



WALL Family

Wall mounted I/O unit

User manual

NE41 12005-02 v2.0

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EU Notes

NEAT Electronics declares that this mobile device, type WALL Family, is in compliance with the essential requirements and other relevant provisions:

Directive:

1999/5/CE (RTTE), 2004/108/EC (EMC), 2006/95/EC (LVD)

Standards:

EMC:

EN 301 489-1 V1.8.1 (2008)

EN 301 489-3 V1.4.1 (2002)

Radio:

EN 300 220-2 V2.3.1 Category III

Low Voltage:

EN 60950-1:2006+A11:2010



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US Notes

FCC ID: 2AGLF1123001

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Ulrik Lundberg
Managing director

Contents

About WALL Family products

Product variants

Hardware overview

Front overview

Back overview

The screw connector

Power

Inputs IN1 and IN2

Outputs OUT1 and OUT2

Jumpers J1 and J2

Buttons and LEDs

Ports 1 and 2

Manual configuration

Remove a transmitter

WALL family Programmer

More information

Important!

Care and maintenance

Safety Notes

Disposal

Technical data

About WALL Family products

3 The WALL Family consist of 11 prod-
4 ucts divided into two categories,
4 WIOR and ROOM categories, each
4 with a different hardware setup
4 to accomodate special needs and
5 requests. The terms WALL, WALL
5 units and WALL family all refer to
5 a common denomination for all 11
6 products.

6 The products are equipped with
6 different connectors for different
7 functions:

- 9** • A key cylinder to lock/unlock the
9 unit from operation.
- 9** • Pull cord to trig alarms by pulling
9 the attached string
- 10** • Push button(s) to trig alarms
- 11** • 6.35 mm tele jack for e.g. a pear
button

Product variants

Product	Button	Connector
---------	--------	-----------

WIOR Category products

WIOR	-	-
KEY	-	Key cylinder
PULL	-	Pull cord
PEAR	-	6.35 mm tele jack
PUSH	x 1	-
PUSH+PEAR	x 1	6.35 mm tele jack
PUSH+PULL	x 1	Pull cord
3PUSH	x 3	
3PUSH+PEAR	x 3	6.35 mm tele jack

ROOM Category products

ROOM	x 3	-
ROOM+PEAR	x 3	6.35 mm tele jack

Hardware overview

Front overview

The front basically consist of a plastic cover with one or three LEDs and a combination of buttons and connectors (examples below).

The unit is designed to fit in an inset coupling box with cc 60 mm. To mount directly on a wall, an optional mounting frame must be fitted.



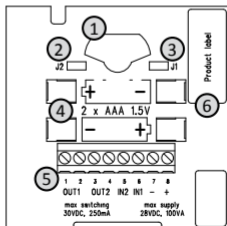
PUSH+PEAR



*ROOM+PEAR/
3PUSH+PEAR*

Back overview

On the back are the connectors and contacts.

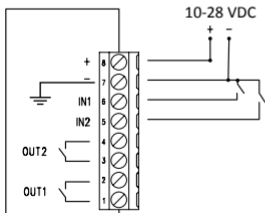


Item Denomination

①	Place for 6.35 mm tele jack connector/Pull cord/Key cylinder
②	Jumper J2
③	Jumper J1
④	AAA-battery connectors
⑤	Screw connector
⑥	Product (data) label

The screw connector

The screw connector allows for connecting external power, inputs and outputs by cable to the WALL unit.



Power

The unit can be powered either by 10-28V_{DC} or 2 x AAA batteries.

Inputs IN1 and IN2

In the screw connector there are two wired inputs, IN1 (pin 6) and IN2 (pin 5). Both inputs have a common ground (pin 7) and must be connected to potential free contacts.

Input activation is ignored during the first 10 seconds after start up.

Outputs OUT1 and OUT2

The outputs are galvanically separated from the wired inputs and each other and works according to below.

ROOM and ROOM+PEAR

The relay outputs acts according to the settings in the builtin actionplan or by a superior system (by radio).

The builtin actionplan activates the outputs as below.

Mode	OUT1	OUT2
Standby	-	-
Alarm	Active	-
Presence	-	Active
Assistance	Active	Active

All other products

The relay outputs acts according to settings made by manual configuration or by a superior system (by radio).

Jumpers J1 and J2

As default the jumpers J1 and J2 has the functions as described below.

	Mounted	Not mounted
J1	Receiver on, 24V mode ¹	Receiver off, battery mode
J2	Inputs (IN1 and IN2) normally closed ²	Inputs (IN 1 and IN2) normally open ²

¹If Jumper J1 is mounted the unit must be externally powered.

²IN1 for ROOM and ROOM+PEAR is always normally open.

However, jumper J2 can be overridden by using WALL family Programmer (except for ROOM and ROOM+PEAR).

Buttons and LEDs

The buttons are used to trig alarms. For ROOM and ROOM+PEAR it will also change the unit's mode.

The different modes are:

- Standby mode
- Alarm mode
- Presence mode
- Assistance mode

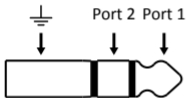
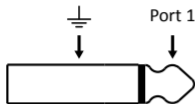
The LEDs indicate action and/or the unit's state and can either blink or light steady depending on how the units is configured and/or used.

Ports 1 and 2

The tele jack connector provides two ports when a stereo tele plug is used or one port if a mono teleplug is used .

The ports are of type **Normally Open**.

Both ports have a common ground and must be connected to potential free contacts (see below).



If an inserted tele plug is removed, the unit sends a **Tamper alarm**. If the plug is inserted again the unit sends a **Tamper OK alarm**.

Manual configuration

(not valid for ROOM and ROOM+PEAR)

Any unit can be manually configured regarding adding transmitters and how the two relay outputs should act when the added transmitter is activated.

The procedure is in short:

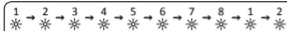
- Determine what position to activate
- Add the radio transmitter
- Determine the action when the added transmitter is activated



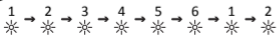
Please read the following instruction carefully before attempting to manually configure a radio transmitter.

1. Power off the unit (both 24VDC and batteries must be removed)
2. Remove J2
3. Power on the unit and replace the J2 within 5 seconds from power on.
4. The LED blinks green 3 times.

5. After the initial “three green blink”, the unit now starts to blink red. The number of blinks indicates the current radio position, i.e. 3 red blinks equals radio position 3.



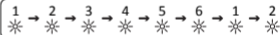
6. To select radio position, press any button, port or input.
7. The unit will confirm the selection by lighting green for 2 second.
8. Now activate the radio transmitter (e.g. press the red button on an ATOM).
9. The unit will confirm the successful reception of the radio ID code by lighting green for 2 seconds.
10. The unit now starts blinking green, allowing the setting the action for relay 1.



The number of blinks indicates what action to set.

1 blink	Pulse
2 blinks	On
3 blinks	Off
4 blinks	Toggle
5 blinks	No action
6 blinks	Stop pulse

11. Press any port, button or input at the appropriate action blink.
12. The unit now starts blinking red, allowing the setting the action for relay 2 (see #10).



13. Activate any port, button or input at the appropriate action blink.
14. If successful, the LED rapidly blinks green for 2 seconds.

At any stage during the manual configuration, if there is an unsuccessful configuration, the LED will blink rapidly for 2 seconds. When this happens the manual configuration is cancelled and it is necessary to restart the procedure.



In the event of inactivity during manual configuration (e.g. a transmitter is not activated after #8 or a port/button is not pressed after #11) the unit waits for 60 seconds and then returns to normal mode. The manual configuraton must then be restarted.

Remove a transmitter

To remove a transmitter, follow steps #1 trough #7 above. After step #7, remove jumper J2. The device will confirm the deletion by rapidly blink green for 2 seconds.

WALL family Programmer

All WALL units can be configured with a Neat Programming Unit (NPU) and the software WALL Family Programmer.

The NPU can be purchased from NEAT Electronics and the software can be downloaded from our home-page: www.neat-group.com/se/en

More information

For more information, please refer to WALL Family - Technical Handbook, NE41 11014-02.

Important!

Care and maintenance

- Do not expose to direct sunlight.
- Keep away from dust, moist and dirt.
- Do not drop, knock, twist or shake the device.
- Do not warm up the device or use it near fire.
- Clean the device with a soft cloth, dampened slightly with mild soapy water. Do not clean the device with harsh chemicals, solvents or other corrosive substances.

Safety Notes

- Read instructions prior to use.
- Always test the system per instructions prior to use.
- This product may not be suitable for all persons.

- This product should not be a substitute for the routine visual monitoring protocol by caregiver.
 - Must not be used in situations where a delay in the arrival of appropriate medical care, could lead to a potentially life-threatening situation.
 - Check device regularly and replace when necessary.
 - Do not integrate to other systems other than those specified in this document.
 - Always keep the device dry. Exposure to excessive moist can cause malfunction.
 - The product fulfils the requirements of the EMC-Directive 2004/108/EC.
 - It does not cause electromagnetic disturbances under normal working conditions.
 - The product can be placed near other products or devices as long as mechanical vibration is not present.
 - Always check the function of the product after making adjustments.
 - Please remove batteries if the unit is to be out of use or stored for an extended period of time.
- Our units are NOT intended for any life support device, thus intending a device whose malfunction may result in damage to a life.

Disposal

At the end of the product's use life, please dispose of it at appropriate collection points provided in your country. For disposal or recycling information, please contact your local authorities or the Electronic Industries Alliance (EIA, www.eiae.org). In the European Union, the bin label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling or returned to NEAT Electronics AB.

Technical data

Data	Value	
Dimension (incl. wallframe)(mm)	86 x 86 x 26 mm	
Weight (incl. batteries)	125 g	
Frequency _{transmit}	EU	US
	868.7, 869.2 MHz	916.2, 916.4 MHz
Frequency _{receive}	EU	US
	868.7, 869.2, 869.4 MHz	916.2, 916.4 MHz
Supply voltage _{min}	10 VDC	
Supply power _{max}	28 VDC, 100 VA	
Battery type	GP Ultra Alkaline AAA or GP Super Alkaline AAA	
Relay output, switching _{max}	30 VDC, 250 mA	
Battery life	5 years ³	
Button push time _{min}	150 ms	
Wired input open/close _{min}	150 ms	
Jumper change delay	3 s	
Tamper remove/insert delay	3 s	

³Radio test alarm + 4 alarms every day (when battery powered)



The frequencies for each market is programmed during production and not changeable by the user.

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