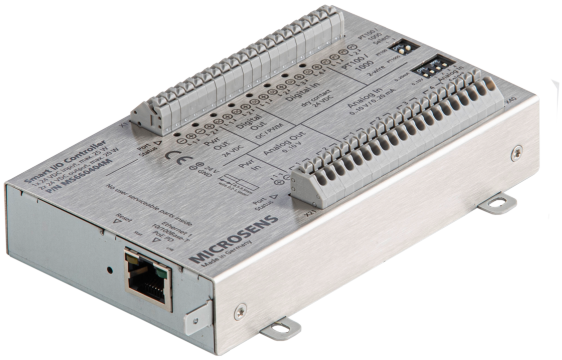
MICROSENS

Data Sheet
Smart I/O Controller



Made in Germany

Description

The MICROSENS Smart I/O Controller is designed for the acquisition of sensor signals as well as for the control and monitoring of automation actuators. Typical applications are the intelligent control and automation of electrical devices and actuators for building automation.

Multiple sensors are managed via the MICROSENS Smart Director app running on a MICROSENS G6 device. Sensor data is transmitted over the network from the Smart I/O Controller to the Smart Director App, which in turn sends control data to the output ports.

The Smart I/O Controller is available with inputs and outputs for digital and analog signals.

As a member of the MICROSENS Smart Building Solutions family, the Smart I/O Controller is an IP network device that is supplied with Power-over-Ethernet voltage (PoE+) via the IT network.

Features

- 4x analogue input and 2x analogue output ports
- 4x digital input and 2x digital output ports
- 2x PT100 / PT1000-compatible input ports
- MQTT integrated (publish & subscribe)
- 0 to 10 VDC / 0 to 20 mA input ports
- Dual 24 VDC power output for sensor / actor supply
- Bivalent power input via PoE+ (PD) or external 24 VDC input
- Firmware interface to MICROSENS Smart Director App

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Technical Specifications

Device Interfaces

Type

- for Digital and Analogue Signals

Analogue Input Ports

- 4x, 0..10 V / 0..20 mA
- 2x, PT100 / PT1000-compatible sensor ports

Digital Input Ports

- 4x, opto coupler, max. 24 V Sensor NeuronGrid

Analogue Output Ports

- 2x, 0..10 V, combined maximum current: 0,1A

Digital Output Ports

- 2x, PWM (max 100 Hz), open collector 24 V combined maximum current: 1A

Input / Output Connectors

- 2x 20 pin push clamp;
- wire diameter 0.1..1.5 mm2,
- stranded/solid

Power output

- 2x 24 VDC, combined maximum load: 20 W

Ethernet Uplink port

- 1x 10/100Base-T, RJ-45, PoE (PD)

Reset button

- Short press (approx. 2 sec) = Reset
- Long press (approx. >2 sec) = Update mode,
- if no update file is received within 20 seconds device starts normally

Bivalent Power Supply

Internal consumption

- 24 VDC (external) / 54 VDC PoE PD (via Network) up to 1.2 W (external) / up to 3.2 W (PoE)

Display

Digital In

- Digital IN: ON: input contact closed, OFF: input open

Digital Out

- Digital OUT: ON: output active (OC pulls low), OFF: output inactive

Configuration

PT100/1000 select

- 1x per Temperature In port ON: PT100, OFF: PT1000

Analog In select

- 1x per Analog In port ON: current mode (0-20mA), OFF: voltage mode (0-10V)

Standards

IEEE 802.3i/u, IEEE 802.3at (PoE+ (PD))
EMC Directive: 2014/35/EU
RoHS Directive: 2011/65/EU
REACH: 1907/2006/EC
EMC Emission: EN 55032
EMC Immunity: EN 55024

Environmental Conditions

Operating Temperature

- 0 to +50°C

Storage Temperature

- -20 to +85°C

Operation Humidity

- 10 to 85% (non-condensing)

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Mechanical

Dimensions (L x W x H) **:**

Housing body

- 127 x 76 x 24 mm

Overall incl. clamps and mounting tabs:

- 137 x 92 x 34mm

Weight

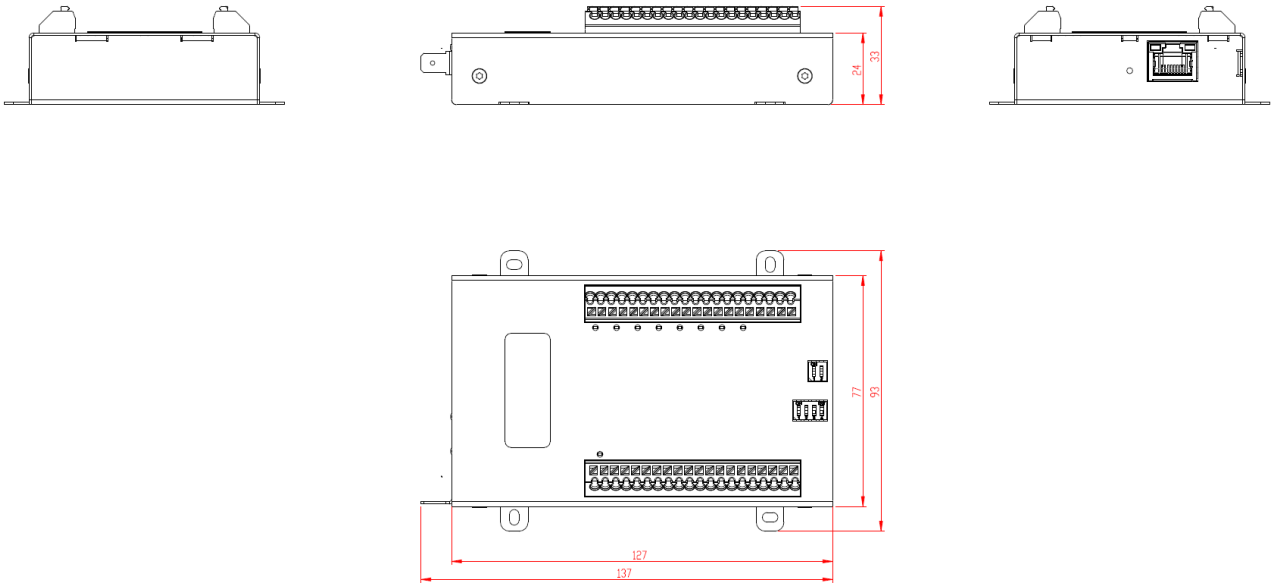
Weight:

- approx. 500 g

The Smart Device uses IPv6 protocol for communication, IPv4 protocol is not supported.

We recommend grounding the positive power supply conductor for maximum electrical protection as described below. In case of a short circuit of the LED output to other voltages, the risk of a permanent damage of the device is reduced. Not following this recommendation increases the risk of a irreparable damage.

Dimensions (mm)



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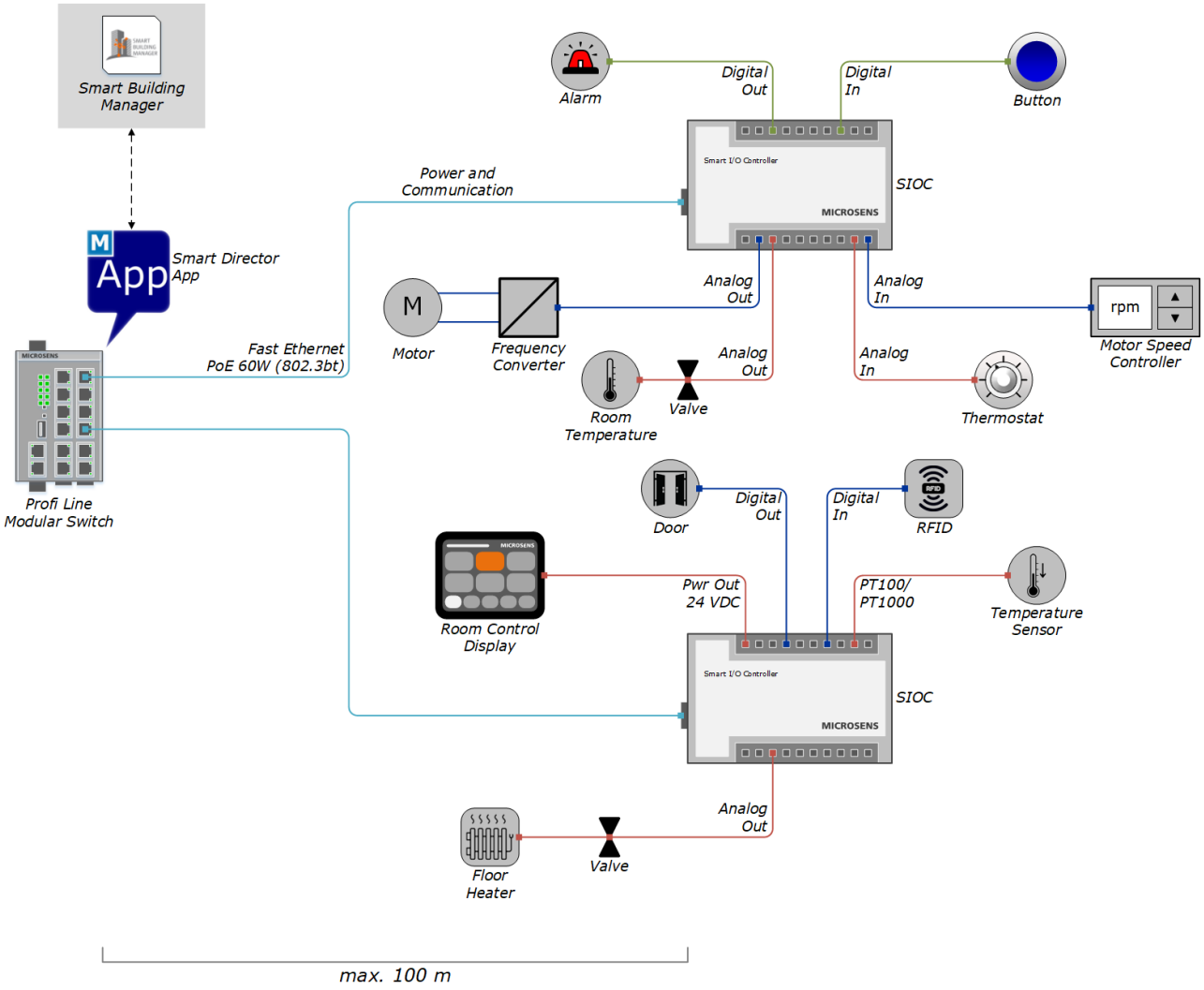
Application

The following diagram provides users with an overview of the SIOC's potential applications. It is intended to demonstrate a variety of options for integrating and utilizing the SIOC in different configurations. Please keep in mind that the events and gadgets presented are examples intended to inspire and guide users as they learn about this device. They should not be interpreted as an exhaustive list of compatible devices or the sole relevant use cases.



Before integrating or utilizing any third-party devices (i.e., devices not made by MICROSENS) with our product, users must refer to and review the documentation of the said device provided by the manufacturer.

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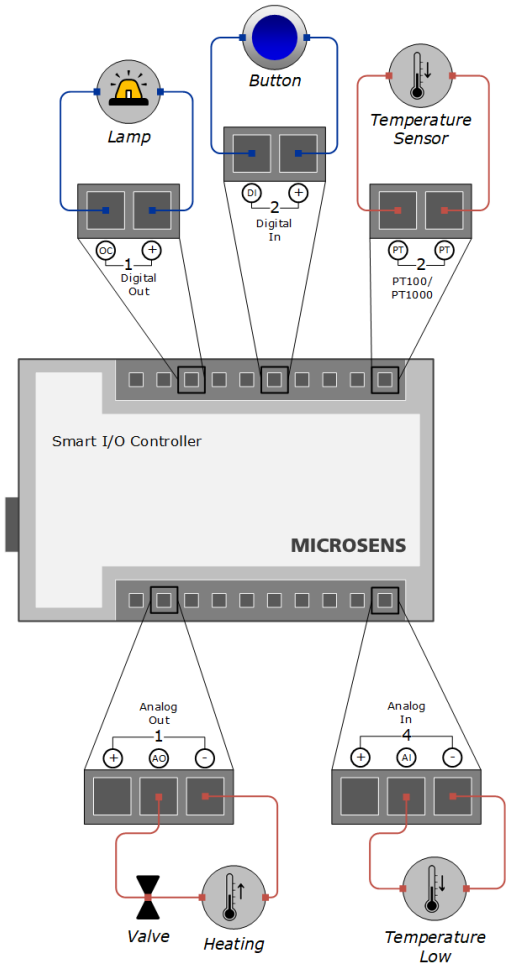
PIN Connections

The following diagram is designed to provide broad guidance on the use of the SIOC's ports. It seeks to provide users with an overview of connections and configurations. This illustration is not exhaustive and should not be understood as being only confined to the external devices displayed.



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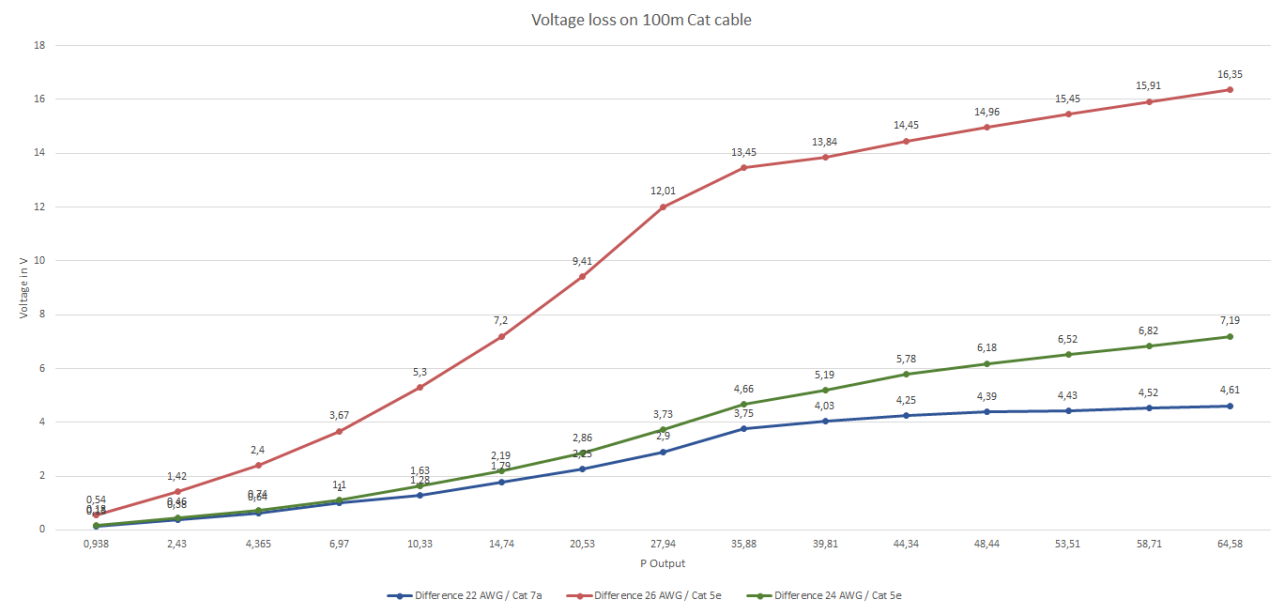
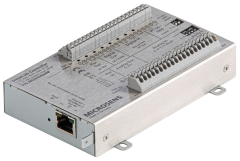
Line Losses



When thinner cables are used over longer distances, higher levels of loss are observed.

Ordering Information

	Description	Article-No.
	**for Digital and Analogue Signals** 10x input, 4x output, 2x 24 VDC power out, 1x 10/100Base-T, RJ-45, 1x PoE+ (PD), 1x 24 VDC in	**MS660404M**

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