

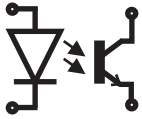
Module Datasheet

Introduction

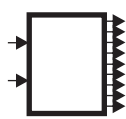
SensOper MC-EX-ND8 Digital Input module is an expansion module that can be used with MC-CPU-CM4-Gx CPU module. This module was implemented for read Digital Input signals. This expansion module includes a high speed 1.7 Mhz I2C interface with an address configurable DIP switches to establish communication with a CPU module. MCP23008 I2C port expanding IC supports up to eight inputs in this module. All inputs were Internal optically isolated as a protection feature. This module, expansion is supported by board-to-board connector with 40 pins.

Features

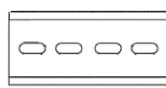
Optically Isolated



Port Expander



Din Rail Mounting



Address Configurable

OxFF

LED Indicators



High Speed I2C



Expansion

This module supports maximum four unites for single Bus expansion.

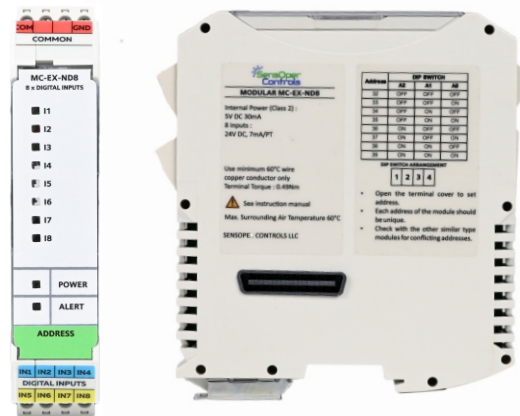


Figure 1: Front and Side view of Digital Input module

Specifications

Table 1: Digital Input expansion module specifications

Range of Products	Modular Industrial Controller
Product Type	I/O Expansion
Programming	MCP23008 via I2C
Address Configuration	DIP Switch/ 8 Address
Input Count	8 x 24V DC Digital
Polarity	Sink/ Source Configurable
Protection	Optically Isolated
I/O Expandability	40 pin board to board connectivity

Electrical & Mechanical

Table 2: Digital Input expansion module Electrical Characteristics

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

Table 3: Digital 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

Module Datasheet

Environmental

Table 4: Digital 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

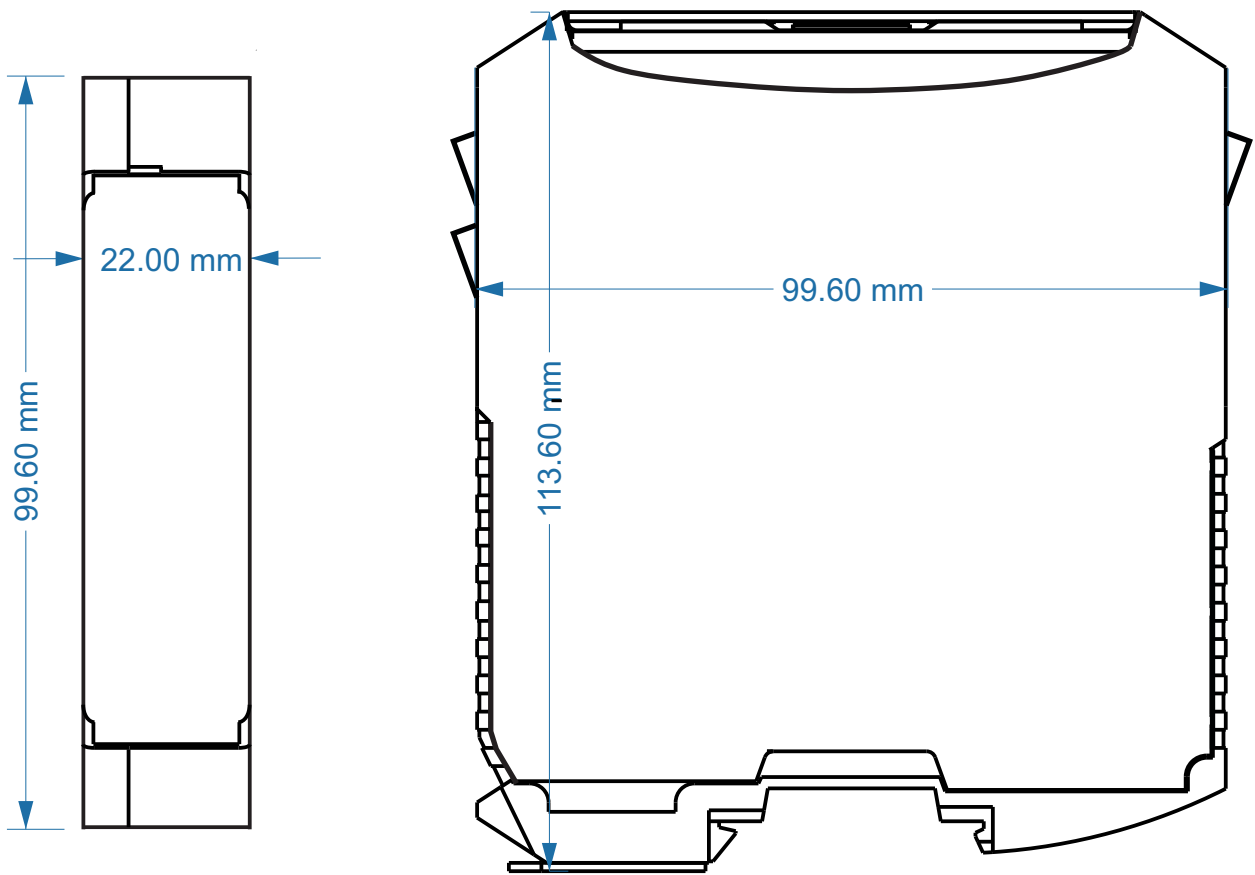


Figure 2: Front view and Side view Dimensions of Digital Input module

Module Datasheet

Module Expansion

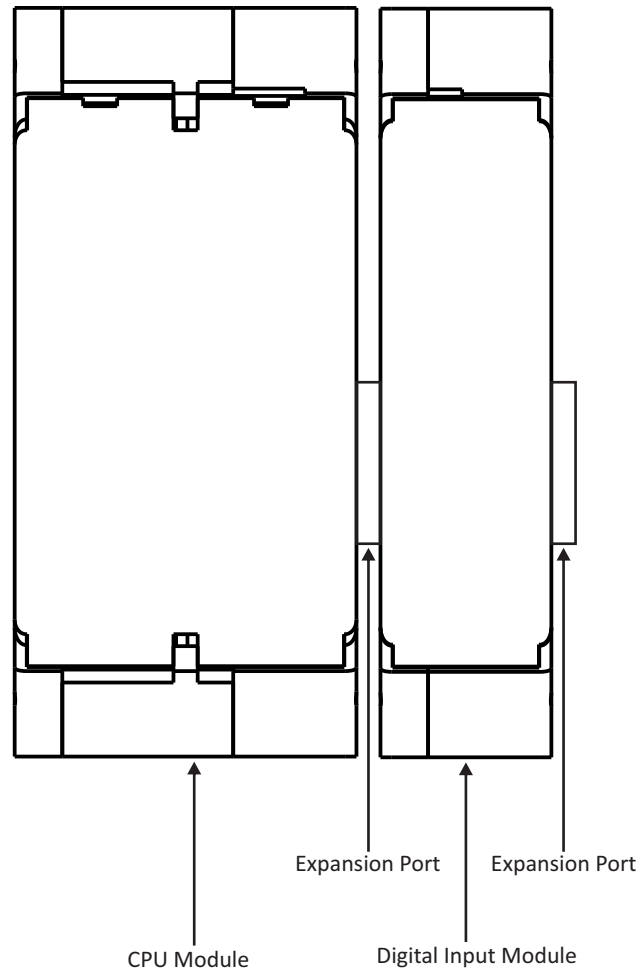


Figure 3: Expansion Modules connect with CPU Module

MC-EX-ND8 module have Male and Female port can be connected with CPU module or another expansion modules .



Figure 4: Expansion Port male and female ports

Module Datasheet

Wiring Diagram of Power up and Input Terminals

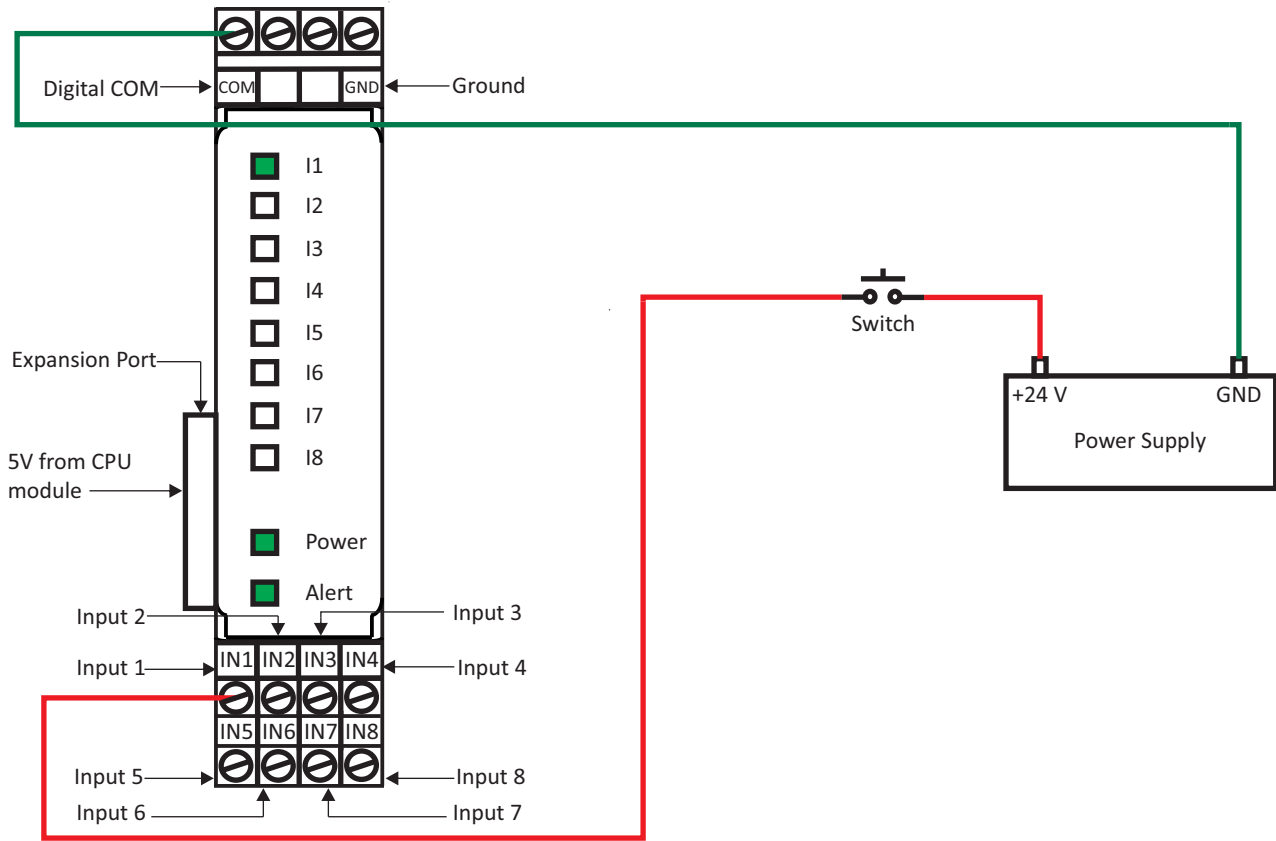


Figure 5(a): The wiring diagram of the Digital Input Module (Source Configuration).

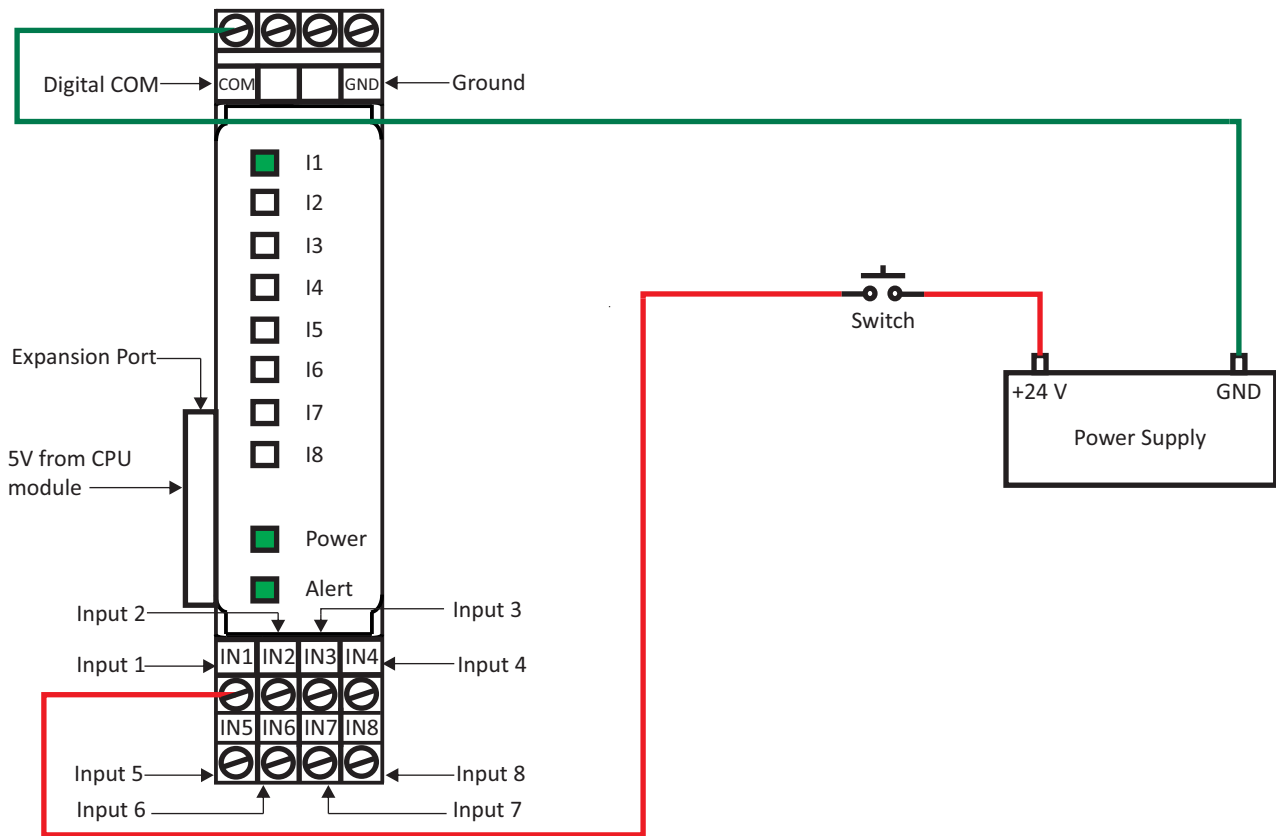


Figure 5(b): The wiring diagram of the Digital Input Module (Sink Configuration).

Figure 5(a), Figure 5(b) shows how to power up the Digital Input Module. If the wiring is correctly done the Power indication LED will turn on. Further, this wiring diagram shows how to receive source or sink. When Input signal begins the I1, I2, I3, I4, I5, I6, I7 & I8 LED indication will blink accordingly. The Alert indication LED will blink according to functional state.

Module Datasheet

CPU Module and Expansion Module GPIO Connection Diagram



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

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.

Module Datasheet

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	-	-

Technical Support
<https://sensoper.com/support/>

Order Online
<https://sensoper.com/>

Sales Inquiries
<https://sensoper.com/contact-us/>