

Industrial & Emergency Communications



Heavy Duty VoIP Telephones

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Corporate Information:

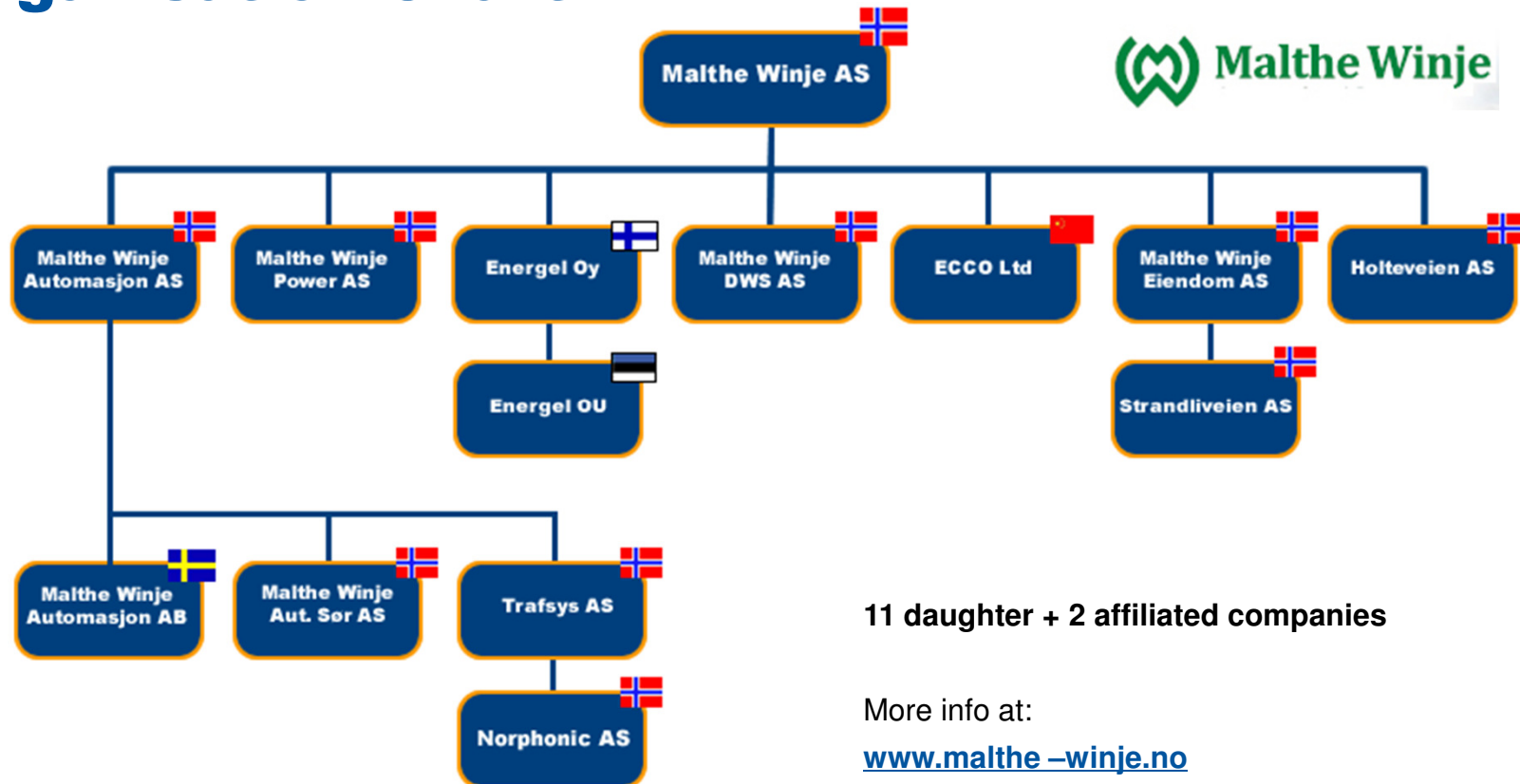
Part of the Malthe Winje Group

- ▶ 100% owned by Norwegian Shareholders
- ▶ 11 daughter + 2 affiliated companies
- ▶ Founded: 1922



Corporate Information:

Organisation Chart



Industrial Communications



Norphonic Company Expertise:

Communication for Industrial markets

- ▶ Communications & Networking
- ▶ Transportation (road, rail, air)
- ▶ Building Automation
- ▶ Energy production
- ▶ Utilities
- ▶ Manufacturing and construction



Rugged telephone (IP65)

- ▶ Reliable operation in challenging areas
- ▶ Tolerant of extreme temperatures, vibration, humid and dirty environments
- ▶ Vandal resistant handset and cord
- ▶ Easy to install and to maintain



- ▶ Available with, or Without Keypad



N-K0 model:

Without keypad for
Autodial-on-handset-lift.



N-K1 model:

With keypad, incl.
two volume buttons.



N-K1-C model:

With **Cable Cover** for
improved vandal resistance.



Technical Specifications - Highlights

- ▶ SIP (VoIP) Protocol: RFC3261
- ▶ IP65 according to Standard IEC 60529
- ▶ Operating temperatures: -25 C to +65 C
- ▶ Non Condensing
- ▶ Coated Aluminium (corrosion resistant)
- ▶ Ringing Volume: 80 dB(A), 1 m distance
- ▶ Automatic Self-Monitoring and Fault Check Function
- ▶ Modbus UDP, TCP and SNMP for remote control
- ▶ Quality of Service (QoS), Type of Service (ToS)
- ▶ Connection via RJ45 Ethernet socket
- ▶ Power Supply: 24V DC power via 2 pins connection, 0.3A nominal 0.5A max or Power over Ethernet (PoE)



- ▶ Full details are available on our website www.norphonic.com

SIP back-up: **Proxy redundancy**



NEW SIP Back-Up Feature

- ▶ Can connect to 2nd Proxy if first goes down.
- ▶ SIP Back-Up can return to original SIP Proxy when this goes online again.
- ▶ Useful in emergency networks where it is important that person(s) get contact with a central.

Redundancy option:

Two SFP-Type Single Mode Fiber Ports

- ▶ Built-in fiber ports available (fiber-in, fiber out), in addition to RJ45 port
- ▶ Allows high degree of redundancy and safety in mining areas.

Cable Connectors: VoIP Telephone




Connectors (IP67) at the bottom of the N-K1 model telephone, including one connector for **RJ45** ethernet and one for the **24v power cable**. Power over Ethernet: **PoE is also available.**

Tested at SP Sweden:

Excellent Sound Quality (STI = 0,9)

- ▶ **Sound Quality** = Very Important in Mining, both for production output + safety.
- ▶ The Norphonic VoIP unit has gone through certification tests at the **SP Technical Research Institute of Sweden (Borås)**.
- ▶ Test results shows that **Norphonic STI = 0,90 which is determined as "Excellent Sound"** according to the IEC standard 60268-16.



Speech Transmission Index

STI = 0,90

"Excellent Sound"

- ▶ **Speech Transmission Index (STI)** is a measure of sound quality.
- ▶ Means that miners can be clearly heard and understood, even in a noisy environment.
- ▶ Also means that the Audio Self Test (microphone / headset check) will be clearly picked up, thus less false alarms.





CE approved. This product has met EU and European Economic Area (EEA) consumer safety, health or environmental requirements.

Degree of Protection: IP65 according to EN 60529 (2001), Ed.2.1

Speech Transmission Index (STI): 0.9 delivering Excellent sound.

Shock, vibration and impact immunity according to:

- IEC 60068-2-27 (2008) Shock proof: 10Gn
- IEC 60068-2-6 (2008), Ed.6.0 Vibration proof
- IEC 60068-2-62 (1991) + A1 (1993) Mechanical impact: 10J
- EN 50102 - IK 09 (1995) Impact proof

Temperature & humidity immunity according to:

- IEC 60068-2-1 (2000), Ed.6.0 Low temperature -25° C
- IEC 60068-2-2 (2000), Ed.5.0 High temperature +65° C
- IEC 60068-2-78 (2001), Ed.1.0 High humidity 93% R.H. at +30° C

Industry-related approvals, according to:

- EN 50121-4 (2000) Railway Applications
- EN 60945 (2002). Maritime Applications

European EMC certification compliant with Directive 1999/5/EC:

- EN 55022 (2010) Radiated Emissions
- EN 55024 (2010) Immunity
- EN 6000-4-2 (2009), Ed.2.0 Electrostatic discharge immunity
- EN 61000-4-3 (2008), Ed.3.1 Radiated immunity
- EN 61000-4-4 (2010), Ed.2.1 Electrical fast transient immunity
- EN 61000-4-5 (2006), Ed.2.0 Surge immunity
- EN 61000-4-6 (2009), Ed.3.0 Conducted disturbances immunity
- EN 61000-4-8 (2010), Ed.2.0 Power magnetic field immunity
- EN 61000-4-9 (2001), Ed.1.1 Pulse magnetic field immunity
- EN 61000-4-11 (2004), Ed.2.0 Power supply failure
- CISPR 16-1-4 (2007) Radiated disturbance immunity

RoHS compliant – no hazardous materials used in production.

Quality

All Norphonic equipment and components are produced under strict Quality Management Control and have been approved to ISO9001:2000 (General), ISO14001: 2004 Environmental.

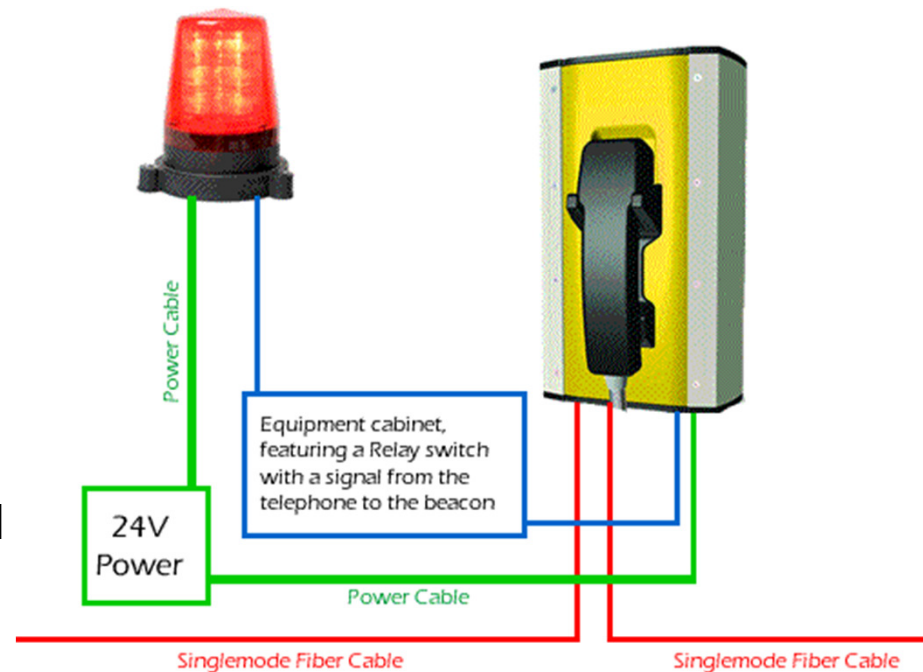
For specific country approvals, please call **+47 55 62 75 20**



Easy connect to external beacon

- ▶ Norphonic telephones already have a built-in relay circuit and beacon.
- ▶ The relay connect the 24Volt input power circuit to the buzzer circuit.
- ▶ The buzzer demand only 8mA, leaving approximately 2A of 24VDC available for external beacon.
- ▶ If 24VDC 2A does not complement the external beacon, an internal or external 24V Relay may be installed to provide a Dry-contact for external beacon.

Norphonic VoIP Telephone with relay switch giving notification to beacon



Norphonic Remote Management

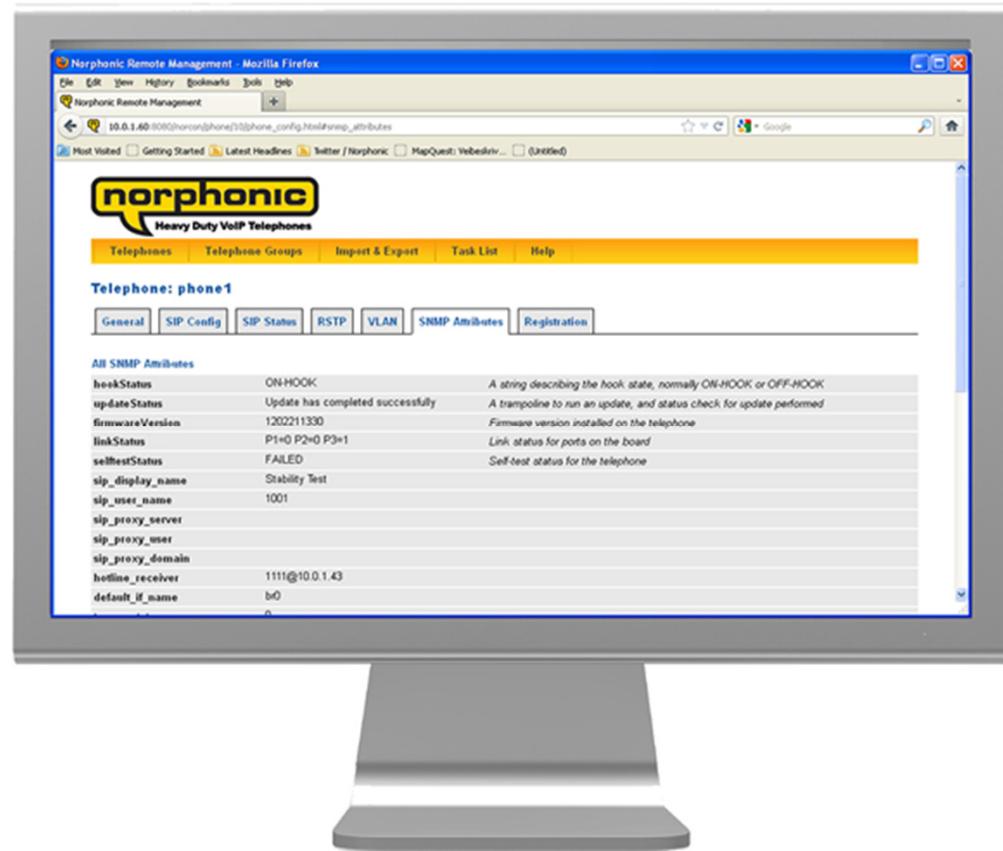
- ▶ **Mass provisioning tool**
(install many telephones at once)
- ▶ **Telephone Group Management**
(useful for large applications)
- ▶ **Manage telephones from one convenient location**
(Control SIP Proxy, Dialing rules and Hotline-Settings, re-boot telephones, install firmware, etc)



Unique remote management feature:

Telephone Health-Check & Remote Control

- ▶ Discover installed telephones
- ▶ Configure telephones
- ▶ Change settings
- ▶ Check System Performance
- ▶ Hook status (handset on / off)
- ▶ Component Health check
- ▶ Firmware version information
- ▶ Upload New Firmware
- ▶ Re-boot telephones



SCADA integration and surveillance

- ▶ Us your own SCADA system to get reports from Norphonic telephones (via **SNMP, Modbus TCP or UDP**)
- ▶ Gives immediate notice in case of errors, so that maintenance can happen before operational goals or security get impacted.

- ▶ Hook sensing
(ie: hook off / on)
- ▶ Audio Self Test
(microphone / headset check)
- ▶ RJ 45 port status
(link check)
- ▶ Firmware version & update status

Private Branch Exchange (PBX) / Central Options

- ▶ Norphonic er basert på åpne standarder (SIP, RFC3261)
- ▶ Can be used with the large majority of PBX and central systems. See PBX compatibility list at www.norphonic.com
- ▶ Future proof solution since both PBX and telephones can be changed or upgraded in the future, without loss to the functionality.

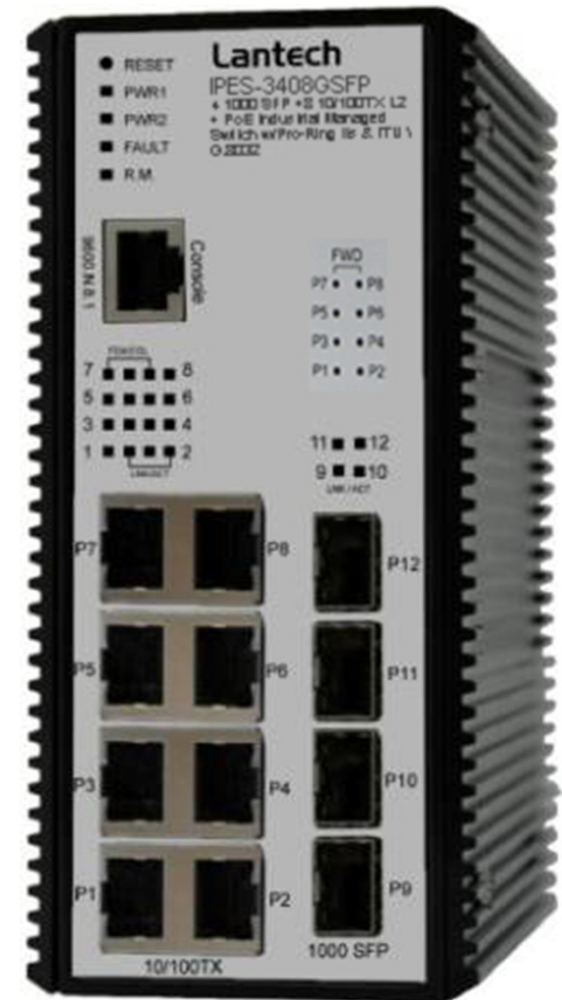
PBX options

- Alcatel
- Cisco
- Digium Switchvox
- Broadsoft
- And Much More!!



Heavy Duty Switches from Norphonic

- ▶ Range of high performance managed switches available
- ▶ Reliable and ideally suited for harsh and outdoor environments
- ▶ Wide temperature ranges
- ▶ Convenient DIN rail mounting
- ▶ 24v power
- ▶ Gigabit options
- ▶ Switches support: SNMP, PoE, redundant networking (incl power), Quality of Service (QoS), VLAN, port security, trunking, RSTP and much more



Lantech: Functionality (summary)

**IP-
30/41/67**

Operation Temp.
-20~60°C
(normal switch:
0°C~45°C)

Wide Operation Temp.
-40~75°C
(normal switch:
0°C~45°C)

Operation Humidity
5~95%
(non-condensing)

Safety
CE/EN60950

Shock
IEC 60068-2-27

Free Fall
IEC 60068-2-32

Vibration
IEC 60068-2-6

EMI&EMS FCC
Class A, CE EN6100-4-2,
CE EN6100-4-3, CE EN-6100-4-4, CE
EN6100-4-5, CE EN6100-4-6

**UL, UL
CID2,
UL508**

**5 Years
Warranty**

and more...



We offer industrial communication solutions

- ▶ Expert advice
- ▶ Dedicated service



Thank you for your attention.

Learn more about our Innovations

► www.norphonic.com

Contact us for a Quotation

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► Fax: +47 55 59 05 16

► Email: info@norphonic.com

Partnering for Success

► Visit www.norphonic.com to join our partner program today.



Norphonic Corporate Presentation



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