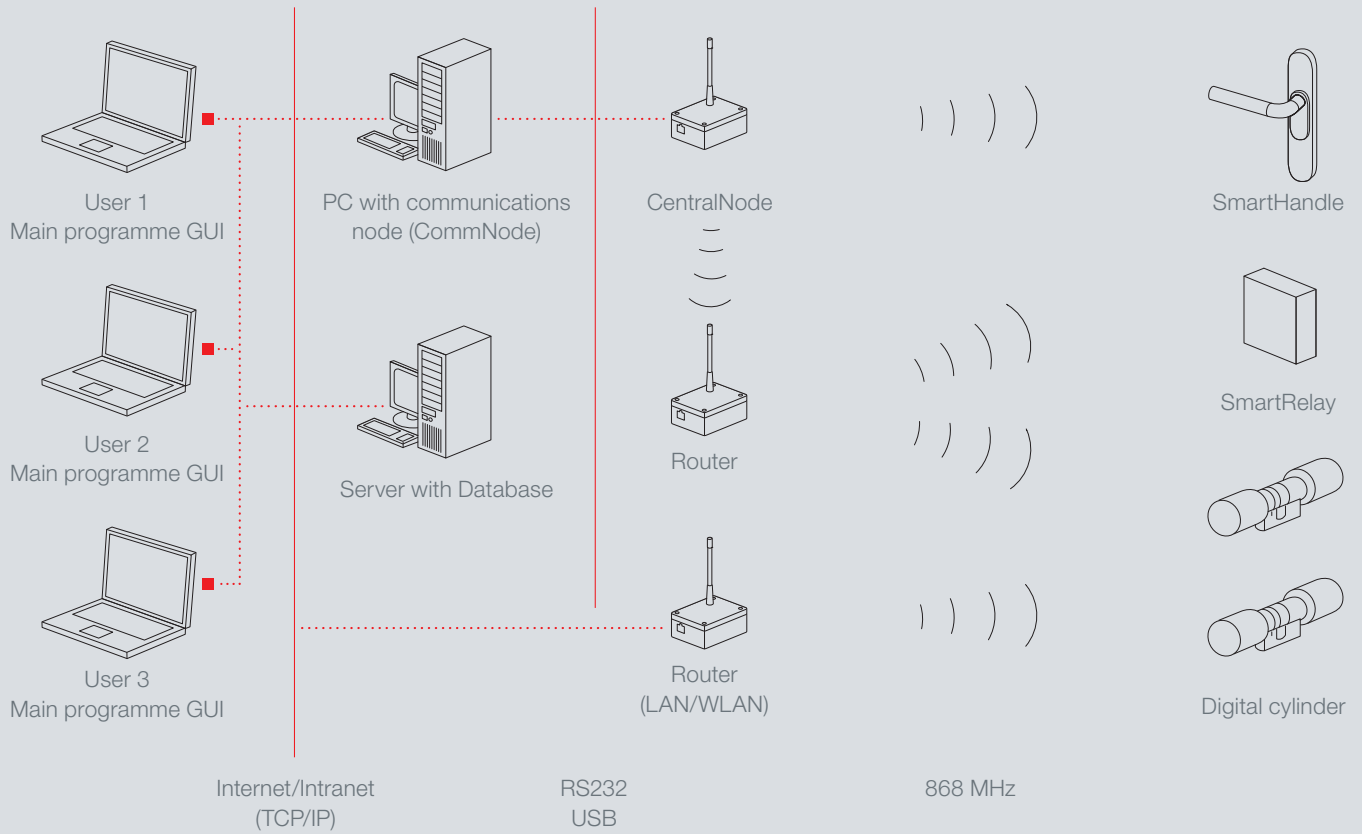


# MULTI-NETWORKING





# MODE OF OPERATION WAVE NET RADIO NETWORK



# WAVE NET RADIO NETWORK 3065

G1

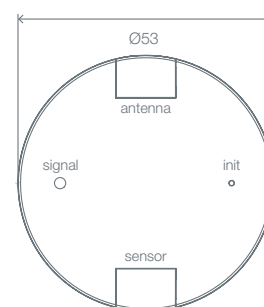
G2

Radio network for connecting digital locking cylinders, Smart Handles and Smart Relays to a central computer. Data is transmitted via the 868 MHz frequency band. Other transfer media are also available. These are: USB or RS232 for connecting to a central PC, RS485 for cable-based backbones, LAN and WLAN for integration into existing building networks.

The different transfer media can be interlinked with one another in virtually any way using corresponding router nodes.

## COMPONENT ASSEMBLIES

- ⚡ Locking system software:  
The lock system is controlled and managed from a central PC using Locking System Management (LSM) software.
- ⚡ WaveNet Central Node:  
Forms the central node in a WaveNet network. It is connected to the central PC via a RS232 or USB port. LAN or WLAN routers (TCP/IP) may also be connected at any point in the building network as an alternative to the central node. They then form the central node of a local WaveNet sub-network.
- ⚡ WaveNet Routing Node:  
Routing nodes interlink the different network segments with one another in a WaveNet network. Different transmitting media can thus be interconnected with one another (example: A WNM.RN.CR router connects a cable segment [C] with a radio segment [R]).
- ⚡ WaveNet Repeater Node:  
A repeater node regenerates and amplifies signals along very long cable segments (> 900m).
- ⚡ WaveNet Lock Node:  
This device is fitted next to locking cylinders, Smart Handles or Smart Relays which are to be networked. It communicates with the locking components via the time-tested B-field interface and with the nearest routing node via the 868 MHz radio interface (alternatively via an RS485 cable port). The Lock Node provides additional I/Os to monitor door contacts and actuate external systems.



Measurements indicated in mm

## TECHNICAL SPECIFICATIONS FOR WAVE NET LOCK NODE

- ⚡ Housing made from light grey ABS plastic
- ⚡ Dimensions: 37 x 53 mm (H x Ø)
- ⚡ Power supply: 2 batteries (type: 2/3 AA), lithium, 3.6 V
- ⚡ Transmission power: approx. 1.8 mW at approx. 2.5 dBm
- ⚡ Frequency: 868.xx – 870.xx MHz
- ⚡ Inputs: 3 x isolated
- ⚡ Output: open drain; max. switching voltage: 25 V DC; max. starting current: 2 A; continuous current: 650 mA; internal resistance (AN): 0.5 Ohm
- ⚡ Battery life: up to six years

## TECHNICAL SPECIFICATIONS FOR WAVE NET ROUTER

- ⚡ Housing made from light grey plastic (polycarbonate)
- ⚡ Housing dimensions for central node and routing node: 40 x 100 x 65 mm, with antenna 130 x 100 x 65 mm (W x H x D)
- ⚡ Power supply central node and routing nodes: 9 V ... 12 V DC
- ⚡ Output: max. 3 V A
- ⚡ Radio module transmission power: max. 8 dBm (6.3 mW) in the antenna
- ⚡ Radio module frequency: 868.xx – 870.xx MHz
- ⚡ All routers include connecting terminals for an external plug-in power supply and an external transmission and receiver antenna
- ⚡ Power supply:  
From a regulated plug-in power supply WNM.POWER.SUPPLY.PPP, WNM.RN.WR / WNM.RN.ER: 9 V...48 V DC, WNM.RN.CR: 9 V...12 V DC, WNM.RN.CR also via PoE (Power over Ethernet)



## WAVE NET RADIO NETWORK 3065

WaveNet Routing Node as converter from  
WLAN to 868 MHz frequency



### PRODUCT VERSIONS

#### WAVE NET RADIO NETWORK 3065 – HARDWARE AUTO-CONFIGURATION

All hardware products with item numbers starting with 'WNM' are designed for auto-configuration. The WaveNet Manager (software tool) allows you to automatically address all WNM components by radio or by cable. WaveNet Manager can be downloaded for free at [www.simons-voss.com](http://www.simons-voss.com).

WaveNet Central Node for auto-configuration with RS232/RS485 port to connect to a PC/server	WNM.CN.SC
WaveNet Central Node for auto-configuration with RS232/868 MHz radio interface to connect to a PC/server	WNM.CN.SR
WaveNet Central Node for auto-configuration with USB/RS485 port to connect to a PC/server, in anthracite-coloured housing	WNM.CN.UC
WaveNet Central Node for auto-configuration with USB/868 MHz radio interface to connect to a PC/server, in anthracite-coloured housing	WNM.CN.UR
WaveNet Repeater Node for auto-configuration with two RS485 ports for line extension in the backbone, including connecting terminals for external plug-in power supply	WNM.RP.CC
WaveNet Routing Node for auto-configuration with 868 MHz radio module, including connecting terminals for external plug-in power supply and an external transmission and receiver antenna	WNM.RN.R
WaveNet Routing Node for auto-configuration with two RS485 ports for segment extension	WNM.RN.CC
WaveNet Routing Node for auto-configuration to convert from RS485 port to 868 MHz frequency, to use the routing node as a backbone, including connecting terminals for external plug-in power supply and an external transmission and receiver antenna	WNM.RN.CR
WaveNet Routing Node for auto-configuration to convert from 868 MHz frequency to RS485 port, to use the routing node as a backbone, including connecting terminals for external plug-in power supply and an external transmission and receiver antenna	WNM.RN.RC
WaveNet LockNode for auto-configuration without I/O function (battery operated)	WNM.LN.R.O./O
WaveNet LockNode for auto-configuration with 868 MHz radio interface, featuring three inputs and one output (battery-operated)	WNM.LN.R
WaveNet LockNode for auto-configuration with RS485 port, featuring three inputs and one output	WNM.LN.C
WaveNet Routing Node for auto-configuration as converter from Ethernet to 868 MHz frequency; includes connecting terminals for an external plug-in power supply and an external transmission and receiver antenna; Power over Ethernet capable (PoE 802.3af)	WNM.RN.ER
WaveNet Routing Node for auto-configuration as converter from Ethernet to the RS485 port; includes connecting terminals for an external plug-in power supply; Power over Ethernet-capable (PoE 802.3af)	WNM.RN.EC
WaveNet Routing Node for auto-configuration as converter from WLAN to 868 MHz frequency; includes connecting terminals for an external plug-in power supply	WNM.RN.WR
WaveNet Routing Node for auto-configuration as converter from WLAN to the RS485 port; includes connecting terminals for an external plug-in power supply	WNM.RN.WC

# WAVE NET ROUTER – PROTECTIVE FUNCTION

G1

G2

The latest router generation from SimonsVoss offers unique protective functions for door monitoring, such as 'Lock doors in gunman incidents', 'Release doors in the event of fire' or automatic signals in the case of breakdowns and emergency situations.

Determining overall situations and always making the right decisions is a task which presents an enormous challenge for building systems. The new generation of SimonsVoss routers can be ordered with a protective function as standard which offers the following characteristics:

- ⌘ Blocking of doors in the event of a gunman attack alarm
- ⌘ Blocking of individual doors with special gunman attack transponders or cards
- ⌘ Release of doors in the event of a fire alarm
- ⌘ Release of doors in the event of a distress call (nursing staff emergency call, panic situation)
- ⌘ Switching of powered systems such as lighting and heating
- ⌘ Transmission of signals in the event of breakdown or faults in the building, such as excessively high temperatures, water getting inside the building, incorrect fill levels in tanks. Can feature simultaneous releasing/opening of doors
- ⌘ Operates even if communication networks are already down
- ⌘ A router with a protective function can manage up to 250 doors
- ⌘ The locking device must feature access control functions if output signals are to be used



## SYSTEM SPECIFICATIONS AND INTERDEPENDENCIES WITH OTHER PRODUCTS

- ⌘ WaveNet Manager 2.3  
(free download online from SimonsVoss website)
- ⌘ WNM components (LN, central/ routing node, etc.)
- ⌘ G1 and/or G2 locking devices (no distinction)
- ⌘ LSM 3.1 SP2 and higher (if there is network connection to application software)

## TECHNICAL SPECIFICATIONS

- ⌘ Housing: light grey plastic (polycarbonate)
- ⌘ Dimensions housing for central/routing nodes:  
100 x 65 x 40 mm or 100 x 65 x 130 mm (with antenna)
- ⌘ Power supply for central/routing nodes:  
9V ... 12V DC regulated plug-in power supply  
WNM.RN.ER, WNM.RN.EC also Power over Ethernet (PoE) IEEE 802.3af
- ⌘ Output (for all central/routing nodes): max. 3 V A
- ⌘ Radio module transmission power:  
max. 8 dBm (6.3mW) in the antenna
- ⌘ Transmission frequency: 868.xx–870 MHz

## WAVE NET ROUTER – PROTECTIVE FUNCTION

### PRODUCT VERSIONS

All central nodes and routing nodes with protective function:  
gunman attack, block lock, emergency release, remote opening

WaveNet Central Node with protective function for auto-configuration with RS232/RS485 port to connect to a PC/server	WNM.CN.SC.IO
--	--------------

WaveNet Central Node with protective function for auto-configuration with RS232/868 MHz radio interface to connect to a PC/server	WNM.CN.SR.IO
---	--------------

WaveNet Central Node with protective function for auto-configuration with USB/RS485 port to connect to a PC/server, in anthracite-coloured housing	WNM.CN.UC.IO
--	--------------

WaveNet Central Node with protective function for auto-configuration with USB/868 MHz radio interface to connect to a PC/server, in anthracite-coloured housing	WNM.CN.UR.IO
---	--------------

WaveNet Routing Node with protective function for auto-configuration with 868 MHz radio module, including connecting terminals for external plug-in power supply and an external transmission and receiver antenna.	WNM.RN.R.IO
---	-------------

WaveNet Routing Node with protective function for auto-configuration with two RS485 ports for segment extension	WNM.RN.CC.IO
---	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from the RS485 port to 868 MHz frequency, to allow the routing node to be used as a backbone; includes connecting terminals for external plug-in power supply and an external transmission and receiver antenna	WNM.RN.CR.IO
--	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from 868 MHz frequency to the RS485 port, to allow the routing node to be used as a backbone; includes connecting terminals for external plug-in power supply and an external transmission and receiver antenna	WNM.RN.RC.IO
--	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from Ethernet to 868 MHz frequency; includes connecting terminals for external plug-in power supply and an external transmission and receiver antenna; Power over Ethernet-capable (PoE 802.3af)	WNM.RN.ER.IO
---	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from Ethernet to the RS485 port; includes connecting terminals for external plug-in power supply; Power over Ethernet-capable (PoE 802.3af)	WNM.RN.EC.IO
--	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from WLAN to 868 MHz frequency, including connecting terminals for external plug-in power supply (8-week delivery period upon request)	WNM.RN.WR.IO
--	--------------

WaveNet Routing Node with protective function for auto-configuration used to convert from WLAN to RS485 port, including connecting terminals for external plug-in power supply (8-week delivery period upon request)	WNM.RN.WC.IO
--	--------------

# WAVE NET RADIO NETWORK 3065 DIRECT NETWORKING

G1

G2

The WaveNet Network Thumb-turn Cover incorporates the Lock Node into the metal cover on the electronics side of a locking cylinder. It thus enables direct networking without the need to fit additional Lock Nodes next to the door and you can also dispense with I/Os. The network thumb-turn cover can be retrofitted very easily by replacing the cover on the electronics side of a locking cylinder. New cylinders for direct networking can be ordered as the Network Inside version .WNM.



## TECHNICAL SPECIFICATIONS

- ⚡ Retrofit network thumb-turn cover for networking TN4 locking cylinders The network thumb-turn cover can be used with all versions of Digital Locking Cylinder 3061 as from Q2/2008
- ⚡ Standard stainless steel version
- ⚡ Brass version (.MS)
- ⚡ Dimensions: approx. 25 x 30 mm (Lx Ø)
- ⚡ Power supply: from TN4 locking cylinder
- ⚡ Battery life: up to 150,000 locking operations or up to five years on stand-by
- ⚡ Power consumption: without data traffic approx. 6 µA; with data traffic approx. 30 mA
- ⚡ Max. transmission power: approx. 1.8 mW at approx. 2.5 dBm
- ⚡ Receiver sensitivity: -90 dBm
- ⚡ Range to central/routing node: up to 30 m depending on the building structure
- ⚡ Temperature range: Operational: -15 °C to +50 °C  
In storage: -35 °C to +50 °C



WAVE NET RADIO NETWORK  
3065  
DIRECT NETWORKING

PRODUCT VERSIONS

FOR DIGITAL LOCKING CYLINDER 3061 – ACTIVE AND HYBRID

Network thumb-turn cover for auto-configuration as retrofit thumb-turn cover, for direct networking, stainless steel	WNM.LN.I
Brass design	.MS

FOR DIGITAL LOCKING CYLINDER 3061 – PASSIVE (.MP) (G2 ONLY)

Retrofit thumb-turn cover for auto-configuration with integrated antenna and separate network circuit board for direct networking, stainless steel design	WNM.LN.I.MP
---	-------------

FOR SMART HANDLES 3062

Lock Node for integration into digital door fittings, to directly network Smart Handle 3062 (can be retrofitted)	WNM.LN.I.SH
--	-------------

FOR SMART RELAY 3063

Lock Node to be integrated into the Smart Relay housing for direct networking of Smart Relay 3063 with auto-configuration (can be retrofitted)	WNM.LN.I.SREL.G2
--	------------------

FOR SMART RELAY 2 3063

Lock Node to be integrated into the Smart Relay 2 housing for direct networking of Smart Relay 2 with auto-configuration	WNM.LN.I.SREL2.G2
--	-------------------

FOR PADLOCKS – ACTIVE

Network thumb-turn cover for auto-configuration as retrofit thumb-turn cover, for direct networking, stainless steel	WNM.LN.I
Network thumb-turn cover for auto-configuration as retrofit thumb-turn cover, for direct networking, stainless steel	WNM.LN.I.KNAUF7

FOR PADLOCKS – PASSIVE

Retrofit thumb-turn cover for auto-configuration with integrated antenna and separate network circuit board for direct networking, stainless steel design	WNM.LN.I.MP
---	-------------

# WAVE NET RADIO NETWORK 3065 – ACCESSORIES AND LOCK NODE LICENCES

## PRODUCT VERSIONS

### WAVE NET ACCESSORIES

External power supply for WaveNet Central Nodes, Routing Nodes and Repeater Nodes	WN.POWER.SUPPLY.PPP
External plug-in power supply for WaveNet Lock Node with RS485 port (WNM.LN.C)	WN.POWER.SUPPLY.LNC
External antenna for WaveNet Lock Nodes	WN.LN.ANTV
Battery set for WaveNet Lock Node, 10 units	WN.BAT.SET
Sensor cable for connection to WaveNet Lock Nodes (WNM.LN.R/WNM.LN.C) for monitoring doors	WN.LN.SENSOR.CABLE
Connection cable to connect Smart Relay G1/G2 to a WaveNet Lock Node	WN.WIRED.BF.G2
Connecting cable to use the I/O function to wire different input/output connections Cable 5 m long	WNM.CABLE.IO
Lock Node tester for analysing a SimonsVoss WaveNet Radio Network 3065 at 868 MHz/915 MHz (in the US); consists of one base and one mobile station; users are required to receive training before use; price includes 2 hours of training over the phone	WN.TESTER.BAMO.EU
Base station	WN.TESTER.BASIS.EU
Mobile station	WN.TESTER.MOBILE.EU
Training per hour	DIENST

### WAVE NET RADIO NETWORK 3065 – LOCK NODE LICENCES

For networks with max. 12 Lock Nodes	TP.SW.12
For networks with max. 48 Lock Nodes	TP.SW.48
For networks with max. 128 Lock Nodes	TP.SW.128
For networks with max. 258 Lock Nodes	TP.SW.258
For networks with max. 516 Lock Nodes	TP.SW.516
For networks with max. 1,032 Lock Nodes	TP.SW.1032
For networks with max. 2,064 Lock Nodes	TP.SW.2064
For networks with > 2,064 Lock Nodes	on request