

Module Datasheet

Introduction

SensOper MC-EX-QA8 Transistor Output module is an expansion module that can be used with MC-CPU-CM4-Gx CPU module. This module was implemented for send Digital output signals. This expansion module include high speed 1.7 Mhz I2C interface with I2C address configurable DIP switches for establish communication with a CPU module. MCP23008 I2C port expanding IC supports up to eight outputs in this module. All outputs were internal optically isolated as protection feature. The module expansion is supported by board-to-board connector with 40 pins.

Features

Optically Isolated	Port Expander	Din Rail Mounting	Address Configurable	Open Collector Output	High Speed I2C	LED Indicators
			OxFF			

Expansion

This module supports maximum four unites for single Bus expansion.

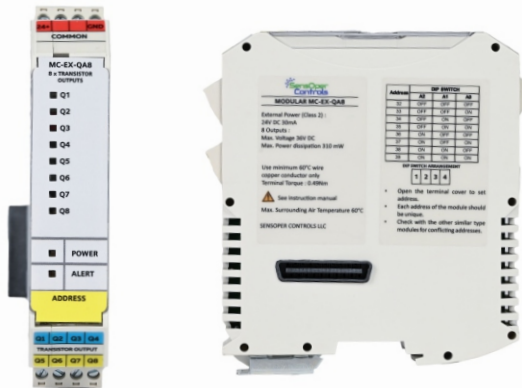


Figure 1: Front and Side view of Transistor Output module

Specifications

Table 1: Transistor Output expansion module specifications

Range of Products	Modular Industrial Controller
Product Type	I/O Expansion
Programming	MCP23008 via I2C
Address Configuration	DIP Switch/ 8 Address
Output Count	8 x Open Collector (Transistor)
Protection	Optically Isolated
I/O Expandability	40 pin board to board connectivity

Electrical & Mechanical

Table 2: Transistor Output expansion module Electrical Characteristics

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

Table 3: Transistor Output 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: Transistor Output 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
Stock Resistance	15 gn for 11 ms

Module Dimensions

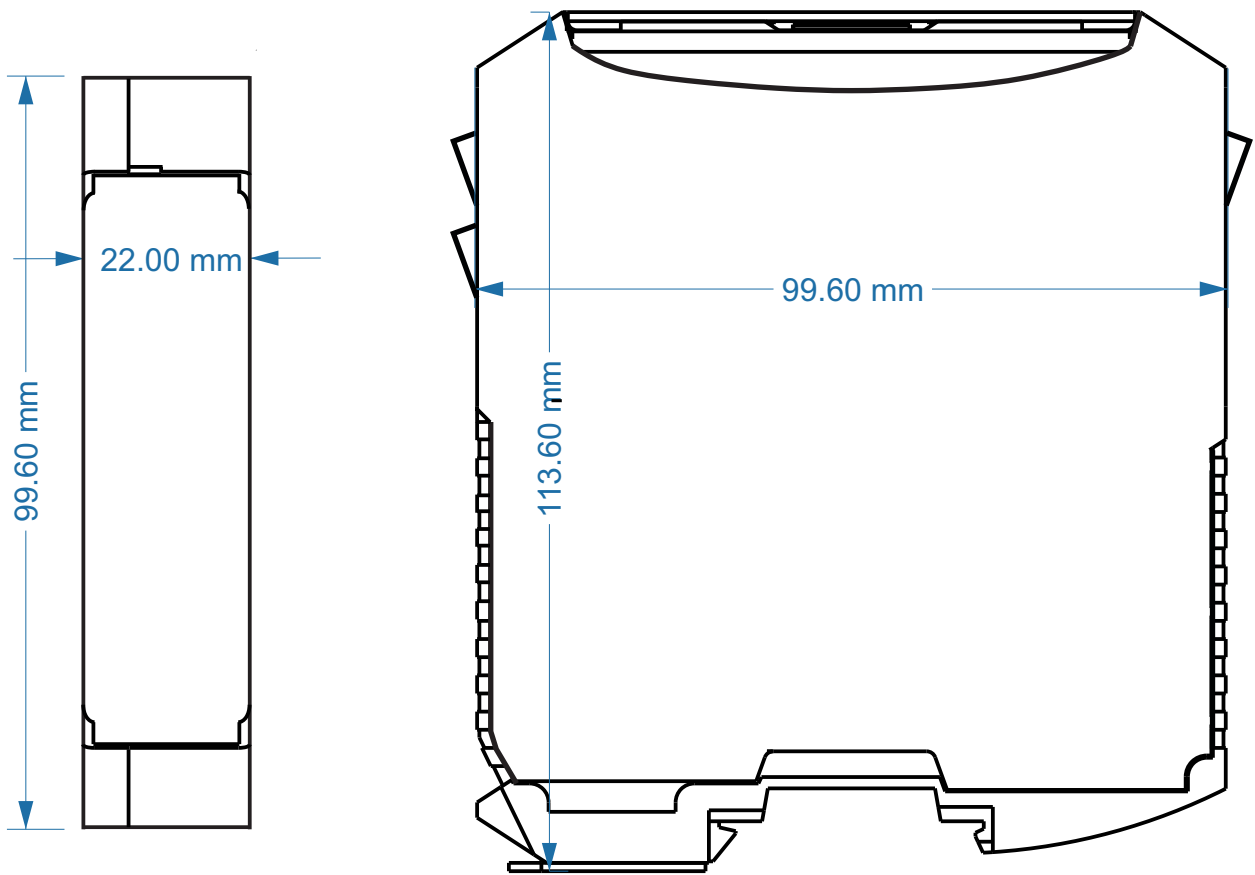


Figure 2: Front view and Side view Dimensions of Transistor Output module

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Module Expansion

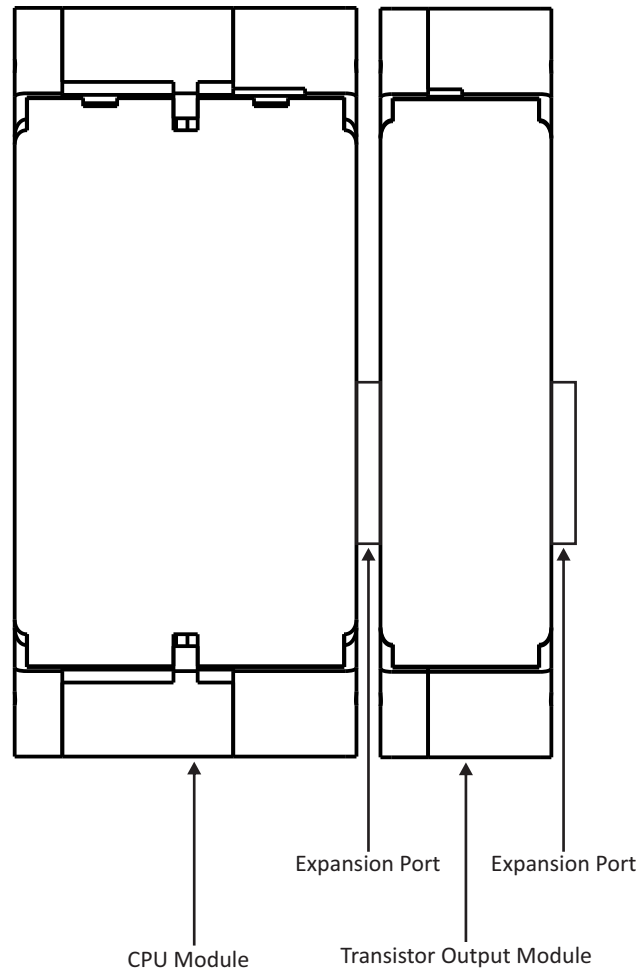


Figure 3: Expansion Modules connect with CPU Module

MC-EX-QA8 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 Output Terminals

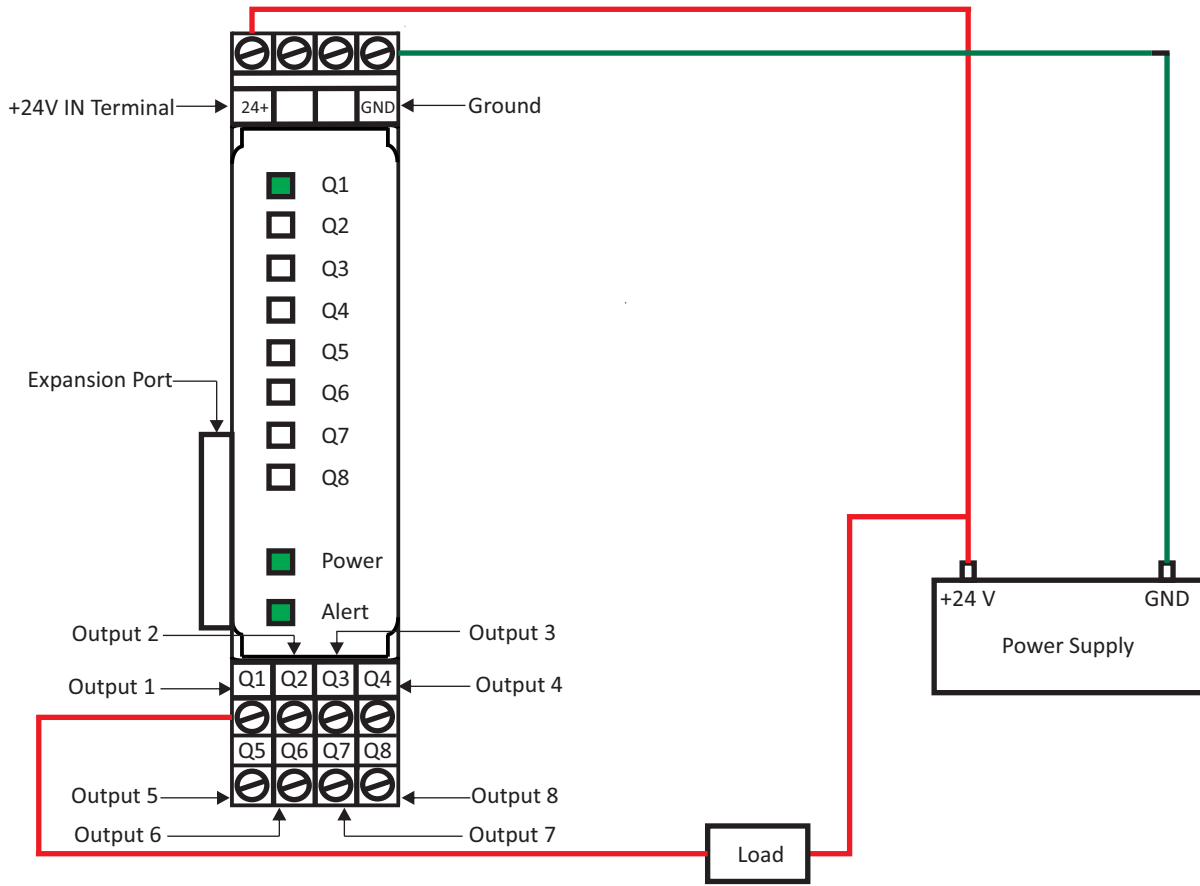


Figure 5: The wiring diagram of the Transistor Output Module.

Figure 5 shows how to power up the Transistor Output Module. If the wiring is correctly done the Power indication LED will turn on. Further, this wiring diagram shows how to send signal to load. When Output signal begin the Q1, Q2, Q3, Q4, Q5, Q6, Q7 & Q8 LED indication will blink accordingly. The Alert indication LED will blink according to functional state.

CPU Module and Expansion Module GPIO Connection Diagram

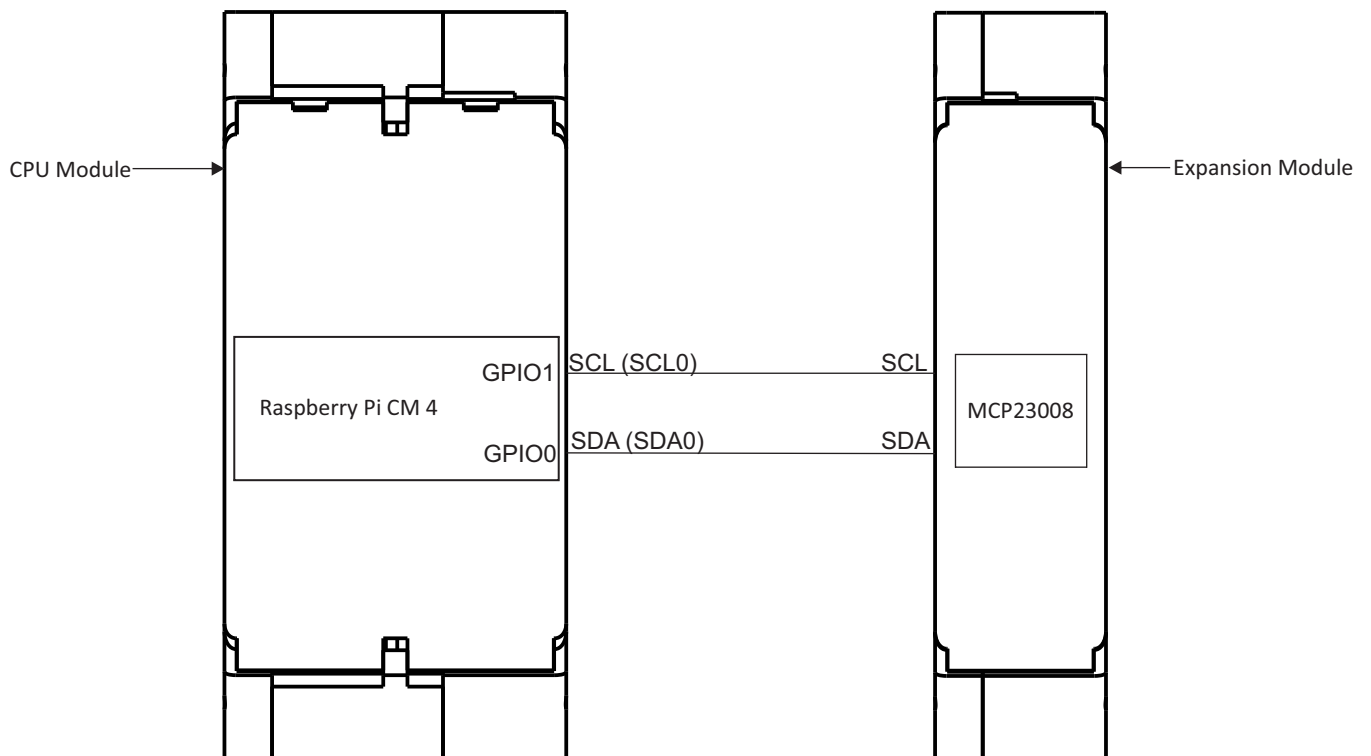


Figure 6: The GPIO connection with CPU module and Expansion Module.

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Table 5: DIP Switch Table.

Address	DIP Switch A2	DIP Switch A1	DIP Switch A0
32	OFF	OFF	OFF
33	OFF	OFF	ON
34	OFF	ON	OFF
35	OFF	ON	ON
36	ON	OFF	OFF
37	ON	OFF	ON
38	ON	ON	OFF
39	ON	ON	ON

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

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Revision History

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	-	-