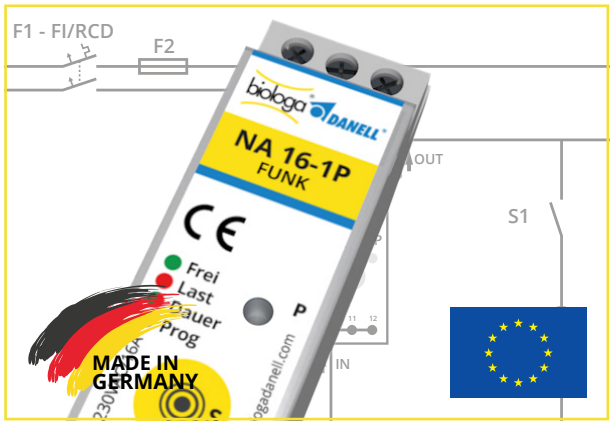
Building Biology Products
and services

Automatic / Manual



- radio demand switch for automatic or manual switching of loads up to 3600 watts, suitable for all types of loads
- diagnostic circuit for the detection of permanent consumers
- building biological radio technology according to enOcean standard
- short-circuit proof and overvoltage proof according to IEC, Reverse polarity protection
- very robust device with 2 years warranty
- incl. mini indicator lamp KO-L-NA for function monitoring directly in the switched circuit/room

- The unique mains decoupler NA 16-1P radio finds its place in every fuse box due to its slim design of 17 mm and can be extended almost at will.
- The operating and display elements (touch sensor, multi-colour display), make the new Biologa Danell mains decoupler generation very easy to operate and are particularly user-friendly.
- The convenient function test by means of the supplied mini indicator lamp directly in the switched room ensures all-round safe decoupling.
- Preferably for one circuit/room. Simultaneous decoupling of several circuits is also possible under consideration of the max. rated power.
- **Special features:**

1. automatic and/or manual switch-off
2. time function - Snooze 60 min
3. range signalling
4. handheld transmitters do not need batteries
5. building biologically harmless HF signal with very low transmission power only present when the hand-held transmitter is actuated. Hand-held or wall-mounted transmitter without batteries.
6. other modules (such as radio-controlled sockets) can be integrated.
7. 3~phase cut-off with optionally available auxiliary relay (NA16-HR4S)
8. also with shielded electrical installation (protection class 1 distributor)

Order.-No.: 301057
Short-Desc.: NA 16-1P Radio

Radio demand switch

NA 16-1P Radio

Technical data

length x width x height:	90 x 17 (1TE) x 60 mm
height on DIN rail:	55 mm
colour / weight:	light grey / ca. 90 g
energy consumption:	< 1,6 Watt
mech. life (relay):	ca. 10.000.000 switching cycles
electr. life (relay):	ca. 100.000 switching cycles (with max. resistive load - 16 A)
operating voltage:	230 VAC
load: rated power:	16 A continuous load (3680 VA resistive load max.)
radio module:	enOcean (868MHz)
indicator lamps (LED):	RGB LED (red, green, orange)
ripple:	~ 0,1 V [Automatic mode]
test DC voltage:	200 VDC (unstabilised) [Automatic mode]
switch-off delay:	ca. 5 Sec. [automatic mode]
switch-on delay:	ca. 0,1 Sec. [automatic mode]
guarantee:	2 years
examination according to:	
EN61000-4-4 EN61000-4-5 EN61000-4-6 EN61000-4-11 EN61000-4-39	EN 55011 EN61000-4-2 EN 60335-1:2012-10 EN61000-4-3
mounting: carrier rail / top-hat rail	according to DIN 55022 in the electrical distributor

Accessories needed

TX-NA16-HAND handheld transmitter and/or

wall transmitter TX-NA16-WAND

Available accessories

repeater control cabinet - RP-NA16-KA

- antenna ANT-NA16 for RP-NA16-KA

repeater flush-mounted - RP-NA16-UP

repeater surface-mounted - RP-NA16-AP

relay - NA16-HR4S

Scope of delivery

switchgear (1 pc.)
[installation in the electrical distribution board].

control lamp KO-L (1 pc.)
[for earthed socket].

operating instructions

For operation in shielded electrical installations, the RP-NA16-KA + ANT-NA16 repeater is required.

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EN-101057-DATA-HTEX-V2.0.1-040722

Further information at www.biologadanell.com

Building Biology Products
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Installation Instructions / Operating Instructions — **Order-No..: 301057**

NA 16-1P Radio — Short-Desc.: NA 16-1P Funk

INSTALLATION

- Install the demand switch in the fuse box in a free space on a DIN top-hat rail.
- Connect the demand switch according to the connection diagram Fig. 1.

We cannot be held liable for improper use and handling.
If you have any questions or problems, please contact us by e-mail at info@biologadanell.com.

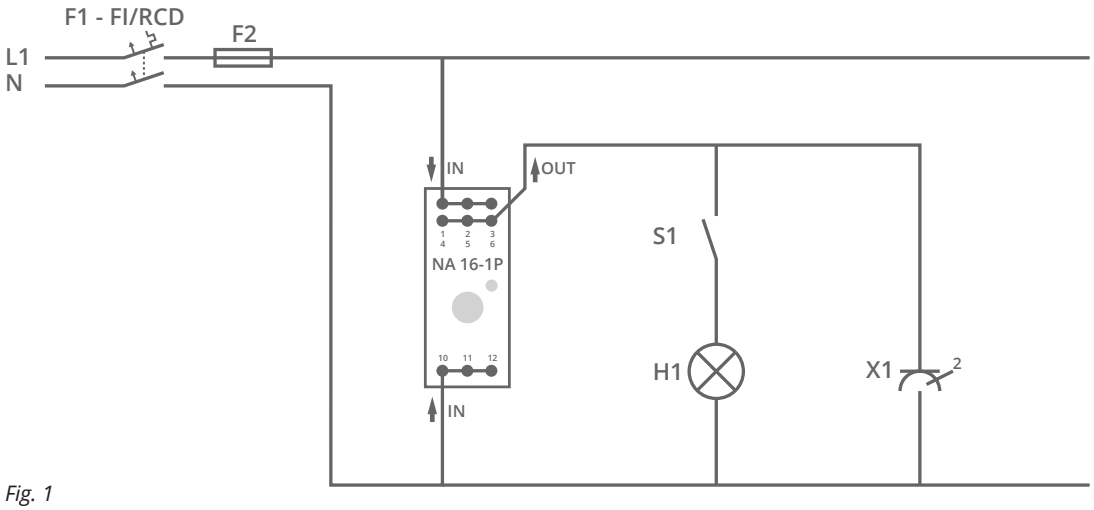


Fig. 1

FUNCTIONAL DIAGRAM

Automatic
- like NA 16-1P Standard
- Delivery status
- Initialisation

When the last consumer is switched off, it is disconnected.

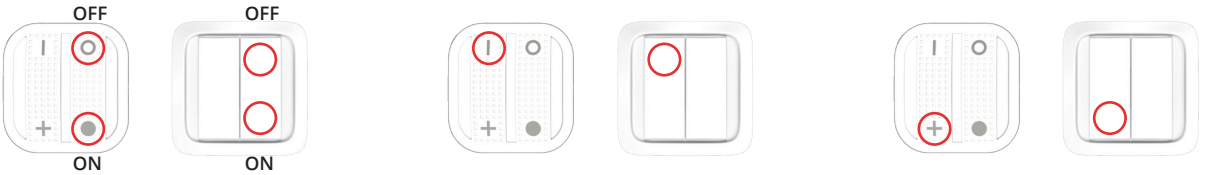
Radio
- Activated when the first transmitter is taught

Controlled with transmitter.

ON /OFF - Mode
- Circuit is switched on or
- switched off.
- Works in any mode

COMBI mode
- Automatic mode and ON/ OFF mode activated.
- Deactivated by pressing ON or OFF

SNOOZE mode
- The circuit is automatically switched off after 60 minutes.
- Deactivated by pressing ON or OFF



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Installation Instructions / Operating Instructions

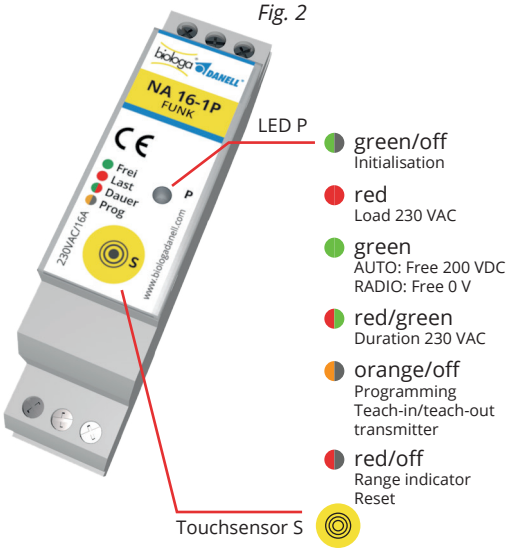
NA 16-1P Radio - automatic mode (delivery state)

OPERATING INSTRUCTIONS for automatic mode

- Disconnect all units in the circuit to be disconnected from the mains.
- Apply the 230 VAC operating voltage to the demand switch.
- The demand switch flashes green and switches to „load“ after approx. 10 sec. and to „free“ mode after approx. 6 sec.
- **Function test -** See „FUNCTION TEST“ box

  If the demand switch shows load after initialisation, there are hidden loads in the circuit. Check the circuit again for loads that are not disconnected from the mains (e.g. standby devices, receivers, antenna amplifiers, etc.). If all consumers have been found and disconnected, the demand switch is released.
- **Function test -** See „FUNCTION TEST“ box
- The demand switch has a built-in load detection. This is indicated by the P LED during initialisation.

Fig. 2



FUNCTIONAL TEST:

Carry out a function test in the disconnected circuit. To do this, switch the existing loads on and off one after the other. The demand switch signals red „load“ as soon as a load is switched on and green „free“, when the load is switched off. Switch-off delay approx. 10 sec.

1.		flashing green, red (approx. 6 sec.) Initialisation	approx. 16 sec. operation „load“ then „free
1a.		Continuous green	No consumer on the grid
2.		green red flashing Initialisation	approx. 10 sec. Consumer on the mains
2a.		Continuous red	**„Load“ 230 VAC**
3.		green flashing red occasionally Initalisation approx. 10 sec.	Small consumer on the grid Small reactive current flows
3a.		Duration green	decoupled
4.		Continuous red green	230 VAC Permanent mains voltage Permanent operation „load
5.		flashing red During operation	Fault Internal temperature of the Unit above 60 °C

- If all loads are disconnected from the mains and a load is nevertheless detected by the demand switch, e.g. in the case of leakage currents, this very small load can be suppressed with the teach-in program on the demand switch as follows:

  Disconnect the demand switch from the mains and reconnect it immediately. The NA 16-1P will then start to flash green. Touch the touch sensor S within approx. 10 seconds to teach in the demand switch. The demand switch reinitialises (approx. 10 seconds) and displays the disconnected state in green „free“.
- If the demand switch is to supply 230 VAC continuously, briefly touch the touch sensor S to enter the „continuous“ mode. The demand switch indicates this with a flashing red/green LED an. To exit this mode, touch the touch sensor S again.

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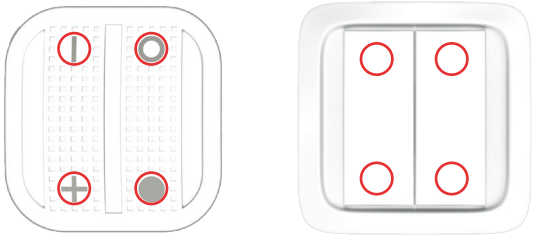
Installation Instructions / Operating Instructions

NA 16-1P Radio - Radio operation

OPERATING INSTRUCTIONS for radio operation:



Register handheld transmitter:

Press the touch sensor S until the operation indicator LED P flashes orange. Release the touch sensor. Press a button on the hand-held or wall transmitter. It does not matter which button is pressed. Other transmitters can also be taught in this way.

Log off the handheld transmitter:

Press the touch sensor S until the operation indicator LED P flashes orange. Release the touch sensor. Press a button on the hand-held or wall transmitter. It does not matter which button is pressed. In this way, other transmitters can also be learned out individually.

Log off all handheld transmitters:

If you want to log off all transmitters and reset the demand switch to automatic mode, press and hold the touch sensor S until the operating indicator LED P flashes red (reset).

1a.		Continuous green	Start -> No consumer connected to the mains
1b.		Continuous red	**Start -> „Load" 230 VAC**
2a.		flashing orange	to register a transmitter, Press the button of the transmitter
2b.	=>	flashing green, red flashing => Range indicator	Transmitter is registered
3a.		flashing orange	to deregister a transmitter, Press the button of the transmitter
3b.		flashing red	Transmitter is logged off
4a.	=>	flashing orange => flashing red	All transmitters are logged off Unit back in automatic mode -> Restart automatic - See table page 2 point 1

RANGE INDICATOR:

5 x		Very good signal quality
4 x		Good signal quality
3 x		Sufficient signal quality
2 x		Weak signal quality (A repeater may be needed)
1 x		Very weak signal quality (A repeater is required)

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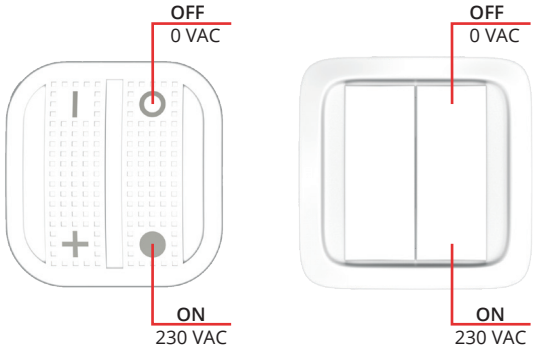
Installation Instructions / Operating Instructions

NA 16-1P radio - operating modes

ON / OFF mode:

Press the button for ON ● and the button for OFF ○.

To obtain the button assignment of the TX-NA16-WAND wall transmitter as shown on the right, it may be necessary to rotate the transmitter.



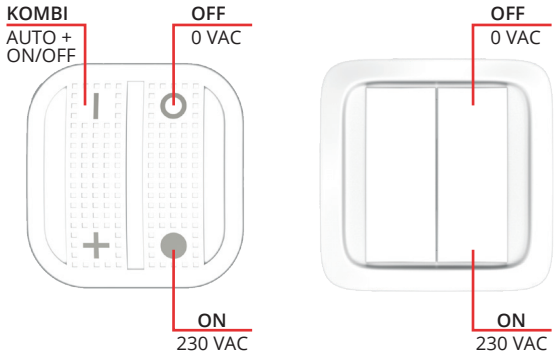
1a.	●●●●●●●●●	ON pressed Range indicator	See page 3 - Range indicator
1b.	●●●●●●●●●	Continuous red	**„Load" 230 VAC - ON**
2a.	●●●●●●●●●	OFF pressed Range indicator	**See page 3 - Range indicator**
2b.	●●●●●●●●●	Continuous green	**No consumer on the mains - OFF**

COMBI - Mode:

The combi-mode activates both the automatic disconnection and the possibility to switch the circuit on or off manually.

Press the button for the COMBI-MODE ▌and the button button for OFF ○ or the button for ON. ● to exit this mode.

To obtain the button assignment of the TX-NA16-WAND wall transmitter as shown on the right, it may be necessary to rotate the transmitter.



1a.	●●●●●●●●●	Combi pressed Range indicator	See page 3 - Range indicator
1b.	●●●●●●●●●	Combi mode activated Duration red	**„Load" 230 VAC**
1c.	●●●●●●●●●	Combi mode activated Duration green	**No consumer on the grid**
2a.	●●●●●●●●●	OFF pressed Range indicator	**See page 3 - Range indicator**
2b.	●●●●●●●●●	Continuous green	**No consumer connected to the mains OFF - COMBI OFF**
3a.	●●●●●●●●●	ON pressed Range indicator	**See page 3 - Range indicator**
3b.	●●●●●●●●●	Continuous red	**„Load" 230 VAC ON - COMBI OFF**

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Installation Instructions / Operating Instructions

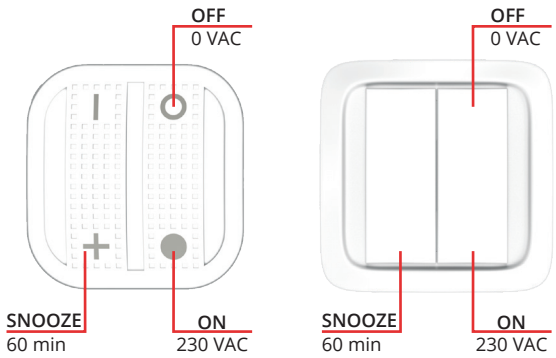
NA 16-1P Radio - operating modes

SNOOZE - mode:

The SNOOZE mode activates a 60-minute delayed disconnection. The unit disconnects the circuit automatically after 60 minutes.

Press the button + für den SNOOZE-MODE for the SNOOZE MODE and the button ○ for OFF or the button ● for ON to exit this mode.

To obtain the button assignment of the TX-NA16-WAND wall transmitter as shown on the right, it may be necessary to rotate the transmitter.



1a.		Snooze pressed Range indicator	See page 3 - Range indicator
1b.		Snooze mode activated Continuous red	„Load“ 230 VAC
1c.		after 60 minutes Snooze mode deactivated Continuous green	No consumer on the grid
2a.		OFF pressed Range indicator	See page 3 - Range indicator
2b.		Continuous green	No consumer connected to the mains OFF - SNOOZE OFF
3a.		ON pressed Range indicator	See page 3 - Range indicator
3b.		Continuous red	„Load“ 230 VAC ON - SNOOZE OFF

Mains filter plugs or similar consumers with high reactive currents must be disconnected from the mains! High reactive currents can lead to a temperature rise in the demand switch! If this becomes too hot, approx. 60 °C, the demand switch switches off to protect the unit and flashes ◐ until the temperature drops below 60 °C again.

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