

# DEKASYS

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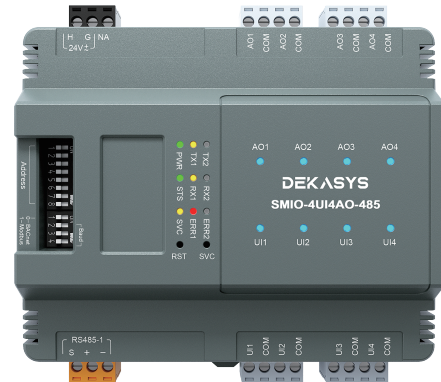
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# SMIO Series

## Remote IO Module



SMIO-16P-IP



SMIO-08P-485

## Indroduction

The SMIO Series have a few combination of 8 and 16 IO configuration. They can be physically isolated digital inputs, relay outputs, analog output and universal input. For the digital output, it also has HOA support using the slide switch, while for analog output, It can use the slide switch to select the analog output type and use the trimmer to trim the analog output amplitude, either 0 V- 10V, 0 mA - 20mA, or 4mA - 20mA. It supports the standard BACnet MSTP, BACnet IP, Modbus RTU and Modbus TCP open communication protocols, controls and collects various digital switching and analog signals, and relays them to the system.

- 1 or 2 RS485
- 2 Ethernet port for daisy chain connection
- Baud Rate and Address selection DIP switch
- Good Price-Performance
- ARM Cortex 32 Bit MCU
- Physically Isolated Digital Input (Optional)

## Features

### • Standard Automation Protocol

The controller supports both BACnet MSTP, BACnet IP, Modbus RTU and Modbus TCP open communication protocols, which are able to accommodate most of the Building Automation application.

### • Online Firmware Upgradable/Configurable

The controller firmware can be upgraded and configured via USB.

### • HOA for Digital Output, Variable value for Analog Output

The controller can have option for HOA for digital output and voltage or current output for analog output using the slide switch and trimmer.

### • Address and Baud Rate selectable via hardware DIP switch

The address and baud rate can be set using the DIP switch for fast and convenient setup.

Product Matrix

Product Coding Rules(16 Points)

| Series Title | Points | Inputs/Outputs |    |    |    | RS485 | IP | HOA | Model                | Product Code |
|--------------|--------|----------------|----|----|----|-------|----|-----|----------------------|--------------|
|              |        | UI             | DI | DO | AO |       |    |     |                      |              |
| SMIO         | 16     | 16             |    |    |    | 1     | 0  | 0   | SMIO-16UI-485        | 1600100      |
| SMIO         | 16     | 16             |    |    |    | 2     | 1  | 0   | SMIO-16UI-IP         | 1600110      |
| SMIO         | 16     |                | 16 |    |    | 1     | 0  | 0   | SMIO-16DI-485        | 1600200      |
| SMIO         | 16     |                | 16 |    |    | 2     | 1  | 0   | SMIO-16DI-IP         | 1600210      |
| SMIO         | 16     |                |    | 16 |    | 1     | 0  | 0   | SMIO-16DO-485        | 1600300      |
| SMIO         | 16     |                |    | 16 |    | 1     | 0  | 1   | SMIO-16DO-485-HOA    | 1600301      |
| SMIO         | 16     |                |    | 16 |    | 2     | 1  | 0   | SMIO-16DO-IP         | 1600310      |
| SMIO         | 16     |                |    | 16 |    | 2     | 1  | 1   | SMIO-16DO-IP-HOA     | 1600311      |
| SMIO         | 16     | 12             |    |    | 4  | 1     | 0  | 0   | SMIO-12UI4AO-485     | 1600400      |
| SMIO         | 16     | 12             |    |    | 4  | 1     | 0  | 1   | SMIO-12UI4AO-485-HOA | 1600401      |
| SMIO         | 16     | 12             |    |    | 4  | 2     | 1  | 0   | SMIO-12UI4AO-IP      | 1600410      |
| SMIO         | 16     | 12             |    |    | 4  | 2     | 1  | 1   | SMIO-12UI4AO-IP-HOA  | 1600411      |
| SMIO         | 16     |                | 8  | 8  |    | 1     | 0  | 0   | SMIO-8DI8DO-485      | 1600500      |
| SMIO         | 16     |                | 8  | 8  |    | 1     | 0  | 1   | SMIO-8DI8DO-485-HOA  | 1600501      |
| SMIO         | 16     |                | 8  | 8  |    | 2     | 1  | 0   | SMIO-8DI8DO-IP       | 1600510      |
| SMIO         | 16     |                | 8  | 8  |    | 2     | 1  | 1   | SMIO-8DI8DO-IP-HOA   | 1600511      |

Product Coding Rules(8 Points)

| Series Title | Points | Inputs/Outputs |    |    |    | RS485 | IP | HOA | Model               | Product Code |
|--------------|--------|----------------|----|----|----|-------|----|-----|---------------------|--------------|
|              |        | UI             | DI | DO | AO |       |    |     |                     |              |
| SMIO         | 08     | 8              |    |    |    | 1     | 0  | 0   | SMIO-8UI-485        | 0800100      |
| SMIO         | 08     | 8              |    |    |    | 2     | 1  | 0   | SMIO-8UI-IP         | 0800110      |
| SMIO         | 08     |                | 8  |    |    | 1     | 0  | 0   | SMIO-8DI-485        | 0800200      |
| SMIO         | 08     |                | 8  |    |    | 2     | 1  | 0   | SMIO-8DI-IP         | 0800210      |
| SMIO         | 08     |                |    | 8  |    | 1     | 0  | 0   | SMIO-8DO-485        | 0800300      |
| SMIO         | 08     |                |    | 8  |    | 1     | 0  | 1   | SMIO-8DO-485-HOA    | 0800301      |
| SMIO         | 08     |                |    | 8  |    | 2     | 1  | 0   | SMIO-8DO-IP         | 0800310      |
| SMIO         | 08     |                |    | 8  |    | 2     | 1  | 1   | SMIO-8DO-IP-HOA     | 0800311      |
| SMIO         | 08     | 4              |    |    | 4  | 1     | 0  | 0   | SMIO-4UI4AO-485     | 0800400      |
| SMIO         | 08     | 4              |    |    | 4  | 1     | 0  | 1   | SMIO-4UI4AO-485-HOA | 0800401      |
| SMIO         | 08     | 4              |    |    | 4  | 2     | 1  | 0   | SMIO-4UI4AO-IP      | 0800410      |
| SMIO         | 08     | 4              |    |    | 4  | 2     | 1  | 1   | SMIO-4UI4AO-IP-HOA  | 0800411      |

Note:

- 1.For RS485 only models, there is only one RS485 port. For IP models, there are two RS485 ports.
- 2.Models with output channel have option for HOA, such as 8DI8DO,12UI4AO,8DO,16DO and 4UI4AO.
- 3.SMIO series can have others different combination of IOs. Please contact our sales team for more information.

Product Code Definition



Device Specifications

Physical

|                 |                                                          |
|-----------------|----------------------------------------------------------|
| Size            | 131.4x107.1x51.7mm(±0.5mm)<br>193.4x107.1x51.7mm(±0.5mm) |
| Casing Material | UL94 ABS+PC                                              |
| Weight          | 300±5g<br>476±5g                                         |
| IP Waterproof   | IP20                                                     |

Electrical

|                       |                                                |
|-----------------------|------------------------------------------------|
| Power                 | 24VAC 50/60Hz +20%/-15%,<br>or 24VDC ±5%       |
| Consumption           | <10W                                           |
| Current Rating        | 1A at 24VAC/VDC                                |
| Operating Temperature | 0°C to 55°C (32°F to 131°F)                    |
| Storage Temperature   | -20°C to 85°C (-4°F to 185°F)                  |
| Operating Humidity    | 0% to 95% Relative Humidity,<br>Non-condensing |

Communication 1

|          |                                                                                                          |
|----------|----------------------------------------------------------------------------------------------------------|
| RS485    | EIA-485 Two Wire,Half Duplex,<br>1/256 Unit Load                                                         |
| Protocol | Modbus RTU,BACnet MSTP                                                                                   |
| Modbus   | Speed:1.2K,2.4K,4.8K,9.6K,<br>19.2K,38.4K,57.6K,115.2K bit/s<br>Data Bit:<br>8 bits,Parity:None,Even,Odd |
| BACnet   | Speed: 2.4K,4.8K,9.6K,19.2K,<br>38.4K,57.6K,76.8K,115.2K bit/s                                           |

Inputs & Outputs

|                   |                                                                               |
|-------------------|-------------------------------------------------------------------------------|
| Digital Input     | Type:<br>Dry Contact, 3.7kV Isolated<br>Dry Contact, None Isolated            |
| Digital Output    | Type: Relay, SPST NO,<br>24VAC/DC, 1A                                         |
| Universal Input   | 12-Bit ADC (with PGA)                                                         |
| Voltage           | 0 - 10V(±0.01V), 0 - 5V(±0.01V)                                               |
| Current           | 4 - 20mA(±0.01mA),0 - 20mA<br>(±0.01mA)                                       |
| Resistance        | 0 - 1.5K (±1Ω),1.5K - 10K(±5Ω),<br>10K – 30K(±10Ω)                            |
| Thermistor Sensor | NTC: 10K Type 2/3,3K,20K<br>(±0.1°C)<br>RTD: 1K Balco,1K Platinum<br>(±0.2°C) |
| Analog Output     | 12-bit DAC                                                                    |
| Voltage           | 0 - 10V<br>(Min load resistance,8kΩ)                                          |
| Current           | 0 - 20mA<br>(Max load resistance 800Ω)                                        |

Communication 2

|                      |                            |
|----------------------|----------------------------|
| Ethernet             | 10/100 Base-T              |
| Basic agreement      | TCP, UDP, ICMP, IGMP, HTTP |
| Application Protocol | Modbus TCP, BACnet IP      |

Illustration of the appearance

