

Table of Contents

	page
1 Applications and functions	3
1.1 LED – light-emitting diode	3
2 Installation instructions	4
2.1 Configuring I/O Extender™	5
2.2 Setting up an I/O Extender™ relay output.	8
2.3 Setting up an I/O Extender™ input	9
3 Trouble shooting	11
4 Technical specifications	12
5 Package and CD-ROM contents	13
6 Guarantee conditions and guarantee certificate	14

1 Applications and functions

The I/O Extender™ is an Input/Output extender, meaning a unit to increase the number of inputs and outputs in a WEB•HOME™ system. The WEB•HOME™ gateway has only one input and one output. The I/O Extender™ adds 3 more of each. So you would have a total of 4 inputs and 4 outputs by adding one I/O Extender™.

You can add up to 5 I/O Extender™ devices to one WEB•HOME™ system, giving you a total of 16 inputs and 16 outputs. The relay outputs on the I/O Extender™ unit can for example be used to control a water heater. They are 230 Volt_{AC}, 2A.

The inputs on the I/O Extender™ unit can be used for connecting a temperature sensor or for instance a burglar alarm or any other digital input. Of the 3 inputs, 2 are configurable:

- Temperature -20°C – 70°C (DEVI NTC floor sensor)
- Digital (0-5VDC)

The 2 configurable inputs are hardware wise prepared for meter reading.

1.1 LED - light-emitting diode

On the front of the I/O Extender™ a two colour LED is in the upper right hand corner. It shows the state of the unit.:

Colour	State
green	Hardware OK and communication on devibus OK
green flash	Flash in step with communication with the WEB•HOME™ gateway
orange	Hardware OK but no communication on devibus within last 2 minutes
red flash	Fail safe – Hardware OK, but no communication on devibus within last 10 minutes
red	Hardware error

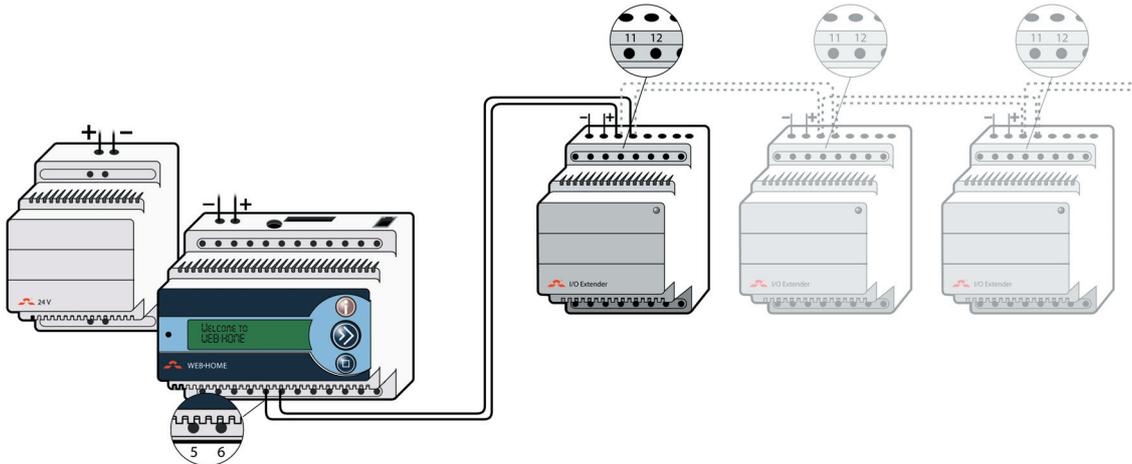
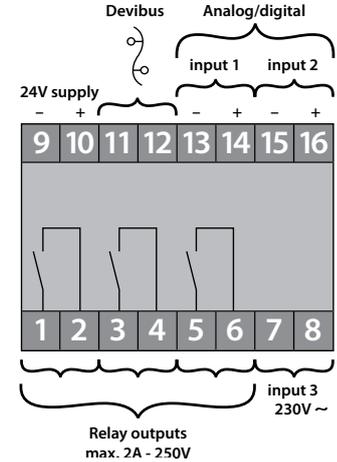
The LED-indication can be overruled through the Devicom Configurator Tool by marking the flash LED check box, it will flash orange. This feature is intended to be used when installing more than one I/O Extender™ in one WEB•HOME™ system. You can easily identify the respective devices in this way.

2 Installation instructions

The I/O Extender can be placed in the electrical cabinet close to the WEB•HOME™ gateway, or maybe in the other end of the house near its applications, e.g. the electrical installations of the pool. The I/O Extender™ can use the same power supply unit (PSU) as supplies the WEB•HOME™ gateway or a 24V PSU of its own.
On the I/O Extender™ connect terminal points 9 and 10 to the PSU.

! Please ensure correct polarity (9 is ÷ and 10 is +).

If the system is powered on, the LED on the front of the I/O Extender™ will flash red.
Now connect the devibus from I/O Extender™ to the WEB•HOME™ gateway, terminal points 11 and 12 to points 5 and 6 on the gateway.
In less than 30 seconds, the LED on the I/O Extender™ will light green. (it will actually flash in step with communication with the gateway on devibus)



2.1 Configuring I/O Extender™

Connect laptop computer to the WEB•HOME™ gateway

1. Switch off your laptop computer and the WEB•HOME™ and the I/O Extender™ unit.
2. Insert computer cable into the computer socket on the WEB•HOME™ unit.
3. Insert computer cable into serial port input on the laptop computer. If your laptop computer has no serial port input, use a serial-to-USB converter that can be ordered separately (contact Support - see page 11)

Now turn on your PC and install the Devicom Configurator Tool program from the supplied cd-rom.

Please see the installation instruction for WEB•HOME™, it is in a pdf file on the supplied cd-rom.

Open Devicom™ configurator.

Click the Devicom™ configurator icon on the desktop.



Then the Devicom™ configurator window will be displayed.

Choose a language for Devicom™ configurator by clicking the flag and select a language.

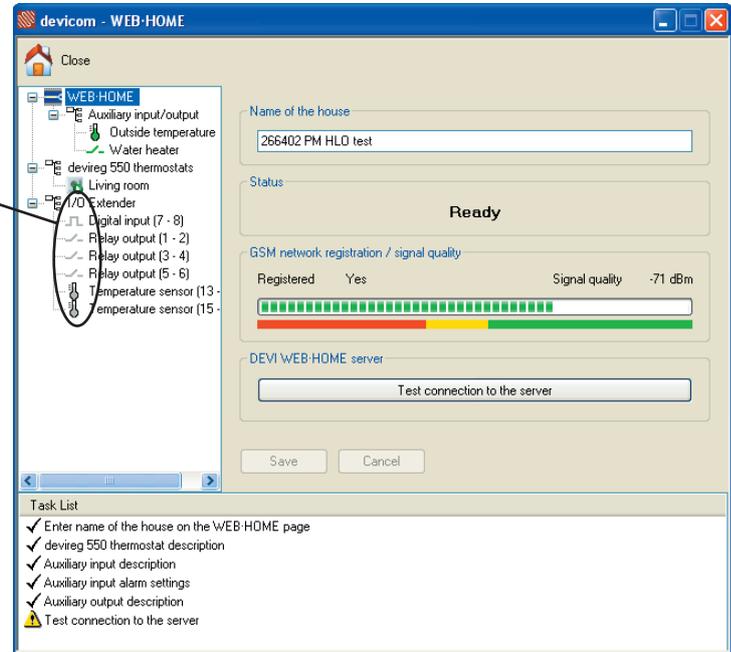
Click Open to begin configuration of your WEB•HOME™ system.



When starting the Devicom Configurator Tool you see this:

The new I/O Extender™ unit is now visible in the system tree view in the left hand side. All icons on the I/O Extender™ are grey, as they have not been enabled yet.

You can connect 5 I/O Extender™ units per WEB•HOME™ gateway. You add them parallel coupled on devibus. They would sit below each other at the bottom in the tree. If not please see trouble shoot section on page 11.



When you mark the I/O Extender™ you see this:

Explanation to the fields:

Information

devibus status: status of communication on devibus
devibus quality: communication quality with the gateway. It should be at least 80% other contact technical support

Device

Overview picture with terminal points and the names used for each of these. The names of the 3 inputs and the 3 outputs can be changed by the installer/user, see below.

The screenshot shows the 'devicom - WEB-HOME' interface. On the left, a tree view shows the configuration structure: WEB-HOME > Auxiliary input/output > Outside temperature, Water heater, devireg 550 thermostats > Living room > I/O Extender. The 'I/O Extender' is selected, showing its configuration details on the right.

Information

devibus status: OK
devibus quality: 100 %

Device

Flash LED:

Terminal	Description
1 - 2	Relay output
3 - 4	Relay output
5 - 6	Relay output
7 - 8	Digital input
9	0 V DC
10	18-24 V DC
11 - 12	devinet
13 - 14	Temperature sensor
15 - 16	Temperature sensor

Task List

- ✓ Enter name of the house on the WEB HOME page
- ✓ devireg 550 thermostat description
- ✓ Auxiliary input description
- ✓ Auxiliary input alarm settings
- ✓ Auxiliary output description
- ⚠ Test connection to the server

2.2 Setting up an I/O Extender™ relay output

You mark the specific relay output. Terminal points are indicated after names, eg. Relay output (1-2)

General

Enabled: is this output enabled (seen on the web) or not in use. When enabled the icon becomes green

Description: the name it will be known as on the web and in the overview.

Output

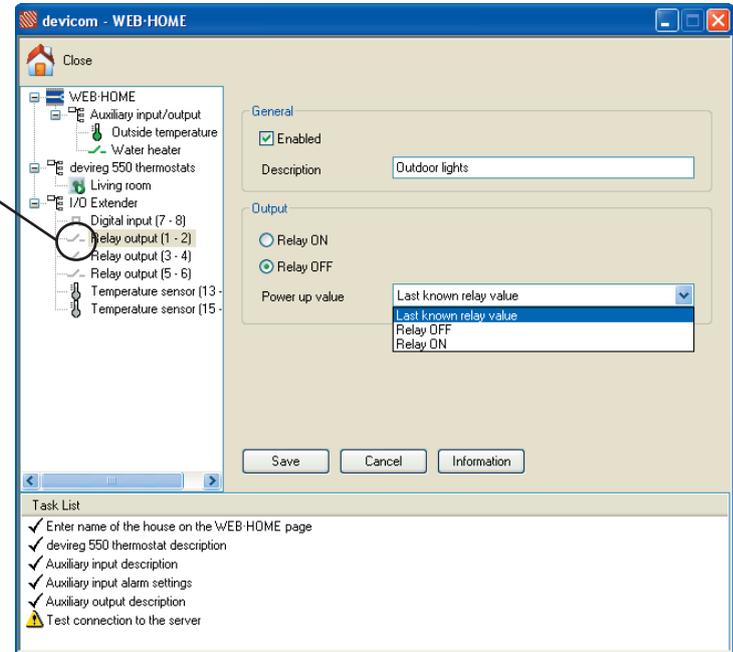
Relay ON or OFF

Power up value: In lack of communication with the gateway (e.g. at power on), what setting should the relay assume:

- Last known value,
- Relay OFF, or
- Relay ON.

Remember to save your changes.

Please notice that the reaction times on the outputs of the I/O Extender™ are somewhat longer than on the built-in gateway output. The time increases as more I/O Extender™ units are added to the system.



2.3 Setting up an I/O Extender™ input

There are 3 inputs. 2 low voltage (that can be setup to interface digitally or to a DEVI floor temperature sensor) and 1 digital high voltage (230V)

General

Enabled: is this input enabled (seen on the web) or not in use. When enabled the icon becomes green
Description: the name it will be known as on the web and in the overview.

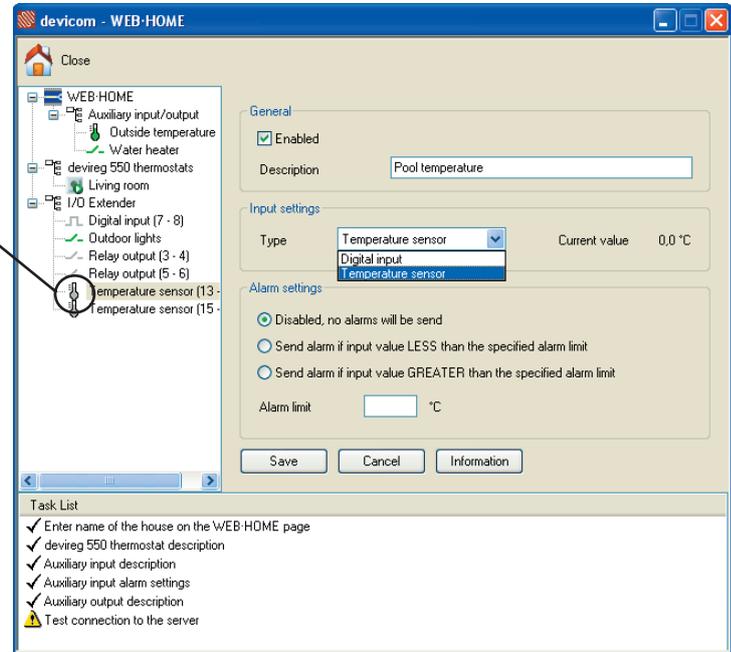
Input settings

Type: digital input or a DEVI floor temperature sensor

Alarm settings

You set the type of alarm you would like.

Remember to save your changes.



This shows the overview with the changed names

The screenshot displays the 'devicom - WEB-HOME' web interface. On the left, a tree view shows the following structure:

- WEB-HOME
 - Auxiliary input/output
 - Outside temperature
 - Water heater
 - devireg 550 thermostats
 - Living room
 - I/O Extender
 - Burglar alarm
 - Outdoor lights
 - Pool dehumidifier
 - Pool temperature
 - Pool water heater
 - Water leak alarm

The main area is divided into sections:

- Information:** Shows 'devibus status' as 'OK' and 'devibus quality' as '100 %'.
- Device:** Features a terminal block diagram and a table. A 'Flash LED' checkbox is present but unchecked.

Terminal	Description
1 - 2	Outdoor lights
3 - 4	Pool dehumidifier
5 - 6	Pool water heater
7 - 8	Burglar alarm
9	0 V DC
10	18-24 V DC
11 - 12	devinet
13 - 14	Pool temperature
15 - 16	Water leak alarm

At the bottom, a 'Task List' section contains the following items:

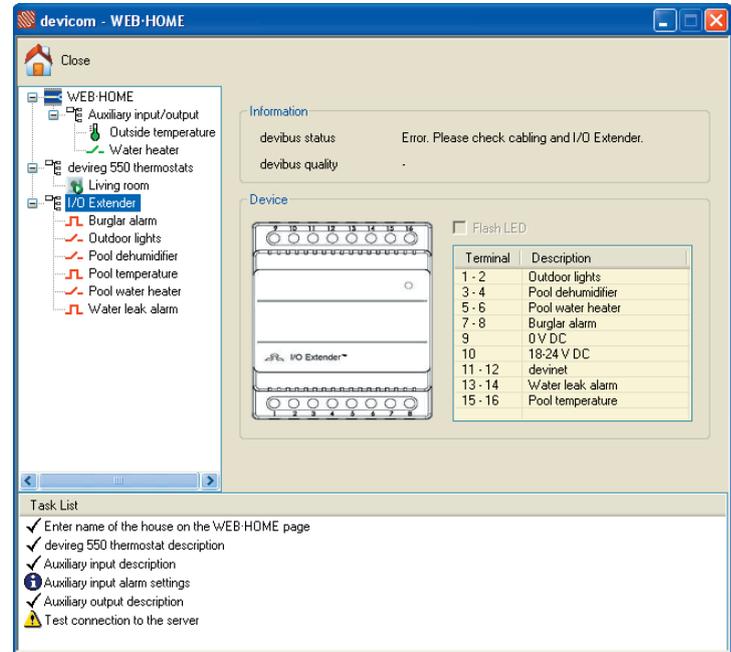
- ✓ Enter name of the house on the WEB-HOME page
- ✓ devireg 550 thermostat description
- ✓ Auxiliary input description
- ⓘ Auxiliary input alarm settings
- ✓ Auxiliary output description
- ⚠ Test connection to the server

3 Troubleshooting

If the communication between the I/O Extender™ and the WEB•HOME™ gateway is lost, all icons in the Devicom Configurator Tool for the “lost” unit turn red.

Support

If you need support for I/O Extender™ please contact:
DEVI A/S, Sales Denmark
Boedkervej 8, Vinding
DK-7100 Vejle
Phone: +45 75 85 85 85
E-mail: mail@devi.dk



The screenshot shows the 'devicom - WEB-HOME' window. The left sidebar shows a tree view with 'I/O Extender' selected. The main area displays an error message: 'Error: Please check cabling and I/O Extender.' Below this, there is a 'Device' section with a terminal block diagram and a 'Flash LED' checkbox. A 'Task List' at the bottom shows several tasks, with the last one, 'Test connection to the server', marked with a warning icon.

Information

devibus status Error: Please check cabling and I/O Extender.
devibus quality -

Device

Flash LED

Terminal	Description
1 - 2	Outdoor lights
3 - 4	Pool dehumidifier
5 - 6	Pool water heater
7 - 8	Burglar alarm
9	0 V DC
10	18-24 V DC
11 - 12	devinet
13 - 14	Water leak alarm
15 - 16	Pool temperature

Task List

- ✓ Enter name of the house on the WEB HOME page
- ✓ devireg 550 thermostat description
- ✓ Auxiliary input description
- ⓘ Auxiliary input alarm settings
- ✓ Auxiliary output description
- ⚠ Test connection to the server

4 Technical specifications

Operation voltage	24 VDC \pm 10%
Power consumption	< 1W
Relays: <ul style="list-style-type: none">• Resistive load• Inductive load	2A $\cos \varphi = 0.3$ Max. 1A
IP Class	20
Ambient temperature	-10 – 55°C
Size D/H/W	53/86/70

Package contents

The package contains the following:

- I/O Extender™
- I/O Extender™ Installation and User Instruction
- Programming cable (for use when installing)
- Sensor cable, 3 meters, 15 K Ω (use this for e.g. outdoor temperature monitoring)
- CD-ROM

CD-ROM contents

On the enclosed cd-rom you find the following:

- Devicom Configurator Tool installer
- WEB•HOME™ flash demo
- WEB•HOME™ installation manual in .pdf format
- I/O Extender™ Installation and User Instruction in .pdf format

You have purchased a DEVI™ heating system which we are sure will serve to improve the comfort and economy of your home.

DEVI™ provides a complete heating solution with deviflex™ heating cables or devimat™ heating mats, Devireg™ thermostats and devifast™ fixing strips. Should you, against all expectations, experience a problem with your DEVI™ heating system, you will find that DEVI™, whose products are manufactured in Denmark and sold throughout the European Union, is subject to the standard regulations pertaining to product liability as specified in EU directive 85/374/CEE as well as all applicable legislation in the individual countries on the following conditions:

DEVI™ offers a 10-year guarantee on all deviflex™ heating cables and devimat™ heating mats, and a 2-year guarantee against material defects and production defects in connection with any other DEVI™ products.

The guarantee shall be valid only if the GUARANTEE CERTIFICATE is completed correctly and in accordance with the instructions, and provided the fault is inspected by or submitted to DEVI™ or an authorised DEVI™ dealer.

Please note that the GUARANTEE CERTIFICATE must be completed in English or local language.

DEVI™ shall undertake any repair free of charge or supply the customer with a new unit. Repairs shall be carried out at no further cost to the customer. In the case of faulty Devireg™ thermostats, DEVI™ reserves the right to repair the unit free of charge and without any unreasonable delays for the customer.

The DEVI™ Guarantee shall not cover installations that have been carried out by non-authorised electricians, faults which arise as a result of misuse by other suppliers, damage caused by third parties, incorrect installations or consequential damage. All work will be invoiced in full if DEVI™ is required to inspect or repair faults that have arisen as a result of any of the above.

The DEVI™ Guarantee shall not extend to equipment which has not been paid in full.

DEVI™ will, at all times, provide a rapid, effective and honest response to all queries and reasonable demands from our customers.

The above guarantee covers product liability only, while purchases are subject to national legislation.

Name: _____

Address: _____

Postal code: _____

Phone: _____

Please note:

In order to obtain the DEVI Guarantee, the following must be carefully filled in!

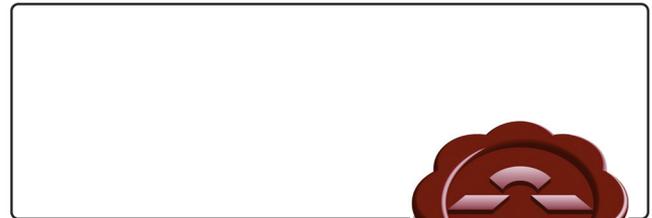
<< See other conditions.

Electric installation by: _____

Installation date: _____

Phone: _____

Production code: _____



DEVI A/S

Boedkervej 8, Vinding

DK-7100 Vejle

Phone: +45 75 85 85 85

Fax: +45 75 85 71 10

www.devi.com

