

Actionpac LNS5 & Safeguard V5 Network Digital Input Output Interface Installation Instructions and Datasheet

The Modbus Network Digital Input Output Interface module is a Modbus device that provides four digital inputs and four relay outputs.

This module is normally used to interface to local AHUs etc.

This product forms part of a life safety system. Failure to correctly store, handle, install and maintain the product will directly put at risk the lives of the occupants and the fabric of the building.



ALWAYS READ THIS DOCUMENT BEFORE
INSTALLATION. PLEASE RETAIN FOR
FUTURE REFERENCE.

Preparation

- Only trained and qualified personnel should be allowed to install, replace or service this equipment. Installation should be in accordance with the relevant local safety standards.
- The terminals can accommodate cable diameters up to 2.5mm². It is recommended that all wires be crimped to ease installation and replacement of the product.

Installation

1. Disconnect the local supply before commencing any work on the NDI4O4-M.
2. Wire the NDI4O4-M in accordance with the wiring diagram shown across.
3. It is recommended that the network cables are not run alongside any high voltage or high frequency sources. Also, network cables must not be mixed on an individual network as they have very different electrical characteristics and could render the system unreliable.
4. Once wiring is complete, apply power to the NDI4O4-M. The green power LED should illuminate to indicate the presence of power.
5. The NDI4O4-M is now ready to be configured using the Safeguard system.

Wiring Diagram



LED Behaviour

Wink function: Service LED flashes for 5s.

Active inputs and outputs (failsafe) are indicated by their respective LEDs.

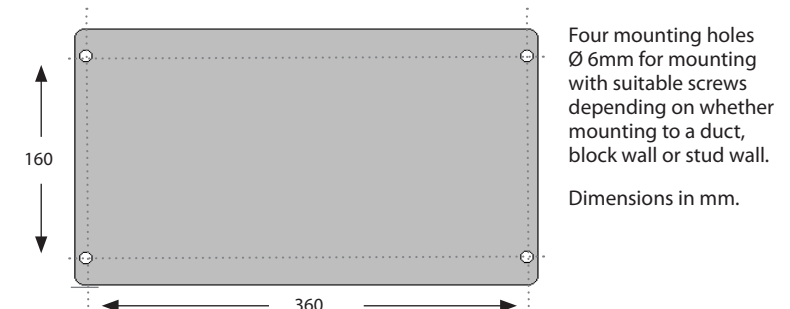
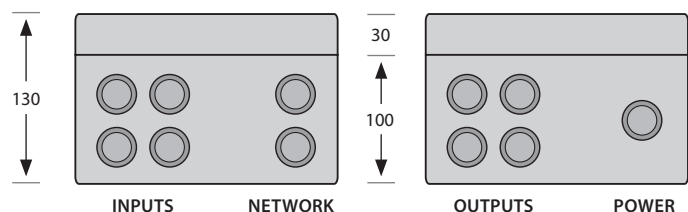
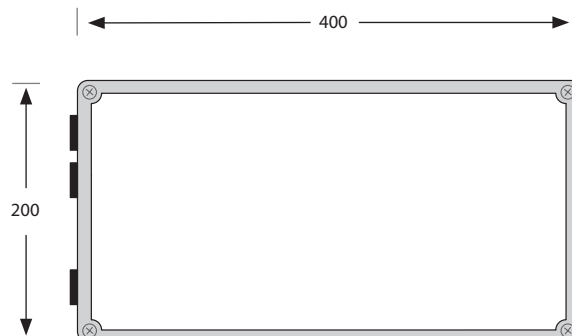
Dimensions and Mounting

The compact and robust design of the NDI4O4-M enclosure allows the unit to be mounted to a duct, block wall or stud wall.

Ensure the NDI4O4-M is accessible for future maintenance purposes.

Please note:

- Unused cable entries should be sealed with blind washers.
- Do not drill the enclosure as this will affect its IP rating.





Inputs

- The volt free input terminals are numbered 201-208
- Please note that the inputs are optically isolated and share a common ground.
- The input cable diameter should be 1mm² or 1.5mm²
- Limit cable runs to a max of 500m and avoid running input cables near sources of mains or noisy environments.

Outputs

- The NO relay output terminals are numbered 401 - 408.
- Wire the first output as shown across and repeat for subsequent outputs.
- It is the user's responsibility to ensure the switched equipment is adequately protected.
- As a precautionary measure, a standard 1AT fuse is used to protect each output. The value of this fuse may have to be modified in accordance with the user's requirements. The user is responsible for the replacement policies of any fuses whose value deviates from the standard 1 AT fuse supplied.
- The non-fused terminals 401, 403, 405 and 407 should be regarded as the output terminals to the switched equipment.
- The fused terminals 402, 404, 406 and 408 should be regarded as the input terminals from the switched equipment. The two terminal wires from each output should be tie wrapped together to prevent slippage.
- Please note: as a default the outputs are energised by the Modbus system and de-energise when the output goes active (when the programmed output conditions are true). This can be reversed in software by the V4 commissioning engineer.

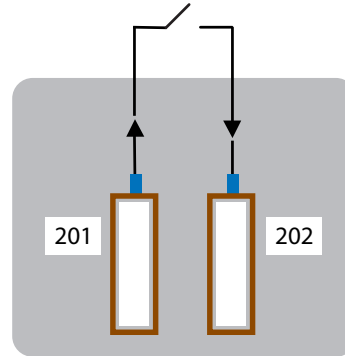
Maintenance

Mains terminal fuse replacement: 250mAT 250 VAC

Output terminal fuse replacement: 1AT 250 VAC

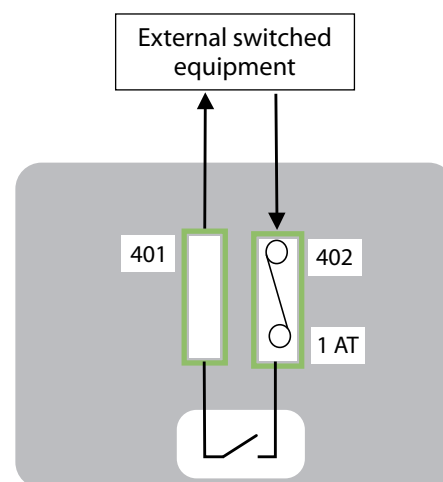
Suggested replacement: Bussman S504 series.

Input Wiring Example



INPUT	TERMINAL
INPUT 1	201, 202
INPUT 2	203, 204
INPUT 3	205, 206
INPUT 4	207, 208

Output Wiring



OUTPUT	FEED (FUSED) TERMINAL	RETURN TERMINAL
Output 1	402	401
Output 2	404	403
Output 3	406	405
Output 4	408	407

Specification

Modbus

Chip	Modbus ARM Cortex - M3
Service functions	Service pin and service LED

Supply

(please specify at time of order)

Input voltages	(230 ± 23) V AC, 50 Hz (24 ± 4.8) V AC, 50 Hz (24 ± 2.4) V DC
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Maximum power consumption	10 W
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Inputs

Contact type	Opto isolated dry contacts
Sense current	10 mA at 12 V DC

Outputs

Contact type	SPST NO mechanical relay contacts
Maximum switched load	1 A at 24V AC/DC

Environmental

Operating temperature	-5 °C to 70 °C
Storage temperature	-20 °C to 70 °C
Humidity	2h at 70 °C at 90 % RH
Maximum altitude	2000 m

Conformance

EMC	EN 55011: 2009 + A1: 2010 CLASS A+B EN 50130-4: 2011
LVD	EN 61010-1: 2001
Environmental	IEC 60068-2-1 + 2

Enclosure

Material	Polycarbonate
IP rating	IP 54
Flammability	UL 746C 5V
Dimensions (excl glands)	400 mm x 200 mm x 130 mm (L x W x D)
Dimensions (incl glands)	400 mm x 225 mm x 130 mm (L x W x D)

 Complies with European standards

WARNING: The responsible body shall be made aware that, if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

*The information herein is subject to change without notice. We do not assume any liability arising out of the use of this product. Purchase of goods and services is subject to Safeguard Systems standard terms and conditions.
Product warranty 12 months from date of delivery.*

Actionair and Safeguard are brand names of Swegon Air Management and Safeguard Systems respectively and both companies are part of the Swegon Group.

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