

WAGO Touch Panel TP600



Starter Kit

a2020005_e!C_Starter_Kit_TP600

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Every conceivable measure has been taken to ensure the accuracy and completeness of this documentation. However, as errors can never be fully excluded, we always appreciate any information or suggestions for improving the documentation.

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1 Information about This Documentation

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1.2 Symbols

DANGER	Warning against personal injury!
	Indicates a high-risk, imminently hazardous situation which, if not avoided, will result in death or serious injury.
DANGER	Do not work on components while energized!
	Indicates a high-risk, imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Warning against personal injury!
	Indicates a moderate-risk, potentially hazardous situation which, if not avoided, could result in death or (serious) injury.
CAUTION	Warning against personal injury!
	Indicates a low-risk, potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
NOTICE	Warning against damage to property!
	Indicates a potentially hazardous situation which, if not avoided, may result in damage to property.
ESD	Warning against damage to property caused by electrostatic discharge!
	Indicates a potentially hazardous situation which, if not avoided, may result in damage to property.
Note	Important note!
	Indicates a potential malfunction, but one which will not result in damage to property if not avoided.
Note	Additional Information
	Refers to additional information which is not an integral part of this documentation (e.g., the Internet).

1.3 Number Notation

Table 1: Number Notation

Number System	Example	Comment
Decimal	100	Normal notation
Hexadecimal	0x64	C notation
Binary	'100' '0110.0100'	In single quotes, nibble separated by a period

1.4 Font Conventions

Table 2: Font Conventions

Font Type	Explanation
<i>italic</i>	Names of paths and files are shown in italics; e.g.: <i>C:\Programs\WAGO Software</i>
Menu	Menu options are shown in bold, e.g.: Save
>	A “greater than” symbol between two names denotes the selection of a menu option, e.g.: File > New
Input	Names of input or selection fields are shown in bold, e.g.: Start of measurement range
“Value”	Input or selection values are shown in quotation marks, e.g.: Enter the value “4 mA” under Start of measurement range .
[Button]	Button labels within the dialogs are shown in bold and enclosed in square brackets, e.g.: [Input]
[Key]	Key labels on the keyboard are shown in bold and enclosed in square brackets, e.g.: [F5]

1.5 Legal Principles

1.5.1 Subject to Change

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1.5.2 Personnel Qualification

The use of the product described in this document is exclusively geared to specialists having qualifications in PLC programming, electrical specialists or persons instructed by electrical specialists who are also familiar with the appropriate current standards.

Moreover, the persons named here must also be familiar with all of the products cited in this document, along with the operating instructions. They must also be capable of correctly predicting any hazards which may not arise until the products are combined.

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1.5.3 Limitation of Liability

This documentation describes the use of various hardware and software components in specific example applications. The components may represent products or parts of products from different manufacturers. The respective operating instructions from the manufacturers apply exclusively with regard to intended and safe use of the products. The manufacturers of the respective products are solely responsible for the contents of these instructions.

The sample applications described in this documentation represent concepts, that is, technically feasible applications. Whether these concepts can actually be implemented depends on various general conditions. For example, different versions of the hardware or software components may require different handling than that described here. Therefore, the descriptions contained in this documentation do not form the basis for assertion of a particular product characteristic.

Responsibility for safe use of a specific software or hardware configuration lies with the party that produces or operates the configuration. This also applies if one of the concepts described in this document was used for implementation of the configuration.

WAGO Kontakttechnik GmbH & Co. KG assumes no liability for the realization of these concepts.

1.6 Revision History

Table 3: Revision History

Version	Author	Change
1.0.0	u01428	Initial draft

2 Description of TP600 Demo App

2.1 Commissioning

Perform the preparatory steps as described in the instruction leaflet.

After inserting the microSD memory card supplied with the system (printed side facing the display) and connecting the power supply, the Touch Panel 600 (TP600) loads the demo application directly.

Note **Set operating mode switch to “RUN”!**



The TP600 is supplied with the operating mode switch set to STOP. You must set the switch to “RUN” to execute the demo application. The user is made aware of this during the boot procedure of the TP600.

The selection menu appears on the display when the boot procedure has been successfully completed.



Figure 1 :Start menu

You can call up different demos using the 4 menu items:

- **e!COCKPIT Demo** – Application examples that illustrate the technical possibilities of the TP600 and of the *e!COCKPIT* engineering software.
- **Docker® Demo** – Example of integration of a Linux® open-source software solution using Docker® container technology.

- **WebVisu** – Panel visualizations can also be displayed using the integrated web server (remote). These are displayed locally using an *e!COCKPIT* browser element.
- **WBM** – Access to the controller configuration menu through an *e!COCKPIT* browser element.

Click on the “Home” symbol located in the top left corner of the active visualization page to return to the Start screen. Use the “globe” symbol to change the language. Use the “arrow” symbol to go back a step.

2.2 “e!COCKPIT Demo” Visualization Page

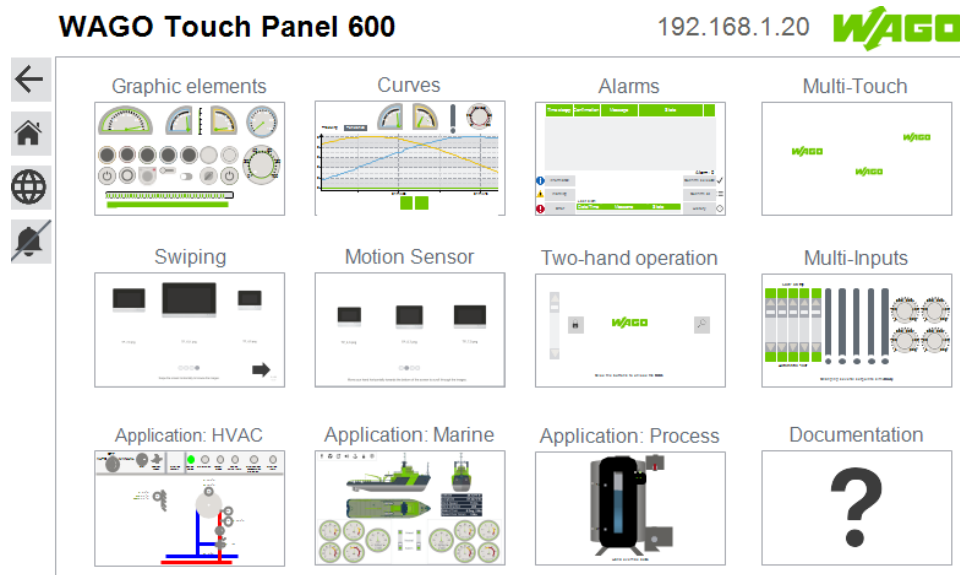


Figure 2 :Overview page

Specific visualization pages, such as “Graphic elements”, “Trends”, “Multi-Touch” or “Motion sensor” can be called up from the “*e!COCKPIT* Demo” visualization page.

2.2.1 “Graphic Elements” Visualization Page

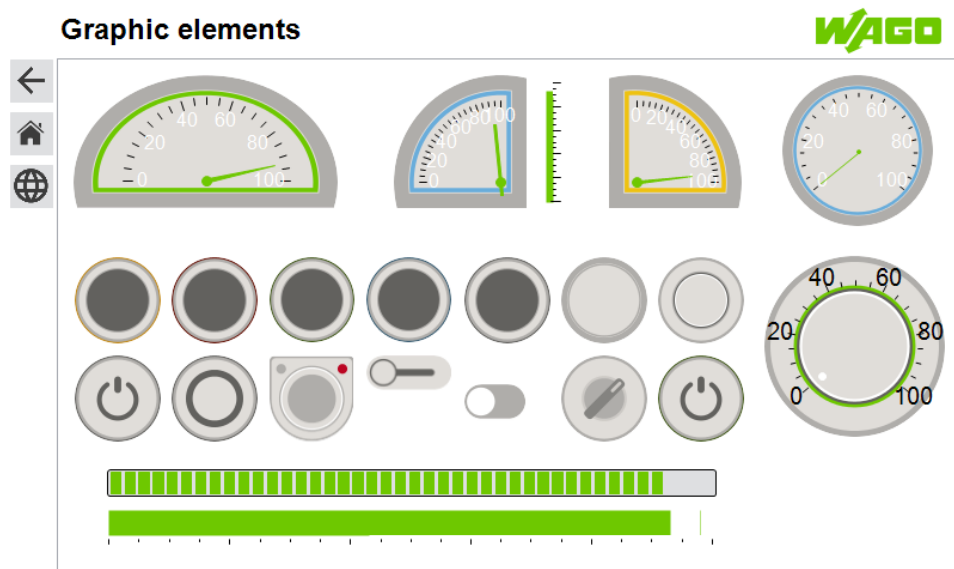


Figure 3 :Graphic elements

This screen displays an overview of the standard display and input objects, such as keys, buttons and rotary switches. Display values are simulated.

Operating data can be entered using keys/buttons and the rotary switch.

2.2.2 “Trends” Visualization Page

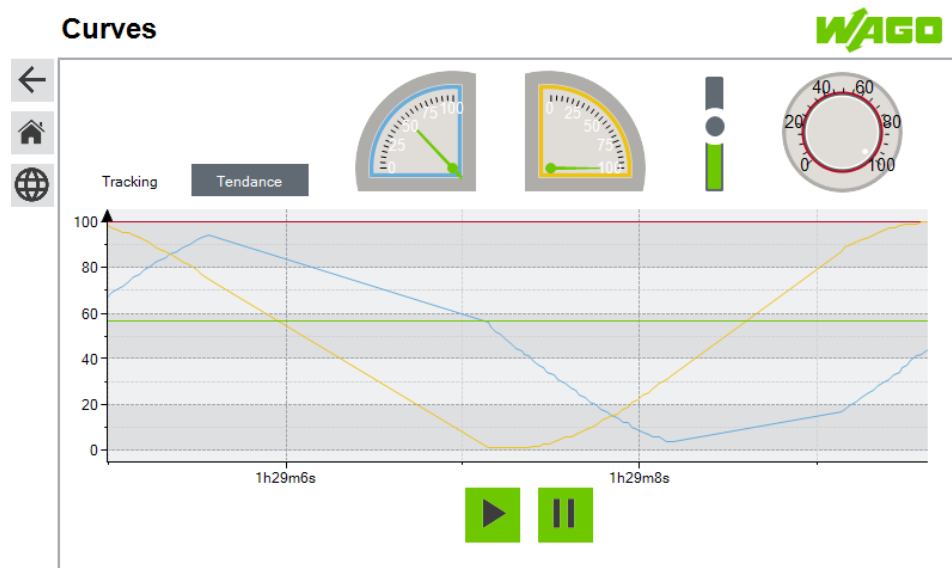


Figure 4 :Trends

The function of the trend element is shown on the “Trends” page. Besides two simulated values, other values can be manipulated using the rotary switch and the slider.

You can alternate between current and historical data using “Record” and “Trend”. Recording can be started/stopped using the “Play/Pause” button.

2.2.3 “Alarms” Visualization Page

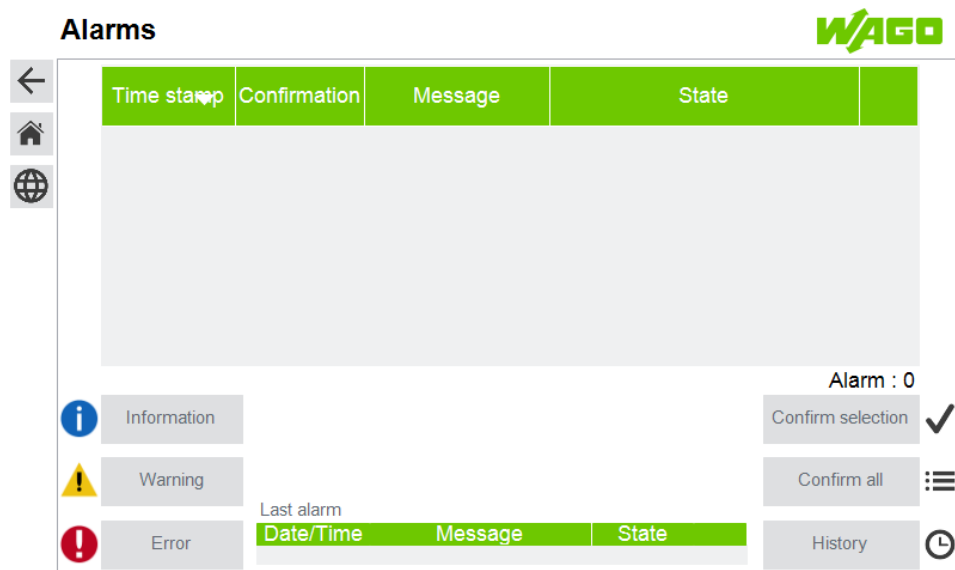


Figure 5 :Alarms

The “Alarms” page describes the function of the alarm table element. Events can be generated (occurring/canceled) using the corresponding function fields (information/warning/error).

These can be acknowledged by selecting the individual elements in the table via the corresponding function field.

The entire past progression of alarms is displayed using “History”.

2.2.4 “Multi-Touch” Visualization Page

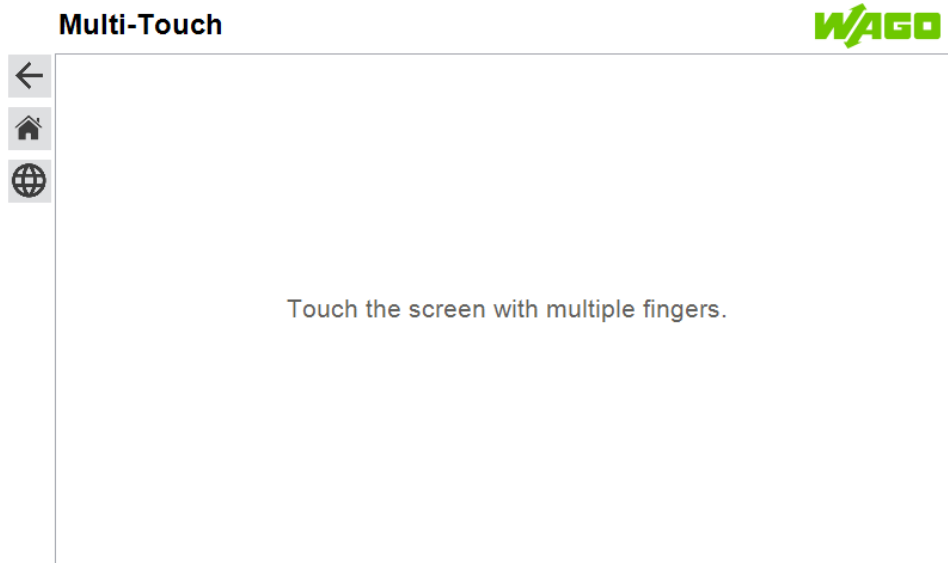


Figure 6 : “Multi-Touch”

The “Multi-Touch” page demonstrates the corresponding capabilities of the Touch Panels 600 Advanced. Just move one or more fingers across the display.

2.2.5 “Swipe” Visualization Page

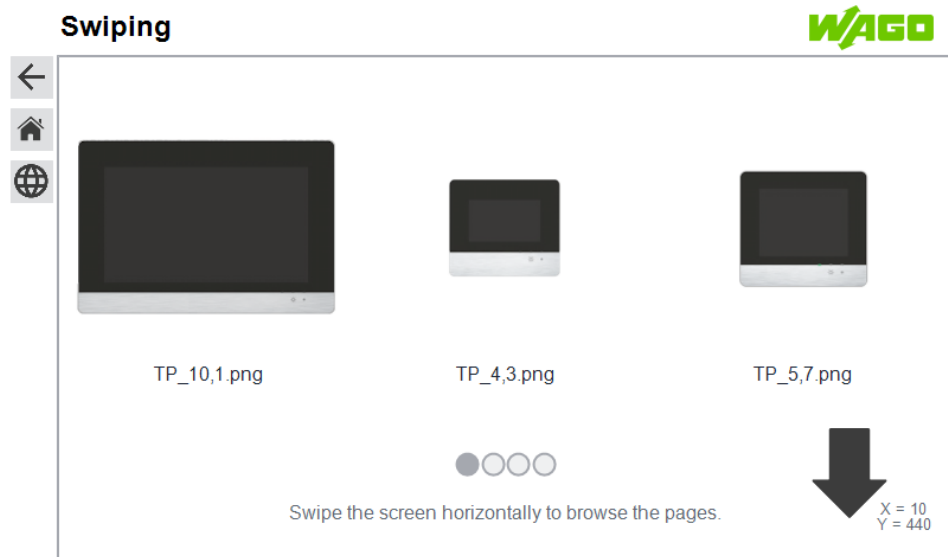


Figure 7 : “Swipe”

The “Swipe” function is a convenient way to switch between views. To do this, start at the center of the screen and move (swipe) one finger out in one continuous motion toward the left or right side of the screen. Swiping up or down is also supported; this is signaled by the arrow.

2.2.6 “Motion Sensor” Visualization Page

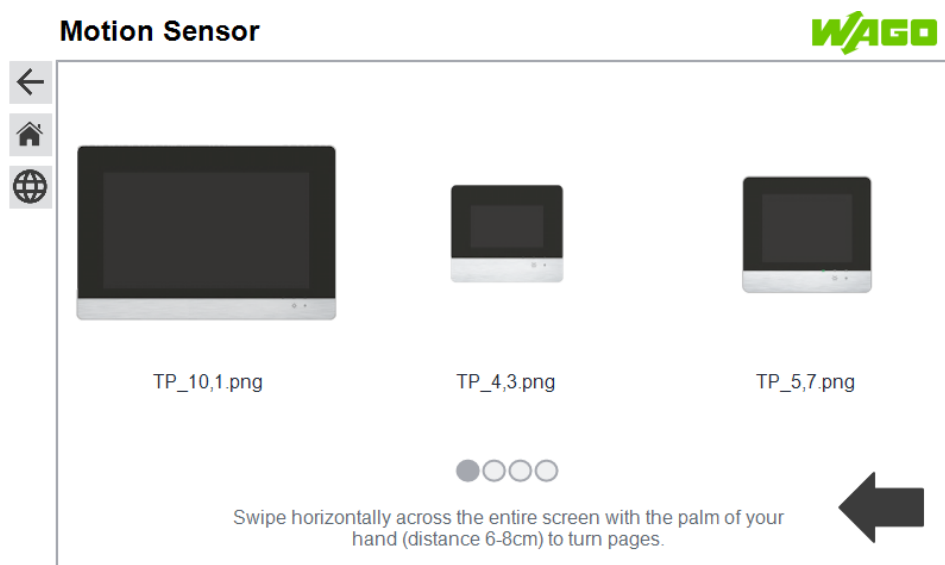


Figure 8 : Motion sensor

The Touch Panel 600 offers a touchless motion sensor.

The example here shows how to scroll pages by moving your hand over the display (about ~ 6 ... 8 cm above the screen). To do this, move your open hand in one complete horizontal motion over the display, either from left to right or from right to left.

2.2.7 “Two-Hand Operation” Visualization Page

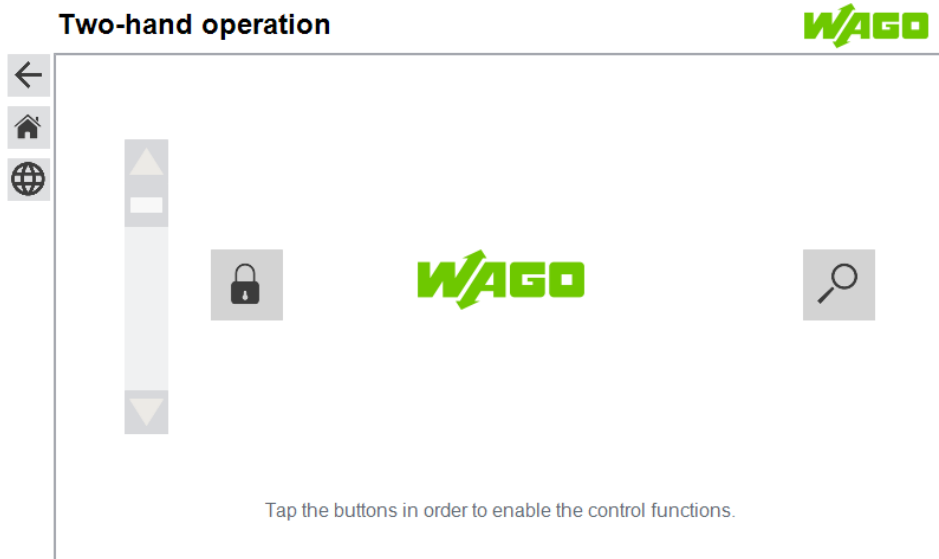


Figure 9 : Two-hand operation

Implementation of two-hand operation is demonstrated on the “Two-hand operation” page. Touch the icon button (lock/magnifying glass) to use the control function for the slider(s).

2.2.8 “Multi-Touch” Visualization Page

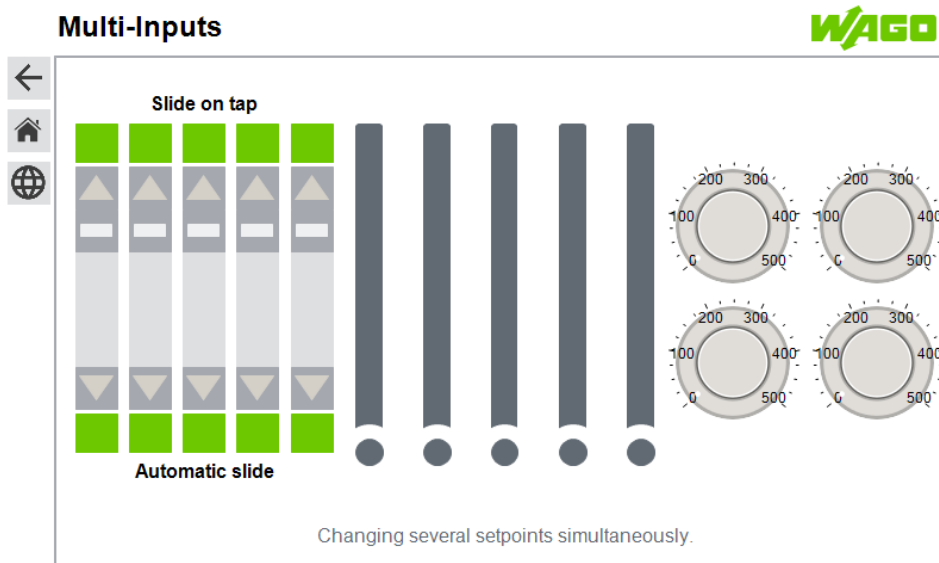


Figure 10 : Multiple input

The multi-touch properties are given again on the “Multiple input” page. You can use multiple rotary switches or slides simultaneously to enter setpoints.

2.2.9 “Application: HVAC” Visualization Page

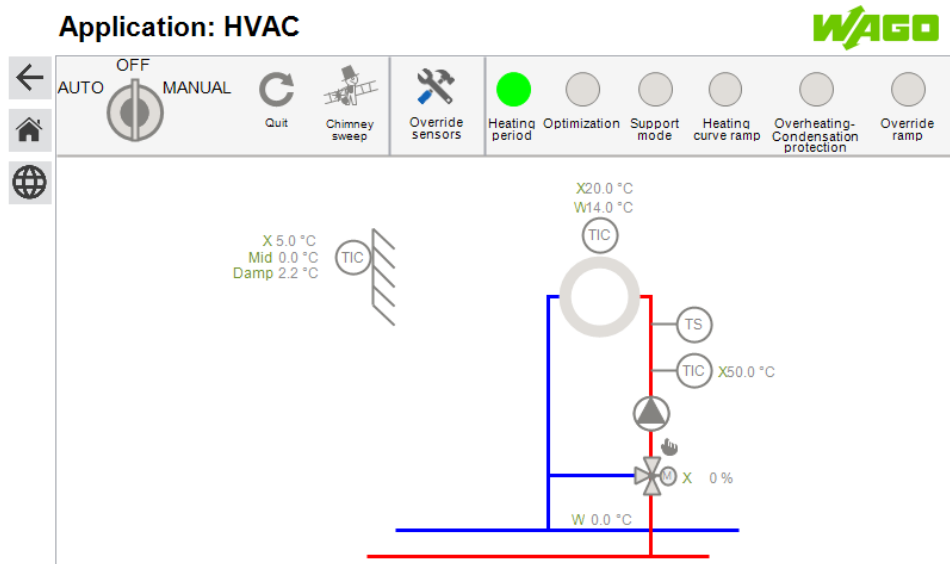


Figure 11: HVAC DEMO

Use of a building application (HVAC) is illustrated on the “HVAC” page.

You can set the operating mode switch to AUTO/OFF/MANUAL.

You can manually activate the pump using the “Hand” icon under the pump icon and manually specify correcting variables.

2.2.10 “Application: Marine” Visualization Page

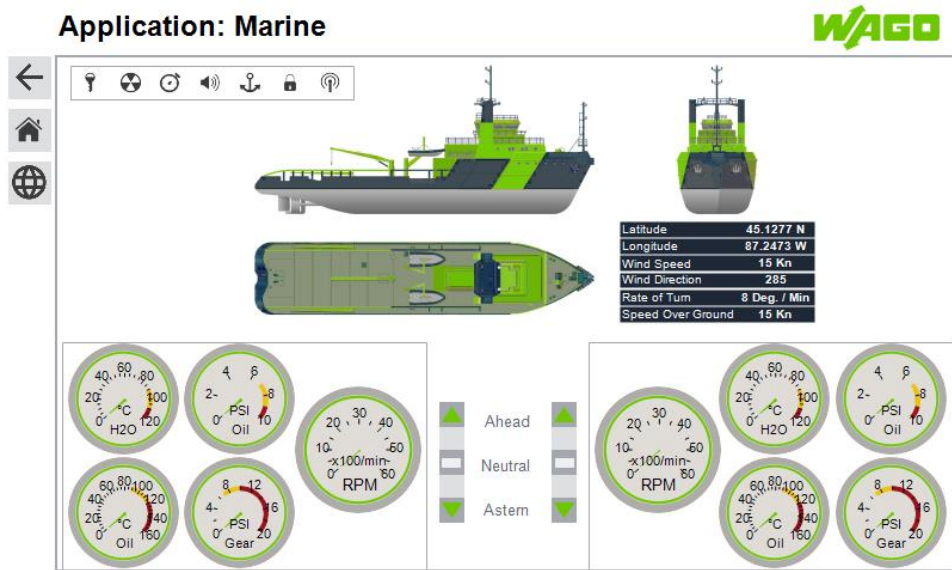


Figure 12 : Marine DEMO

The “Marine” page shows an example of an application from ship automation.

2.2.11 “Application: Process” Visualization Page

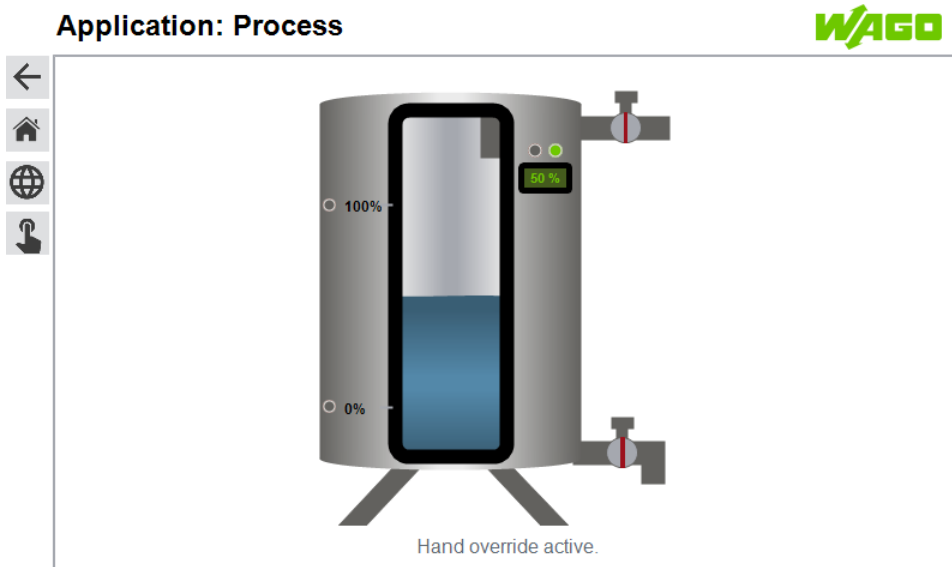


Figure 13 :Process demo

“Process visualization” illustrates a tank application.

The inlet/outlet valves can be actuated via an external Modbus® slave with DI/DO

modules. See the *e!COCKPIT* sample project for these application notes about details on configuration.

Manual operation can also be locally activated. To do this, activate manual operation using the bottom field in the navigation menu.

You can then open/close the valves by tapping on them.

2.2.12 “Documentation” Visualization Page

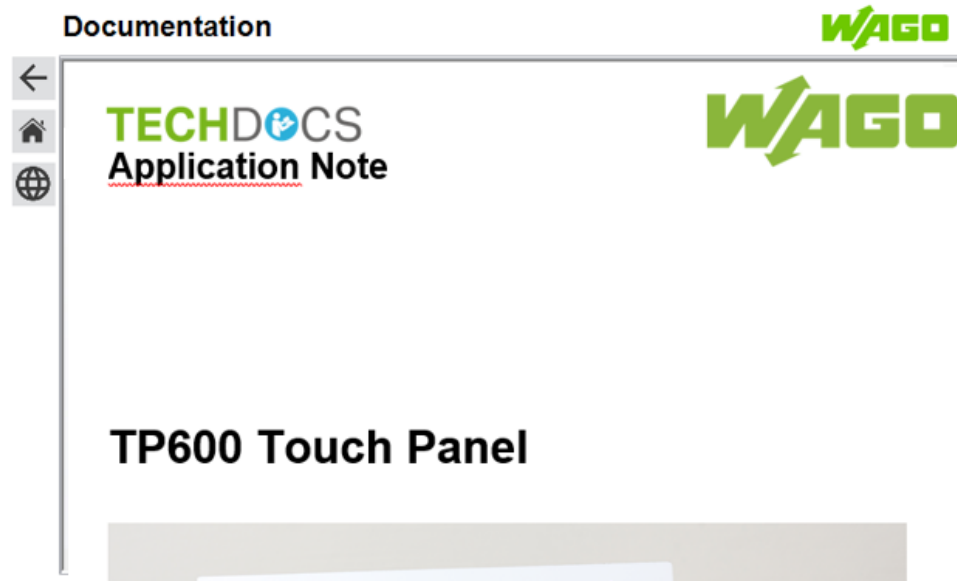


Figure 14 :Documentation

This application note can be displayed directly in the browser window on the “Documentation” page.

2.3 “Docker®” Visualization Page



Figure 15 : Docker® dashboard

The “Docker®” visualization page shows a few selected variable values in the GRAFANA™ open-source application in a Docker® environment. For this, variable values for the *e!COCKPIT* application are written to an “InfluxDB™” database as a first step. These variable values are then read from the database by Grafana™ and displayed on the dashboard.

Information Additional Information



More information about installing the Docker® environment on the TP600 and about the installation of other container applications is given in the “WAGO Github™ Account” (<https://Github.com/WAGO>).

2.4 “Webvisu” Visualization Page



Figure 16 : Webservice

The Touch Panel 600 web server is available at the preset IP address 192.168.1.20. This enables the application examples presented here to be displayed remotely via a web browser (PC/mobile device).

The “WebVisu” example illustrates accessing a dedicated web server (localhost) using the *e!COCKPIT* browser element.

2.5 “WBM” Visualization Page

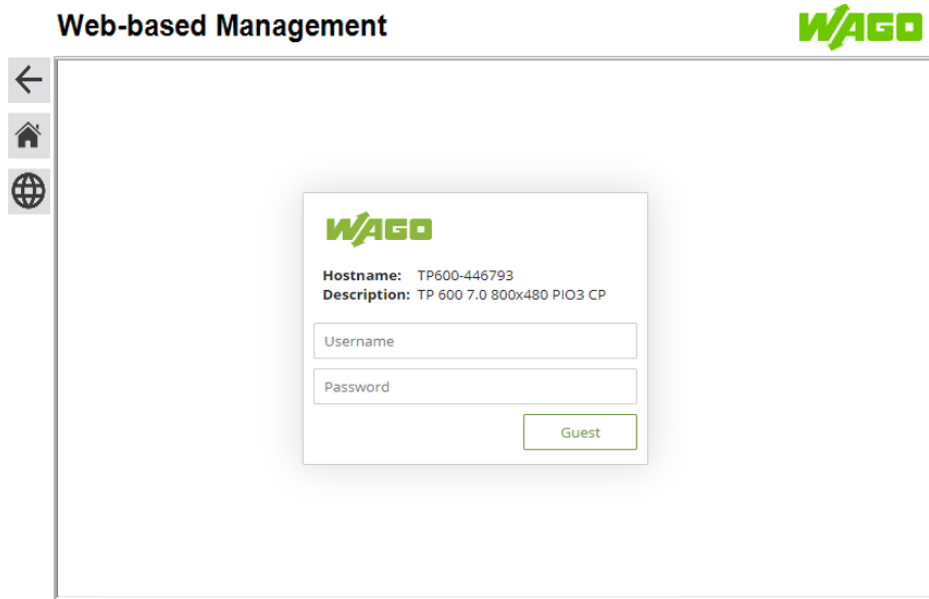


Figure 17: WBM

The configuration menu (WEB BASED MANAGEMENT) for the TP600 can be called up remotely via the device web server.

Remote access to the dedicated configuration menu (192.168.1.20) using the **e!COCKPIT** browser element is demonstrated in this example.

An external browser can also be used for this in the network (PC/mobile device).

Username: **admin**

Password: **wago**

All details of configuration possibilities for the panel are given in the Touch Panel 600 product manual (www.wago.com).

Note

Calling Up Web-Based Management (WBM)



Besides being accessible using the integrated web server, WBM can also be called up by swiping over the screen from the top to bottom.

3 Creating Applications with e!COCKPIT

The corresponding **e!COCKPIT** project for this application note (**a2020005**) is available in the download area at www.wago.com that you can use to get familiar with the configuration and programming.

You can then create your own applications that use communication interfaces, such as Modbus UDP/TCP/RTU and OPC UA, or that implement a link to the WAGO cloud.

The scope of the **e!COCKPIT** engineering software, as well as installation and quick-start instructions are given in the quick start guide **2759-0101**.

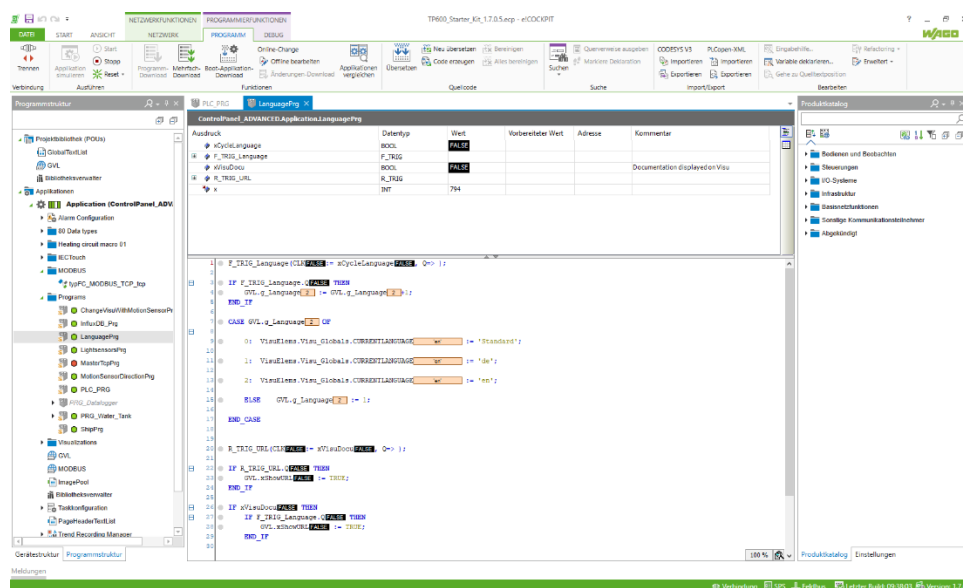


Figure 18: e!COCKPIT

The **e!COCKPIT software** is also available in the download area at www.wago.com.

The Touch Panel 600 starter kit (8003-099/762-5303) includes one workstation license, which you can activate once you've installed the software.

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