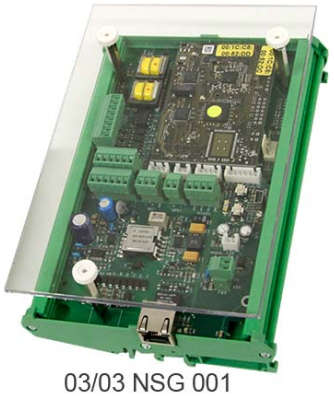
NSG 001

IP INTERFACE

FOR ANALOG SYSTEMS

The IP interface of the NSG 001 series is used to connect an INDUSTRONIC INTRON X / INTRON-D *plus* system to analog systems from different manufacturers. It consists of the basic electronics 03/03 NSG 001 which can be expanded by 3 I/O modules of the NAIO series. The IP interface can be easily installed into a central exchange cabinet or an appropriate housing.

Connection to an IP network is established via an Ethernet connection (LAN). Galvanic isolation between network and analog side prevents cross currents between network and the interconnected systems and thus ensures a flexible and safe integration.



03/03 NSG 001

08/08 NAIO 001

- Interface to analog systems, with galvanic isolation
- 3 potential-free inputs and outputs
- Expandable to up to 27 potential-free inputs and outputs
- Alternative wiring: bidirectional inputs/outputs
- 4-wire AF interface with adjustable AF level
- Continuous monitoring of network interface
- PoE and/or external power supply
- Integrated web interface for setting and service functions

NETWORK REQUIREMENTS

Power over Ethernet (PoE) recommended
IPv4 network
Support of UDP, SCTP, RTP and RTCP protocols
Quality of Service (QoS) Ideal latency < 20 ms (max. 50 ms) Jitter max. 10 ms
10Base-T/100Base-TX Ethernet (IEEE 802.3), 100 MBit/s recommended
200 kBit/s basic bandwidth and 200 kBit/s per active audio channel

ENVIRONMENTAL REQUIREMENTS AND STANDARDS

Ambient temperature during operation	-20 °C to +55 °C (-4 °F to +131 °F)
Relative humidity (non-condensing)	Max. 95 %
EMC	IEC/EN 61000-6-2, IEC/EN 61000-6-4

MODULAR DESIGN

For the basic version 3 potential-free inputs and outputs are available. Furthermore, up to 3 I/O modules can be connected and thus 27 inputs and outputs can be used. This way, the IP interface provides highest flexibility for different customer and project requirements.

The integrated web interface facilitates commissioning and maintenance. It can be remotely accessed and controlled via a standard web browser. The AF levels between the two interconnected systems can be displayed and adjusted via web interface, for example.

Basic version for analog system interconnection with 3 potential-free inputs and outputs

Type: 03/03 NSG 001

\+  1 x 08/08 NAIO 011 = Expansion of up to 11 potential-free inputs and outputs

Type: 11/11 NSG 001

\+  1 x 08/08 NAIO 011 = Expansion of up to 19 potential-free inputs and outputs

Type: 19/19 NSG 001

\+  1 x 08/08 NAIO 011 = Expansion of up to 27 potential-free inputs and outputs

Type: 27/27 NSG 001

TYPE OVERVIEW

	03/03 NSG 001	11/11 NSG 001	19/19 NSG 001	27/27 NSG 001
Basic electronics NSG	1	1	1	1
I/O module NAIO	-	1	2	3
Inputs/outputs	03/03	11/11	19/19	27/27
Type number	302-056-000	302-056-100	302-056-200	302-056-300

BASIC ELECTRONICS NSG

03/03 NSG 001

Basic electronics with 3 potential-free inputs and outputs each or alternatively 3 bidirectional inputs/outputs, RS485 interface for expansion with NAIO, 4-wire AF interface, mini USB service port, Ethernet connection, PoE or external power supply

MECHANICAL DATA

Installation	Cabinet or appropriate housing
Mounting	DIN rail acc. to EN 50022
Width x height x depth	125 mm x 182 mm x 60 mm (4.92" x 7.17" x 2.36")
Weight	Approx. 0.4 kg (approx. 0.88 lbs)

ELECTRICAL DATA

Power supply	PoE according to IEEE 802.3af, Class 3, 15 W or external power supply (42 V DC to 57 V DC, 0.3 A at 48 V DC)
Max. current consumption	270 mA
Quiescent current consumption	60 mA
Frequency range	200 Hz to 16,000 Hz (+/-3 dB)
AF input voltage	Min. 0.4 V_{ss} to max. 4.5 V_{ss} (adjustable)
Input impedance	> 2 kOhms
Recommended ouptut impedance of the analog counterpart	< 1 kOhms
Potential-free inputs	3
Input voltage level of each input	Off: 0 V DC to 5 V DC On: 10 V DC to 72 V DC (current consumption max. 4 mA)
AF output voltage	Min. 0,4 V_{ss} to max. 4.5 V_{ss} (adjustable)
Output impedance	50 Ohms
Potential-free outputs	3
Max. voltage and current value for each output	72 V DC, 100 mA
Supply voltage for RS485 components	5 V DC, 1 A
Auxiliary output voltage	48 V DC, 50 mA (operating voltage potential)

INTERFACES

1 x RJ45 port 10/100 MBit/s (LAN + PoE)

1 x 2-pole, pluggable screw terminal for external power supply, 1.5 mm^2 nominal cross section

1 x 4-pole, pluggable screw terminal for RS485 expansions (NAIO), 1.5 mm^2 nominal cross section

2 x 6-pole, pluggable screw terminal with 1 input/output each, 1.5 mm^2 nominal cross section

1 x 8-pole, pluggable screw terminal with 1 input/output each and 4-wire AF interface, 1.5 mm^2 nominal cross section

1 x Mini USB service port

I/O MODULE NAIO

08/08 NAIO 011

I/O module to expand the IP interface, 8 potential-free inputs and outputs or alternatively 8 bidirectional inputs/outputs, up to 3 I/O modules cascadable

MECHANICAL DATA

Installation	Cabinet or appropriate housing
Mounting	DIN rail acc. to EN 50022
Width x height x depth	125 mm x 104 mm x 42 mm (4.92" x 4.09" x 1.65")
Weight	Approx. 0.2 kg (approx. 0.44 lbs)

ELECTRICAL DATA

Nominal voltage	5 V DC
Max. current consumption	40 mA
Quiescent current consumption	25 mA
Potential-free inputs	8 (with the same reference potential)
Input voltage level of each input	Off: 0 V DC to 5 V DC On: 10 V DC to 72 V DC (current consumption max. 4 mA)
Potential-free outputs	8 (with the same reference potential)
Max. voltage and current value for each output	72 V DC, 100 mA

INTERFACES

1 x 10-pole screw terminal for cascading the NAIO modules, 0.75 mm^2 nominal cross section

2 x 12-pole screw terminal with inputs/outputs and reference potentials, 1.5 mm^2 nominal cross section

BLOCK DIAGRAM