

PROFINET-INspektor[®] NT

Warning before failure

Integrating alarms and messages
into the machine controller

Products 

Diagnosis 

Monitoring 

Training 

Consulting 



PROFI[®]
NET

Integration into the message system of the machine controller

In order to ensure optimal PROFINET monitoring, it is important to integrate the PROFINET-INspektor® NT into the message and control concept of the machine or system, permanently using the available input and output configuration. The I/O configuration fulfils two main goals: On the one hand, the recordings should be better adapted to the actual machine run times and operating states. On the other hand, non-relevant, intentional events like machine ON/OFF, turning off the load voltages by opening safety gates, tool changers or similar actions should remain hidden or excluded from it. In order to achieve that, three externally configurable inputs and a potential-free contact (message output) are available in addition to the setting options via the web interface.

Installation of the PROFINET-INspektor® NT into the PROFINET network

The PROFINET INspektor® NT is integrated into the existing PROFINET network as a passive data logger between the controller and the first switchport (see fig. 3). There are two ways to query the web interface via the HMI: Either the INspektor® is integrated directly into the PROFINET network via a free switchport, or the direct connection to

the HMI is established via the web interface port on the PROFINET INspektor® NT. It is important to consider the integration into the relevant IP range (see fig. 1 and 2).



Fig. 1: Installation of the PROFINET-INspektor® NT



Fig. 2: The web interface on the HMI

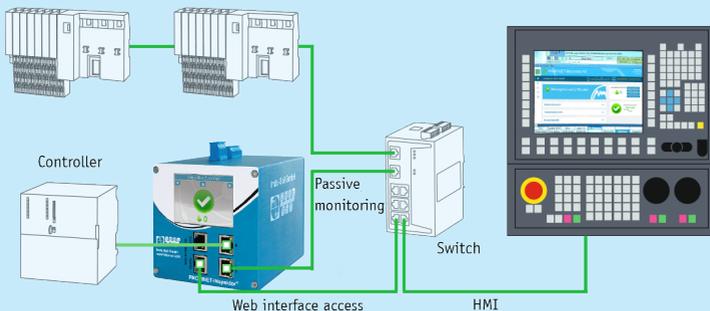


Fig. 3: Integration of the PROFINET-INspektor® NT

Input configuration

Input 1: Continuous signal – network analysis activated/deactivated

High signal – network analysis activated (0-1 slope)

Status: All media switched on and complete safety area is active

By configuring the PROFINET INspektor® NT at input 1 with a high signal the network analysis becomes activated due to the slope change from 0 to 1. This status is visible both on the display of the INspektor® as well as on the HMI via the web interface (see fig. 4).

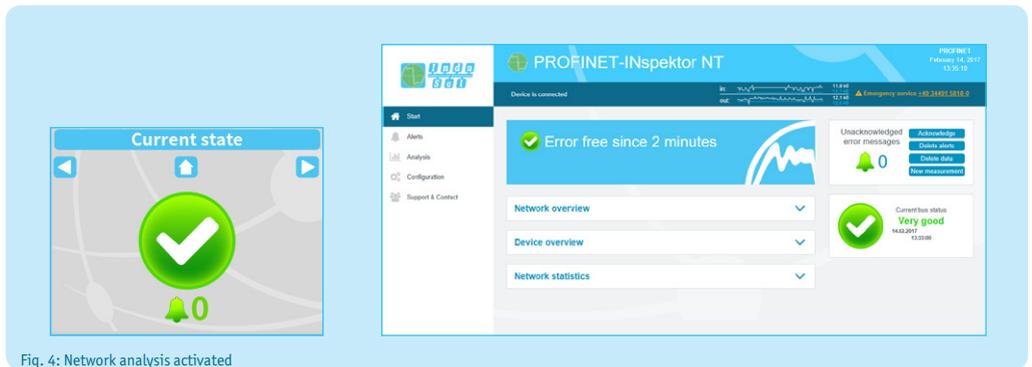


Fig. 4: Network analysis activated

Low signal – network analysis deactivated (1-0 slope)

Status: All media switched off and complete safety area is inactive

If the conditions for the analytic cycle are intentionally modified by the operator or the process, then the slope at input 1 changes from 1 to 0. The analytic cycle in the PROFINET INspektor® NT stops and the data of the past analytic cycle is stored/saved in the INspektor® as a log with a time stamp. The recording is inactive. This status is shown on the display as well as on the HMI web interface (see fig. 5).

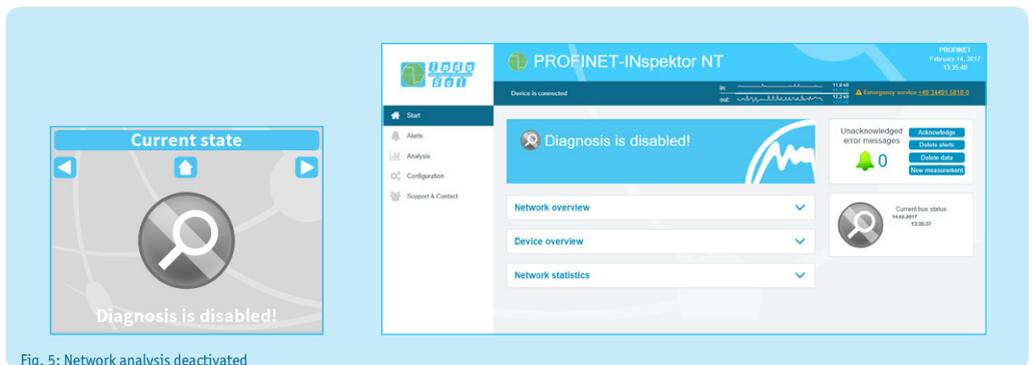


Fig. 5: Network analysis deactivated

Input 2: Impulse signal – fault reset

Alarms can be reset via input 2 using a button of the HMI. At the same time, the fault messages on the display and in the web interface are reset. The fault content in the PROFINET-Inspektor® NT remains intact. If the machine stops due to a communication fault all events are automatically stored in the log and the analytic process is interrupted.

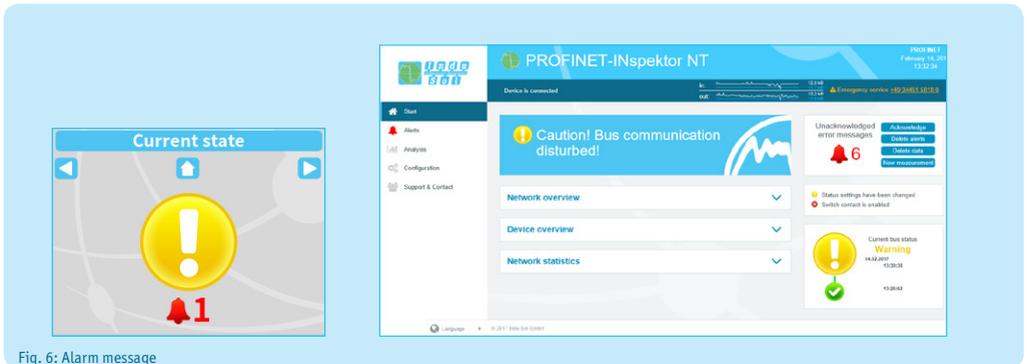


Fig. 6: Alarm message

Output configuration

Potential-free contact: Alarm contact

The alarm and message statuses are displayed simultaneously on the display of the PROFINET INSpektor® NT and the history of the web interface. If an irregularity in the network occurs during the “analysis activated” cycle and a trigger threshold is exceeded, then this status is shown on the web interface of the INSpektor® and on the display. The default settings of the alarm levels are selected to provide a warning before failure so that the machine continues to produce. Using the potential-free contact (out 1/2) it is possible to integrate the malfunction alarms into the machine control concept. As shown in fig. 7, it is beneficial to integrate this PROFINET-INSpektor® NT message into the standard alarm list of the HMI and add a corresponding text. The web interface can be used for in-depth analysis.

IN	OUT	Number	Text
12.01.17 13:03:17.255	12.01.17 13:03:29.504	700200	Profinet-Inspektor i.O. +S-180XF1-X4:OUT (E37.7) default
12.01.17 12:41:40.764	12.01.17 12:41:43.648	909010	PROFINET-IO-System(100) Device number:21 Combined fault
12.01.17 12:41:40.438	12.01.17 12:41:43.480	380075	PROFIBUS/PROFINET: Failure DP-Peripherie Bus 4 Slave/Device 21
12.01.17 12:08:59.937	12.01.17 12:44:54.126	700200	Profinet-Inspektor i.O. +S-180XF1-X4:OUT (E37.7) default

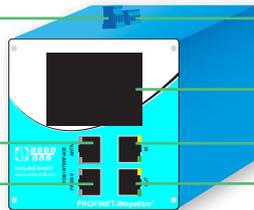
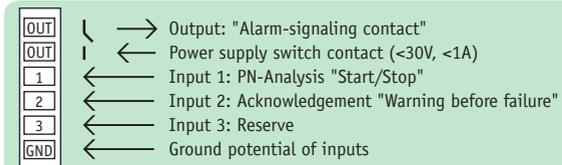
Fig. 7: Integration of the PROFINET-INSpektor® NT

Device ports

Power supply
DC 24V
0V ground
PE

Active
web interface access
network scan possible

Passive
web interface access
network scan not possible



**Switch contact/
Digital inputs**

Touchdisplay

PROFINET IN

PROFINET OUT

Analysis | Diagnostics | Measurement



PROFINET DiagnoseDUO

PROscan® Active V2 (1 x license)
PROFINET-INspektor® NT (Art. No.: 124030100)

Ordering details	Art. No.
PROFINET DiagnoseDUO	124030020

Automatic test and inspection report

An inspection report can be generated automatically that contains all relevant PROFINET diagnostic information. The report can be personalized with a simple logo.

Your contacts

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