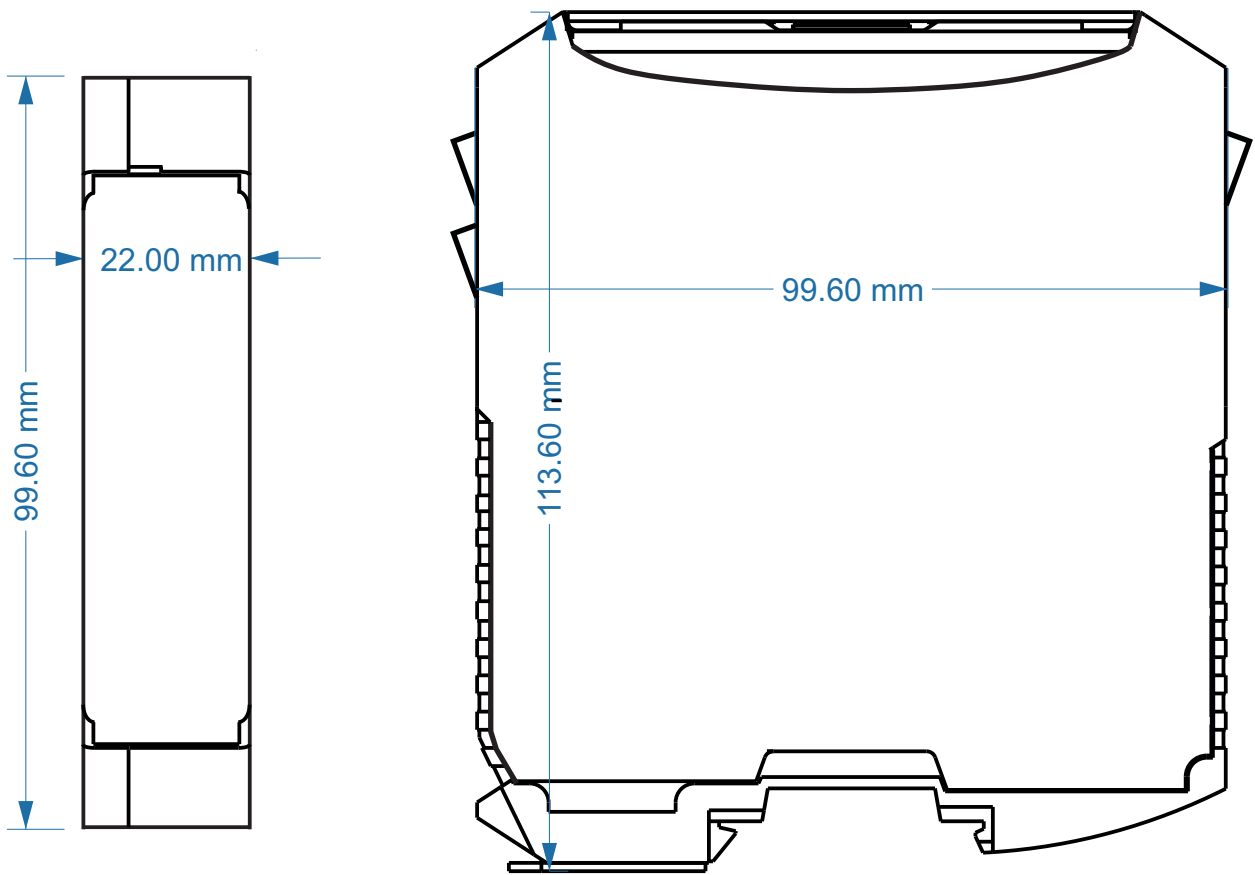
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### Environmental

**Table 4:** Analog Input expansion module Compatible Environmental Features

Relative Humidity	10-95% without consideration in operation
IP Degree of Protection	IP 20
Operating Temperature	-10 to +85 Celsius (14 to 185 Fahrenheit)
Storage Temperature	-25 to +85 Celsius (-13 to 185 Fahrenheit)
Operating Altitude	0 to 2000m
Storage Altitude	0 to 3000m
Shock Resistance	15 gn for 11 ms

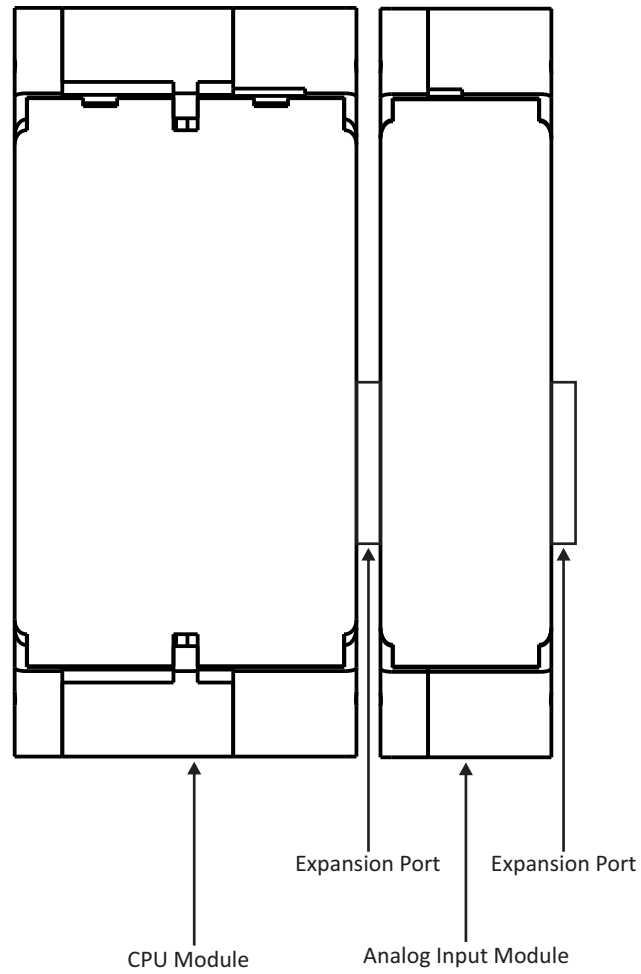
### Module Dimensions



**Figure 2:** Front view and Side view Dimensions of Analog Input module

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### Module Expansion



**Figure 3:** Expansion Modules connect with CPU Module

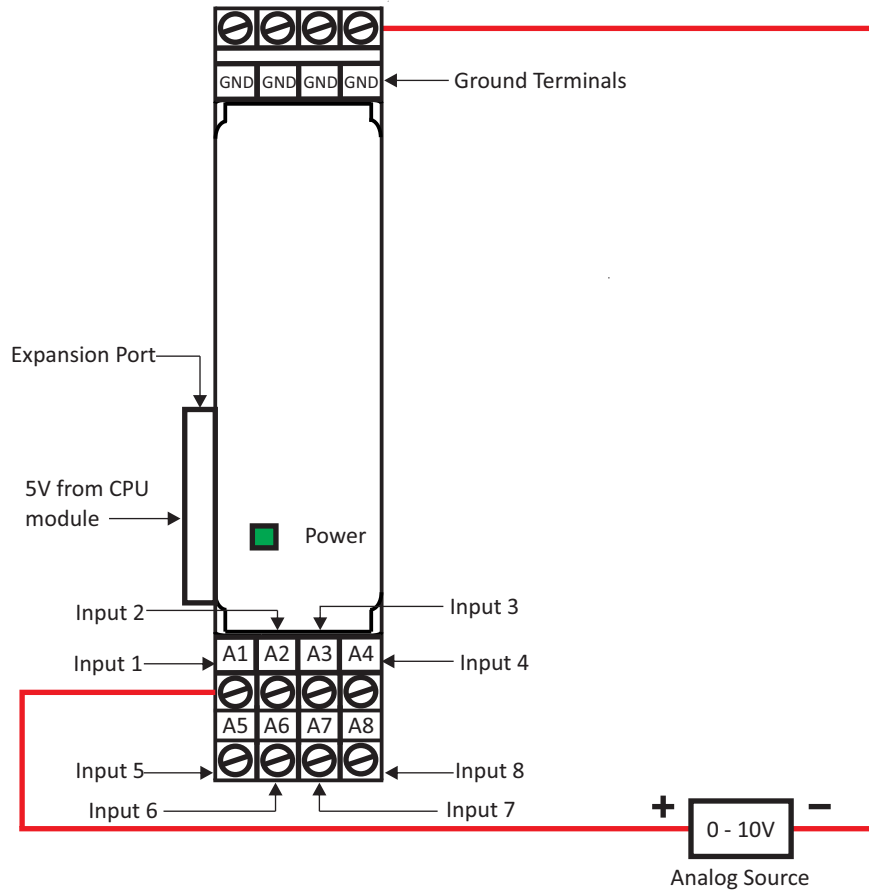
MC-EX-AV8 module have Male and Female port can be connected with CPU module or another expansion modules .



**Figure 4:** Expansion Port male and female ports

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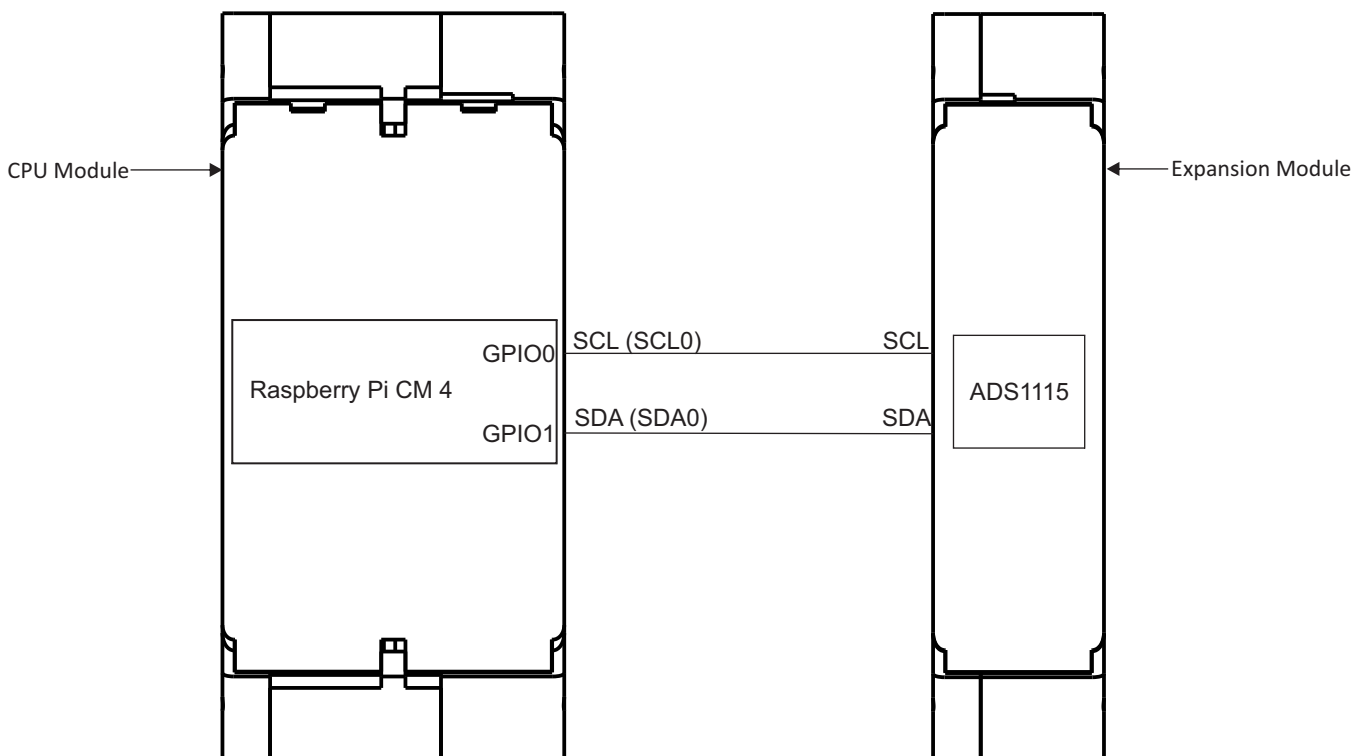
### Wiring Diagram of Power up and Input Terminals



**Figure 5:** The wiring diagram of the Analog Input Module.

Figure 5 shows how to power up the Analog Input Module. Module operation will voltage provide via CPU module. If the wiring is correctly done the Power indication LED will turn on. Further, this wiring diagram shows how to receive analog signal from device.

### CPU Module and Expansion Module GPIO Connection Diagram



**Figure 6:** The GPIO connection with CPU module and Expansion Module.

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**Table 5:** The DIP switch setup

Address	DIP Switch			
	4	3	2	1
72	OFF	OFF	OFF	ON
73	OFF	OFF	ON	OFF
74	OFF	ON	OFF	OFF
75	ON	OFF	OFF	OFF

DIP Switch Arrangement



INPUT 1 - 4



INPUT 5 - 8

**\*Read the Product label for more details about DIP switch configuration.**

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### Revision History

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The table shown below include the revision history of this document.

Revision Number	Date	Substantial Changes
0	18/3/2022	First Edition of Startup guide
1	-	-

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