PEHA Elektro GmbH & Co. KG
by Honeywell

enocean CE

Easyclick handheld transmitter
450 FU-HS128 (Version 2.x)

CONTENTS

USE

The handheld transmitter is part of the PEHA Easyclick wireless system. The system is based on transmitters and receivers with a frequency of 868.3 MHz. This enables the wireless control of appliances by radio signal. With the touch of a button on the handheld transmitter (radio transmitter), devices such as lights, roller shutters, blind motors and entire groups of appliances can be switched on and off. Users must use the appropriate receivers.

The handheld transmitter is both a remote control for the PEHA Easyclick wireless system and a service tool.

HANDHELD TRANSMITTER FUNCTIONS

The handheld transmitter performs the following functions:

- 128 radio channels to control receivers (switching, dimming and roller shutter control)
- Visualisation functions (e.g. display window open or closed)
- Programming of 32 application-specific or user-defined functions
- Programming of 32 switching times
- PIN code-protected settings
- Restore factory settings

Selected functions may be assigned to 8 shortcut keys to increase ease of operation. If special bidirectional radio receivers (45x FU-EBIM) with energy measurement are used, a graphic can be displayed which shows energy consumption over the past 24 hours or the past week. This function is displayed as a "*histogram*".

SERVICE TOOL

The service tool (EnOcean service) is only required by the engineer. The tool enables users to identify whether a transmitter is sending a telegram and which addresses are present in the system, or to programme new functions into an existing system. The EnOcean service functions are not relevant for the handheld transmitter end user. These should not be tested without the correct expertise, as it could result in functional disruptions to the system. They are intended solely for the EnOcean radio technology engineer.

The service tool comprises:

- EnOcean monitor to record telegrams sent by multiple or one of the filtered radio transmitters.
- Remote management to search, identify and locally assign receivers.
- Repeater test and RadioLinkTest (measurement and evaluation of the transmission path)

SECURITY

The device must be used for the intended purpose only. Unauthorised conversion or modification is prohibited! It must not be used with other devices that could be hazardous to humans, animals or property.

Please note the following points:

- Device operating instructions.
- The operating instructions can only refer to general provisions, and must be viewed in the context of a specific system.
- The service tool is required by the engineer only, and is for the engineer's exclusive use.

ℹ️ PLEASE NOTE

- Read the operating instructions carefully prior to initial operation!
- The handheld transmitter switch functions (channels) must be assigned to a receiver before use!
- The handheld transmitter can control an unlimited number of receivers.
- Please read the receiver operating instructions carefully!

TECHNICAL DATA

Technical data	
Power supply	3x rechargeable batteries 1.2V (type AAA / NiMH 800 mAh)
Transmission frequency	868.3 MHz
Standby	Up to 1000 hrs
Max. operating time (normal operation)	Up to 1200 min
Max. operating time (EnOcean service)	Up to 600 min
Radio channels	128
Display	40 mm x 40 mm (black / white)
Operating temperature	0 to + 40°C
Dimensions	165 mm x 57 mm x 21 mm

RADIO RANGE

Radio signals are electromagnetic waves. The field strength at the receiver decreases proportionately with an increasing distance from the transmitter. The wireless range is therefore limited. The wireless range is further reduced by various materials or sources of interference in the transmission direction of the radio signals. The wireless range can be increased using Easyclick repeaters (radio amplifiers).

Material	Reduction
Wood, plaster, uncoated glass	0 - 10%
Masonry, wood/plaster walls	5 - 35%
Reinforced concrete	10 - 90%

Range	Conditions
> 30 m	In good conditions (large, empty room without obstacles).
> 20 m	Through up to 5 plasterboard/drywall walls or 2 brick/gas concrete walls (furniture and persons in the room): For transmitters and receivers with a good antenna position/design.
> 10 m	Through up to 5 plasterboard/drywall walls or 2 brick/gas concrete walls (furniture and persons in the room): For receivers built into walls or corners of rooms, receivers with an antenna or narrow hallway.
Through 1-2 ceilings/walls	Depending on the reinforcement/covering of the ceiling/wall and the design of the receiver antenna.

NOTE: More information on the subject of range is available online at www.peha.de.

DESCRIPTION OF DEVICE

Time
Battery charging display
Date
Icon display (Menu buttons)
Menu buttons
Cursor buttons / Enter button
Shortcut keys 1-8
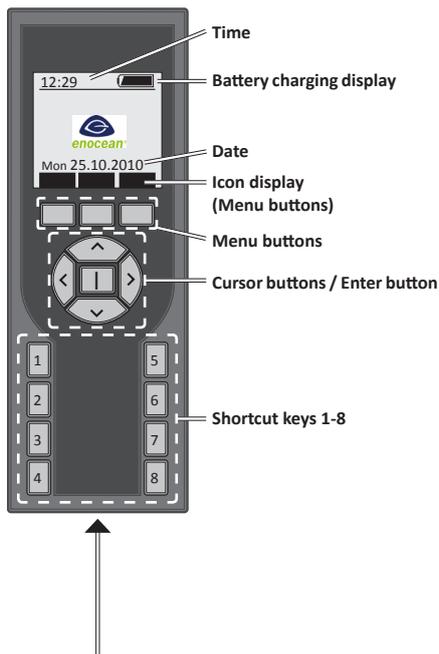
Displays	
👤	User function running
! 🕐	Time not set
🖥»»»▯	Programming via PC using a USB cable
▭ , ▬	Battery charging, battery charged

Operation	Function
Menu buttons	Activation of menu items and functions
Cursor buttons/ Enter button	Cursor control, settings, switch functions and text input
Shortcut keys 1-8	Assignment of switch functions, channels and user functions (configuration required)

ℹ️ **NOTE:** In order that the channel switching functions of the handheld transmitter can be carried out, the channels must be assigned to a receiver. If required, you can adjust the receiver function and the relevant parameters (see receiver operating instructions).

CONNECTION OF THE USB CABLE: Charge the batteries or program the handheld transmitter with the "*Configuration tool*" PC software. The software and the operating instructions can be found online at: www.peha.de

START SCREEN

In standby mode, the display is dark. Press the Enter I button to switch on. The following start screen then appears which is identical to the screen once the batteries have been inserted:

📄 Display group lists ⇨ page 8
🔧 Display settings ⇨ page 9
⏻ Switch to power-saving mode

I Switch device on
Display group lists ⇨ page 8
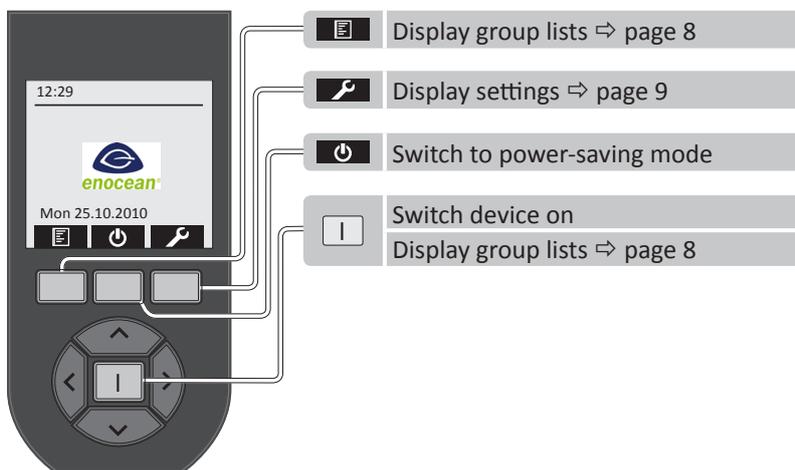
ℹ️ **NOTE:** If no button is pressed, the background lighting will be switched off after 5-60 sec (to set time see page 15). If the USB cable is not connected, power-saving mode is activated after 30 sec.

INSERTING BATTERIES

For the initial operation, insert the AAA / NiMH, 800mAh low self-discharge (LSD) batteries supplied into the battery compartment of the handheld transmitter.
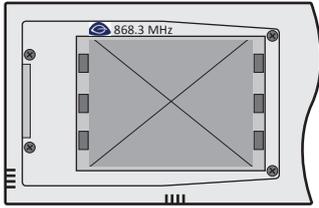
⚠ **WARNING**

If the batteries are discharged or removed, the time and date can no longer be saved!! The time and date then need to be reset!

– Use only AAA / NiMH 800mAh rechargeable batteries with a low self-discharge (type: LSD).
– Do not reverse the polarity of the batteries! Place the batteries as shown in the battery compartment.
– Do not insert new and old batteries together into the same device.
– Do not insert any other type of batteries (e.g. NiMH or NiCd).

CHARGING BATTERIES

First connect the USB cable at the bottom of the handheld transmitter. Then, to charge the batteries, connect the USB cable to a USB interface (e.g. PC) or plug the adapter supplied with the device into a socket. The battery charging status appears in the display on the top right during charging:

Display	Description
▭	The batteries are fully charged (100%).
▭	The battery power is almost depleted, the device may turn itself off at any time (< 5%) The handheld transmitter is connected to the power supply via USB, the battery is being charged.

NOTE: The battery charging status will be displayed in the on-state and power-saving mode. The charging cycles depend on how often and how long you use your handheld transmitter.

DEEP DISCHARGE OF THE BATTERY

Once you have connected the USB cable to charge the batteries, a deep discharge of the batteries is taking place if no image appears on the display after the background lighting has been switched on. A specific charging procedure must then be carried out to charge the batteries (e.g. if the handheld transmitter has been stored for a long period):

First, remove the batteries from the handheld transmitter. The USB cable is then connected for charging. The discharged batteries are then inserted into the battery compartment. The charging process will now begin.

BASIC SETTINGS

- Select language ⇨ page 9
- Set date and time ⇨ page 9
- Create channels with switch functions ⇨ page 11
- Combine switch functions (channels) in a group list ⇨ page 13
- Assign switch functions (channels) to receivers ⇨ pages 8 and 12

ASSIGNING CHANNELS OR SWITCH FUNCTIONS

📄	Display group lists	
🔧	Select Settings menu	
I	Switch device on	

12:29

enocean

Mon 25.10.2010
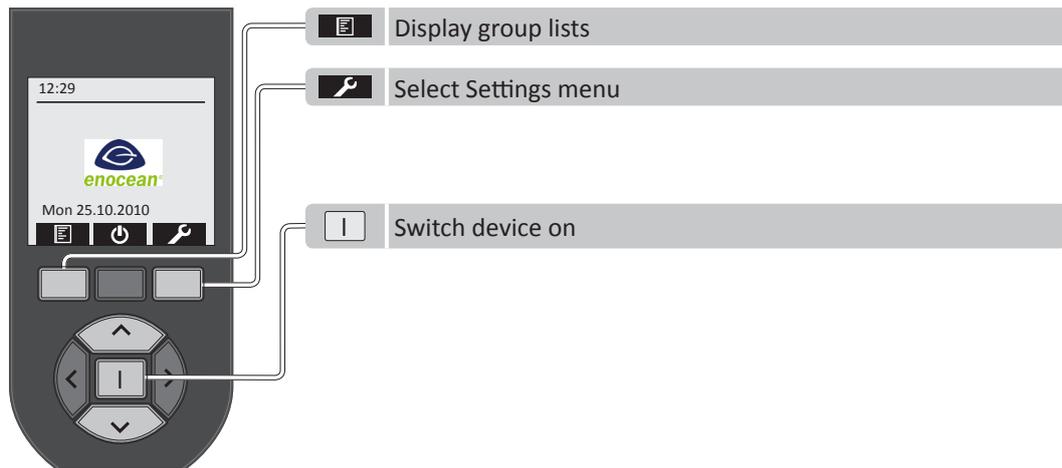
ASSIGN THE CHANNEL OF THE HANDHELD TRANSMITTER TO A RECEIVER

– Use the Menu button 🔧 on the start screen of the handheld transmitter to display the Settings menu.
– Select the "*Channels*" menu item in the Settings menu, and activate using the Enter I button.
– Use the cursor button ∧ or ∨ to select a channel from the channel list.
– Activate the receiver learning mode (see receiver operating instructions).
– Use the Menu button 📶 to assign the channel to the receiver (page 12).
– If required, adjust the functions and parameters of the receiver (see receiver operating instructions).

NOTE: Press the 📶 button several times to alternately assign the channel to the receiver or delete it. If no list of channels is displayed, channels must first be created using the switch function. More detailed information on channels is available on page 11.

ASSIGN SWITCH FUNCTION FROM A GROUP LIST TO A RECEIVER

– Use the Menu button 📄 to select the group lists via the menu on the handheld transmitter start screen.
– Use the cursor button ∧ or ∨ to select a list from the group lists.
– Activate the list with the Enter I button.
– Use the cursor button ∧ or ∨ to select a switch function (channel) from the list.
– Activate the switch function with the Enter I button.
– Activate the receiver learning mode (see receiver operating instructions).
– Assign the switch function (channel) to the receiver with the cursor button ∧ or ∨ (page 8).
– If required, adjust the functions and parameters of the receiver (see receiver operating instructions).

NOTE: If you press the cursor button several times ∧ or ∨, the switch function (channel) will be alternately assigned to the receiver or deleted. If the group list 📄 is not displayed, then a group list has not yet been created. More detailed information on group lists is available on page 13.

OPERATION

Example of group list with switch function

List 01	Living room	Living room
Switch function 01 (channel 01)	Lighting	▲ Lighting
⇩	⇩	Roller shutters UP / DOWN
Switch function 32 (channel 32)	Roller shutters UP / DOWN	

ℹ **NOTE:** If no group lists 📋 or switch functions are displayed, then they have not yet been programmed! Group lists und channels with switch functions must be programmed under "*Settings*".

GROUP LISTS

⋀ , ⋁	Select group list
↶	Back (to start screen)
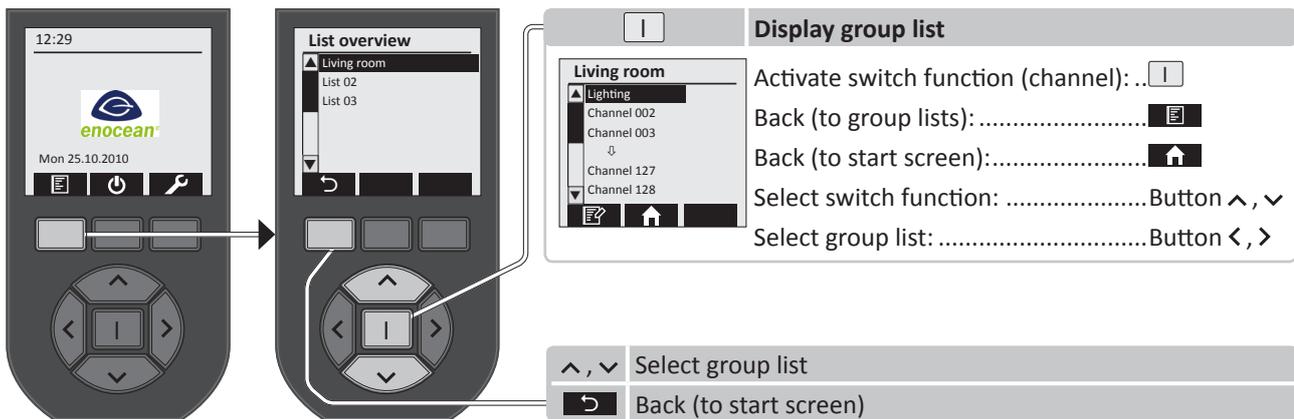
Display group list

Activate switch function (channel):	I
Back (to group lists):	📋
Back (to start screen):	🏠
Select switch function:	Button ⋀ , ⋁
Select group list:	Button ⟨ , ⟩
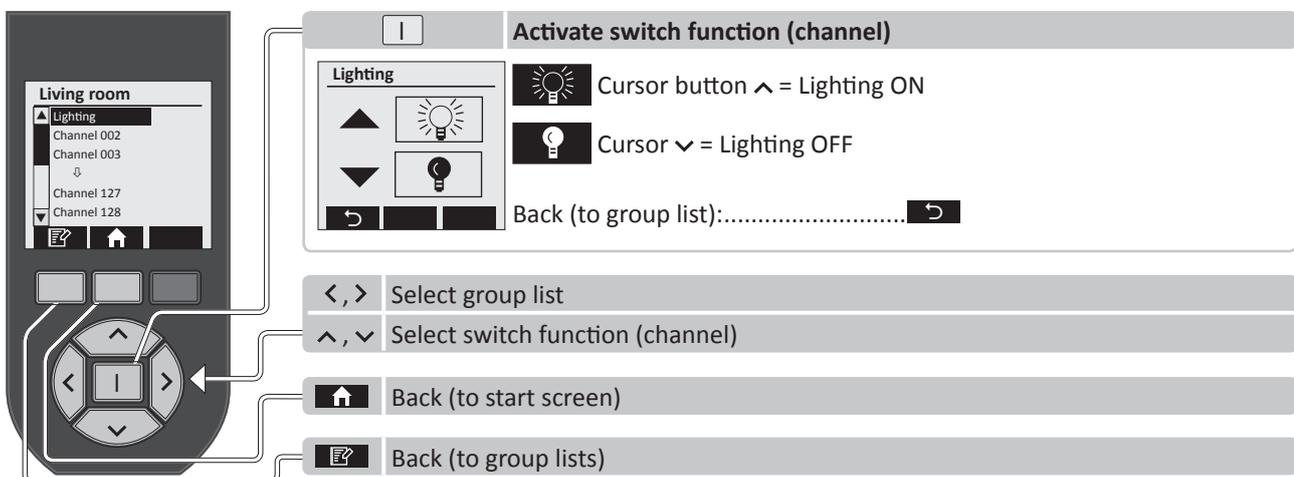
SWITCH FUNCTIONS

Activate switch function (channel)

Cursor button ⋀ = Lighting ON

Cursor ⋁ = Lighting OFF

Back (to group list): .... ↶

⟨ , ⟩	Select group list
⋀ , ⋁	Select switch function (channel)
🏠	Back (to start screen)
📝	Back (to group lists)

ASSIGN SWITCH FUNCTIONS (CHANNELS) TO RECEIVERS

– Use the cursor button ⋀ or ⋁ to select a switch function (channel) from the group list.
– Activate the switch function with the Enter I button.
– Activate the receiver learning mode (see receiver operating instructions).
– Use the cursor button ⋀ or ⋁ to assign the switch function (channel) to the receiver.
– If required, adjust the functions and parameters of the receiver (see receiver operating instructions).

ℹ **NOTE:** If you press the cursor button several times ⋀ or ⋁, the switch function (channel) will be alternately assigned to the receiver or deleted.

SETTINGS

It is useful to begin with the settings during the initial operation of the handheld transmitter.
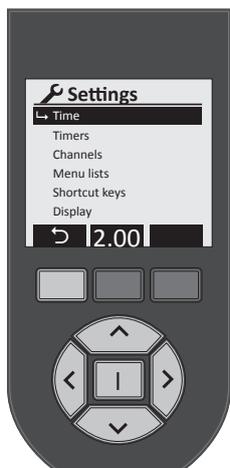
Operation	Function
Cursor buttons ⟨ , ⟩ , ∧ , ∨ Enter **I** button	Use the cursor buttons to select the relevant setting. When the lowest setting is reached, the display switches to the next page. Use the Enter I button to confirm the selection.
�)	Use the left Menu button to return to the start screen.
2.00	The version number is shown in the icon display.

The following settings can be programmed:

- Time
- Timers
- Channels
- Menu lists
- Shortcut keys

- Display
- Login
- Language
- Temperature measurement
- Histogram

- EnOcean service
- Remote management
- Factory settings

TIME AND DATE

	Set time and date
Time	Back (to Settings):... ↺
12: 29	Confirm and back (to Settings): .... ✓
Mon 2010.11.22	Time/date setting: .... ∧ , ∨
	Select: .... ⟨ , ⟩

ℹ **NOTE:** The time of the handheld transmitter must be reset if the batteries are discharged or removed! This is essential in particular to activate programmed timers. A clock that has not been set will be displayed by the ! ⏱ icon in the start screen.

LANGUAGE

	Set language
Language	Cancel without changing: .... ✕
↳German	Confirm and back (to Settings): .... ✓ , I
English	Select: .... ∧ , ∨

ℹ **NOTE:** You can select from our standard languages of either German or English. The "*Configuration tool*" PC software enables users to transfer an additional language.

TIMERS

The timers that have already been programmed will appear in the display. You can use the cursor buttons to select them to monitor or adjust settings. The numbering of the timers from 01 – 32 takes place automatically. Use ⊕ to create a new timer.

Programme timers

Switching on/off of all timers: .... ⬛✓ , ⬛✕

Create new timers: .... ⊕

Confirm and back (to Settings): .... ↺

Select timer (Timer 01 - 32): .... ∧ , ∨

Activate setting: .... |

ℹ **NOTE:** Timers can only be programmed after after the time has been set!

The following settings can be programmed for each timer:

Set timer

TIMER NAME: Menu button abc is used to switch from upper/lower case and numbers/characters 012 . Select a character with the cursor buttons to enter a name. Then use the Enter **I** button to confirm the characters you have selected. A maximum of 17 characters is permitted.
Use the ✓ button to save, and then return to the Timer menu. The name will now appear in the top line. Then enter the function.

FUNCTION: Use the ‹ , › cursor button to switch the timer function to active ✓ or inactive ✕ . This can be used to select whether the clock should be assigned to a "**Channel**" or a "**User function**".
Under "**Channel**", use the cursor buttons to set the function of the channel and timers **(1)** and **(2)** (timer = on, off, down, up).
Under "**User function**", the timer functions **(1)** and **(2)** can be set with the cursor buttons (timer = start or stop of the user function).
Save with the ✓ button, and then return to the Timer menu. The switching times and activated weekdays will be displayed in the lower part of the display.
Factory setting: Timer (1) 20:00 SMTWTFS; timer (2) 07:00 SMTWTFS.

SWITCHING TIMES: Under **(1)** and **(2)** , you can use the cursor buttons to set the timer switching times on/off. To set the days of the week, the corresponding weekdays are displayed with the ∧ button, and hidden with the ∨ button.
Use ⬛✓ to turn the switching times on/off. Use the ✓ button to save and return to the timer menu.

DELETE TIMER: Use this command to delete the timer. Press the Enter **I** button to prompt the message: "Really delete xx timer?".
If you press Menu button ✓ then the timer will be deleted. If the Menu button ✕ is pressed, the user will return to the menu with no changes applied.

∧ , ∨ Select menu item

↺ Back to settings (Timers)

CHANNELS

If the user selects Channels in the Settings menu, an existing channel name will appear or the "*Lighting*" channel will created by default. A maximum of 128 channels is available.

Programme channels

Create a new channel: .... ⊕

Confirm and back (to Settings): .... ↺

Select existing channel (channel 01 - 128): .... ∧ , ∨

Activate setting: I

Send radio signal to the receiver: .... ((•))

(assign channel to receiver)

DEFINITION OF CHANNEL: A channel describes the basic functionality or connection to a receiver or user function. The channel will then only be linked in all additional functions in the handheld transmitter. Deleting a channel will remove all the connections and links.

NOTE: For bidirectional receivers a message is displayed, while standard receivers require users to check the correct programming on the receiver. A * before the channel name means that a default name, and not a specific name, is still assigned to a receiver. A ⚠ before the channel name denotes: bidirectional connection, the receiver has not yet been configured.

The following settings can be programmed for each channel:

Set channel

CHANNEL NAME: Use the cursor buttons to select the characters to enter a name (e.g. ceiling light). Then use the Enter **I** button to confirm the characters you have selected. Use the [✓] button to save and return to the menu and function selection. Press the Menu button [X] to discard the entries and return to the menu.

FUNCTION: Confirm using the Enter **I** button. First, an address is entered between 1 and 128. To do this, use the ⟨ , ⟩ cursor buttons. The system will automatically propose the first free address. Use the Menu button [X] to delete the address. You can also use the cursor buttons to select the function:

0	Standard switches with the choice of icons (see below)
1	User function (appears only if it has been created)
2	Bidi switch receivers
3	Bidi dimmers
4	Bidi roller shutters
5	Bidi heating visualisation
6	Bidi window visualisation

DELETE CHANNEL: Use this command to delete the channel. Press the Enter **I** button to prompt the message "Really delete xx channel? All connections will be removed". Hold down the Menu button [✓] to delete the channel and all the connections. Press the Menu button [X] to return to the menu.

∧ , ∨	Select menu item
↺	Back

ICONS FOR CHANNELS

Icon	Switch function		Icon	Switch function
💡 , 🔆	Switch ON / OFF		🌀 , 🌀	Ventilation ON / OFF
🔆 , 💡	Dimmer UP / DOWN		⠿ , ☀	Groups ON / OFF
▱ , ▤	Roller shutters UP / DOWN		⠿	Groups ON (button ∨)
⊤ , ☰	Blinds UP / DOWN		☀	Groups OFF (button ∧)
▨ , ◩	Awnings OPEN / CLOSED		◢⁺	Key-in dimmer (button ∨)
▱ , ▱	Window OPEN / CLOSED		◢⁺	Key-in dimmer (button ∧)
◿\ , ◿\	Skylight OPEN / CLOSED		⌐	Door opener (button ∨)
▦ , ▥	Garage door OPEN / CLOSED		👤A , 👤C	Lighting scene A and C
▯ ▯ , ▥	External gates OPEN / CLOSED		👤B , 👤D	Lighting scene B and D
≋ , X≋	Heating ON / OFF			

> **ℹ NOTE:** The selection of the icon for a switch function should depend on which function is switched by the receiver! An icon can be assigned to each switch function. Additional icons for switch functions can be imported to the handheld transmitter using the "Configuration tool" PC software. The software can be downloaded from www.peha.de.

ASSIGN CHANNELS TO RECEIVERS

– Use the cursor button ∧ or ∨ to select a channel from the channel list.
– Activate the receiver learning mode (see radio receiver operating instructions).
– Use the Menu button 📶 to assign the channel to the receiver.
– If required, adjust the functions and parameters of the receiver (see receiver operating instructions).

> **ℹ NOTE:** Press the 📶 button several times to alternately assign the channel to the receiver or delete it.

Example showing assignment of a channel (lighting) to a receiver:

↺	Back (to Settings)
📶	Assign channel to the receiver
∧ , ∨	Select channel

GROUP LISTS
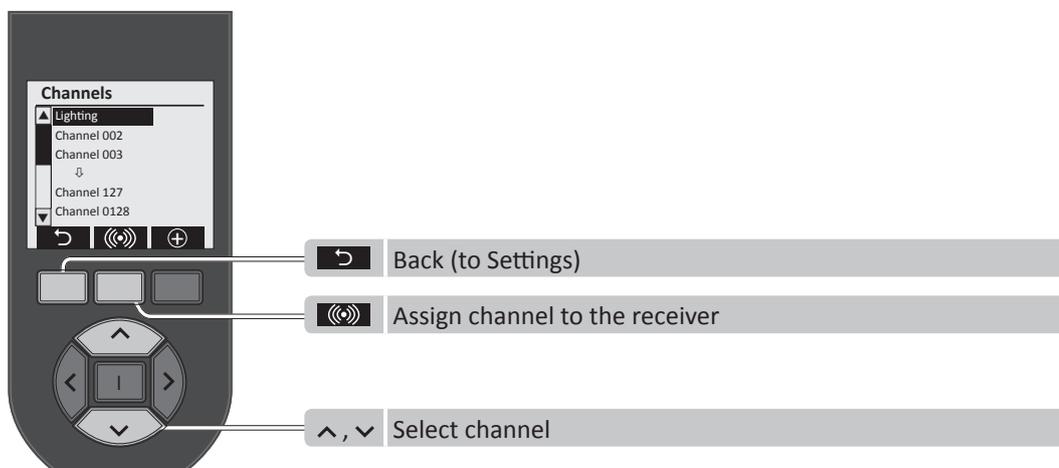
Programme group list

Group lists
List 01
List 02
List 03

Create new group list: .... ⊕

Confirm and back (to Settings): .... ↺

Select group list: .... ⌃ , ⌄

Activate setting: I

ℹ️ **NOTE:** In group lists, channels with switch functions will be created as a group. This is practical for rooms (e.g. living room, kitchen, bathroom, etc.) or functions (e.g. panic button, central switching off, etc.).
If "Group lists" is selected in the Settings menu, existing group lists are displayed that can be edited.

The following settings can be programmed for each group list:
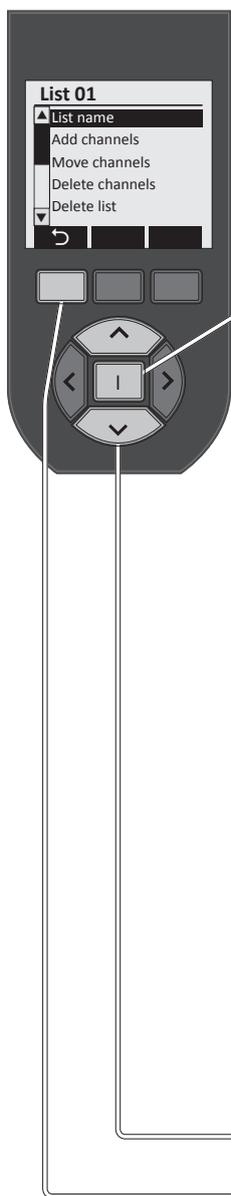
Set group list

List name
List 3_
A B C D E F G H I
J K L M N O P Q R
S T U V W X Y Z Ä
Ö Ü Space ←

Add
Channel 1
▶ Channel 2
Channel 3

Move
Channel 1
▶ Channel 2
Channel 3

Delete
Channel 1
▶ Channel 2
Channel 3

Delete list
Really delete
Ground floor
list?

LIST NAME: List names are automatically created (List 01, List 02, etc.). A personalised name can be assigned here. To do so, select the characters to enter a name using the cursor buttons. Then use the Enter **I** button to confirm the characters you have selected. A maximum of 17 characters is permitted. Use the ✓ button to save and return to the Group list. The name then appears on the top line.

ADDING CHANNELS: Confirm using the Enter **I** button. A list of all the existing channels now appears. Use the cursor buttons to select the channels to be added, and confirm them with the Enter **I** button. A triangle then appears to the left of the accepted channels. This enables users to quickly see which channels have been accepted. Select a previously selected channel and press the Enter **I** button to remove the channel from the list again, and the triangle disappears. The number of accepted channels appears in the centre of the lower part of the display. Use the Menu button ⊕ to accept this list, and the menu for this list will be displayed again.

MOVE CHANNELS: Confirm with the Enter **I** button. A list of all the existing channels now appears. Use the cursor buttons to select the channel you wish to move. This then appears with a triangle to the left. Use the ▲ , ▼ Menu buttons to now move the selected channel to the required position. Use the left Menu button ✓ to accept this setting, and the menu for this list will be displayed again.

DELETE CHANNELS: Confirm with the Enter **I** button. A list of all the existing channels now appears. You can then use the cursor buttons to select the channel you wish to delete. Confirm using the Enter **I** button. A triangle will then appear to the left. Use the Menu button ⊖ to delete the channel, and the menu for this list will be displayed again.

DELETE LIST: Use this order to delete a group list. Press the Enter **I** button and the "Really delete xx list?" prompt appears. If the Menu button ✓ is pressed, the list is then deleted. If the Menu button ✗ is pressed, the user will return to the menu with no changes applied.

⌃ , ⌄ | Select menu item

↺ | Back

SHORTCUT KEYS

Select shortcut key

Shortcut keys
↳ Button 1
Button 2
Button 3
Button 4
Button 6
Button 7

Back (to Settings):.. ↺

Activate setting:... I

Select the button:.. ∧ , ∨ , ⟨ , ⟩

The 8 shortcut keys can be directly assigned to frequently used functions. Shortcut keys enable users to:

– Perform a function immediately (send a telegram)
 – Start/stop a user function
 – Open an entry in a group list
 – Open a group list

Once you have selected the shortcut key and confirmed with the Enter I button, the display will show:

Set shortcut key

Shortcut keys
↳ Button 1
Button 2
Button 3
Button 4
Button 6
Button 7

Button 1
Active   ✓
Function   Channel
            Lighting
Function   On
×   ✓

The shortcut key can be enabled/disabled with the cursor button ⟨ , ⟩. If a shortcut key is activated, the following functions can be selected with the cursor button ⟨ , ⟩:

– Channel
– User function
– Entry (into a group list)
– List (group list)

If a function is selected, all configured channels and additional setting options will be displayed.

Cancel without changing: .... ×

Confirm and back (to shortcut keys): .... ✓

Select menu items:.. ∧ , ∨

∧ , ∨   Select menu item

↺   Back (to Settings)

ℹ **NOTE:** If a channel is assigned to a shortcut key, the channel will be assigned to a receiver using a shortcut key. If this is not the case, no function will be listed! This is not required if the channel has already been assigned to the relevant receiver in the channel settings!
User functions on the handheld transmitter are programmed and applied using the "*Configuration tool*" PC software. If no user functions are available, the following appears in the display instead of the name: – – –

DISPLAY

Set display

Display	
Lighting 80%	
Contrast 80%	
Idle 120 sec	
Popup ✓	

Cancel without changing: .... ✕

Confirm and back (to Settings): .... ✓

Lighting, Contrast, Idle mode, Popup settings: .... 〈 , 〉

Select: .... ∧ , ∨

ℹ NOTE: Lighting and contrast (0-100%) can be adjusted under "*Display*". The period of time before the handheld transmitter enters standby mode can be set from 5 sec to 120 sec. The lighting is switched off after half of the set time has elapsed. Popups to display status changes can be enabled/disabled using shortcuts.

LOGIN

Set or enter login

Set login

Login deactivated!

SET LOGIN: If "*Login*" is selected in the Settings menu, the default message "Login disabled!" appears in the display. Use the central Menu button to enable or disable the login function.

If a LOGIN is enabled, the PIN code is entered using shortcuts 1-8. The PIN code is set to "1111" by default. This also disables an editing lock or a set PIN code.

Set login

1 2 3 **4**

LOGIN: If a PIN code has been set, the settings are locked for editing. The settings are only unlocked once the PIN code is entered.

Cancel without changing: .... ✕

Confirm and back (to Settings): .... ✓

Setting: .... Shortcut keys 1-8

Select: .... 〈 , 〉

Login

★ ★ ★ ▪

WARNING!! Numbers 0 and 9 are not available for the PIN code!!

TEMPERATURE MEASUREMENT

This function measures the ambient temperature at the lower part of the handheld transmitter which is then shown in the display. This depends on the location of the handheld transmitter and may therefore deviate from the actual room temperature. The deviation can be offset by setting the temperature offset function (-8 to +8°). The factory setting for the temperature display is °C.

	Set temperature offset and display
Temperature	Cancel without changing:... ✕
↳Offset 0.0 K	Confirm and back (to Settings):.. ✓
Display ° C	Offset setting (-8 to +8°) / display (C° or F°):....................... ‹ , ›
21.5°C	Select:...∧ , ∨
✕ ✓	

Temperature offset setting:
• Wait for the temperature display to stabilise (approx. 60 mins).
• Measure room temperature with an accurate thermometer.
• In the event of a deviation between the temperature display and room temperature, adjust the temperature offset to correct the deviation.

Factory setting: Offset = 0° , °C

Important note!! The accuracy of the temperature measurement is heavily dependent on the point of use! If the handheld transmitter is influenced by a heat source (e.g. heating, sun, etc.), this will affect the precise temperature measurement and heating regulation! Temperature measurement is also affected after charging the batteries!

Settings
Login
Language
↳ Temperature
Histogram
EnOcean service
Remote management
↺ 2.00

CONSUMPTION DATA HISTOGRAM

The "*histogram*" function provides a graphic display of the consumption data of a selected channel over the past 24 hours, the past week or in a group list. The total consumption of all the receivers in the list is displayed. The handheld transmitter retrieves the total of all the values of the receivers and displays the values graphically. The lower display area shows the total consumption of the past 24 hours or 7 days, and the corresponding consumption costs.

NOTE: The function can only be carried out using bidirectional Easyclick receivers with the energy measurement function. It is **not** possible to measure consumption with Easyclick blind and roller shutter receivers!

The following Easyclick receivers can be used:

1) Switch receiver: 451FU-EBIM o.T. , 451 FU-BEBIM , 451FU-EBIM UP o.A. , 452FU-EBIM o.T. , 454 FU-EBIM DE

2) Adapter: 4511 FU-EBIM ST , 4571 FU-EBIM ST xx.

Set histogram

Cancel without changing:	✕
Confirm and back (to Settings):	✓
Enable or disable histogram:	◉ , ◌
Setting:	‹ , ›
Select:	∧ , ∨

If the histogram is activated, a message appears asking if you wish to display the cost representation. Setting with the cursor buttons ‹ , ›. The currency symbol (€, $, £) can be set to display costs. This will include the factor (€/ KWh) which is used to convert consumption into electricity costs.

Example of cost representation:

24-hour display

Week display

FACTORY SETTINGS

Display factory setting

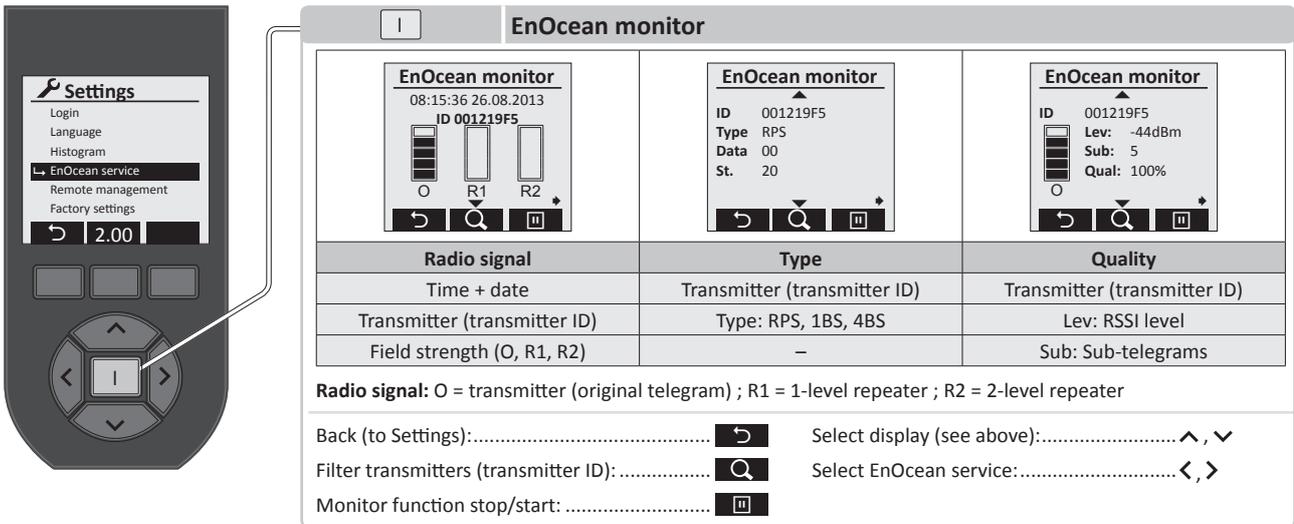|	
Back (to Settings):	↺
Confirm (hold button down for approx. 5 seconds):	✓

⚠ **WARNING!!** After displaying the factory setting of the handheld transmitter, all the settings you have adjusted will be deleted! You will now have to reprogramme the handheld transmitter!

ENOCEAN SERVICE

	EnOcean service

The EnOcean service comprises the following 3 functions:

1. EnOcean monitor	2. Repeater	3. RadioLinkTest
EnOcean monitor 08:15:36 26.08.2011 ID 001219F5 O R1 R2	Repeater Off	RadioLinkTest Master

Back (to Settings):............................ ↵   Select EnOcean service: ....〈 , 〉
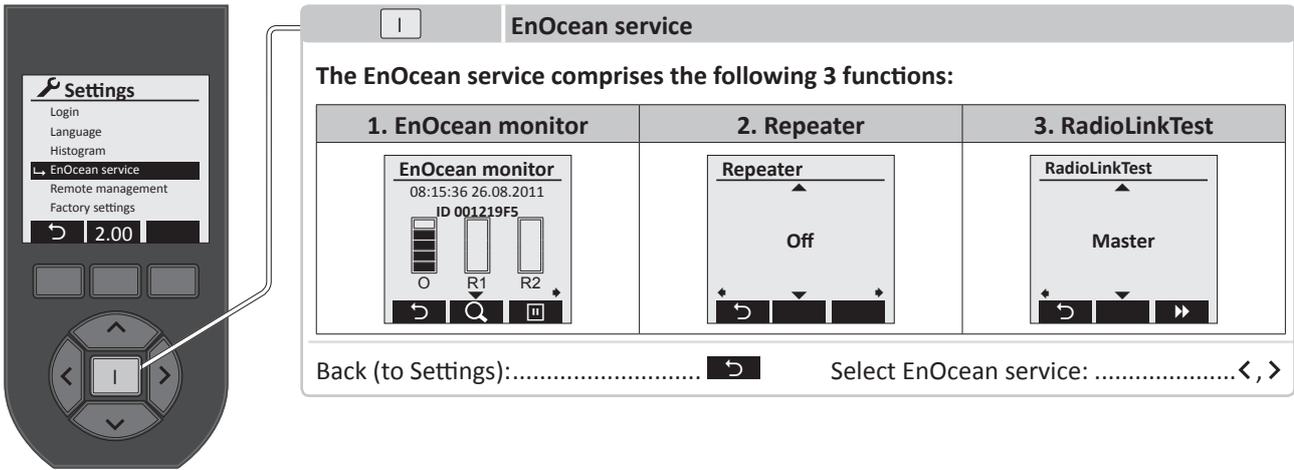
ENOCEAN MONITOR

The EnOcean monitor can be used to analyse the transmitter radio signal. The field strength, quality and type of the radio signal are measured and displayed. Each transmitter has a fixed transmitter ID that can be used to clearly identify it! If repeaters (radio amplifiers) are used, the signal they emit is also displayed.

	EnOcean monitor

EnOcean monitor 08:15:36 26.08.2013 ID 001219F5 O R1 R2	EnOcean monitor ID 001219F5 Type RPS Data 00 St. 20	EnOcean monitor ID 001219F5 Lev: -44dBm Sub: 5 O Qual: 100%
Radio signal	**Type**	**Quality**
Time + date	Transmitter (transmitter ID)	Transmitter (transmitter ID)
Transmitter (transmitter ID)	Type: RPS, 1BS, 4BS	Lev: RSSI level
Field strength (O, R1, R2)	–	Sub: Sub-telegrams

Radio signal: O = transmitter (original telegram) ; R1 = 1-level repeater ; R2 = 2-level repeater

Back (to Settings):.. ↵   Select display (see above):........................ ∧ , ∨

Filter transmitters (transmitter ID): .... 🔍   Select EnOcean service:............................. 〈 , 〉

Monitor function stop/start: .... ⏸

The time and date are shown in the top line, and also when the telegram was received. The transmitter ID address that sent the telegram is displayed below this. The signal strength is displayed in the first segment bar "**O**" (original telegram). The quality of the 1-level repeater is displayed in the second segment bar "**R1**". The quality of the 2-level repeater is displayed in the third segment bar "**R2**". Two bars are considered sufficient telegram strength. If no repeaters are available, the segment bars will be empty.

Several transmitters can be activated almost simultaneously in larger systems. This makes it difficult to analyse the radio signal of a single transmitter. You can therefore use the 🔍 button to filter out the relevant transmitter and transmitter ID and to analyse this specific transmitter at various distances.

Use the cursor button ⌄ to display the following details on the telegram sent:
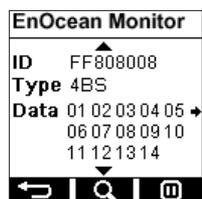
ID	⇨ ID address of transmitter	**Data**	⇨ Data content
Type	⇨ Data type	**ST.**	⇨ Telegram status byte is only displayed by the above data types

The following data types are available:
RPS (e.g. wall switch)
1BS (e.g. window contact)
4BS (e.g. light sensors, handheld transmitters, movement detector….)

Press the cursor button ⌄ again to display further details on the telegram sent:
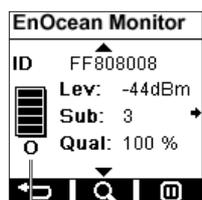
ID ⇨ ID address of the transmitter

LEV ⇨ Level (signal strength in dBm)
Highest level: approx. -45 dBm
Lowest level: -85 dBm (1 bar)

Sub ⇨ Data content of a telegram: When sending a telegram, three sub-telegrams are normally generated. If only one sub-telegram is displayed, it may have been lost.

Qual ⇨ Quality in %: Values under 30% are borderline. Anything above this is acceptable. If possible the value should be over 50%.

➤ **Radio signal:** O = transmitter (original telegram) ; R1 = 1-level repeater ; R2 = 2-level repeater

REPEATER

The handheld transmitter can be used as a 1-level or 2-level repeater (radio amplifier) for test purposes. Use the cursor buttons ⌃ , ⌄ to switch between 1-level, 2-level and OFF. The repeater function is switched off when the EnOcean Service is completed.

Monitor	Repeater
Press ❯ button	1-level, 2-level

Deactivate repeater = Off

Back (to Settings):.......................... ↺

Select repeater:.............................. ⌃ , ⌄

Select EnOcean service: .... ❮ , ❯

RADIOLINKTEST

The EnOcean RadioLinkTest is a range test of a radio signal between two handheld transmitters or between a bidirectional receiver and a handheld transmitter. The handheld transmitter analysing the signal must be configured as the master and the second device as a slave. Bidirectional receivers are always configured as slaves.

The start and connection setup of the range test between two handheld transmitters is initiated with the ⏩ button on the master and slave. The master carries out the range test analysis.

Monitor	Range test
Press › button 2x	Button ↺ : Back (to Settings)

Start range test:................................. ⏩
Select master, slave: ....∧ , ∨
Select EnOcean service: ....‹ , ›
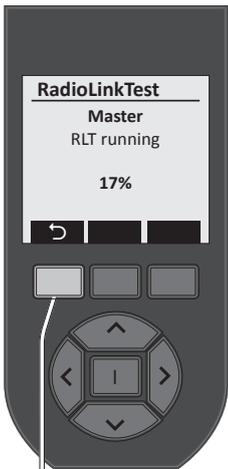
RadioLinkTest (RLT result)

Radio signal	Quality
Time + date	Handheld transmitter (transmitter ID)
Handheld transmitter (transmitter ID)	Lev: RSSI level
Field strength (O, R1, R2)	Sub: Sub-telegrams

Radio signal: O = transmitter (original telegram) ; R1 = 1-level repeater ; R2 = 2-level repeater

Back (to RadioLinkTest): .... ↺
Select display (see above): ....∧ , ∨

↺ End the range test and back (to RadioLinkTest)

REMOTE MANAGEMENT

Use the "*Remote Management*" function to carry out any programming, to set up the initial operation and set values locally. This means, for instance, that receivers in places that are difficult to access can be easily programmed. The following functions are available:

- Automatic search of addresses or receivers by inputting the security key (unlock code)
- Local switching action (enables the visual discovery of the selected device)
- Easy assignment of a new transmitter
- Download of all the data contained in a receiver
- Management of all transmitters and parameters
- Upload of modified values
- Direct radio link test
- Restore factory settings

NOTE: The last 5 functions are only possible with bidirectional Easyclick receivers!

The following options are available to ensure the security of a system:

- Devices to be operated via remote management must first be unlocked with a security key (password).
- The device password consists of 8 characters/numbers (0 to 9, A to F).
- "00000000" is the factory setting of the password on delivery or when the device factory setting is restored (default code).
- "FFFFFFFF" ⇨ invalid code.
- If the device is accessed, a session is opened for 30 minutes. This is then automatically closed by the receiver.
- If a receiver receives an incorrect security key, it will block all access for 30 seconds, and the remote station (e.g. handheld transmitter) must wait during this time until a key can be sent again.
- If devices are in the factory state, they can only be accessed using the delivery status of the security key (default code) for the first 30 minutes following the voltage recovery.

NOTE: If the handheld transmitter Settings menu is closed, access to the receiver will be automatically terminated.

Once the "*Remote Management*" function has been activated with the Enter I button, users will be asked for the 8-digit password to access the system.
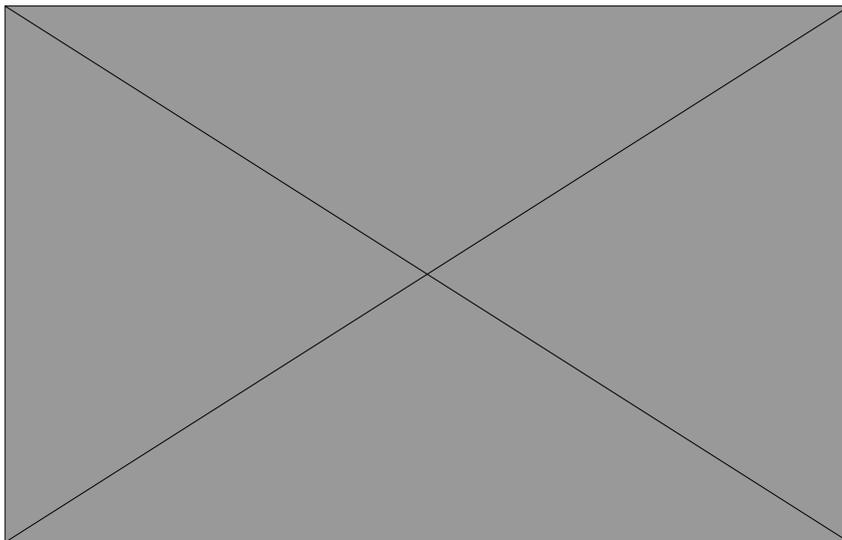
All the modules with this password will then be enabled and will register. The following display appears during the search:

```
Remote Mgmt.

  Search devices
       wait...

     Found: 01
```

The devices found or their ID addresses are shown in the display:

```
Remote Mgmt.
0089E8E4
All devices




 🔒 | 29m | 📝
```

🔒 = End of Remote Management, session closed

29m = indicates the maximum remaining time in which the Remote Management functions can be carried out before the receiver ends the session

📝 = Display all the channels in the handheld transmitter

STANDARD COMMANDS

In accordance with the EnOcean definition, there are corresponding standard commands that also work across the company. Below is a list and explanations of the commands:

```
0089E8E4
Action
Start learn
Next channel
Stop learn
Set code


 ↩ |   | 📝
```

📝 = Display all the channels in the handheld transmitter

↩ = Back to the Selection menu

- **Action**: Carries out a visual action to identify the device, e.g. switching the channel On/Off.
  The following applies to PEHA switch and dimmer receivers: switched on for 5 seconds if previously off, or turned off if previously switched on. PEHA roller shutter receivers activate shutters up or down for 5 seconds.
- **Start learn:** Places the receiver in learning mode. Corresponds to pressing the "LRN" button on the receiver.
- **Next channel:** Changes the receiver channel (e.g. with a 2-channel receiver), if it is in learning mode.
- **Stop learn:** Ends learning mode.
- **Set code**: Enables users to set a new key word in the receiver. If the code is no longer set to "00000000", the device can be accessed at any time.

```
0089E8E4

   New code
  02468ACF



 ↩ |   | ((•))
```

REMOTE COMMISSIONING (DECENTRAL INITIAL OPERATION)

This function is only possible if a bidirectional receiver is detected, otherwise this menu remains hidden. The percentage in the progress bar indicates the percentage that has been read by the receiver. Only when 100% has been read can the user access the menu item.

Living room lighting
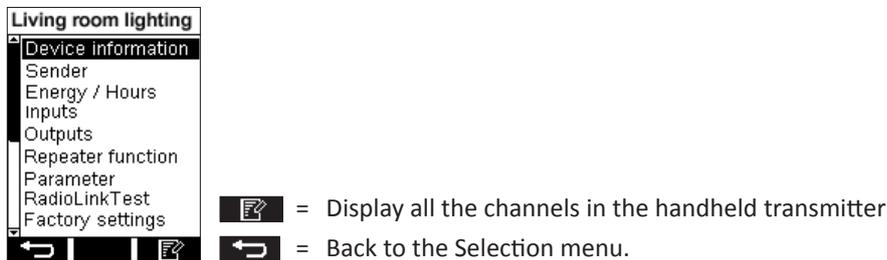- Action
- Start learn
- Next channel
- Stop learn
- Set code
- PEHA BiDi 57%

📝 = Display all the channels in the handheld transmitter

↩ = Back to the Selection menu.
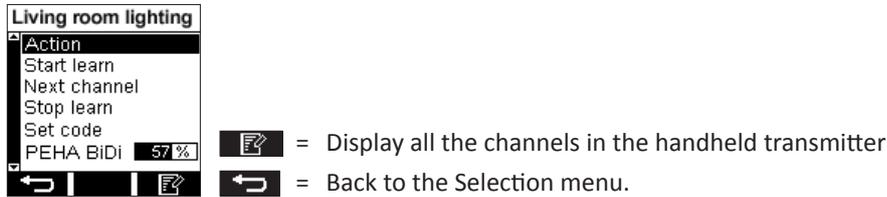
The advanced commands are based on the standard commands, and enable full, company-specific access to the PEHA receiver.

Advanced initial operation enables users to access all the learned transmitter parameters, internal parameters and data from the receiver.

Living room lighting
- Device information
- Sender
- Energy / Hours
- Inputs
- Outputs
- Repeater function
- Parameter
- RadioLinkTest
- Factory settings

📝 = Display all the channels in the handheld transmitter

↩ = Back to the Selection menu.

DEVICE INFORMATION

Contains information such as device name (**label**). Device type designation (**device**) for more effective identification device **ID** and firmware version (**version**)

Living room lighting
- Label:
  - Living room lighting
- Device:
  - 451 FU-EBIM o.T.
- ID: 0089E8E4
- Version: 1.00

↩ = Back to the Selection menu.

Click the device name to change it. A keyboard then appears to enter the name:

Device label

Living room ceiling_

```
A B C D E F G H I
J K L M N O P Q R
S T U V W X Y Z A
Ö Ü   Space   ←
```

abc | X | (((•)))

✖ = Changes were not accepted, back to the Menu

abc = Switch from upper/lower case and numbers/characters

(((•))) = OK and transfer changes to the receivers
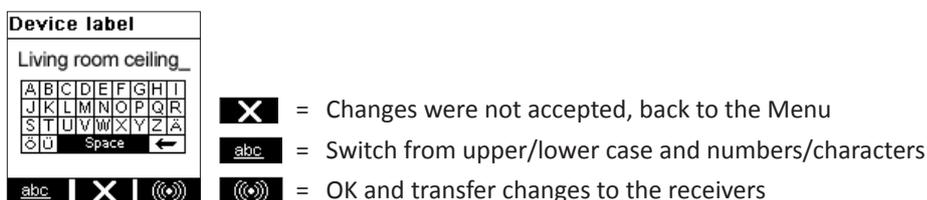
TRANSMITTERS

All the registered transmitters can be viewed here. Saved with the actual transmitter address (**address**) and the relevant **index** (e.g. rocker ID, (wall sensor rocker)) are also the **EEP** (EnOcean equipment profile), the output to be connected and the Easyclick Plus **function** and **mode**.

Living room lighting
Transmitter:
1/32
Address:
0015A867
Address index:
01
EEP:
F6-02-02
Output:
1
Function:
1
Mode:
1
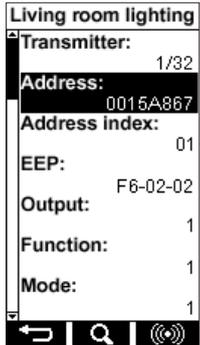
= Back to the Selection menu.

If a modification is carried out, a security question will appear:

Living room lighting

Save
changes?

X = Changes were not accepted, back to the Menu

(((•))) = OK and transfer changes to the receivers

Use the **Q** button to search a transmitter or add a new transmitter.

Living room lighting

Search / Teach
transmitter.

Press (LRN) button
on transmitter.
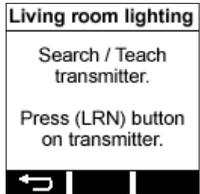
If more than 32 transmitters are to be configured, the following error message is displayed:

Living room lighting

New transmitter
detected.

All transmitter slots
are occupied!
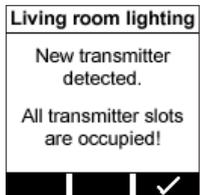
After a change, the information is transferred to the receiver using the (((•))) button.

Click to modify the transmitter address. The following is then displayed:

Living room lighting

Transmitter address
02468ACF

X = Cancel and back
del. = Delete transmitter in the receiver
✓ = Accept new address

ENERGY / HOUR

This enables users to read the current values (**actual value**) for a specific output (**output**) for the on period and the total consumption in KWh. "**Last change**" shows when the values were last changed manually. If Yes is selected for "**Set energy**" and "**Set hours**", users can reset both the hours and the consumption, and set any value entered under **"Value"**.

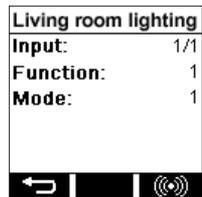| Living room lighting	
Output:	1/1
Actual value:	
	1256 kWh
	3465 h
Last change:	
11.11.2013, 10:40	
Set energy:	Yes
Set hours:	Yes
Value:	
	0 kWh
	0 h
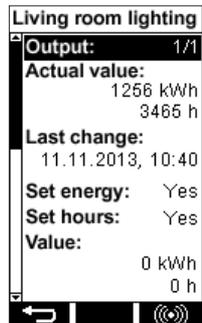
= Back to the Selection menu

= OK and transfer changes to the receivers

If there is no measurement chip (energy measurement) in the receiver, the following information appears on the display:

Living room lighting

No value available !

= Back to the Selection menu

INPUTS

The submenu enables users to modify and view the Easyclick Plus function and mode of an external input, e.g. with the AST devices (type D 45x ….or similar, and adapter D 45x1 FU-EBIM, etc.)

Living room lighting	
Input:	1/1
Function:	1
Mode:	1

= Back to the Selection menu

= OK and transfer changes to the receivers

If no AST devices are available, the following display appears:

Living room lighting

No inputs available !

OUTPUTS

All the information on the **Output** selected is displayed here:

= Back to the Selection menu

= OK and transfer changes to the receivers

4BS address (radio address for the "4BS" telegram with the associated **EEP**)
VLD address (radio address for the "VLD" telegram with associated **EEP**)
The "**Initial state**" (default of memory, pre-set status after voltage recovery) can also be modified,
e.g. so that the output is always switched on following a power failure.

REPEATER

The setting (level) of the internal repeater function may be viewed and modified here.

= Back to the Selection menu

= OK and transfer changes to the receivers

PARAMETERS

Each receiver may have a different number of internal parameters, which can be modified individually. For example, if the switch receiver is able to adjust the brightness values that are transmitted from a motion detector with a brightness sensor. With "LUX user enable", users can determine whether the brightness value should be adjusted (true) or not (false). With "LUX value", users can enter the new brightness value from which the system should be switched. By default, a value is specified by the function (e.g. semi or fully automatic with 125 lx).

= Back to the Selection menu

= OK and transfer changes to the receivers

As a different example, all weather thresholds for the sensor system can be easily adapted to the roller shutter module. If there are no parameters in the relevant receiver, the following display appears:
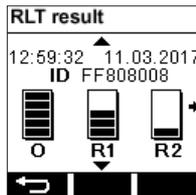
RADIOLINKTEST

This radio range test is carried out in exactly the same way as in the EnOcean Service menu (see Section 3), except that this test is carried out automatically, with no master-slave configuration required. Display during the test:
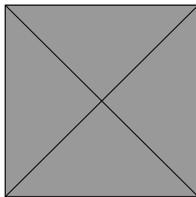

= Back to the Selection menu

The result is displayed once the test has been completed (RLT result):

FACTORY SETTINGS

Here, operators can use the Remote Management of the receiver to reset to "***Factory settings***". All the modified parameters and transmitter data are deleted accordingly.

= Back to the Selection menu

= OK and transfer changes to the receivers

NEW OR EXISTING SYSTEMS

• Check the environment around the system for changes that may cause disturbances
(e.g. metal cupboards, furniture or walls that have been moved).
• If transmitters/receivers are operating at a reduced distance, they are subject to disturbance or used
outside the transmission range.
• Replace the battery of the handheld transmitter.

AUTO-SWITCHING OF THE RECEIVER

• The cause may be the actuation of a transmitter, which has been configured to the receiver at random.
• Deletion of all transmitters and reprogramming.

RANGE RESTRICTION

• The handheld transmitter is being used near to metal objects or materials containing metal parts.
NOTE: Maintain a minimum distance of 10 cm.
• Moisture in materials.
• Devices that emit high-frequency signals, e.g. audio and video systems, computers, EBs (electronic ballast) for lamps.
NOTE: Maintain a minimum distance of 0.5 m.

CONTACT

Telephone:............ +49 (0) 2353 9118-001
Fax: .... +49 (0) 2353 9118-311
Website: .... www.peha.de
Email:.................... peha@peha.de

DISPOSAL OF THE DEVICE

Do not dispose of used devices with the normal household waste! The legislation and standards for the disposal of the device in the relevant country where the device is operated must be observed! The device contains electrical components that must be disposed of as electronic waste. The device housing is made of recyclable plastic.

CORRECT DISPOSAL OF THE BATTERY

The labelling on the batteries and the documentation indicates that the batteries must not be disposed of with normal household waste!

Batteries that are not disposed of in the correct way may damage human health and cause pollution. After use, batteries must be separated from other waste and disposed of, e.g. free of charge via the retailer or municipal collection points.

COMPATIBILITY

The handheld transmitter is delivered with the new firmware version V2.x. This is not compatible with handheld transmitters programmed with the old firmware version V1.x. Older projects created with the firmware V1.x can therefore not be edited with this handheld transmitter. Likewise, an old system programmed with firmware version V1.x cannot be programmed with this handheld transmitter. This system may have to be reprogrammed.

WARRANTY CONDITIONS

These operating instructions form part of the device and the warranty. They must be supplied to the user. The technical design of the device is subject to change without prior notice. PEHA products are manufactured with state-of-the-art technologies according to applicable national and international regulations and are tested for quality. Should a fault nevertheless arise, PEHA shall assume responsibility for rectifying the fault without prejudice to the claims of the end consumer under the purchase agreement with his/her retailer, as follows:

In the event of a justified and duly asserted claim, PEHA will, at its discretion, rectify the fault on the device or supply a device that is free of faults. Any additional claims and compensation for consequential damages are excluded. A legitimate fault exists if the device is unusable or its usability is considerably impaired owing to a design, production or material fault when it is delivered to the end user. The warranty does not apply in cases of natural wear and tear, improper use, incorrect connection, tampering with the device or external influence. The claims period is 24 months from the purchase of the device by the end user from a retailer, and shall end no later than 36 months after the manufacture date of the device. The processing of warranty claims shall be governed by German law.

DECLARATION OF CONFORMITY

PEHA products may be sold and marketed in EU countries, CH, IS and N. PEHA hereby declares that the handheld transmitter (450 FU-HS128) complies with the essential requirements and relevant provisions of R&TTE Directive 1999/5/EC. The declaration of conformity is available online at: www.peha.de