

# Ndaks Eco 100

How businesses can integrate analogue infrastructure in digital workflows.

The new freedom in business communications.



**NFON**  
Cloud Telephone System



## Creating new value for legacy technology.

**Analogue sensors are omnipresent. Now you can expand their range of use to increase security, safety and productivity.**

Throughout all industries, two-wire devices are used to fulfil an infinite variety of monitoring functions that are often vital to security, safety and productivity. Wherever a door is left ajar, they ring a bell; wherever pressure and temperature exceed a restricted range, they send out an alert; and wherever an emergency situation arises, they trigger the alarm.

However, as digitisation advances, the limitations of two-wire infrastructure become apparent. Whilst offering a quick way to detect and communicate the status at one specific measuring point, two-wire sensors and switches only convey one bit of information – and they don't know what to do with it. Lacking all knowledge and control of the superordinate process, they fall short of ensuring that the adequate action is taken.

Organisations striving to increase efficiency, reduce risks and make better, quicker decisions are facing the need to integrate their monitoring devices into an information-rich digital communications workflow.

Seeing the great demand in organisations from the most diverse industries, NFON has teamed up with the leading alarm server provider, Tetronik, to offer Ndaks Eco 100. Combining compact, powerful hardware and intelligent software, Ndaks Eco 100 connects two-wire appliances to the NFON Cloud Telephone System, thus bringing additional layers of information as well as comprehensive communication functionality to legacy analogue systems. With Ndaks Eco 100 bridging the gap between on-property infrastructure and modern communication workflows, legacy two-wire technology can remain in place. This sophisticated solution provides organisations with a unique technological innovation that is unparalleled in ease of implementation, effectiveness and affordability.

If you are already using the NFON Cloud Telephone System, Ndaks Eco 100 will help you increase safety and efficiency in your organisation from day one. Should you still rely on an on-site PBX system, this new solution may cause you to consider a rapid conversion to our leading-edge communication technology. The following pages will provide comprehensive insight, upon which we hope you'll be as convinced as we are.

**Hans Szymanski**  
Chief Executive Officer



# Two-wire technology meets cloud performance. Integrating analogue technology into digitally controlled processes makes end-to-end digitisation more affordable.

Developed in Germany, the concept of Industry 4.0 has been rapidly adopted across all industrial countries. As the required technology becomes available at competitive costs, more organisations are striving to increase safety, security and efficiency by moving towards end-to-end digitisation. In many cases, the analogue technical set-up at hand, though still in excellent condition, becomes obsolete and demands replacement. Extending the useful life of analogue technology brings significant cost savings.

In recent years, digital innovation has brought about new ways of monitoring and controlling processes efficiently. As automation becomes increasingly more intelligent, outdated two-wire sensors are, to an increasing extent, being replaced by more sophisticated devices that are digitally connected to each other, enabling complex chains of communication from machine to machine and machine to human. To benefit from these opportunities, organisations are taking a holistic approach to optimisation across the value chain.

Rather than modernising their systems one at a time, they are striving to integrate intelligent networking solutions that enable seamless, information-rich digital communication from sensors through control units, all the way to the Internet. In doing so, they are streamlining their processes to increase efficiency, reduce risks and make better, quicker decisions.

## From analogue to digital technology.

In most cases, however, the progression towards digital technology is not achieved overnight. Analogue devices are omnipresent; they are deeply embedded in the process landscape, and their procurement has oftentimes been costly. As considerable efforts would have to be invested into their replacement, many organisations procrastinate making the changeover and choose to hold on to the infrastructure in place, which in many cases is good enough to keep things running. In doing so, they accept inefficient processes and a perpetual decrease in competitiveness.

Driven by the need to extend the lifespan of analogue technology, many solution providers now offer devices that connect analogue appliances to the modern infrastructure by converting analogue into digital signals. Typically, these devices are exclusively designed for use within a subsystem, for example with refrigeration. Whilst facilitating operation in this specific realm, they fall short of providing a means of controlling processes across the entire organisation. With every connected subsystem, new hardware and software are necessary to oversee the respective processes, thus creating further costs, obstructing visibility and impeding manageability. While these detriments may be acceptable throughout regular operations, they quickly become failure-prone and risky should an emergency situation occur.



# Plug in, configure, use – it couldn't be any easier.

## By making the market-leading broadcast server system from Tetronik available for the NFON Cloud Telephone System, we are adding digital versatility to legacy analogue technology.

Ndaks Eco 100 is the innovative and efficient solution for the digital integration of switches, temperature sensors, door contacts, industrial control units and more into intelligent communications. In addition to extending the life of legacy technology, this unique solution enables you to increase safety, security and productivity across your organisation within a short time and at negligible costs.

Combining sturdy hardware with smart software, Ndaks Eco 100 enables the expansion of two-wire appliances with a compact high-performance broadcast server that has been specifically designed to handle standard alerting tasks in the most efficient manner. Wherever two-wired sensors are used to control and monitor operating facilities, Ndaks Eco 100 enables the prompt and precise reaction to alerts – from medical practices and healthcare services to educational and childcare facilities, and from retail stores and hotels to facilities management and industrial production plants. Conceived as the entry product in what may become a range of solutions, Ndaks Eco 100 is well-equipped to meet the demands of small to medium-sized businesses and organisations.

### **Big power in a small box.**

Whilst two-wire sensors can only indicate the need to take action, Ndaks Eco 100 provides the rules and communication processes to make sure actions are executed in the right ways, thus opening up a host of innovative digital application areas for analogue technology.

Within a small hardware box, the solution digitally encodes incoming alert signals and hands them off to the IP-based communications system. Wherever sensors are used to monitor, control and arm facilities, Ndaks Eco 100 targets and reacts to alerts instantly, thus increasing safety for people, property and equipment.

For example, when a door is left ajar, a production line comes to halt or an emergency button is activated, Ndaks Eco 100 triggers the communication process needed to rectify the situation quickly and safely. Using voice and display text across all enabled devices, the system escalates communication until it receives feedback that the issue has been resolved.

### **Up to 100 alert types.**

Ndaks Eco 100 comes preconfigured for some of the most common alert scenarios. Rather than enabling a plug-and-use function, these presets are intended to speed up and facilitate implementation by simply customising them to meet individual business requirements. Scenarios, broadcast procedures and just-in-time conference calls can be administered in an easy-to-use web interface from a standard web browser on any web-enabled device. Users can configure up to 100 alert scenarios in order to cover a comprehensive range of use cases for security protection and risk reduction. For example, temperature sensors, door contacts, industrial controls and more can be integrated into the communication workflows of NFON Cloud Telephone System.

Among the most vital requirements faced by organisations is the need to react promptly and correctly to alerts and alarms issued by two-wire appliances. The range of applications spans across simple sensors such as door contacts to specialised metering equipment for pressure, temperature or position, and includes the complex infrastructure needed to back up an emergency response plan.

### **Communication in two directions.**

Input devices are connected by simply plugging them into the hardware box; they are then integrated into the automated communication process by defining rules and participants.

To illustrate this, let's assume an emergency button is activated. In a traditional set-up not involving telephony, the signal will be forwarded to a number of recipients through cables. It may stop a production line, trigger a siren and flash a red light on the line manager's control desk, and then it remains active until it is switched off. If the line manager is busy or additional staff need to be informed in order to take action, valuable time is typically wasted, possibly causing damage to people, property or equipment.

The same emergency button, connected to Ndaks Eco 100, could activate a chain of events much better suited to handling the situation. Based on the individual requirements of the input device, the incoming alert could initiate text and voice messages to various recipients over IP phones, mobile phones and pagers. It could escalate the alert to further recipients or initiate conference calls when no feedback is given within a defined time. It could also trigger additional security measures, for example shutting off an area or activating a sprinkler system.

As Ndaks Eco 100 enables communication in both directions (input and output), feedback can be given from human to human, from human to machine, from machine to human or from machine to machine using two-wire signalling. Just think – you get all of this, without having to install more cables or control units!

### **Industry application scenarios.**

Due to the unlimited range of use for two-wire appliances, it's challenging to list all the functionality of Ndaks Eco 100. In fact, exciting application scenarios emerge every time our technicians speak with a customer. Available system languages are Dutch, English, French, German and Turkish. Well-trained NFON partners can help businesses and organisations oversee configuration and integration as well as provide comprehensive support and maintenance.

Types of scenarios that are made possible with Ndaks Eco 100, across industries:

### **Building technology.**

- Streamline emergency processes to increase personal safety for staff and visitors
- Protect equipment from running dry, overheating or overloading
- Reduce reaction time during a technical malfunction, e.g. when a lift fails
- Improve intrusion protection by defining routines for door contacts and motion sensors

### **Industrial production.**

- Monitor and automatically replenish fluid levels and supplies
- Forward malfunction alerts from production areas, e.g. when a conveyor belt fails
- Transmit technical alerts from pressure, temperature or contact sensors
- Tailor hazard detection and notification procedures to meet emergency plan requirements
- Receive and forward manual and automated alarms by landline phone, mobile phone and pager

### **Healthcare**

- Increase quality of care by assigning specific alarm types to designated staff
- Classify alert types to ensure urgent alerts are prioritised over less critical messages
- Enable personnel to escalate alerts to other staff members through mobile devices
- Automate recurring service requests, e.g. for cleaning services

### **Hospitality**

- Automate service procedures to increase efficiency, reduce costs and improve quality
- Increase convenience for guests and visitors by accelerating service routines
- Forward requests to room service, stewarding, housekeeping or technical support
- Distribute service jobs from in-house logistics systems to mobile service staff
- Improve safety for staff and guests in lobbies, rooms and recreation areas

### **Retail**

- Provide branch managers with just-in-time information when a faulty product has to be withdrawn from sales
- Forward alerts and requests to employees to ensure prompt and precise service
- Introduce alarm chains including silent alarm scenarios to handle emergency situations discretely
- Improve personal safety by escalating alarms to shop management, security staff and police

## Public sector and education.

- Forward alerts from door and window contacts to building maintenance services
- Tailor alert and alarm routines to meet emergency response plans
- Monitor air conditioning and heating to improve comfort and safety
- Reduce reaction time in emergencies, e.g. anaphylactic shock, sports accidents or court incidents
- Enable quick and precise reaction to unexpected changes, e.g. extreme weather conditions

Whatever the exact requirements are, integrating two-wire technology into intelligent communications systems will open up a host of opportunities, ranging from the simple facilitation of everyday work to the efficient protection of appliances and potentially life-saving safety improvements.

## Ndaks Eco 100 Features

- **Silent alarm**  
Activate security staff automatically with key shortcuts or by pushing an emergency button.
- **Building-technology monitoring**  
Use sensors to alert service staff, for example when a malfunction sensor activates or a server room overheats.
- **Service alerts**  
Provide concise instructions just in time to help service staff address recurring tasks quickly or escalate to the next service unit.
- **Industrial plant monitoring**  
Use signals from industrial controls in a production plant to inform maintenance personnel of status changes or malfunctions.
- **Staff alert notifications**  
Call remote personnel to assure the faultless fulfilment of service responsibilities – on the telephone, at the push of a button, or sensor-controlled with or without automated callback.
- **Code announcements**  
By licensing and certifying Ndaks Eco 100 with third-party vendors, the solution may be enabled to support ESPA 4.4.4 and ESPA-X interfaces to accelerate emergency communications. Possible applications are Code Blue, machine-to-machine alerts, monitor alerts and other time-critical automation scenarios, e.g. a nurse call or fire alarm.

## Ndaks Eco 100 Benefits

- Optimises costs by extending the useful life of legacy monitoring technology
- Requires minimal set-up time with preconfigured alarm scenarios and use cases
- Brings peace of mind to long-term operations due to reliable and fail-safe technology
- Provides long-term investment security with manufacturer certifications for add-on licences available to Tetronik-certified partners

## Out-of-the-Box Ndaks Eco 100 Performance

- 16 incoming contacts / 8 outgoing contacts
- Up to 5 concurrent calls
- Up to 10 parallel system processes
- Up to 100 broadcast groups with 25 call targets each
- Up to 100 customisable alert scenarios; 12 scenarios preconfigured
- Comprehensive process logs
- Custom prioritisation for broadcasts and recipients

# About NFON AG.

Headquartered in Munich, NFON AG is the only pan-European cloud PBX provider – counting more than 15,000 companies across 13 European countries as customers. NFON, the cloud telephone system, offers over 150 functions as well as a seamless integration of premium solutions. With our intuitive communications solutions, we enable European companies to improve their work a little, every single day. NFON is the new freedom of business communication.



**Cloud solution 'made in Germany'**



**High savings potential**



**Unlimited capacity**



**Intelligent functions**



**Easy to use**



**Network of local service partners**

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