easyParameter App

EAT•N

Powering Business Worldwide

All proprietary names and product designations are brand names or trademarks registered to the relevant title holders.

Break-Down Service

Please contact your local office:

http://www.eaton.eu/aftersales

or

Hotline After Sales Service:

+49 (0) 180 5 223822 (de, en)

AfterSalesEGBonn@eaton.com

Original manual
This document was originally written in German.

Publication date 11/13
2nd release date 07/14

Danger!
Dangerous electrical voltage!

Before commencing the installation

- Disconnect the power supply of the device.

- Ensure that devices cannot be accidentally retriggered

- Verify isolation from the supply

- Earth and short-circuit.

- Cover or enclose neighbouring units that are live.

- Follow the engineering instructions (AWA/IL) of the device concerned.

- Only suitably qualified personnel in accordance with EN 50 110-1/-2 (VDE 0105 Part 100) may work on this device/ system.

- Before installation and before touching the device ensure that you are free of electrostatic charge.

- The functional earth (FE) must be connected to the protective earth (PE) or to the potential equalizing. The system installer is responsible for implementing this connection.

- Connecting cables and signal lines should be installed so that inductive or capacitive interference do not impair the automation functions.

- Install automation devices and related operating elements in such a way that they are well protected against unintentional operation.

- Suitable safety hardware and software measures should be implemented for the I/O interface so that a line or wire breakage on the signal side does not result in undefined states in the automation device.

- Ensure a reliable electrical isolation of the low voltage for the 24 V supply. Only use power supply units complying with IEC 60 364-4-41 (VDE 0100 Part 410) or HD 384.4.41 S2.

- Deviations of the mains voltage from the rated value must not exceed the tolerance limits given in the specifications, otherwise this may cause malfunction and dangerous operation.

- Emergency switching off devices complying with IEC/EN 60 204-1 must be effective in all operating modes of the automation devices. Unlatching the emergency switching off devices must not cause restart.

- Built-in devices for enclosures or cabinets must only be run and operated in an installed state, desk-top devices or portable devices only when the housing is closed.

- Measures should be taken to ensure the proper restart of programs interrupted after a voltage dip or failure. This should not cause dangerous operating states even for a short time. If necessary, emergency switching off devices should be implemented.

- Wherever faults in the automation system may cause damage to persons or property, external measures must be implemented to ensure a safe operating state in the event of a fault or malfunction (for example, by means of separate limit switches, mechanical interlocks, etc.).

Content

0 About this Manual

This manual explains how to use the easyParameter App.

This manual is also available in other languages. To find the version you want, please visit http://www.eaton.eu/easy and open the Documentation tab.

0.1 List of revisions

Compared to the previous issues, the following significant changes:

Edition date	Page	Description	New	Modifica-tion
11/13		New release	✓	
07/14	various	details to bluetooth adapter easy800 BLT-ADP 04 added Coupling method for bluetooth 2.1 (Secure Simple Pairing)	✓	

0.2 Target group

This manual as a whole is intended for electrical engineering technicians and specialists, as well as for the individuals in charge of the corresponding on-site electrical installation, in their role as the people responsible for creating the configuration files for communicating with the Eaton control relay through an Android device.

The chapter explaining how to use the easyParameter App is intended for easyParameter Appusers who will be on site and who will be working with the Eaton control relay.

0.3 Exclusion of liability

All the information in this manual has been prepared to the best of our knowledge and in accordance with the state of the art. However, this does not exclude the possibility of there being errors or inaccuracies. We assume no liability for the correctness and completeness of this information. In particular, this information does not guarantee any particular properties.

Do not use the easyParameter App before reading and understanding this manual.
Users are required to be thoroughly familiar with the manuals for the Eaton control relay being used and for the Bluetooth adapter.

Hazards posed by the easyParameter App cannot be eliminated if the corresponding safety instructions are not followed. This is particularly true of cases in which insufficiently qualified personnel creates the configuration files or in which said files are used improperly. Eaton assumes no liability for any damages resulting from cases such as these.

0.4 Device designations and abbreviations

The following general terms are used throughout this manual:

Eaton control relay
Refers to both easy800 standard and MFD-Titan.

- easy800 standard
  - EASY819-…, EASY820-…, EASY821-…, EASY822-…
- MFD-Titan
  - MFD-CP8-ME, MFD-CP8-NT
  - MFD-CP10-ME and MFD-CP10-NT, device version 03-xxxxxxxxxxxx or higher

Bluetooth adapter
Refers to the easy800-BLT-ADP Eaton Bluetooth adapter.

Android devices
Refers to standard smartphones and tablets from well-known manufacturers.

0.5 Writing conventions

Symbols used in this manual have the following meanings:

> **DANGER**
>
> Warns of hazardous situations that result in serious injury or death.

> **CAUTION**
>
> Warns of the possibility of hazardous situations that may possibly cause slight injury.

> *NOTICE*
> Warns about the possibility of material damage.

→ Indicates useful tips.

▶ Indicates instructions to be followed.

Table 1:   Format conventions used throughout this manual

Award	Meaning
Bold text	Used for all graphical user interface elements
`Monospaced text`	Used for all elements at the file level
„Text"	Used for the button labels in easyApps
Menu path\submenu\...\item	Path information for software windows and menu pages
Menu/command	Used for commands found in the menu bar's menus
<name>	Angle brackets are used to indicate variable values that you must replace with your own values

For greater clarity, the name of the current chapter and the name of the current section are shown at the top of each page.

1 General Description

The easyParameter App can be used to effortlessly create custom user interfaces for controlling machines and systems.

- The easyParameter App for Eaton control relays makes it even easier to operate machines and systems while also making things more convenient
- The easyParameter App for standard smartphones/tablets (Android 2.2 and higher) with Bluetooth enables machine and system manufacturers to create their own user interfaces for controlling their equipment
- The custom user interfaces created with the app provide greater clarity and make it easier for users to control their systems. This reduces the risk of operating errors, increasing the machine's/system's availability as a result
- The easyParameter App features English, German, French, Dutch, Italian, Polish, and Spanish as language options. Other languages can also be used for the user interface

With the help of the app, the person creating the user interface can define which parameters should be accessible for reading or writing through the interface:

- Date/Time
- Function block process values and setpoints
- year time switch,
- weekly timer,
- Flag bit states

Please note that input and output states can only be read.

The app makes it possible to create user interfaces with various access rights for the corresponding machine or system.

Communication with the Eaton control relay being used is achieved with the corresponding Bluetooth adapter (EASY800-BLT-ADP). This adapter has a range of up to 10 m and features an eight-digit security PIN preventing unauthorized access to the control relay.

To download and install the app, users can simply visit www.play.google.com, where it will be available for download. Meanwhile, the required configuration tool can be downloaded at www.eaton.eu/easy. This tool is used to create the file for the user interface. During the creation process, the app user can define the following:

- The parameters that they want to read and write
- The names for individual values (cleartext in any language)
- The unit in which the values will be shown and the increments in which they will change; how high and how low the value's upper and lower limits will be respectively
- The password for access

With these options, machine and system manufacturers can generate up to 25 different interface pages with up to 250 elements.

The app user will need to use the configuration tool in order to generate a protected configuration file. This file then needs to be stored on their smartphone or tablet, in the …`Eaton\easyParameter App` folder.
Once the file is stored, the user will be able to open the easyParameter App on the Android device, import the desired configuration file, and connect to the Bluetooth adapter for the Eaton control relay being controlled.
After a connection is established, the appropriate user interface will be immediately shown on the display, allowing the user to operate the machine safely and conveniently through their mobile device.

1.1 Intended use

The easyParameter App is designed for Android devices and is intended to be used to read and write parameters from the circuits configured with easySoft-Pro, all without making any changes to the corresponding control relay's program.

1.2 Important notes and instructions concerning safety and operation

Users are required to be familiar with and understand how to operate the Eaton control relay being used.

The configuration file must be exclusively configured and created by an electrician who is familiar with the electrical installation on site.

DANGER

posed by accidental actuation!
Enabling the STOP / RUN signal will affect ongoing operation. This can result in faults in the process being controlled. The safety mechanisms being used on site must not be disabled when the STOP / RUN signal is enabled.

Function test

Before creating the configuration file, check to make sure that the easyParameter App can be used at the intended location of use.

Prerequisites for using the app

In order to be able to use the app, you need to be familiar with the use and features of your Android device, the computer, and Microsoft applications.

1.3 Getting Started
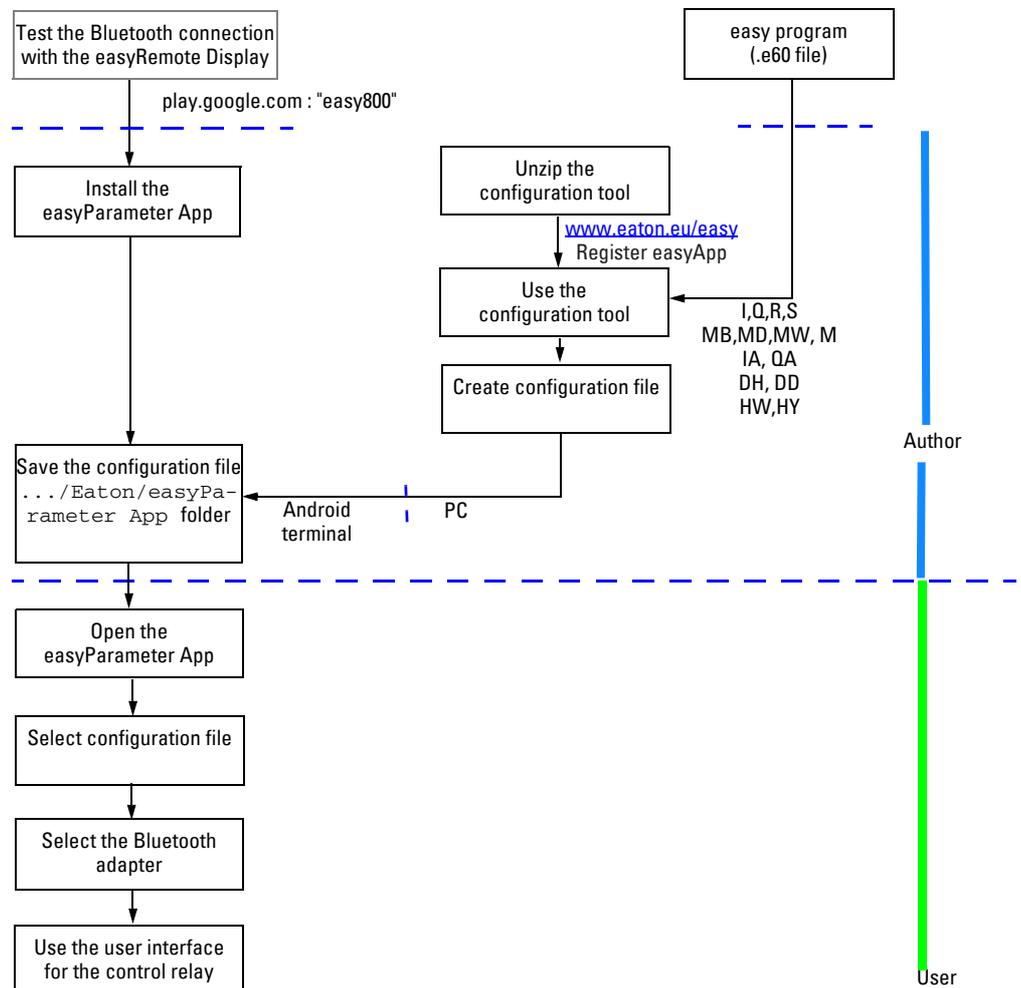
figure 1:   Getting Started

1.3.1 easyParameter App Quick Start

What do I need in order to be able to use the easyParameter App?

▶ An Eaton easy800 standard or MFD-Titan control relay

▶ Bluetooth adapter EASY800-BLT-ADP

▶ Information from the easy program (.e60 file)

▶ An Android terminal with Android version 2.2 or higher
The bluetooth adapter easy800 BLT-ADP 02, 03 supports devices with
version 2.0 bluetooth transmitter & receiver modules and easy800 BLT-
ADP 04 supports devices with version 2.1 bluetooth transmitter &
receiver modules

▶ Google Play Account

▶ The "easyParameter_Configuration_Vxx.xslm" configuration tool,
available for download at www.eaton.eu/easy → "easyApp" tab

▶ The easyParameter App,
available for download from the Google Play store play.google.com
(search: "easy800")

The configuration tool is used to create the user interface and save it in the form of a configuration file. This configuration file then needs to be imported into the easyParameter App, after which the user interface for the control relay can be shown via Bluetooth.

Configuration tool „easyParameter_Configuration_Vxx.xslm"

This tool generates the "<name>.xls" configuration files using the information from the circuit diagrams for the Eaton control relay programmed with the easy-soft-Pro control and programming program, version 6.91 or higher. The configuration tool is intended for the person who will be creating the configuration files for the easyParameter App users.

Configuration file „<name>.xls"

This configuration file is the compiled user interface meant for use with the easyParameter App. Each configuration file provides up to 250 elements that will be shown as a user interface on the easyParameter App on Android devices.

easyParameter App

The easyParameter App is used to display the user interface, i.e., this app is the viewer for the Eaton control relay parameters defined in the configuration file.
The easyParameter App is intended for the people who will be using the control relay.

What do I have to do in order to use the easyParameter App?

1. Run a successful connection test with the easyRemote Display App on site ➔ Section 2.2, Page 12
2. Download, unzip, and install the configuration tool ➔ Section 3.2, Page 22
3. Use the configuration tool to create the parameter pages for the easy program➔ Section 3.4, Page 36
4. Assign passwords to organize the various access rights for the machine/system ➔ Section 3.4.6, Page 39
5. Create and save the configuration file ➔ Section 3.4.7, Page 39
6. Download the easyParameter App from the Google Play store; install it and open it ➔ Section 2.3, Page 13
7. Store the configuration file on the Android device, in the...`Eaton/ easyParameter App` folder
8. Start easyParameter App ➔ Section 5.1, Page 41
9. Select the paired Bluetooth adapter ➔ Section 5.2, Page 42
10. Import configuration file ➔ Section 5.3, Page 43
11. Connect -
The display will show the user interface with the number and order of pages and elements configured in the configuration file

2 Installation

2.1 bluetooth adapter

2.1.1 Plug the Bluetooth adapter into the control relay
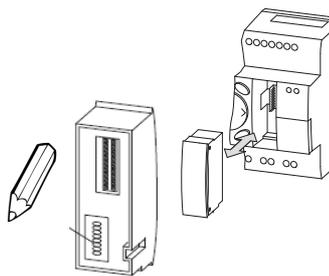
▶ In order to install the Bluetooth adapter 02 and 03:
Write down the PIN code so that you can enter it on the computer later on.
The code is located on the back of the Bluetooth adapter.
Follow the steps below in order to install the Bluetooth adapter:

▶ Plug the Bluetooth adapter into the Eaton control relay's serial interface.

→ MN04902002Z-EN
easy800-BLT-ADP Bluetooth adapter manual

→ The Bluetooth adapter will only be running if the Eaton control relay is switched on as well.

For coupling with the bluetooth adapter easy800 BLT-ADP 04 you only have a limited time window (60 sec.) available.
After the interval has elapsed to reactivate the time window the bluetooth adapter must be removed and pluged in again.

2.1.2 Pair the adapter with the Android device

▶ On your Android device, go to `Settings` and turn Bluetooth on.
▶ Run a `Search/Scan` for available Bluetooth devices.

→ You can access the following directly from the specified Eaton easy-Apps.
easyRemote Display App: **Bluetooth configuration**
easyParameter App: **Settings\Bluetooth configuration**

▶ Select your Bluetooth adapter from the list of `AVAILABLE DEVICES`.

▶ if applicable: Enter the corresponding 8-digit PIN code (easy800 BLT-ADP 02, 03).

▶ Tap on `OK` to pair the devices.

Your Bluetooth adapter will now be available for connection through Eaton's easyApps.

→ Repeat the pairing process for any other Bluetooth adapters that will be connected to the Android device.

2.2 Connection test with the easyRemote Display App

With the easyRemote Display App, you can use your Android device to easily and quickly access the control relay via Bluetooth.

The app makes it possible to quickly and easily display faults, enter setpoints, set a date and time, enter the password for the device, switch between operating modes, check the states of inputs/outputs, change the circuit diagram, and much more, just as though you had the control relay right in front of you.

▶1. Use your password to log in to the Google Play store. play.google.com
▶2. Once logged in to the store, search for "easy800".
▶3. Select the easyRemote Display App.
▶4. When the installation prompt is displayed, confirm that you want to install the app.

The app will be downloaded into an internal system directory on your Android device and will then be installed directly.
Once the app has been installed, you will be able to find it in your Android device's app list.

▶5. Pair your Android device with the Bluetooth adapter
　→ Section 2.1, Page 11
▶6. Open the easyRemote Display App.
▶7. Select the language you want as explained in
　→ Section 2.3.2, Page 14
▶8. Tap the "Find Devices" button to search for Eaton Bluetooth adapters within range.
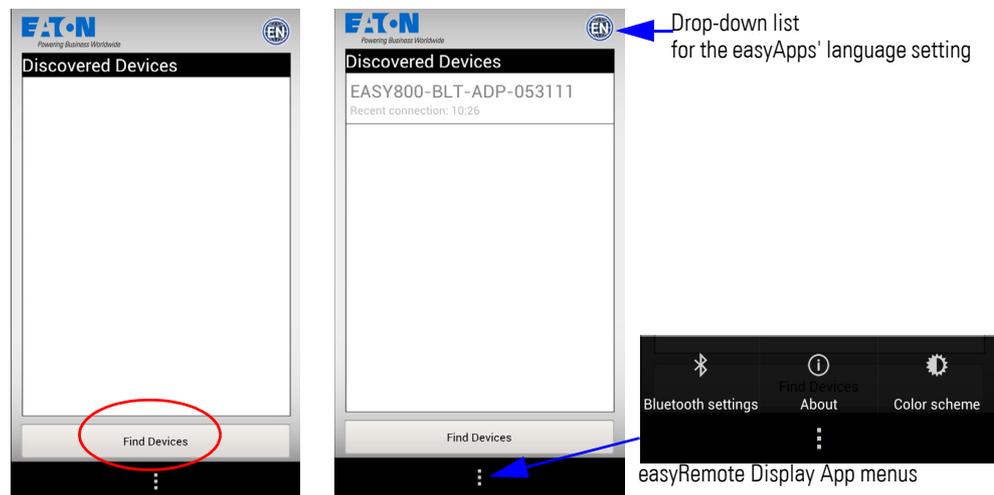

figure 2:　　Searching for Bluetooth adapters using the easyRemote Display App

→　Test whether the easyRemote Display App can establish a connection to the Bluetooth adapter at the on-site location where the easyParameter App will be used.

If the Bluetooth adapter is listed, this means that the test has been successful. If this is the case, you will be able to use the easyParameter App.

2.3 Install the easyParameter App

Prerequisite: A connection must have been successfully established on site

In order to be able to work with the app, you will first have to download it onto your Android device from the Google Play store.

▶1. Use your password to log in to the Google Play store. play.google.com
▶2. Once logged in to the store, search for "easy800".
▶3. Select the easyParameter App.
▶4. When the installation prompt is displayed, confirm that you want to install the app.

The app will be downloaded into an internal system directory on your Android device and will then be installed directly.
Once the app has been installed, you will be able to find it in your Android device's app list.

➔ **NEW ANDROID DEVICES**

Apps from the Google Play store are linked to your Google account and can be downloaded again if you use the same Google account.

2.3.1 Initial Setup

The easyParameter App uses an Eaton-specific folder structure that will be created automatically on your Android device the first time you open the app.

▶5. Select the easyParameter App from the app list on your Android device.

▶6. Open the easyParameter App.
The app's Start page will be displayed.
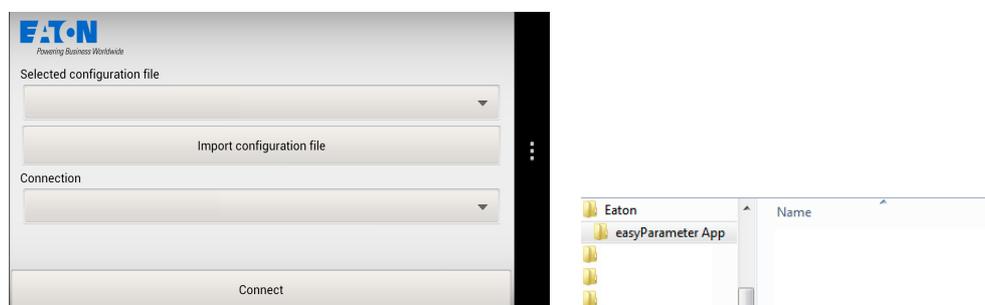
figure 3: easyParameter App Start page and generated folder structure

➔ The ...Eaton/easyParameter App folder will be created once in the root directory (e.g., "My Files").

2.3.2 Set the language you want for the easyParameter App

▶7. Open the app's main menu by tapping .
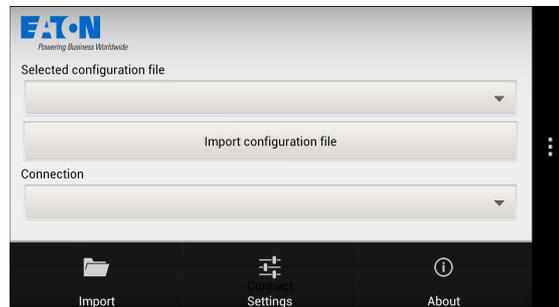
figure 4:   Main menu open

▶8. Open the "Settings" menu by tapping third .

▶9. Tap the language setting icon.
A selection menu will appear.
The radio button for the language currently selected will be enabled and have a different color.
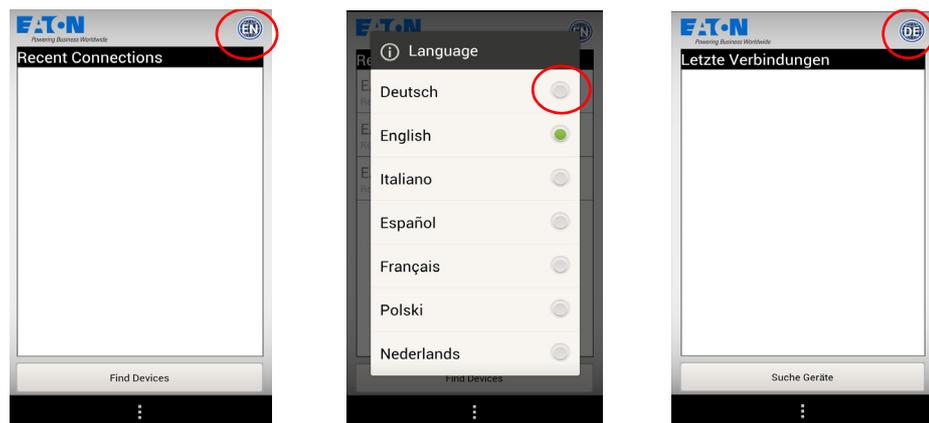
figure 5:   Switching the language from English to German

▶10.Select the language you want by tapping it.

The easyParameter App user interface will switch to the language you selected and the selection menu will be closed.

▶11.Close the app
    the way you normally close apps on your Android device.

This completes installation.

Before using the app, familiarize yourself with the
app's controls and menu pages by reading the following sections.

2.4 easyParameter App controls

Simply tap on the buttons, menus, and drop-down lists in order to activate them.
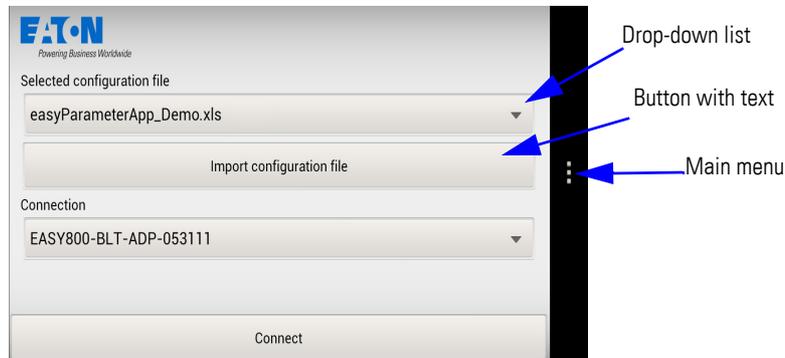
figure 6:   Start page with user interface and control relay already selected

→   Generally speaking, the easyParameter App will use your Android device's features. For example, the appearance of these buttons, e.g., "Back," will depend on the specific Android device you are using.

Button (with text)

The action on the button's label will be triggered when you tap the button.

Drop-down list

A selection menu will open when you tap the button.
The button's label will show the option that is currently selected.

Available drop-down lists include those:

- For selectable configuration files
- For connections to Eaton Bluetooth adapters
- For selecting numbers when setting a date and time

Context-sensitive controls

Input buttons and/or keypad

If the user interface requires you to enter an alphanumeric value, the keypad on your Android device will be displayed. The selected field containing the editable value, or the input field for characters and numbers, as the case may be, will be highlighted with a colored border.

Plus and minus buttons

If the values in question can be changed by increments, a small menu will be displayed. + will increase the corresponding value, while - will decrease it.

Indication elements

Selection highlighted in color/indicated with a colored icon, e.g., for selecting values and files

In order to indicate which item is selected, the corresponding text will be highlighted in color or will be indicated with a colored icon.
Tapping on a selection will activate it.

2.4.1 Icons in the easyParameter App

Main menu

Tap this button from the main menu in order to access the available menus.
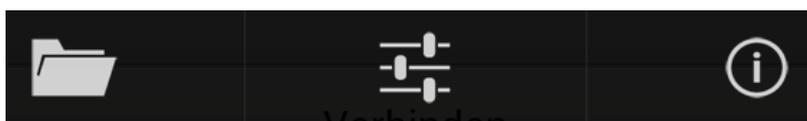
figure 7:   easyParameter App main menu

Import

Menu for importing the configuration files from the `...Eaton/easyParameter App` folder into the app.

About

easyParameter App "About" information

Settings

Shows the most recent connections to Eaton Bluetooth adapters. Additional menus are available in this menu.

figure 8:   "Settings" submenu

Start page

From the menu, tap this button to return to the easyParameter App Start page.

Bluetooth settings

Tapping this button will directly open the menu for configuring your Android device's Bluetooth.

→ Once you leave the Bluetooth configuration menu, you will be taken back to this menu.

Disconnect

This user interface menu button can be used to terminate the connection to the Eaton control relay.

2.5 easyParameter App menu pages

2.5.1 Start page

Shows the currently selected configuration file and Bluetooth adapter on the drop-down lists.
Can be used to import configuration files and establish a connection to the Eaton control relay.
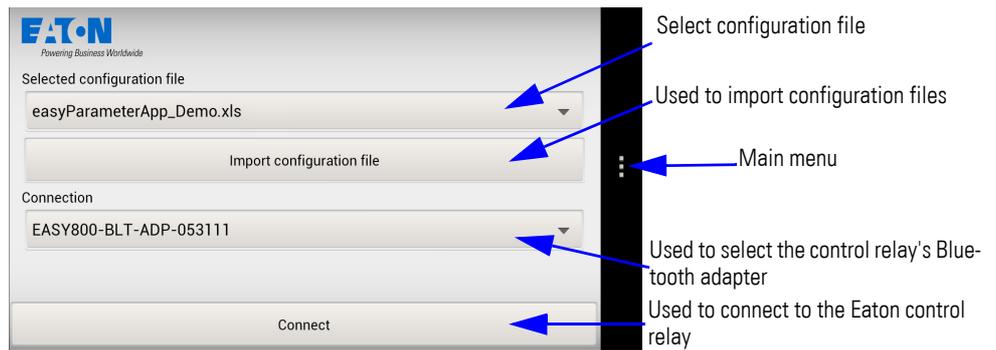
figure 9:   Start page with user interface and control relay already selected

2.5.2 Import

"Import" will show all configuration files stored as user interfaces in the ...Eaton/easyParameter App folder.
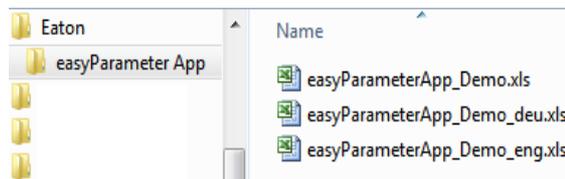
figure 10:   All configuration files stored in the generated folder

Tap the "Import configuration file" button to import the previously selected files into the easyParameter App drop-down list one by one.
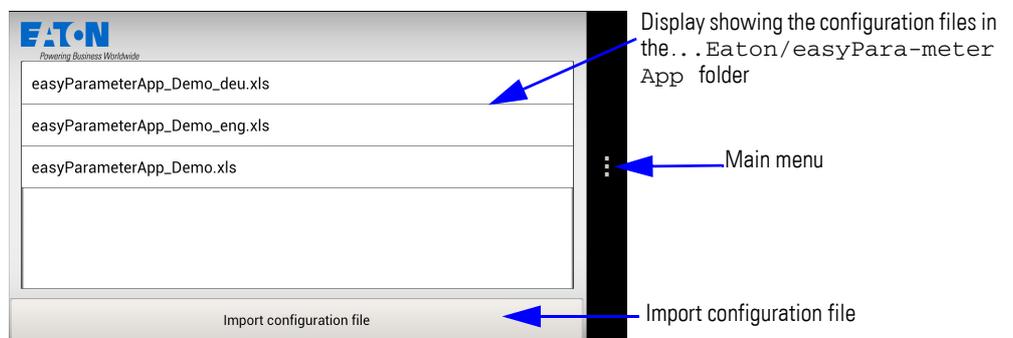
figure 11:   Import menu view showing the configuration files found in the generated folder

2.5.3 Systemsettings

The "Settings" menu can be used to display the most recent Bluetooth connections, set a language for the easyParameter App, and search for Bluetooth adapters again.
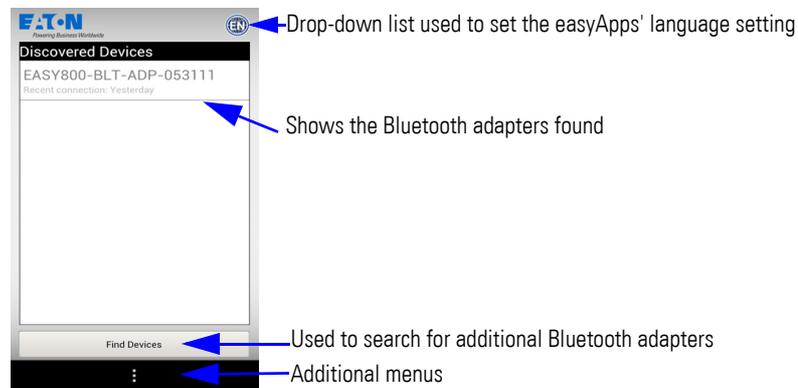
figure 12:   "Settings" menu view

Recent Connections

List of Bluetooth adapters found or paired.

"Find Devices" button

If the Bluetooth adapter you want is not listed, tap this button to run a search for additional Eaton Bluetooth adapters within range.
"Find Devices" works the same way as on the easyRemote Display App
→ Section 2.2, Page 12

Language setting drop-down list

Tap this button to show the languages available for the easyParameter App and select the one you want.

→ Section 2.3.2, Page 14

Additional menus

Bluetooth settings

If you have not paired the Bluetooth adapter you want yet, you can use the **Main menu\Bluetooth configuration** button to switch directly from this page to your Android device's Bluetooth settings .
→ Section 2.1.2, Page 11

Once you leave the Bluetooth configuration menu, you will be taken back to this menu.

2.5.4 About

Shows the "About" information for the easyParameter App. This information includes the easyParameter App version installed, as well as information regarding the app's maker.
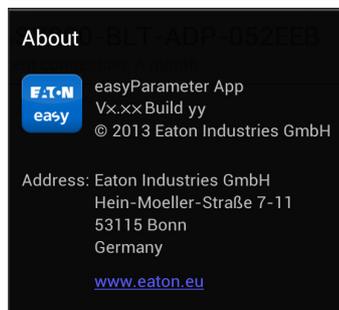
figure 13:   "Info" menu view

Shows the version installed on your Android device, as well as the app maker's address.

© 2013 Eaton Industries GmbH

Address: Eaton Industries GmbH Hein-Moeller-Straße 7-1153115 Bonn Germany

www.eaton.eu
Link to European website

2 Installation

2.5 easyParameter App menu pages

3 Create configuration file

3.1 General information regarding the configuration tool

The "easyParameter_Configuration_Vxx.xlsm" configuration tool uses the information from the circuit diagrams for the Eaton control relay - created with the easy-soft-Pro control and programming program, version 6.91 or higher - to generate the "<name>.xls" configuration files.

The configuration tool is intended for the person who will be creating the configuration files for the easyParameter App users.

The configuration tool is a write-protected Microsoft Excel macro-enabled workbook (.xlsm). When saved, a copy of the configuration tool file will be created in the same folder where the tool is stored. You can also click on the Microsoft Office button and use the "Save As" option to give the file a different name and choose where to save it.

➡ In order to edit a configuration file in Microsoft Excel, you will have to enable the macro's content.
The software provides digitally signed Eaton macros.
(see Excel Help: "Enable or disable macros in Office files").

➡ The easyParameter App will only work with plausible data. Check the circuit diagram for the control relay (easy-soft-Pro <name>.e60) and write down the operands, together with the corresponding operand numbers, that you want the user interface to display:
1. Numerical values (MB, MW, MD, IA, QA)
2. Bit arrays (I, Q, S, R, M, LED)
3. Year time switch, weekly timer, real-time clock

3.1.1 Prerequisites you must meet

▶ You must know which operands from the control relay program should be displayed, as well as the corresponding operand numbers.

➡ The person creating the configuration files must have Microsoft Excel for Windows, version 2007, 2010, or 2013, installed on their computer.

3.2 Download configuration tool

The configuration tool is available for download at www.eaton.eu/easy, under the easyApp tab.

The download package contains:

- The "easyParameter_Configuration_Vxx.xlsm" configuration tool
- The license text (end-user license agreement)

▶1. To download, visit www.eaton.eu/easy and select the easyApp tab.
▶2. Start the download
▶3. Unzip the downloaded package on your computer

3.3 Using the configuration tool on your computer

In order to make sure that you will be able to work efficiently with the configuration tool, start by familiarizing yourself with its various options.

Opening of a configuration file

You can open a saved configuration file using Windows Explorer, for example.
Once you enter the password into the password prompt (this prompt will not appear if a password has not been set), the configuration file will be opened without a start page.

➡ The configuration files are the actual user interface for the app. This is why generated configuration files are exclusively read-only so as to ensure that the user interface will always continue to work properly. In other words, these files can only be viewed, not edited.

Save configuration tool

To save the configuration tool (.xlsm) on your computer once you have modified it as necessary for your specific application, use Excel's Microsoft Office button/**Save** option. This way, you will be able to make changes to the tool or expand it as necessary later on.
The start page is only available in the configuration tool.

➡ You can save an existing configuration tool under a different name and edit it after doing so.

3.3.1 Description of configuration tool worksheet pages

3.3.1.1 Home
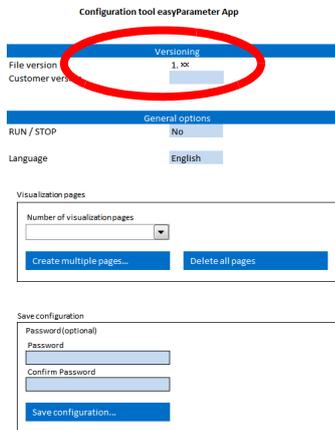
figure 14: Configuration tool Home page in Excel

This is the starting page where the configuration tool can be modified as necessary for your specific application.

The settings defined on the start page will apply to all configuration files generated with the configuration tool.

→ Fields highlighted in light colors are meant for making a selection or entering information.
To place the focus on one of these fields, simply click on it.
All the other fields are read-only.

Versioning

Used to identify the configuration tool

Configuration tool	Shows the Eaton software tool version ("easyParameter_Configuration_V**xx**.xslm")
Configuration file	Information entered by you for identification purposes Text field Numbers and characters are allowed

General options

Used to configure the basic settings for the configuration tool
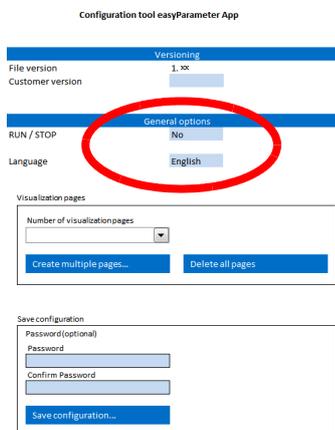
Enable STOP / RUN access	Used to define whether the user will be able to enable the STOP / RUN signal via the configuration file, enabling them to change the Eaton control relay's operating state.
	Selection field: No - Locked (default) Yes - Allowed

→ The user interface will require users to confirm every single operating mode change.

⚠ **DANGER**
posed by accidental actuation!
Enabling the STOP / RUN signal will affect ongoing operation. This can result in faults in the process being controlled. The safety mechanisms being used on site must not be disabled when the STOP / RUN signal is enabled.

Language	For the configuration tool. Used to set the user language for the configuration tool and any configuration files created with it. As of this writing, there are seven languages available. However, you can enter text in any language into the free-form text fields found throughout the tool.
	Selection field: German, English, Italian, Spanish, French, Polish, Dutch

When you make a selection, the tool interface will switch to the selected language immediately.

Parameter pages

Used to define the number and arrangement of the user interface's pages.

Configuration tool easyParameter App
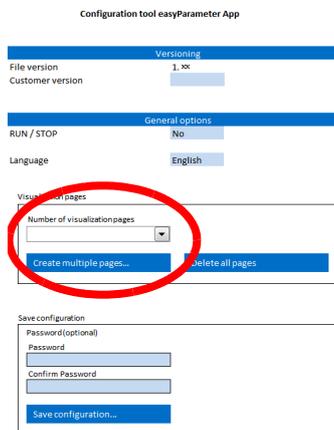
Number of parameter pages	Used to define how many pages should be created for the configuration file. This setting will later match the number of pages that can be swiped through to the right or left on the user interface. Up to 10 elements can be configured on each page. This means that a total of 250 elements can be visualized. Selection field: 1-25
Create multiple pages…	Inserts the selected number of parameter pages into the configuration file in the form of Microsoft Excel worksheets. Before each page is inserted, it will be preceded by a "Name for new parameter page?" prompt. The prompt window will appear a number of times equal to the number of selected parameter pages. Enter an individual name for the corresponding page. The name must not exceed 31 characters. "OK" – Inserts the parameter page at the end "Cancel" – Closes the prompt

→ Creating operand-specific or functional pages will make the user interface easier to use.
   For example: a real-time clock parameter page, a motor control parameter page, etc.

→ If you exceed the maximum name length, the name will not be used and the naming prompt will be shown again.
   Names that cannot be processed by Microsoft Excel will be converted into "Reference" and can be edited afterwards.

Delete all pages	Deletes all the parameter pages you have created. The "Home" page will not be deleted.

→ If you want to delete individual parameter pages, do so through Excel.

Configuration tool easyParameter App

Versioning
File version   1. XX
Customer version

General options
RUN / STOP   No

Language   English

Visualization pages

Number of visualization pages

Create multiple pages...   Delete all pages

Save configuration
Password (optional)
Password

Confirm Password

Save configuration

Configuration file

Used to save the parameter pages you have created in the form of a user interface

File protection (optional)

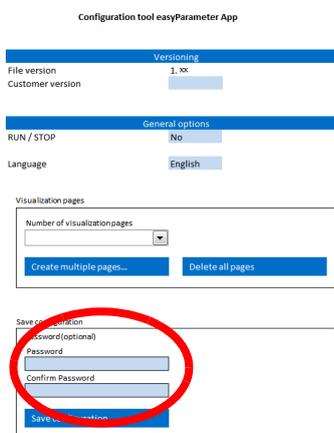→ The information in this section refers to the configuration files, not to the configuration tool.

The password makes it possible to create user interfaces with various access permissions for the corresponding machine or system.

Password	Used to set a password for the configuration file. Microsoft Excel will be used to encrypt the password. This password will be requested whenever the configuration file is imported and before establishing a connection to the Eaton control relay.
Confirm Password	Confirm the password you entered and press the Enter key when you are done. If the passwords are not identical, an error message will be shown.
Create configuration file...	Once you have configured the elements on the parameter pages you created, click on this button to generate the configuration file (.xls). Windows Explorer will open and you will be able to select a file name and a folder in which to save the file on your computer. The file type will automatically be "Excel 97-2003 Worksheet."

When you click on the "Create configuration file..." button, the Home page will be deleted from the file, the parameter pages will be prepared for display, and Excel's **Microsoft Office button\Save As** option will be run so that you can save the configuration file as <name>.xls.

The Home page with the "Versioning" and "General options" settings will not be part of the configuration file, meaning that it will be impossible to make changes to those settings once the file is generated. The reason why is that the configuration file can only be viewed, as it is the actual user interface. The configuration file will be saved as an Excel 97-2003 workbook.

3.3.1.2 Parameter page

figure 15: Configuration tool parameter page in Excel

General settings

For the user interface layout.

The settings configured under "Versioning" and "General options" on the Home page will be shown on the right side.

The general settings on the left side are not required for the app to work properly, but can be used to make the app easier to use.

If you leave these fields empty, the control page on the easyParameter App will not feature a header or a description, and the app will use black text on a white background.

Page text	Description text
	The text you enter here will be displayed by the easyParameter App at the top of the corresponding user interface page. This text should contain any useful information and instructions that the user will need in order to make proper use of the information on the user interface page.
	Multi-line text field
Background Color / Text color	Used to change the background/font color combination To enter the colors you want, enter them as RGB color model HEX values in order to change the user interface colors.
	Input field #HEX value Default setting (no colors defined): black text on a white background

→ If you define a background color, it will be used to separate the individual elements on the user interface page, providing for a clearer layout.

Black/White   Blue/White

The RGB (red/green/blue) color model is a system in which additive colors are converted directly into a numeric model that uses the following notation: #RedGreenBlue.

→ Additional information on RGB color values is readily available on the Internet, among other sources.

Selection of colors with HEX values

	"#008000"	green		"#ff00ff"	fuchsia
	"#0000ff"	blue		"#808080"	grey
	"#000080"	navy		"#ffffff"	white
	"#008080"	teal		"#000000"	black
	"#00ffff"	aqua		"#c0c0c0"	silver
	"#ff0000"	$$$$$red		"#808000"	olive
	"#800000"	maroon		"#ffff00"	yellow
	"#00ff00"	lime			

→ Make sure that there is sufficient contrast between the colors you choose.

10 elements will be created on each parameter page so that they can then be configured with available easyParameters.

Element 1…Element 10

Used to configure each parameter.

The exact same block is used for each of the 10 available elements.

Start by specifying which easyParameter you want to configure. Once you do this, you will be able to enter information and make selections in the remaining fields.
The parameter you select will determine which configuration options will be available.

→ Enter the required information for the relevant easyParameter from left to right.

easyParameter	Used to select an available easyParameter Time blocks: real-time clock, weekly timer, and year time switch; numerical values and bit arrays

Editable	Used to specify whether the easyParameter will be used as a display-only element or as an input field that can be used to change values on the user interface. Selection field No - Display-only Yes - Input field with "Send" button

→ If you choose to use the parameter as an input field, the "Send" button will automatically be displayed on the user interface so that the corresponding value can be transmitted to the control relay.

Net-ID	If multiple easy control relays are connected via easyNet, you will have to enter the ID number for the control relay you want here. If you are using the control relay as a stand-alone control relay, use a Net-ID of 0
	Selection field: 0Stand-alone 1-8Control relay ID number

Operand	Used to select the logic element or function block associated with the easyParameter. Selection field
	Timer modules: Real-time clock (DH time , DD date) Weekly timer and year time switch (HW, HY)
	Circuit diagram elements: Numerical values [MB, MW, MD, IA, QA] and bit arrays (inputs[I]/outputs[Q] and their extensions[R, S], as well as flags [M] and state indicators for the front LEDs in MFD relays)

Table 2:   Timer modules: All timer module can be used as display-only or input elements

Times	Operand		Display/Read	Input/Write
Real-time clock	DH	Time	✓	✓
	DD	Date	✓	✓
Weekly timer	HW	Week	✓	✓
Year time switch	HY	Year	✓	✓

Table 3:   Circuit diagram elements: All circuit diagram elements can be used as display-only elements. In addition, all circuit diagram elements, with the exception of inputs and outputs, can be used as input elements

Circuit diagram Elements	Operand		Display/Read	Input/Write
Numerical values	MB	Marker byte	✓	✓
	MW	Marker word	✓	✓
	MD	Marker double word	✓	✓
	IA	Analog input	✓	-
	QA	Analog Output	✓	-
Bit arrays	I	Input	✓	-
	q	Exit	✓	-
	R	Input expansion	✓	✓
	S	Output expansion	✓	✓
	M	Marker	✓	✓
	LED	Status indication	✓	✓

Operand number	Used to enter the operand number assigned to the circuit diagram element The selections available will depend on the operand selected when the circuit diagram was created.
	For example: Shown for flags R1 - 16, S1 - 8 in the easySoft-Pro circuit diagram

Details for easyParam-eter	The information shown will depend on the selected easyParameter and will make it possible to assign a proper value under "Value"
Value	Used to define the details for the easyParameter. Used, for example, to select a channel for time blocks; define whether synchronization will be used for the real-time clock; and define the unit of measurement, value range, and increments for numerical values

Description for easyPa-rameter	Used to enter a descriptive text for the easyParameter. This text will be shown by the app as a header for the parameter. The length of the text is limited to the visible field space.

➡ It is not possible to copy complete parameter pages or individual elements.

The block for each element will have the following selection combination options available for the specified easyParameters.

Timer modules

Table 4:   Real-time clock selection combination options

easyParameter	Editable	Net-ID	Operand	Details for easyParameter	Value	Description for easyParameter
Real-time clock	**No**	0 1 … 8	**DH**			free text field
		0 1 … 8	**DD**			free text field
	Yes	0 1 … 8	**DH**	Synchronize via NET	No	free text field
					yes	free text field
		0 1 … 8	**DD**	Synchronize via NET	No	free text field
					yes	free text field

You will not be able to enter an operand number for the real-time clock.

➔   The action that updates the real-time clock on the user interface and runs the "Synchronize via NET" command with the "Send" button on the app will be executed as soon as a new minute starts in the device's real-time clock.

Table 5:   Selection combination options for time switches

easy--Parameter	edit-able	Net-ID	Operand	Operand no	Details for easyParam-eter	Value	Description for easyParam-eter
Weekly timer	**No**	0	HW		Channel	A	free text field
		1		1		…	
		…		…		D	
		8		32			
	Yes	0	HW		Channel	A	free text field
		1		1		…	
		…		…		D	
		8		32			
Year time switch	**No**	0	HY		Channel	A	free text field
		1		1		…	
		…		…		D	
		8		32			
	Yes	0	HY		Channel	A	free text field
		1		1		…	
		…		…		D	
		8		32			

Circuit Diagram Elements

Table 6:   Selection combination options for numerical values used as display-only elements

easy--Parameter	edit-able	Net-ID	Operand	Operand no	Details for easyParam-eter	Value	Description for easyParam-eter
Numerical value	**No**	0	**MB**	1	Unit of measure-ment	free text field	free text field
		1		…			
		…		96			
		8					
		0	**MW**	1	Unit of measure-ment	free text field	free text field
		1		…			
		…		96			
		8					
		0	**MD**	1	Unit of measure-ment	free text field	free text field
		1		…			
		…		96			
		8					
		0	**IA**	1	Unit of measure-ment	free text field	free text field
		1		…			
		…		4			
		8					
		0	**QA**	1	Unit of measure-ment	free text field	free text field
		1					
		…					
		8					

3 Create configuration file

3.3 Using the configuration tool on your computer

Table 7:   Selection combination options for numerical values used as input elements

easy-- Parameter	edit-able	Net-ID	Operand	Operand no	Details for easyParam-eter	Value	Description for easyParam-eter
Numerical value	**Yes**	0	**MB**	1 … 96	Unit of measure-ment	free text field	free text field
		1 … 8			Value range [min] - [max]	free text field	
					Increment (value will be adjusted)	free text field	
		0	**MW**	1 … 96	Unit of measure-ment	free text field	free text field
		1 … 8			Value range [min] - [max]	free text field	
					Increment (value will be adjusted)	free text field	
		0	**MD**	1 … 96	Unit of measure-ment	free text field	free text field
		1 … 8			Value range [min] - [max]	free text field	
					Increment (value will be adjusted)	free text field	

➡ Take the app's refresh time into account when configuring the above values.
Values that are too fast will not be displayed reliably.

32   easyParameter App   07/14 MN049001EN   www.eaton.com

Table 8: Selection combination options for bit arrays used as display-only elements

easyParameter	Editable	Net-ID	Operand	Operand no	Description for easyParameter
Bit array	**No**	0	**I**		free text field
		1	Bit operand 1	–	
		…		1...16	free text field
		8	Bit operand 2	–	
				1...16	free text field
			Bit operand 3	–	
				1...16	free text field
			Bit operand 4	–	
				1...16	free text field
			Bit operand 5	–	
				1...16	free text field
			Bit operand 6	–	
				1...16	free text field
			Bit operand 7	–	
				1...16	free text field
			Bit operand 8	–	
				1...16	free text field
		0	**Q**		free text field
		1	Bit operand 1	–	
		…		1…8	free text field
		8	Bit operand 2	–	
				1…8	free text field
			Bit operand 3	–	
				1…8	free text field
			Bit operand 4	–	
				1…8	free text field
			Bit operand 5	–	
				1…8	free text field
			Bit operand 6	–	
				1…8	free text field
			Bit operand 7	–	
				1…8	free text field
			Bit operand 8	–	
				1…8	free text field

easyParameter	Editable	Net-ID	Operand	Operand no	Description for easyParameter
Bit array	**No**	0	**R**		free text field
		1	Bit operand 1	–	
		…		1...16	free text field
		8	Bit operand 2	–	
				1...16	free text field
			Bit operand 3	–	
				1...16	free text field
			Bit operand 4	–	
				1...16	free text field
			Bit operand 5	–	
				1...16	free text field
			Bit operand 6	–	
				1...16	free text field
			Bit operand 7	–	
				1...16	free text field
			Bit operand 8	–	
				1...16	free text field
		0	**S**		free text field
		1	Bit operand 1	–	
		…		1…8	free text field
		8	Bit operand 2	–	
				1…8	free text field
			Bit operand 3	–	
				1…8	free text field
			Bit operand 4	–	
				1…8	free text field
			Bit operand 5	–	
				1…8	free text field
			Bit operand 6	–	
				1…8	free text field
			Bit operand 7	–	
				1…8	free text field
			Bit operand 8	–	
				1…8	free text field

easyParameter	Editable	Net-ID	Operand	Operand no	Description for easyParameter
Bit array	**No**	0	**M**		free text field
		1	Bit operand 1	–	
		…8		1…96	free text field
		0	**LED**		free text field
		1	Bit operand 1	–	
		…8		1…2	free text field
			Bit operand 2	–	
				1…2	free text field

Table 9: Selection combination options for bit arrays used as input elements

easyParameter	Editable	Net-ID	Operand	Operand no	Description for easyParameter
Bit array	**Yes**	0	**M**		free text field
		1	Bit operand 1	–	
		…8		1…96	free text field
		0	**LED**		free text field
		1	Bit operand 1	–	
		…8		1…2	free text field
			Bit operand 2	–	
				1…2	free text field

You will not be able to enter details for easyParameter or a value for bit arrays.

→ For application examples, please refer to the appendix.

3.4 Creating a configuration file

Procedure for creating a configuration file

▶1. Open the configuration tool with Microsoft Excel and enable macros
▶2. Save the configuration tool under a name of your choice
▶3. Create parameter pages for the control relay
▶4. Configure the easyParameters on the individual pages
▶5. Save the edited configuration tool
▶6. Set a password
▶7. Create configuration file

The above steps are explained in greater detail below.

3.4.1 Opening the configuration tool and enabling macros

▶ Use Microsoft Excel to open the configuration tool on your computer.
▶ Enable macros.
▶ Start by selecting the user interface language you want for the configuration tool under **Language**.
▶ Under **Versioning**, configure the general options for the configuration tool.

3.4.2 Saving the configuration tool under a name of your choice

▶ Save the configuration file under a name of your choice by using the **Microsoft Office button/Save As** option and saving the file as <name>.xlsm in a folder on your computer.

3.4.3 Creating parameter pages for the control relay

▶ Select the **Number of parameter pages** you want and to which the general options you configured will apply.
▶ Click on the "Create parameter page(s)…" button.
▶ Give each parameter page a name.

→ Creating operand-specific or functional pages will make the user interface easier to use.
For example: a real-time clock parameter page, a motor control parameter page, etc.

→ It is not possible to copy complete parameter pages or individual elements.
Instead, you can save an existing configuration tool under a different name and edit it after doing so.

3.4.4 Configuring the easyParameters on the individual pages

▶ Switch from the Home page to the parameter page you created.

3.4.4.1 Configuring the general settings for each page

The general settings for the pages are not necessary, but they can be used to make the app easier to use.

▶ In the field for the **Page text**, enter a description for the parameter page.

→ This multi-line description will appear on the user interface. This text should contain any useful information and instructions that the user will need in order to make proper use of the information on the user interface page.

→ Once the focus is placed outside this text field, only the first line in the field will be displayed.

▶ In the field for the **Background color**, enter an RGB color value using the following notation: #RedGreenBlue.

▶ In the field for the **Text color**, enter an RGB color value using the following notation: #RedGreenBlue.

3.4.4.2 Configuring an element

The configuration will depend on the selected easyParameter. The options available for the remaining fields will depend on the specific selection.

Enter the easyParameter you want as a visualization element by entering the corresponding information into the configuration tool file.
Make sure to enter valid data when doing so.

→ Make sure to avoid error (0x06), which occurs whenever the configuration file does not find the requested element in the control relay program.

You will not be able to enter any information or make any selections until you have selected an easyParameter.

▶ Click on the field used to select an **easyParameter**.
▶ Select one of the easyParameters from the drop-down list.

The following is a summary of the selections available for the various easyParameters.

Real-time clock

Enter/select the following in the order specified below:

1. Editable (Yes/No)
2. Net-ID (stand-alone or address ID)
3. The operand (DH or DD)
4. The synchronization selection in the "Value" field (Yes/No)
5. Enter a description for the easyParameter.
   This description will appear as a header above the parameter on the user interface

Weekly timer

Enter/select the following in the order specified below:

1. Editable (Yes/No)
2. Net-ID (stand-alone or address ID)
3. The operand (HW)
4. The corresponding operand number (1 - 32)
5. The channel selection in the "Value" field (A - D)
6. Enter a description for the easyParameter.
   This description will appear as a header above the parameter on the user interface

Year time switch

Enter/select the following in the order specified below:

1. Editable (Yes/No)
2. Net-ID (stand-alone or address ID)
3. The operand (HY)
4. The corresponding operand number (1 - 32)
5. The channel selection in the "Value" field (A - D)
6. Enter a description for the easyParameter.
   This description will appear as a header above the parameter on the user interface

Numerical value

Enter/select the following in the order specified below:

1. Editable (Yes/No)
2. Net-ID (stand-alone or address ID)
3. The operand (MB, MW, MD, IA, QA)
4. The corresponding operand number (1 - 96)
5. Enter the corresponding unit of measurement and, if applicable, value range and increment, into the "Value" field.
6. Enter a description for the easyParameter.
   This description will appear as a header above the parameter on the user interface

Bit array

Enter/select the following in the order specified below:

1. Editable (Yes/No)
2. Net-ID (stand-alone or address ID)
3. The operand (I, Q, R, S, M, LED)
4. The corresponding operand number (I1 - 16, Q 1 - 8, R1 - 16, S 1 - 8, M 1 - 96, LED 1 - 2)
5. Enter a description for the easyParameter.
   This description will appear as a header above the parameter on the user interface

3.4.5 Saving the edited configuration tool

▶ Switch back to the Home page.

▶ Use Excel's Microsoft Office button/**Save** option to save the edited `<name>.xlsm` configuration tool with a name of your choice in a folder on your computer.

3.4.6 Setting a password

▶ Enter a secure password of your choice into the **Password** field.

▶ Confirm the password by entering it again.

▶ Press the Enter key when you are done.

3.4.7 Create configuration file

▶ Click on the **Create configuration file...** button.

→ When you click on the "Create configuration file......" button, the Home page will be deleted from the file and the parameter pages for the user interface will be compiled as a workbook.
Excel's **Save As** option will be run automatically so that you can save the configuration file.

▶ Save the compiled Excel workbook as a `<name>.xls` file under a name of your choice in a folder on your computer.

→ You will have to transfer this configuration file to the Android device.

▶ Close the configuration file you just created.

If you want to, you can proceed to create additional configuration files with different passwords, access permissions, or configurations.
To do so, simply repeat the necessary steps.

▶ Close the configuration tool.

3.4.8 Modifying the configuration file

▶ Open the corresponding configuration tool.

▶ Make the necessary parameter changes.
→ Section 3.4, Page 36

▶ Click on the "Create configuration file..." file.

▶ Save the configuration file you just modified under a new name or under the current name as necessary.

4 Managing configuration files

The configuration files have to be stored in the `.../Eaton /easyParame-ter App` folder on the Android device.
Do not use any subfolders within this folder - the easyParameter App's Import function will expect the configuration files to be found in this folder only.
The number of configuration files that can be stored is only limited by the Android device's storage capacity.

The person who creates the configuration files needs to provide the corresponding users with the configuration files matching the Eaton control relay in question.

You can use your computer to create folders as necessary in order to store the configuration tool files, and the configuration files created with them, in an organized manner.

4.1 Saving and deleting configuration files

Before you can transfer files to your Android device, you will have to enable mass memory mode on the device. Once you do this, the Android device will be able to function as an external hard drive, allowing you to use the file browser to transfer files from your computer to the Android device.

For example, you can connect your Android device in mass memory mode using a USB connection. To do this, connect the Android device to a USB cable and then connect the cable to your computer. You may have to tap on the USB connection icon on the Android device and connect to the computer.
(For detailed instructions, please refer to your Android device's manual.)

Once you have set up a mass memory mode connection,
you will have to store the configuration files you need in the `.../Eaton/ easyParameter App` folder.

▶ Transfer the configuration file you need to the Android device on which the easyParameter App is already installed and which you will be using as a user interface.

Delete

You can delete configuration files that you no longer need either by connecting the Android device in mass memory mode to your computer and using the file browser to delete them or by using the options available on your Android device.

5 Using the easyParameter App

➡ The protected "<name>.xls" configuration file is generated using the configuration tool. This configuration file needs to be saved on the Android device, in the …-> `Eaton -> easyParameter App` folder.
The configuration file imported into the easyParameter App is the actual user interface for the Eaton control relay being controlled.
➡ Section 4.1, Page 40

Familiarize yourself with the various controls.
(➡ Section "2.4 easyParameter App controls", page 15)

In order to use the easyParameter App, you will have to carry out the following steps:

▶1. Open the app
▶2. Select the right Bluetooth adapter
▶3. Select the right configuration file as the user interface
▶4. Connect to the control relay
▶5. Use the user interface
▶6. Close the app

The above steps are explained in greater detail below.

5.1 Open the app

▶   Tap the easyParameter App in the list of apps.

The Start page will be shown with the options you selected the last time you used the app.
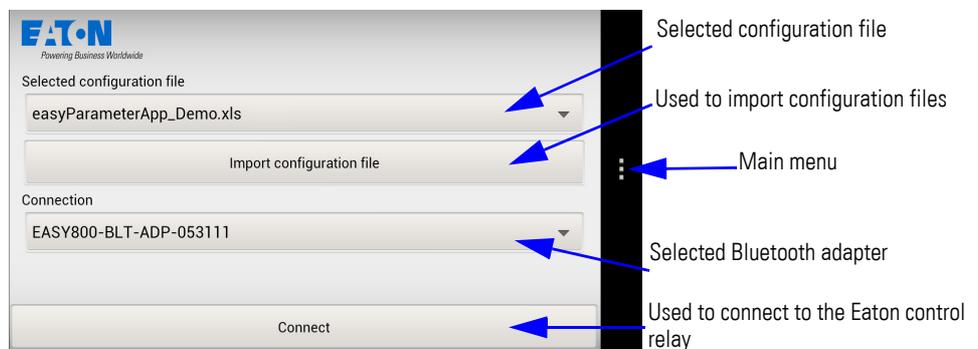
figure 16:   Start page with the options most recently selected

5.2 Selecting the right Bluetooth adapter

The app will show the Bluetooth adapter that was most recently selected. If the Bluetooth adapter shown under "Connection" is not the one you want, use the drop-down list to select the adapter you want.

▶ Open the drop-down list under "Connection."
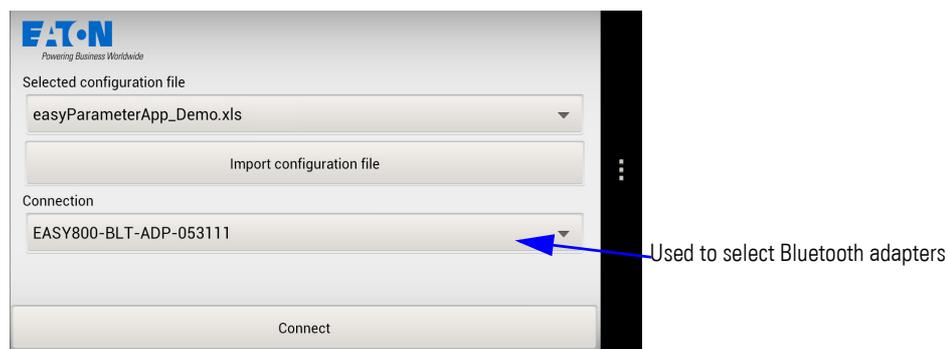
figure 17:   Start page

▶ Tap the option you want (changes the radio button color) to select it.
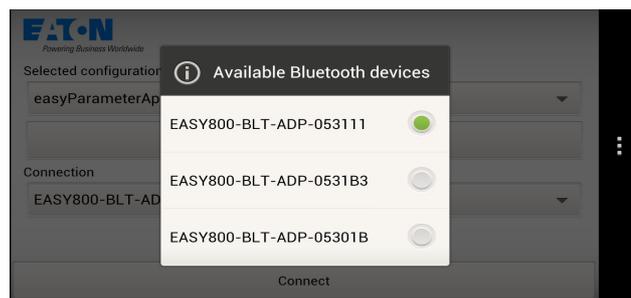
figure 18:   "Connection" drop-down list

If your Bluetooth adapter is not listed, it will have to be set up.

5.3 Selecting the right configuration file as the user interface

▶ The user interface that was most recently selected will be shown.
If the configuration file you want is not shown, you will have to open
the drop-down list and select it.
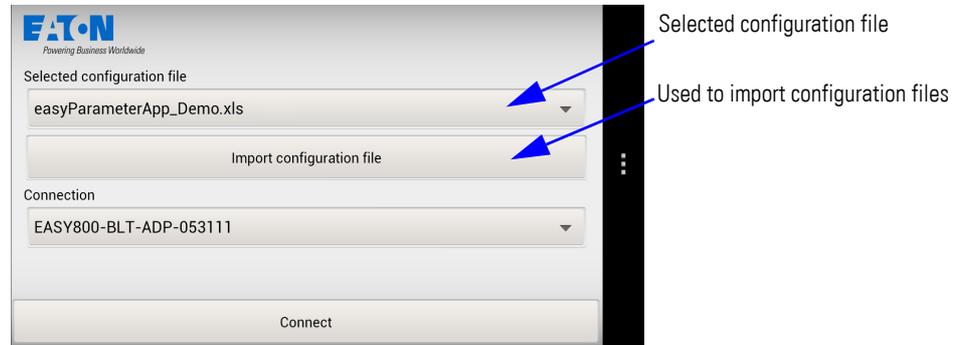
figure 19: Start page

▶ Open the drop-down list under "Selected configuration file".

User interfaces that have already been imported will be available for selection as `<name>.xls` configuration files in the drop-down list.

▶ Tap the option you want (changes the radio button color) to select it.
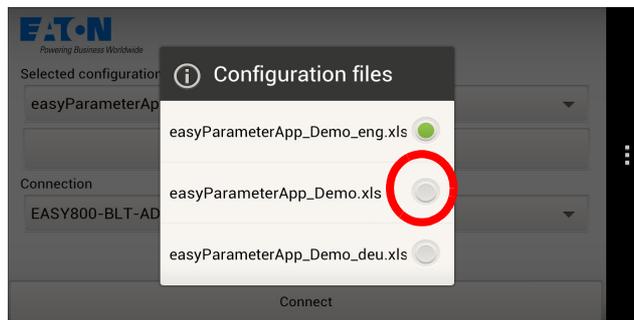
figure 20: "Selected configuration file" drop-down list

If the configuration file you want is not available on the drop-down list, you
will first have to import it.

If the user interface you want is password-protected, a prompt asking you for
the password will be shown once you select it.

5.3.1 Import configuration file

To switch to the "Import" menu, tap the "Import configuration file" button.

figure 21:   Start page

figure 22:   "Import" menu

Select the configuration file you want by tapping it (this will highlight it in color) and then tap the "Import configuration file" button. If the file is imported successfully, i.e., if the file is available for the easyParameter App to use, a message saying "Import successful" will be shown.
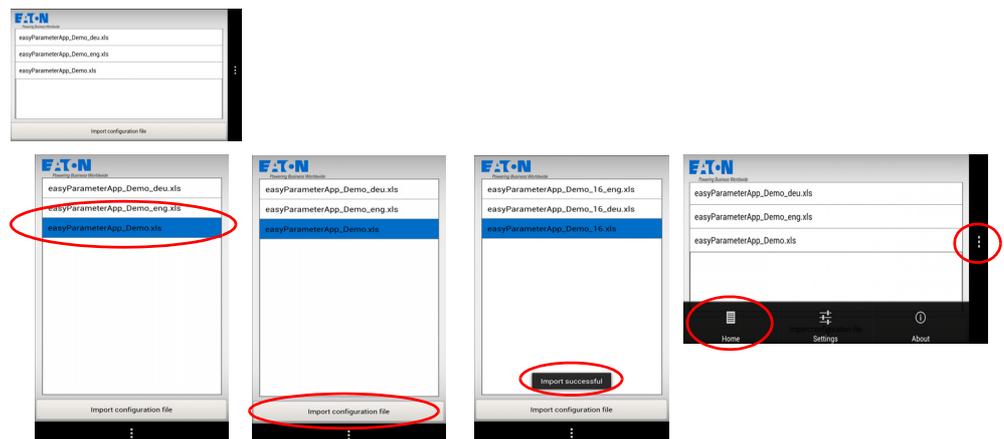

figure 23:   Importing a configuration file as a user interface

If the configuration file you want is not available in the "Import" menu, you will first have to store it in the `.../Eaton/easyParame-ter App` folder.
→ Section 4.1, Page 40

If the configuration file is configured incorrectly, a message window to that effect will be shown. If this happens, contact the person who created the configuration file and provide them with the information shown on the message window.

Optional password prompt

→ If the configuration file you want is password-protected, a prompt asking for the password will be shown once you select the file.

▶ Tap the password input field.

▶ Use the keypad to enter the password and close the input field by tapping the "Enter" key.

▶ Confirm the entry with the "OK" button.
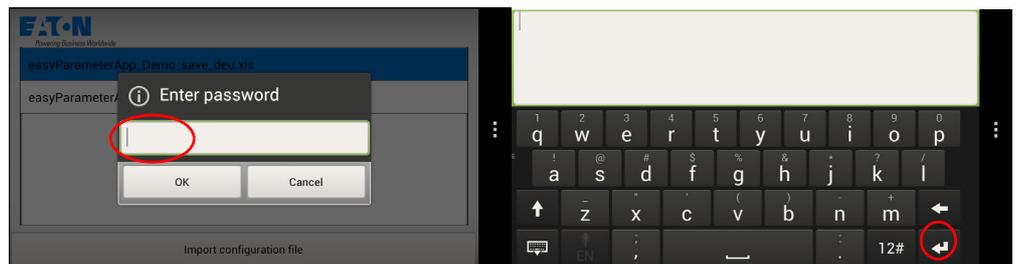
figure 24:   Password prompt in the "Import" menu

5.4 Connecting to the control relay

Once you have selected the right configuration file and Bluetooth adapter, tap the "Connect" button to open the user interface defined in the configured parameter pages.
Make sure that the control relay is running.

Selected configuration file

Selected Bluetooth adapter

Used to connect to the Eaton control relay
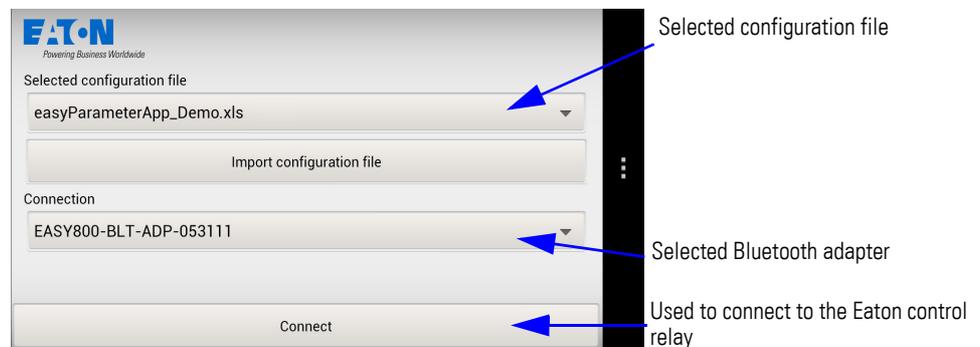
figure 25:   Start menu

▶ Tap the "Connect" button.

A connection to the control relay will be established.
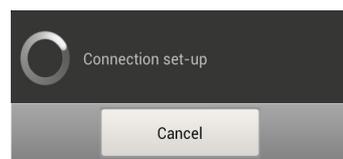
figure 26:   "Connection set-up" window

5.5 Using the user interface

Once a connection is established, the configured parameters will be displayed.

The number of available pages, as well as the current page number, will be shown on the top left.
The optional page text for the control page will be shown underneath.
The configured display and/or input elements will follow.

You can scroll up and down within the page.
When you reach the bottom of the control page, the Menu button will be shown.

5.5.1 Display and input elements; how to change the value for an input element

If there are editable values, tapping the corresponding field will open the appropriate control (e.g., the keypad) so that you can adjust the corresponding value.
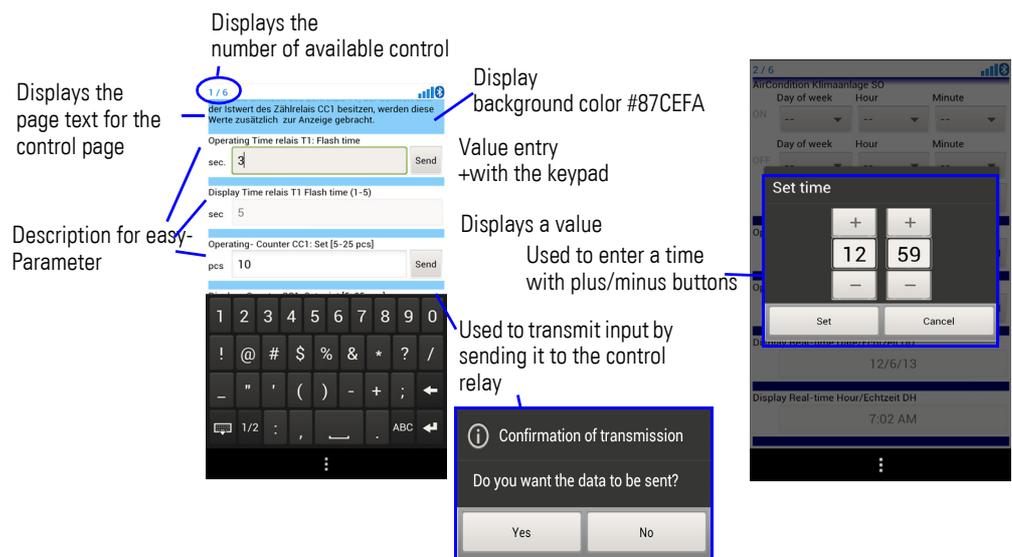
figure 27:   editable values

You can transmit input values and modified values to the control relay one by one by tapping the "Send" button.
A prompt will then appear asking you to confirm.

Timer modules

Displays the current values for the year time switch in the control

Example: entering the desired values for the year time switch

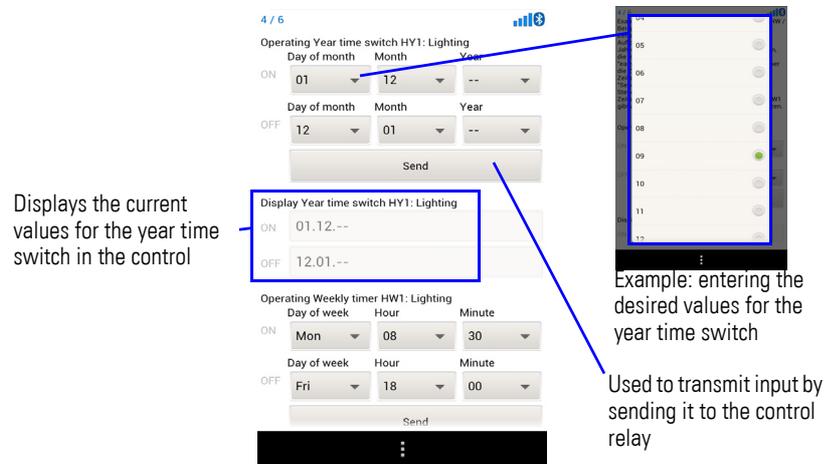Used to transmit input by sending it to the control relay

figure 28:   Example showing how to set the year time switch

The action that updates the real-time clock on the user interface and synchronizes it via NET will be executed as soon as a new minute starts in the device's real-time clock.
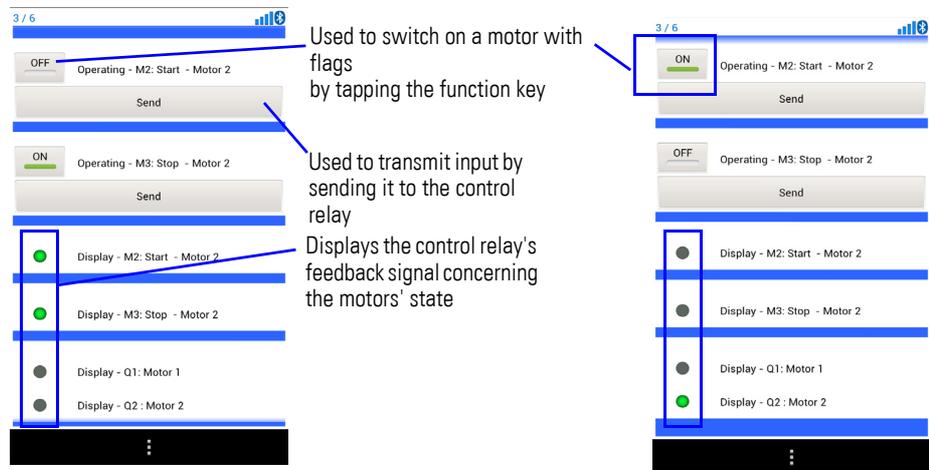
Circuit Diagram Elements

Used to switch on a motor with flags by tapping the function key

Used to transmit input by sending it to the control relay

Displays the control relay's feedback signal concerning the motors' state

figure 29:   Example showing a layout with ON/OFF buttons and status indicators with bit arrays

Switching between control relay operating modes

If you are allowed to send STOP/RUN enable signals, you will be able to access this function directly by tapping the Main menu\RUN and Main menu\STOP buttons. A confirmation prompt will be shown when you tap one of these buttons.

→   The user interface will require users to confirm every single operating mode change.

⚠ **DANGER**
posed by accidental actuation!
Enabling the STOP / RUN signal will affect ongoing operation. This can result in faults in the process being controlled. The safety mechanisms being used on site must not be disabled when the STOP / RUN signal is enabled.

figure 30:   Menu in the easyParameter App that will be shown, while there is a connection to the control relay,
if the user is allowed to send STOP/RUN enable signals

5.6 Closing the app

▶1. To terminate the connection to the Eaton control relay, tap Main menu\Disconnect.
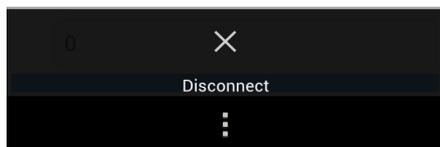
figure 31:   Menu in the easyParameter App that will be shown while the app is connected to the control relay

▶   Close the app the way you normally close apps on your Android device, e.g., by tapping the "Back" button.

6 Troubleshooting

6.1 FAQ - Frequently Asked Questions

6.1.1 Product information

1. What does Eaton's easyParameter App do?
   The app will enable you to display and adjust your Eaton control relay's input and output signals, marker, marker words, marker double words, and timer modules from your Android device.
2. What kind of functions does the app feature?
   The app can be used to read and set specific Eaton control relay operands (real-time clock, weekly timer, year time switch, numerical values, and bit arrays). Inputs and outputs can only be read.
3. What is the easyParameter App's intended use?
   The easyParameter App is intended to be used to display and set parameters from the circuits configured with easySoft-Pro, all without making any changes to the corresponding control relay's program.
4. Which devices and which operating systems does the app support?
   Android devices with Android 2.2 (Froyo) or higher and Bluetooth transmission & reception module version 2.0 or higher (Bluetooth transmission & reception module version 2.1 for easy800-BLT-ADP 04.
5. Is there anything specific I need to do with my Android device other than using the app properly?
   You will need to pair your Android device with the Bluetooth adapter you will be using.
6. What do I have to do if I get a new Android device?
   You will need to pair your Android device with the Bluetooth adapter you will be using.
   Then, you will have to install the easyParameter App, set it up, and transfer the configuration files you need.
7. Which Eaton control relays does the easyParameter App support?
   The easyParameter App can be used in conjunction with the easy800-BLT-ADP Bluetooth adapter with the following DC and AC devices: easy800 standard, MFD-Titan (MFD-CP8-NT/ME, MFD-CP10-NT/ME, device version 03-xxxxxxxxxxxx or higher).
8. Will the app disable any features or functions on my Android device while it is running?
   No.
9. How can I use the Bluetooth adapter for more than one relay?
   Unplug it from the control relay and plug it into the next control relay or use easyNet.
10. Will a notification be shown if other apps are running at the same time on my Android device?
    No.
11. Are there any restrictions on the use of the easyParameter App?
    Yes. The app should only be used together with Eaton control relays in order to display and adjust parameters and operands.

6 Troubleshooting

6.1 FAQ - Frequently Asked Questions

12. What kind of data does the app read and send?
    Generally speaking, the app does not read, use, or send any personal data.
    The app does not track your location.
13. Which app permissions does the app require?
    - Network communication
      create Bluetooth connections, full Internet access
    - Storage
      modify or delete SD card contents
    - System tools
      Bluetooth administration
    - Hardware controls
      control vibrator
14. Does the app require a data connection/Internet connection?
    You will need a data connection to download the app and to set it up for the first time.
    The app can be run offline without any restrictions.
15. How long is the range?
    The Bluetooth adapter has an outdoor range of up to 10 m.
    This range may vary depending on the building materials in the way and the space conditions at the site.
16. What will happen if my Android device switches to standby mode?
    If your Android device switches to power saving mode, the easyParameter App will terminate the connection to the control relay.
    The easyParameter App will not run when your Android device is in standby mode. It will start running again as soon as the device leaves standby mode.
    If the easyParameter App is moved to the background, the connection will be terminated in order to save battery power. Bluetooth communications will only be active when they are needed, i.e., in the visualization view and when searching for devices.
17. What will happen if my Android device drops out (turns off or stops responding)?
    If, for example, the battery runs out, you have connection problems, or your Android device shuts down:
    The app will be killed (forced to close) and the connection to the Bluetooth adapter will be terminated.
18. The app is not working correctly anymore and is not providing any data.
    You may have to restart your Android device.
19. How can I remove/uninstall the app?
    The easyParameter App can be uninstalled in your Android device's "System settings." It can also be uninstalled by using an uninstaller app.
    The `...Eaton/easyParameter App` folder needs to be deleted manually.
20. Which Eaton components do I need?
    - An Eaton easy800 standard, MFD-CP8-NT/ME, MFD-CP10-NT/ME (device version 03-xxxxxxxxxxxx or higher) control relay
    - An Eaton EASY800-BLT-ADP Bluetooth adapter
    - A PC or laptop with Microsoft Excel for Windows (version 2007, 2010, or 2013)

- An Android device or tablet with Android V2.2 or higher
- Eaton download package
  Contains: documentation and configuration tool (.xlsm)
- The easyParameter App (.apk) from the Google Play store
  Includes: license text
21. Where can I get the required components?
  The required Eaton control relays and components are available in many European countries through the Eaton online catalog, sales offices, and wholesalers

6.1.2 Prices and ordering

22. Where can I get the easyParameter App?
  At the Google Play store.
23. How much does the easyParameter App cost?
  The app is completely free.

6.1.3 Support

24. The easyParameter App cannot be installed
  Certificate error; please contact Support
  www.eaton.eu/Support.
25. The easyParameter App will not start
  The operating system is in an undefined state
  Restart your Android device or kill the app task (close it with the features on your Android device or use a different task manager).
26. I can't change a parameter/value
  The parameter/value is not configured to be editable.
27. The parameter/value cannot be read/sent
  The parameter/value is not found in the control program.
28. The configuration file cannot be found
  Your Android device is still connected to the computer via USB.
29. The configuration file cannot be imported
  There is no more free space available on your Android device.
30. I can't create any new pages in the configuration tool
  There are already 25 pages in the file.
31. Why can't I connect to the control relay with my Android device?
  No Bluetooth connection
  (a Bluetooth adapter is not plugged in, the adapter has not been paired, a connection has not been selected, the adapter is out of range, or there is too much interference in the area).
32. How can I contact Customer Service?
  By e-mail: info-bonn@eaton.com
  Under Customer Support at www.eaton.eu
33. What do I do if the Bluetooth connection drops out?
  The "Connection set-up" window will appear.
  If the device detects the Bluetooth adapter, the app will automatically start working again.

6 Troubleshooting

6.1 FAQ - Frequently Asked Questions

6.2 What Happens If …?

If the easyParameter App is not behaving as expected, the following tips may help fix the problem.

If you have any additional questions or need help with a problem (e.g., problems connecting to the control relay), please contact Support at http://www.eaton.eu/easy

6.2.1 Control relay messages shown by the easyParameter App

status signal	Cause	Fix
Information could not be transmitted (0x72)	Forwarded failure code from the easy-Com protocol	When configuring the system, make sure to avoid having too many signals being transmitted on the network at the same time.
The easy COM interface is busy (0x22)	If you are running the easy system on a network, this message means that the interface is overloaded	When configuring the system, make sure that the COM interface will not be accessed simultaneously by more than one module through the network
The configuration file contains a function block that is not used in the easy program. (0x41)		Use a function block in the easy program or delete the function block from the configuration file
The control relay easy is not in the operating mode STOP (0x18)	Control relay in RUN mode	Stop the control relay
A communications protocol error occurred during the transfer.	Interference factors,	Eliminate any sources of interference
	Electromagnetic interference	Shield the devices
	Outside Bluetooth range	Reduce the distance between your Android device and the Bluetooth module
The easyNet interface is busy (0x28)	The network is under heavy load	Try again later; coordinate the activity on the network
The easyLink interface is busy (0x97)	Too much data transfer	Make the necessary adjustments in the control program
Error in real-time clock parameter (0xB0)	The app is unable to reach the control relay	Check the clock setting format
The easy parameter is read-only (0x14)	Not configured as being editable in the configuration file	Change in the configuration tool and create a new configuration file
Unknown command (0x7)	App error	Please contact Support and have them register it as an error report. Write down the circumstances under which the error occurred and store the configuration file so that they can analyze it
The configuration file contains declarations that do not match the easy program (0x0A)	Operand or flag not in the easy program	Notify the design engineer; generate a new configuration file

status signal	Cause	Fix
The configuration file contains declarations (operand Nos.) that do not match the easy program (0x06)	The configuration file cannot find the requested element in the control relay program.	Notify the design engineer; generate a new configuration file
easyLink is not available or has not been initialized (0x98)	No easyLink contact	Check the application's network and topology
This easyNet ID is not permitted (0x09)	easyNet-ID not assigned	
easyNet has not been initialized (0x71)		Check for any sources of interference in the environment Check the program, check easyCOM communications for validity
Unknown Error	No program crash; easy in undefined state	Fix the cause. Temporary fault – the app will resume operation (wireless signal)
The configuration file contains declarations (type or operand number for a function block) that do not match the easy program (0x40)	Not used in the control relay program	Notify the person who created the file; create a new configuration file

6.2.2 easyParameter App dialog box windows

Dialog box window	Explanation	Remedy
Device not paired	The Bluetooth adapter is not connected to the Android device	Pair them under "Bluetooth settings"
To connect to this easy control relay, first pair it using Bluetooth.	The Bluetooth adapter is not connected to the Android device	Pair the Bluetooth adapter
Bluetooth service disconnected	Bluetooth malfunction	Check the connection
This device does not have a Bluetooth adapter	The Bluetooth adapter was not detected	Check that there is a Bluetooth adapter and make sure to pair it
Could not determine device status	Bluetooth malfunction	Check the connection
Could not send object	The connection to the control relay has dropped out	Check the connection and send the value again
Bluetooth must be enabled in order to be able to communicate with the easy control relay.	Bluetooth is not enabled on the Android device	Turn Bluetooth on in the "Settings" for your Android device
Bluetooth adapter deactivated due to an error.	Bluetooth malfunction	Check the connection
easyNet card not permitted	easyNet communications not configured	In easySoft Pro, go to the Communication\Configuration menu and start the NET routine
Transmission failed	The easyParameter was not transmitted successfully to the control relay.	Check the connection
Command failed	STOP / RUN mode was not switched.	Check the connection

Dialog box window	Explanation	Remedy
No import file selected	A configuration file has not been selected in the **Import menu**.	Open the **Import menu** and import the configuration file from the... `Eaton/easyParameter App` folder.
No configuration file selected	A configuration file has not been selected from the list of available configuration files for the device.	Select a configuration file
No Bluetooth device selected	A Bluetooth adapter has not been selected from the list of available Bluetooth adapters for connection to the control relay.	Select a Bluetooth adapter
Configuration file invalid The loading process was canceled due to the following reason:List of reasons, if identifiable, on the dialog box window	Error in configuration file	The bad value has to be edited in the configuration tool and the configuration file needs to be imported again.
The configuration file has changed and needs to be reimported.	The version or content of the configuration file with the same name does not match.	Open the **Import menu** and import the configuration file from the... `Eaton/easyParameter App` folder.
Sorry! The easyParameter App application (eu.eaton.easycom.para-meter process) has stopped unexpectedly. Try again.	Android crash	Tap "Force stop," check your Android system, and open the app again.

6.2.2.1 easyParameter message windows

Message window	Notes
Acknowledge status signal	Tap OK to acknowledge
Bluetooth adapter deactivated due to an error.	Tap OK to acknowledge
Station not permitted	Tap OK to acknowledge
Could not lock device	Tap OK to acknowledge

6.2.3 Bluetooth connection as the cause

Problem	Explanation	Remedy
The Bluetooth adapter is not being detected.	Bluetooth is turned off on the Android device	Turn on Bluetooth 2.0 under "Settings" on your Android device
	The easy800-BLT-ADP adapter is defective	Replace the easy800-BLT-ADP adapter
	The control relay is not powered	Power the control relay
The easy800-BLT-ADP 04 is not being detected.	Timeout coupling process (pairing)	The bluetooth adapter is removed and pluged in again in 60 sec.

6.2 What Happens If …?

Problem	Explanation	Remedy
The Android device is not detecting the Bluetooth adapter or the wireless connection is being dropped on and off.	Unstable control relay supply voltage	Stabilize the power supply Eliminate "loose connections"
	Metal objects will interfere with the wireless connection	Remove any metal objects found in a straight line between the control relay and the Android device or go around them
	The Bluetooth adapter and the Android device are too far apart from each other	Reduce the distance so that it is less than 10 m.
	Other sources of transmission are interfering with the connection; EMC problems	Turn off or shield interfering transmission sources.
Multiple Android devices are attempting to connect to a single Bluetooth adapter at the same time.	Multiple transmitters will interfere with each other.	Make sure there is only one active wireless connection between a Bluetooth adapter and an Android device at any one time.

7 Technical data

7.1 System requirements

Hardware

1. An Eaton control relay
either

- easy800 standard
  - EASY819-…,
  - EASY820-…, EASY821-…, EASY822-…

or

- MFD-Titan
  - MFD-CP8-ME, MFD-CP8-NT,
  - MFD-CP10-ME, device version 03-xxxxxxxxxxxx or higher
  - MFD-CP10-NT from device version 03-xxxxxxxxxxxx

2. An Eaton EASY800-BLT-ADP Bluetooth adapter
3. An Android device
   With Android version 2.2 (Froyo) or higher and
   a Bluetooth transmission & reception module
   - version 2.0 or higher for easy800 BLT-ADP 02, 03
   - version 2.1 or higher for easy800 BLT-ADP 04
   With a display resolution of at least 320 x 240 pixels
   and a connection to the computer being used
4. A computer with Microsoft Excel for Windows
   Version: 2007, 2010, or 2013

Software

From the Google Play store play.google.com (search: "easy800")

→ You will need a Google account of your own in order to download the app

5. Successful connection test with the easyRemote Display App
6. easyParameter App
   Includes: easyParameter App
   <easyParameter App_Vx_xx_Build_yy>.apk

From Eaton's website

7. Eaton download package
   Available for download at www.eaton.eu/easy → "easyApp" tab
   Includes: <easyParameter_Configuration_Vx.xx>.xlsm configuration tool

7.2 Supported software

- Android version 2.2 or higher
- Microsoft Excel, version 2007, 2010, or 2013
- easy-soft-Pro control and programming software, version 6.91 or higher

7.3 Avail

Worldwide

As of this writing, the user interface is available in:

German, English, Spanish, French, Italian, Dutch, Polish

7.4 About the easyParameter App

Size: 1.60 MB (1,679,703 bytes)

Latest version: easyParameter App_V1_00_Build_20.apk

Created On: 21.11.2013

Version from: 11/21/2013

Android version: 2.2 or higher

Category: Tools

Refresh interval: 500 ms

OpenSource Components

```
Apache POI
Copyright 2009 The Apache Software Foundation

This product includes software developed by
The Apache Software Foundation (http://www.apache.org/).

This product contains the DOM4J library (http://
www.dom4j.org). Copyright 2001-2005 (C) MetaStuff, Ltd. All
Rights Reserved.

This product contains parts that were originally based on
software from BEA.
Copyright (c) 2000-2003, BEA Systems,<http://www.bea.com/>.

This product contains W3C XML Schema documents. Copyright
2001-2003 (c)
World Wide Web Consortium (Massachusetts Institute of
Technology, European Research Consortium for Informatics and
Mathematics, Keio University)

This product contains the Piccolo XML Parser for Java
(http://piccolo.sourceforge.net/). Copyright 2002 Yuval
Oren.

This product contains the chunks_parse_cmds.tbl file from
the vsdump program.
Copyright (C) 2006-2007 Valek Filippov (frob@df.ru)
```

8 Uninstalling

8.1 Deleting the easyParameter App or moving it to an SD card

To delete the easyParameter App, simply delete it the way you normally delete apps from your Android device.

Go to Settings/Apps, tap the easyParameter App, and then delete it by tapping "Uninstall."

→ **NEW ANDROID DEVICES**

Apps from the Google Play store are linked to your Google account and can be downloaded again if you use the same Google account.

To move the app to an SD card, tap "Move to SD card". The app will continue to be visible on the Android device.

→ The `.../Eaton/easyParameter App` folder needs to be deleted manually.

9 Appendix

9.1 Sample configuration

Displays
the number of parameter pages

4 / 4

Example of year clock timer HY and week clock timer
HW
This page shows how to set annual and weekly timer
used in the corresponding easy program
"easyParameterApp_Demo.e60". Using time selection
fields the date can be set. The values are transmitted
to the control relay by pressing the "Send" button. The
buttons display the current date.

View
Page text

set setpoint year clock timer

View
Description for easyParameter

Day of month   Month   Year

ON   31   11   --

Day of month   Month   Year

OFF   12   01   --

Configured editable
element

Send

Used to transmit the edited value to the
control relay

actual value for year clock timer

ON   31.11.--

OFF   12.01.--

Configured
non-editable
element

set setpoint week clock timer channel A
Day of week   Hour   Minute

figure 32:   Position of configured parameters on user interface

Browse
Used to swipe through pages

Scrolling
Used to move up and down
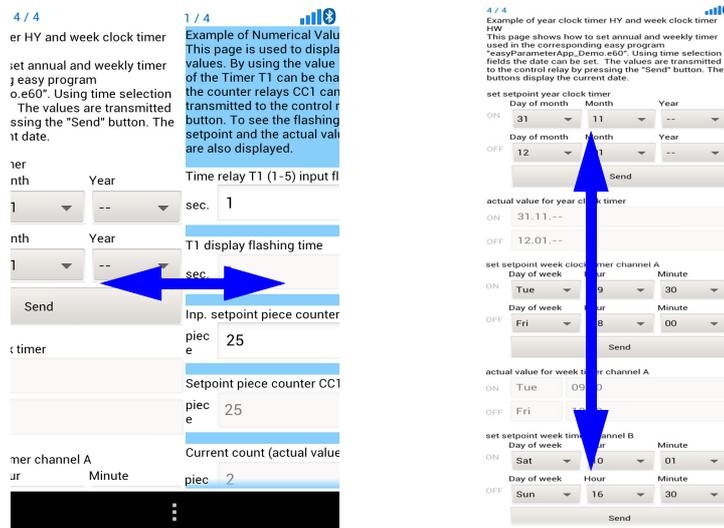
figure 33:   Swiping sideways and scrolling within the app

MB numerical value examples
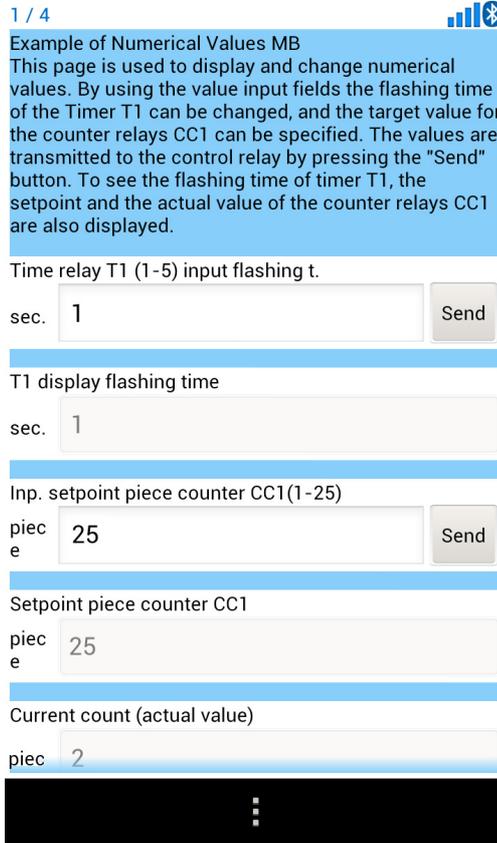
figure 34:   MB numerical value demo in app

figure 35:   MB numerical value demo in configuration tool

9.1 Sample configuration

I, M bit array example
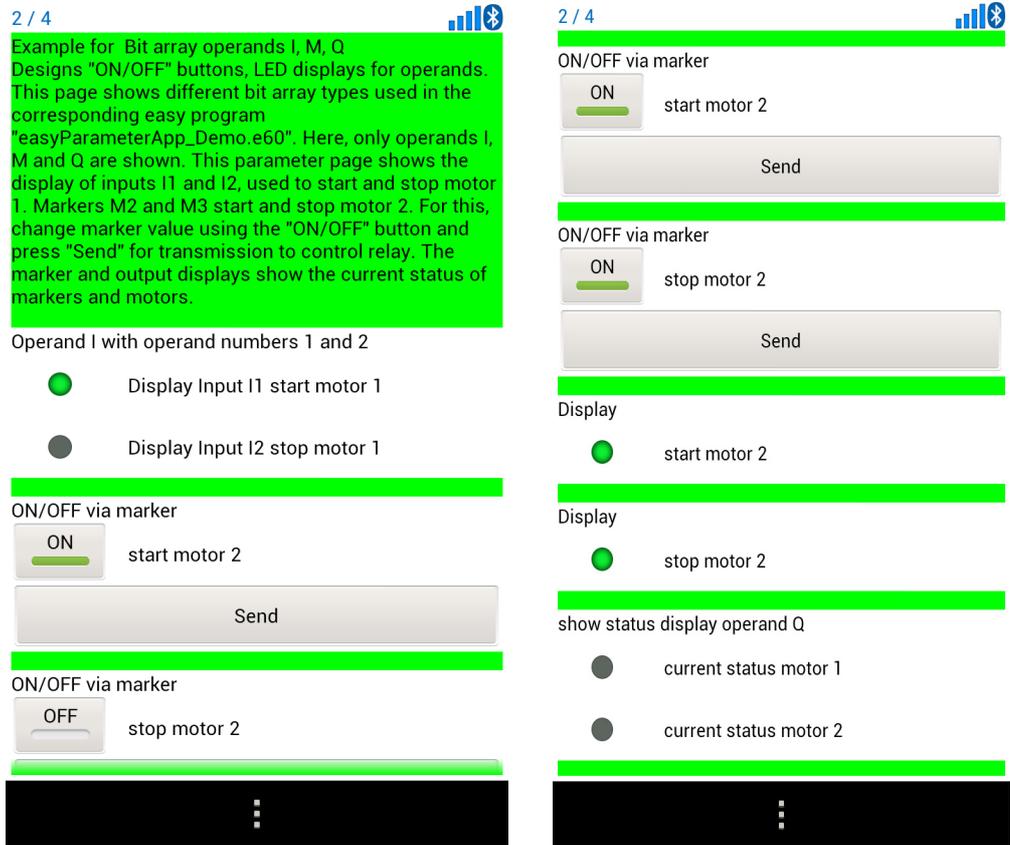
figure 36:   Bit array demo in app

figure 37:   Bit array demo in configuration tool

DD real-time clock example
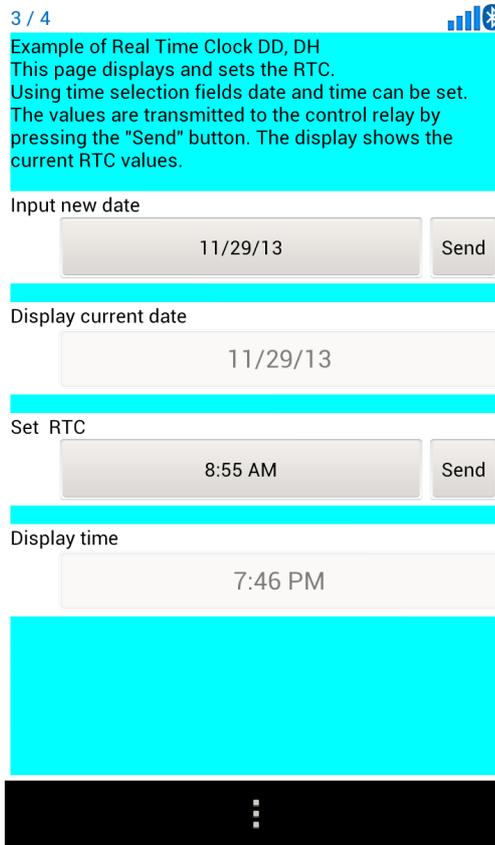
figure 38:   Real-time clock demo in app

figure 39:   Real-time clock demo in configuration tool

9 Appendix
9.1 Sample configuration

HY time switch example

4 / 4

Example of year clock timer HY and week clock timer HW
This page shows how to set annual and weekly timer used in the corresponding easy program "easyParameterApp_Demo.e60". Using time selection fields the date can be set. The values are transmitted to the control relay by pressing the "Send" button. The buttons display the current date.

set setpoint year clock timer

	Day of month	Month	Year
ON	31	11	--
OFF	12	01	--

Send

actual value for year clock timer

ON	31.11.--
OFF	12.01.--

set setpoint week clock timer channel A

Day of week Hour Minute

4 / 4

set setpoint week clock timer channel A

	Day of week	Hour	Minute
ON	Tue	09	30
OFF	Fri	18	00

Send

actual value for week timer channel A

ON	Tue	09:30
OFF	Fri	18:00

set setpoint week timer channel B

	Day of week	Hour	Minute
ON	Sat	10	01
OFF	Sun	16	30

Send

actual value for week timer channel B

ON	Sat	10:01
OFF	Sun	16:30

figure 40:   Year time switch demo in app

B2   Example of year clock timer HY and week clock timer HW
This page shows how to set annual and weekly timer used in the corresponding easy program "easyParameterApp_Demo.e60". Using time selection fields the date can be set. The values are transmitted to the control relay by pressing the "Send" button. The buttons display the current date.

	A	B	C	D	E	F	G	H
1					General pageset			
2	Page text	Example of year clock timer HY and week				Language	English	
3	Background Color					File version	1.08	
4	Text color					Customer version	Demo	
5						RUN / STOP	No	
6	Display element 1							
7	easyParameter	Editable	Net-ID	Operand	Operand number	Mode parameter	Value	Text
8	Year time switch	Yes	0	HY	1			set setpoint year clock timer
9								
10								
11						Channel	A	
12								
13								
14								
15								
16								
17								
18	Display element 2							
19	easyParameter	Editable	Net-ID	Operand	Operand number	Mode parameter	Value	Text
20	Year time switch	No	0	HY	1			actual value for year clock timer
21								
22								
23						Channel	A	
24								
25								
26								
27								
28								
29								
30	Display element 3							
31	easyParameter	Editable	Net-ID	Operand	Operand number	Mode parameter	Value	Text
32	Weekly timer	Yes	0	HW	1			set setpoint week clock timer channel A
33								
34								
35						Channel	A	

figure 41:   Year time switch demo in configuration tool

Index

Eaton is a power management company providing energy-efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power. A global technology leader, Eaton acquired Cooper Industries plc in November 2012. The 2012 revenue of the combined companies was $21.8 billion on a pro forma basis. Eaton has approximately 102,000 employees and sells products to customers in more than 175 countries. For more information, visit www.eaton.com.

Eaton addresses worldwide:
www.eaton.eu/address

E-Mail: **info-bonn@eaton.com**
Internet: www.eaton.eu/easy

Eaton Industries GmbH
Hein-Moeller-Str. 7–11
D-53115 Bonn/Germany

© 2013 by Eaton Corporation

EAT•N
Powering Business Worldwide