Tech datasheet

Digital I/O Extender

Reference:
ACCDPIOKIT

SMSEagle



The Digital I/O Extender is an expansion module designed for SMSEagle NXS and MHD devices. It extends the system's digital input and output capabilities by providing 32 additional configurable digital I/O ports.
By eliminating the native I/O limitations of the SMSEagle unit, the extender enables scalable integration with external sensors, actuators, and automation systems. Each port can be individually configured as either a digital input or digital output, allowing flexible adaptation to application requirements.
The module connects to the SMSEagle device via a USB interface, which also supplies power. An optional external power supply can be used for increased flexibility. All configuration, monitoring, and control is performed directly through the SMSEagle web-based GUI.

Key Features

- 32 configurable TTL-compatible (3.3 V) digital input/output ports
- Per-channel configurable as input or output
- USB interface with CDC (Communication Device Class) support
- Powered from the SMSEagle USB port (default) or from an optional external 5 V DC supply (requires jumper change)
- All I/O signals available on screw terminals
- Full configuration and monitoring via SMSEagle web GUI
- Designed for SMSEagle NXS / MHD series devices

Typical Applications

- Industrial automation and monitoring
- Alarm systems and security integration
- Sensor and actuator control
- IoT and remote management systems
- Expanding digital I/O capacity without hardware replacement

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General specifications

Parameter	Value
Number of I/O ports	32
Configuration	Individually configurable as input or output
Logic level	TTL compatible
Signal voltage	3.3 V
Connection	Screw terminals
Host interface	USB
Product Dimensions	98 mm × 52 mm × 19 mm
Weight	68g
Operating Temperature	-30°C to +85°C

Electrical specifications

Parameter	Value
Logic level	3.3 V TTL, single-ended, referenced to GND
Input low / high	0 V / 3.3 V (max 3.3 V)
Input type	High-impedance, no internal pull-up or pull-down
Max output current (source/sink)	IO0–IO7, IO16–IO20: 2 mA; IO8–IO15: 25 mA; IO21–IO31: 8 mA
Supply	5 V DC via USB or external terminal

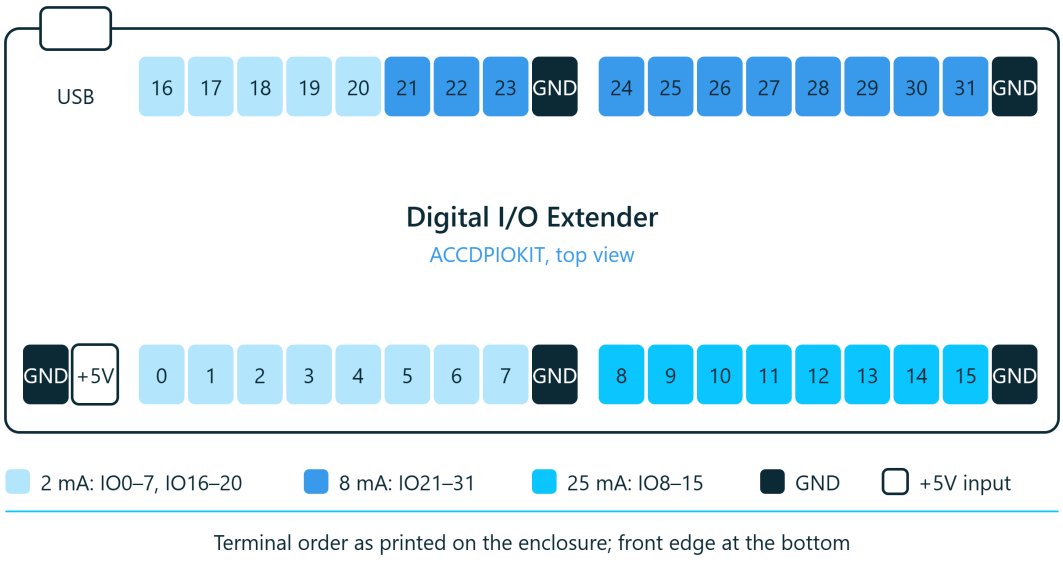
Terminal layout and wiring

Inputs: Ports have no internal pull-up resistors. To read a dry contact, connect an external pull-up resistor (e.g. 10 kΩ) between the input and 3.3 V, and wire the contact between the input and GND. Do not apply voltages above 3.3 V.

Outputs: Use a series resistor when connecting to external circuits. Outputs cannot drive relays directly; use a transistor or relay interface module.

Isolation: The extender is not galvanically isolated. For 12/24 V industrial signals or equipment with a different ground potential, use optocouplers or interface relays.

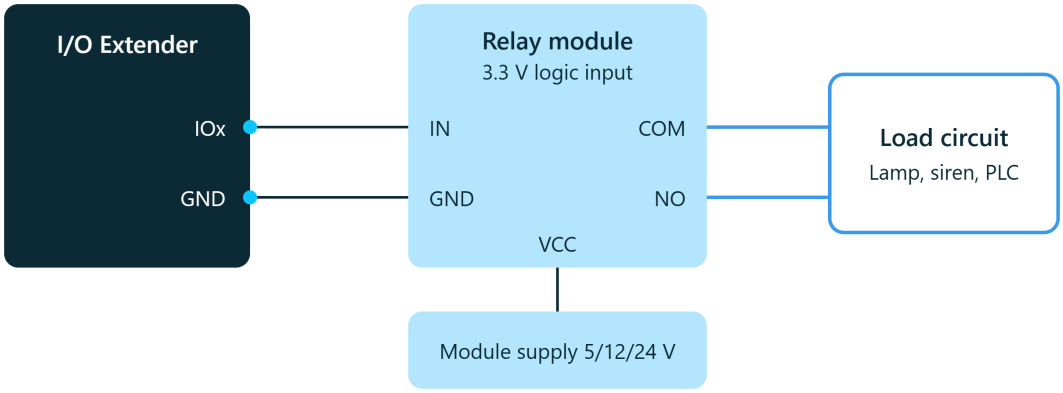
Terminal layout



Terminal order as printed on the enclosure; front edge at the bottom

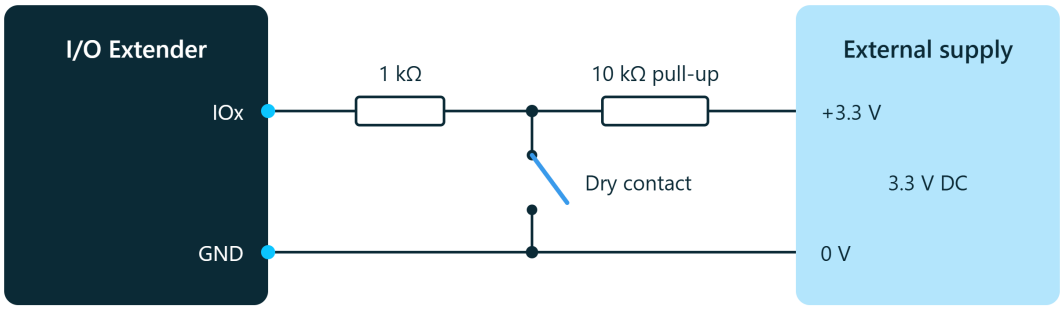
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Relay module output wiring



Use IO8–IO15 (25 mA) if the module input needs more than 2 mA

Dry contact input wiring



Contact open: input reads 1 (3.3 V). Contact closed: input reads 0 (0 V).

Mechanical and mounting

Enclosure dimensions: 98 × 52 × 19 mm. The enclosure has no mounting holes or DIN rail clip.

For installation on a 35 mm DIN rail (TS35), we recommend placing the extender inside a Kradex Z101 ABS V0 modular DIN rail enclosure. The extender fits inside the Z101 lying flat. Route the I/O wiring and the USB cable through openings in the enclosure walls.

Useful external links

Product accessories: *https://www.smseagle.eu/products/accessories/*

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