



EDIT

AUTOMATION

OPERATION MANUAL BOOK

Document No: EDIT-ECO8-005
Revision : 1.1

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GENERAL

The ShaPoLi ECO 8 is a solution to reduce the CO2 emissions according to the new IMO EEXI . This product can be used for activating an alarm when the Shaft Power is exceeding the EEXI power Limit.

The ShaPoLi ECO 8 can be installed on the Bridge and signals output from the installed torque meter can be used as a measuring input on the device to measure the Power , shaft speed and torque . The device can start recording the data when shaft speed exceeds the 10rpm .

There are two types of SHAPOLI ECO 8 system :

- EDIT-141
- EDIT-99

Shapoli ECO 8 can be connected to extra inputs like M/E flowmeters or an additional device in ECR .

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1. SYSTEM'S DESCRIPTION

ShaPoLi ECO 8 system is an instrument that measures, controlling and recording the actual shaft power and limits it at the maximum allowed to meet the vessel's required EEXI.

The signals are transferred from the installed Torque meter to the input signal module of ECO 8 ShaPoLi, and recording all the measurements. ECO 8 is equipped with a 3.5"(EDIT-99) or 5.7"(EDIT-141)LCD touchscreen display which make user-friendly easy and comfortable use of the system.

SHAPOLI ECO 8 will help you to monitor and record the shaft power and set the power limitations by any output signal.

When the shaft Power is above the vessel's EEXI Limit , an audio and visual alarm will occur to warn Master that it has reached the power limit.

EEXI limitation visual is always on , even override button is pressed , until vessel's power is below the EEXI limit.

The override function enables the user (Master) to operate the propeller above the shaft power limit in order to handle situation like weather , piracy , etc.... .

Override function is password protected . In order to activate the Override button, password is : **1234**

- Responsible person for using the SHAPOLI ECO 8 is Captain of the vessel.

Functions which can be performed with SHAPOLI ECO 8 system are :

- Measurements of the shaft power , shaft speed and torque with one or two 3rd party torque meters.
- Displaying of the actual Power , speed , Torque and EEXI Limit
- Triggers a visible and audio Alarm when EEXI power limit is exceeded by the shaft Power .
- Starts logging Data when shaft speed is =>10 rpm
- Other inputs can be added depends on customer's needs,

The following data are recorded by the ECO 8 ShaPoLi and presented on the display unit.

- Power KW
- Speed rpm
- Torque kNm
- Thrust kN (optional measurement)
- Override action
- Alarm
- Optional measurements such as (M/E flowmeters etc..)

A power failure alarm(audio & visual) will be activated when SHAPOLI ECO 8 power supply is turned off.



2. TECHNICAL SPECIFICATION

Power supply voltage (depending on version)	85... 230 ...260V AC/DC; 50 ÷ 60 Hz or 19... 24 ...50V DC; 16V... 24 ...35V AC
External Fuse (required)	T - type, max. 2 A
Power consumption	typically 15 VA; max. 20 VA
Display (depending on version)	3.5" or 5,7", TFT color graphic display, 320 x 240 pixels, with LED backlight
Sensor power supply output	24V DC ± 5% / max. 200 mA,
Basic communication interfaces	RS 485, 8N1/2, Modbus RTU, 1200 bit/s ÷ 115200 bit/s USB Host port, USB Device port
Digital input	1 input 0/15...24V DC, galvanic isolation (low state: 0÷1V, high state:8÷24V) power consumption: 7,5 mA / 24V, isolation: 1min @ 500V DC.
Optional communication module*	Second USB Host port Serial RS-485 and RS-485/232 ports Ethernet 10 Mb/sec. RJ-45
Optional input modules*	4/8/16/24x Voltage (0÷10V) / Current (0÷20mA)** 4/6x Universal/Analog flowmeter/Digital input** 2/4x Pulse input** 4/6x Isolated universal/Analog flowmeter/Digital input** 2/4x Pulse input + 2/4x Current input** 2/4x Flowmeter + 2/4x Current input** 16/24x NTC (0÷100k)/ Voltage (0÷10V)/ Current (0÷20mA)/ Digital (TTL,HTL)** 6x Isolated current (4÷20mA)** 4/6x RTD (Pt100, Pt500, Pt1000, Cu50, Cu100)** 4/8x/12 TC (J, K, S, T, N, R, E, L(GOST), B, C)** 8/16/24x Digital input** 3/5x Universal input** 2/4x Universal counter input** 2/4x Hourmeter module**

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Optional output modules*	2/4/6/8x IO Passive current output (4÷20mA)** 4x SSR driver + 4x Relay 5A/250V (cos φ = 1)** 4/6x Relay 5A/250V (cos φ = 1)** 8/12x Relay 1A/250V (cos φ = 1)** 8/16/24x SSR driver (10÷15V, up to 100mA per output)**
Protection level	IP 65 (device front side), optional IP 65 version including gasket for panel cut-out sealing or IP 54 transparent door with key, IP 40 (front USB version)
Internal memory capacity	2 GB, option 4 GB
Housing material	NORYL - GFN2S E1
Housing dimensions	96 x 96 x 100 mm (small housing – 3.5" Display) or 144 x 144 x 100 mm (big housing – 5.7" Display)
Mounting hole	90.5 x 90.5 mm (small housing – 3.5" Display) or 137 x 137 mm (big housing – 5.7" Display)
Assembly depth	102 mm
Panel thickness	max. 5 mm
Operating temperature (depending on version)	0°C to +50°C or -20°C to +50°C
Storage temperature (depending on version)	-10°C to +70°C or -20°C to +70°C
Humidity	5 to 90% no condensation
Altitude	up to 2000 meters above sea level
Screws tightening max. torque	0.5 Nm
Max. connection leads diameter	2.5 mm ²
Safety requirements	In accordance with to: PN-EN 61010-1 installation category: II pollution degree: 2 voltage in relation to ground: 300V AC



3. HARDWARE CONFIGURATION

The functionality of EDIT-99 & EDIT-141 can get adjusted to the user's needs .

- The— 4/8/16/24x Voltage/Current input module, id
- 4/6x Universal/Analog flowmeter/Digital input module,
 - 4/6x Isolated Universal/Analog flowmeter/Digital input module,
 - 2/4x Pulse input
 - 2/4x Pulse input + 2/4x current input module
 - 2/4x Flowmeter input + 2/4x current input module,
 - 16/24x NTC/Voltage/Current/Digital mixed inputs module,
 - 6x Isolated current input module,
 - 4/6x RTD input module,
 - 4/8/12x TC input module,
 - 8/16/24x Optoisolated digital input,
 - 3/5x Universal input module,
 - 2/4x Universal counter module,
 - 2/4x Hourmeter module.

4. WORKING WITH THE ShaPoLi ECO 8

After powering up a starting logo is showed on the EDIT-99&EDIT-141 display .

While the operating system is being loaded a progress bar is visible in the middle of the screen .

During this process the view of the screen may stay dimmed for 3-5 seconds .please wait until the end of this operation before starting to operate the device . additionally , in the last phase of loading the software version is displayed in the bottom left corner . after that the main application is started .

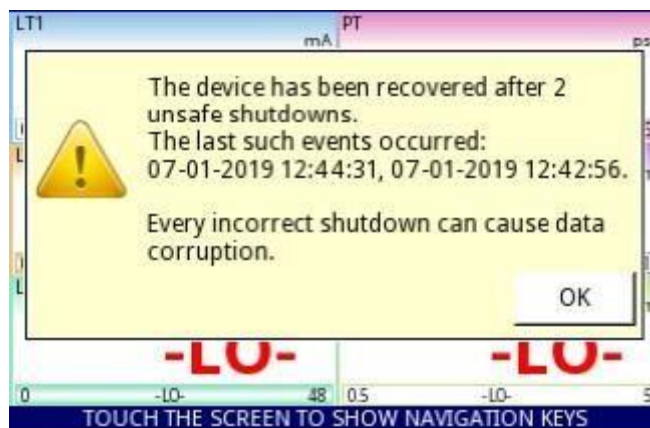
The safe shutdown buttons allows to safe power down of the device. After pressing the button and accepting the warning message after a short time the screen will look like in the picture 1. Now the use3r can power off the device . the manufacture recommends turning off the device this way. This method is especially recommended when data logging is enabled.

Failure to adapt to these instructions could cause the loss of saved data samples .



Picture 1.

Incorrect device shutdown occurs when the power supply to the device is stopped before pressing the safe shutdown button and the message from picture 1 appears . it may occur as a result of e.g: disconnecting yhe power supply with an external switch , automatic disconnection of the fuse from the supply circuit of the device re failure of the power supply network . when the device is restarted after incorrect turning off, a message contained in picture 2 will be displayed.



Picture 2. The view of the screen with a message about unsafe shutdowns of the device.

This message shows the number of incorrect shutdowns and the dates and times of the restarts. If the number of such events increases above 5 , the message will take the form showing in picture 3 giving the last five recovery dates . the counter of such events increases until the message acknowledgment .



Picture 3 ; the view of the screen with a message about 7 unsafe shutdowns.

5. THE USE OF THE TOUCH-SCREEN

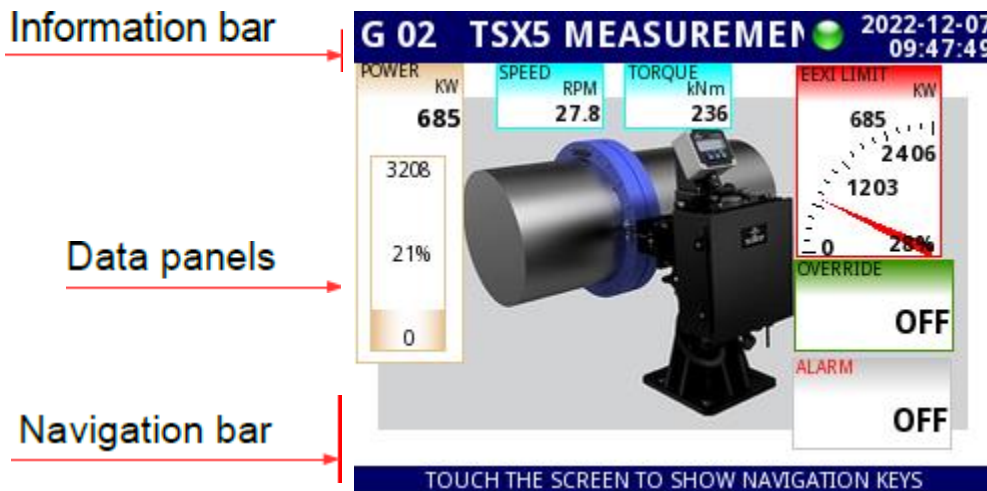
Do not use pointers with sharp edges while working with the touch screen .

It is strongly recommended to use a special stylus made of plastic or another soft material with rounded ends.

DISPLAY

The EDIT-99/141 displays all data on a TFT screen with an embedded touch-screen panel.

During normal operation the EDIT-99/141 displays data in a form selected by user at any time it is possible to switch presentation mode and group.



Main display of ECO 8 .



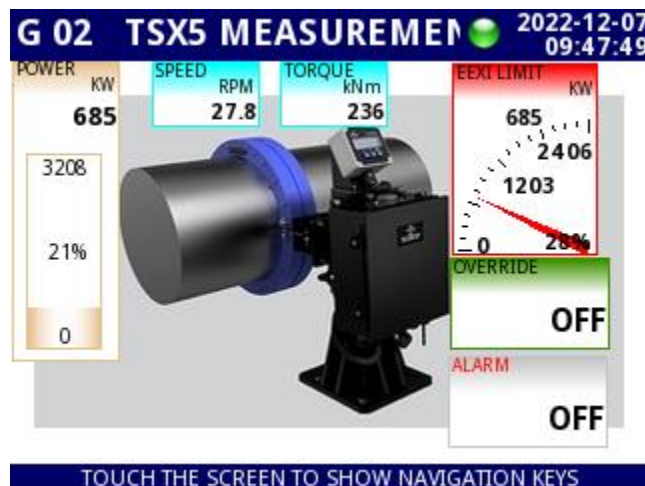
name of the group which is visible on the display

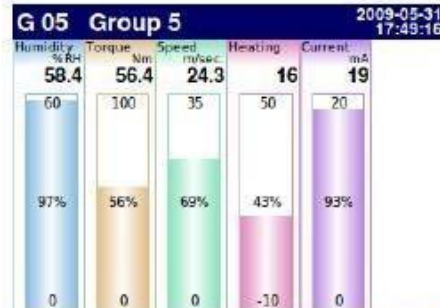
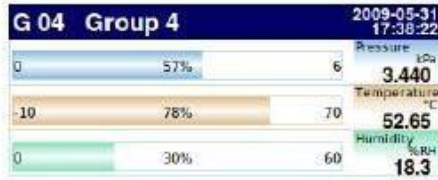


- Name of group visible on the screen , in place pr a standard name.
- Group number – number of the currently displayed group , to change the displayed group press button Group ↓ or Group ↑ in the Navigation bar .
- Time and date – current time and date displayed in the top right corner on the screen can be set in General settings.
- Logging data indicator – located in the information bar the logging data indicator changes color depending on the state of logging:
 - o Gray color – data logging option is not activated
 - o **Green color** – after activation the data logging option indicator changes to green when the data is enabled.
 - o **Yellow color** – it is possible to log data in the device but there is less than 20% of total memory remaining . Also at the moment when free memory drops below 20% a warning will be displayed on the screen.
 - o **Red color** – warning about the lack of space on a memory card, meaning data logging will not be possible until space is freed in the memory .
 - o Alternative blinking green with a blue color – when the indicator flashes blue the logged data is moved to memory.(note! At this time you must not turn off the device because it may cause a loss of recently data logged)

Navigation

Main window of the device – displaying the Navigation bar.

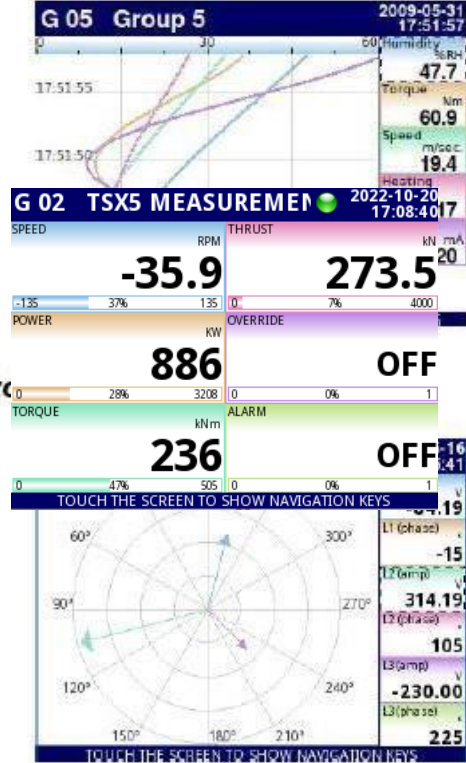
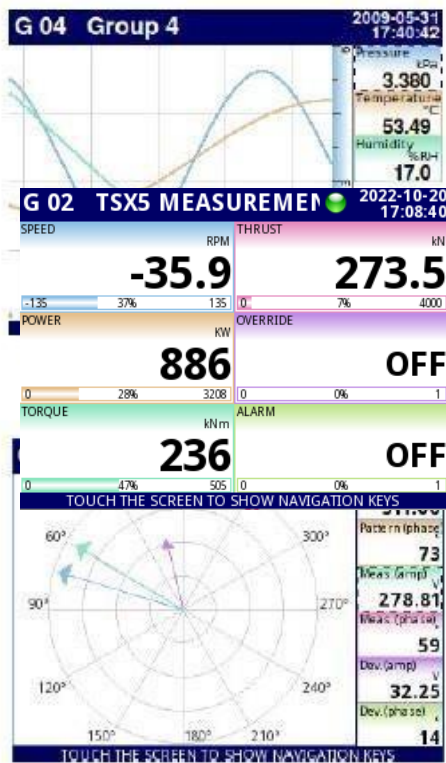




TOUCH THE SCREEN TO SHOW NAVIGATION KEYS

TOUCH THE SCREEN TO SHOW NAVIGATION KEYS

Fig. 6.10. Examples of **Horizontal** (for 3 channels) and **Vertical Bars** (for 5 channels)



Important messages

The user will sometimes be asked, informed and alerted about a variety of events by messages displayed on the screen. The figures below (6.17÷6.20) present examples of message types.

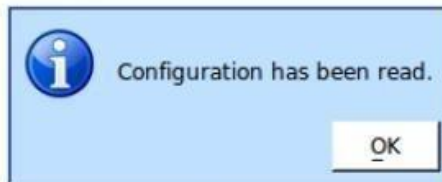


Fig. 6.17. Information message

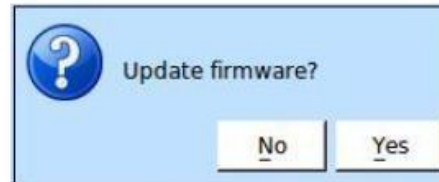


Fig. 6.18. Question message

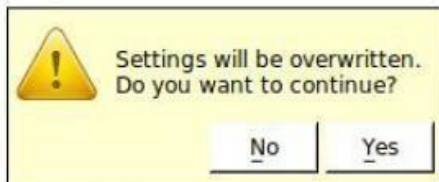









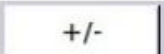

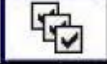








Fig. 6.19. Warning message



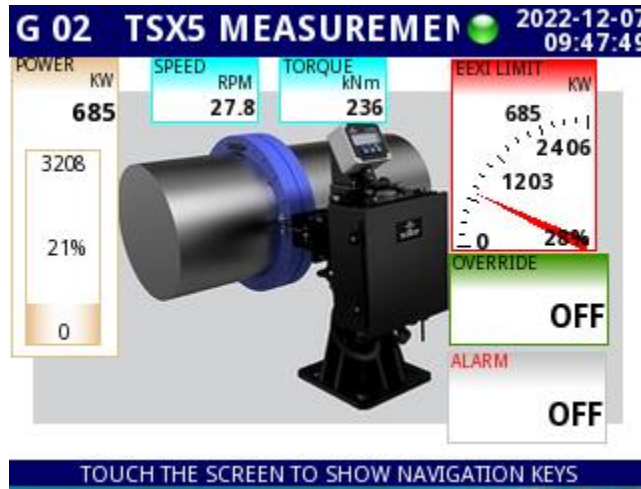
Fig. 6.20. Alert message

Functions of common buttons

	“Exit” - exits from current menu or sub-menu
	”OK” - accept the choice or changes of edit dialogue (and exit from this dialogue)
	“Cancel” - reject the entered choice or changes of edit dialogue (and exit from this dialogue)
	Selection of an element for editing. Arrow buttons allow the user to select successive elements (groups, logical channels, controllers or outputs). The middle button allows a direct selection of a particular element from the list.
	Navigation keys in choice type dialogues.
	Move arrows. Allow to move the cursor along the edited text.
	“Caps lock” - switches between lower and upper case letters.
	“Backspace” . When editing values, pressing this button deletes the last visible number. When editing text, the last edited symbol shown directly before the cursor is deleted.
	“Clear” - clears the whole number when editing values.
	“Sign” - changes the sign of the edited value.
	This button deletes the selected file.
	“All” - selects all the available options.
	“None” - deselects all the available options.
	Press this button to enter the Text editor window.
	Add a new object
	Delete a selected object
	„Home” – moves to the home group (button available only in SCADALite display mode)
	„Back” – moves to the last displayed group (button available only in SCADALite display mode)

6. Operation of ECO 8 ShaPoLi

Group 2

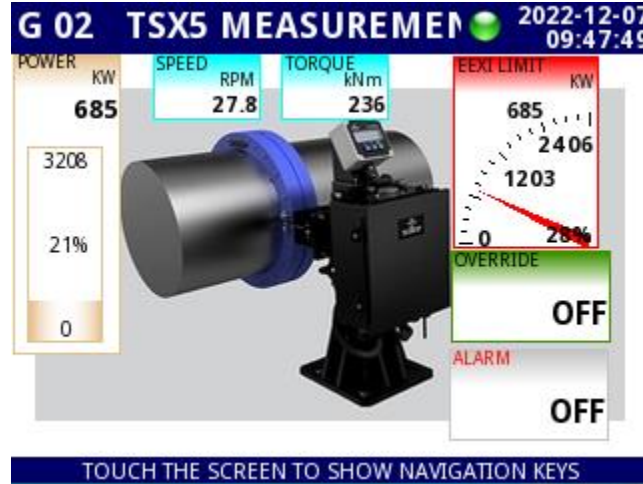


Above picture is the main screen of ECO 8 ShaPoLi display with measurements from the shaft power meter .

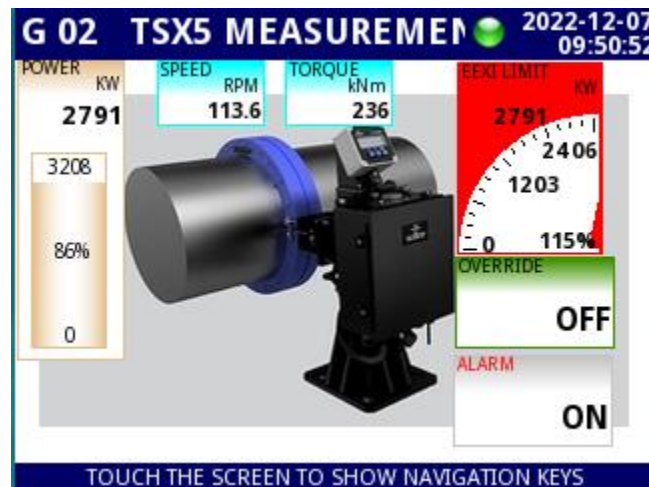
When vessel's speed start to increase(speed >10 rpm) the EDIT-99/141 will automatically start recording . see below image



- You can confirm that ECO8 is recording from the Green indicator.

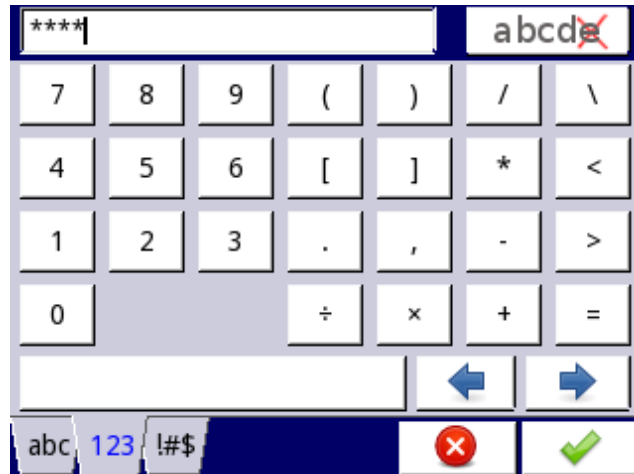


- When the soft Power is above the limit , then and audio and visual alarm occurs. See below example image.



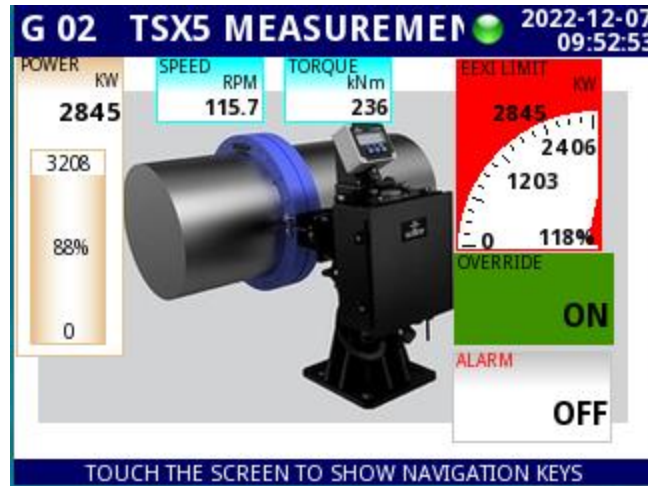
- In case Master wants to Override the system and reset the alarm , he must push the OVERRIDE Button and below display will appear on the display
- Select user by touching the display: And select : Master

Password: 1234





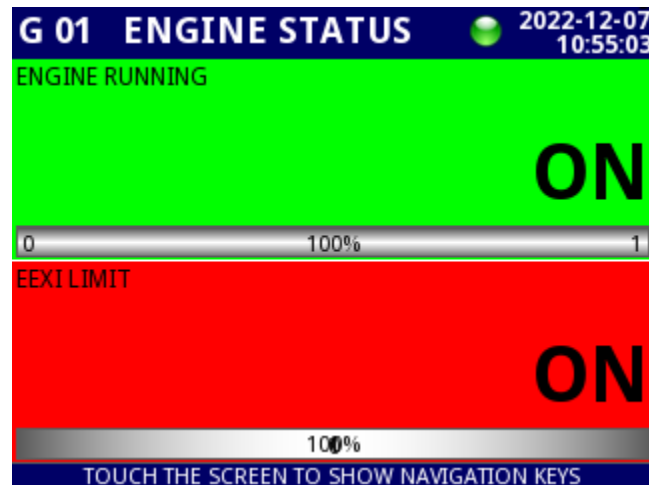
- After entering the password press v(green button) and below screen will appear :



Override button is now activated, and Alarm has been de-activated.

GROUP 1

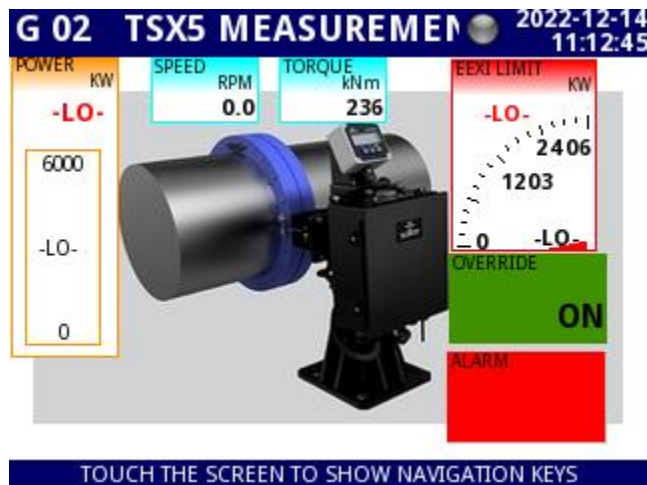
- Group 1 indicates the EEXI limitation bar as well as when Engine's soft is running.



- Engine running : indication turns to green "ON" when soft rpm is > 10 rpm . this value enables the Data logging .
- EEXI LIMIT : indication turns to "ON" when soft Power is equivalent with the EEXI limit set point .
- VISUAL RED LAMP for EEXI LIMIT in energized when Limit turns on .

Failure of Input Signal

- In case of a signal failure on 4..20mA input the below screen will appear on the Display .



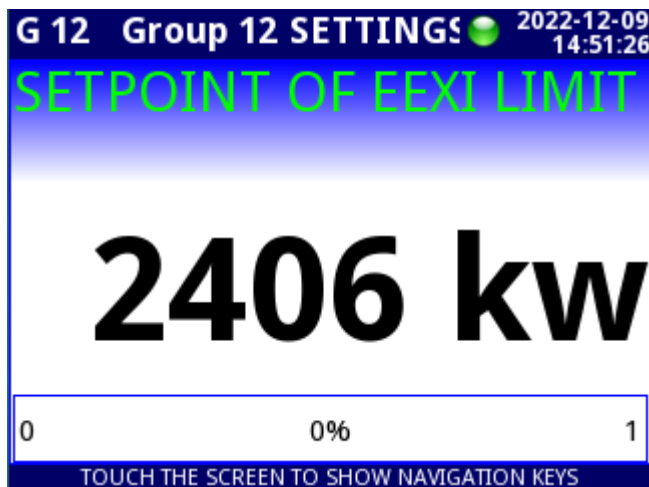
Example of a signal failure in Power measurement.



7.SETTING THE EEXI LIMIT

Note: below values are example and may be different .

By touching the navigation bat , change the group and below screen will appear .



- Press the screen for 2-3 sec. and below will appear .
 Activation of override is protected by unique code , which only Master of vessel can use .

Authentication

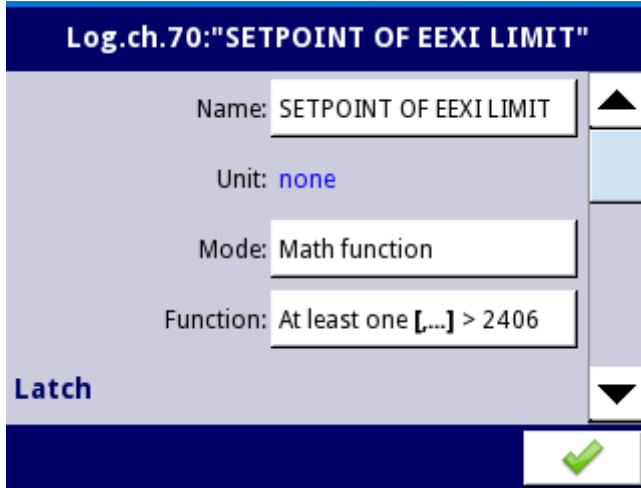
User:

Access password:

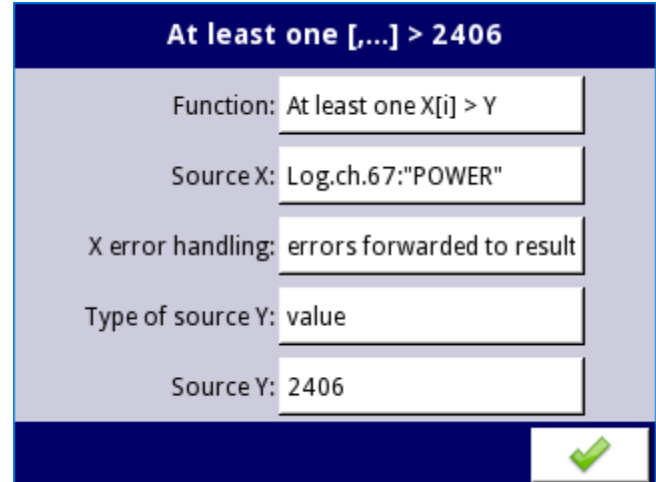
✖
✔



- After entering below screen will appear .
- Go to function : , and change the "source Y" (see below)



Pic.1



pic.2

- After entering the requires value(KW) press green button and go back to main menu by saving the new settings .



- Now the EEXI limit is settled with the new value. See above picture.



8. Export and Delete of Logging Files

Pressing **MENU->Files Management** button (see 7.17) opens the **File Management** menu, which is used to exchange data with the portable flash drive.

Flash drive requirements:

- Maximum current consumption 100mA. Some large capacity flash drives are not supported by the device (in this case, an external USB hub with power supply can be used). The manufacturer recommends using flash drives up to 32 GB.
- The flash drive must be formatted under Windows as FAT or FAT32.
- Update, configuration and template files must be in the root folder.

The view of the main **File Management** menu is shown in 7.18. The following buttons may appear in this window:

- The **Logging files** button is visible if there is an active license for recording or if the license has expired
- The **Bundled Configuration** and **Configuration files** buttons are always visible and active.
- The **Permission files** button is visible and active when the **Access mode** parameter in the **Access options** menu is set as **MultiLevel**

MAIN MENU SELECTION PANEL

Pressing the **[MENU]** button on the **Navigation bar** (see Chapter 6.3.2. **Navigation bar**) enters the main selection panel (see 7.16). This panel allows users to select between entering the **Device Configuration** menu, **Files management** menu and **Device Information** window.

Further information about the different menus is described in further chapters.



Fig. 7.16. Main menu window

FILES MANAGEMENT

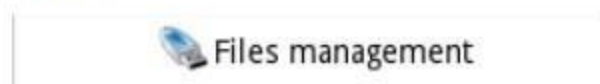


Fig. 7.17. This button allows to enter the files management menu

Logging files:

The **Logging files** button (see 7.18) allows access to the recording files management menu (see 7.19). The management of the recording files is performed by:

- selecting a file or group of data recording files in a given group,
- selecting successive files in successive groups,
- exporting selected data recording files to a portable flash drive and/or deleting selected data recording files.



Fig. 7.19. Logging files menu

- Memory capacity



Fig. 7.20. **Logging files** menu (cont.)

The **Logging files** menu is shown in 7.19. The menu consists of buttons:

- **Export selected files** - after pressing this button the selected logging files by the user will be exported to a flash drive,
- **Delete selected files** - after pressing this button the selected logging files by the user will be removed from the device. This button may be inactive if the user doesn't have permission to delete log files,
- **Press to select** at the **Damaged files** label - (the **Damaged files** label appears if there is at least one damaged logging file) after pressing this button, the user goes to the window with the list of damaged files (e.g. logging files that contain errors caused by inappropriate switching off of the device during data recording) that do not guarantee the correct reading of the recorded data,
- **Press to select** next to the labels that indicate the **Group number** - in case of switching on the recording (description of the configuration of switching on the recording for a specific group of channels can be found in **Chapter 7.15.2. Groups - Logging** of a specific logical channel group, in the Logging files menu of this group, the button Press to Select will appear instead of the label "no items". Depending on how many groups loggings have been enabled (now or in the past), there will be so many active Press to select buttons. After pressing this button, you will see a list of recordings made in this group,
- **Select all logs** - after pressing this button, all logging files from all groups will be selected,
- **Clear all selections** - after pressing this button, all logging files from all groups will be unselected.

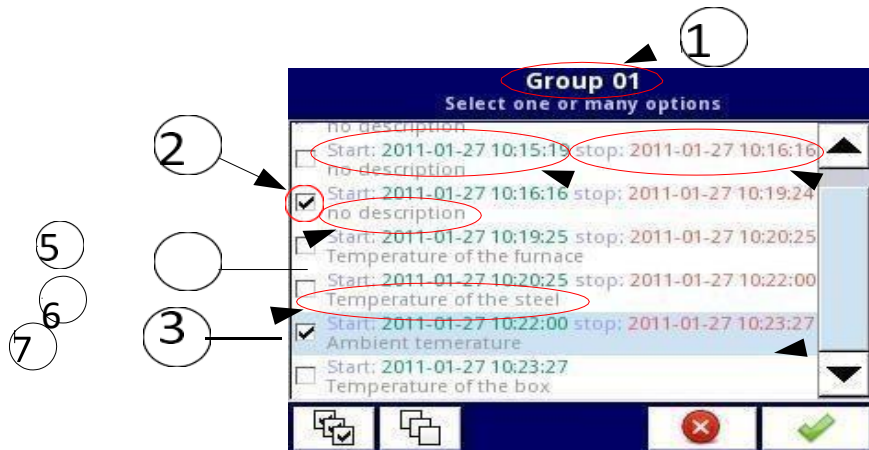


Fig. 7.21. Example view of the data logging files selection window for Group 1

7.21 shows an example view of the data logging files selection window for Group 1. The next numbers mean:

- (1) - group number,
- (2) - logging file selected,
- (3) - no description for the logging file,
- (4) - user-defined description (the description of the logging file is the same as defined in the Groups menu .
- (5) - date and time of stopping data recording of the selected file,
- (6) - date and time of starting data recording of the selected file,
- (7) - date and time of starting data recording of the selected file, the registration of which has not yet been completed.

Memory Card

- Memory capacity of EDIT-99/141 device is **4GB internal memory**. The measuring sample as default setting is set every 2 sec. for every measurement (this can be adjusted according to customer's requirements and EEXI regulation). The range of sampling can be from every: 0.1 sec until every 24hours.
Data are safe against power failure of the device and recording continuous after switching on.

Example of data export to flash drive:

An example of exporting 2 logging files from group 1 is shown in 7.22. First insert the flash drive into the USB connector on the front or rear (if the device is equipped with one of the communication modules) device panel.

- In the first step (1), press the button **Press to select** on the **Group 01** label,
- In the second step (2), select 2 files by pressing them and then accepting the selection with the button in the lower right corner of the screen:
 - File 1. Name: "no description", Start: 2010-12-01 3:24:58 p.m., stop: 2010-12-01 4:34:11 p.m. "
 - File 2. Name: "Ambient temperature" Start: "2010-12-03 9:53:15 a.m.", stop: "2010-12-03 9:55:00 a.m."
- In the third step (3), press the **Export selected files** button and wait for the message that the export operation to the flash drive is finished.

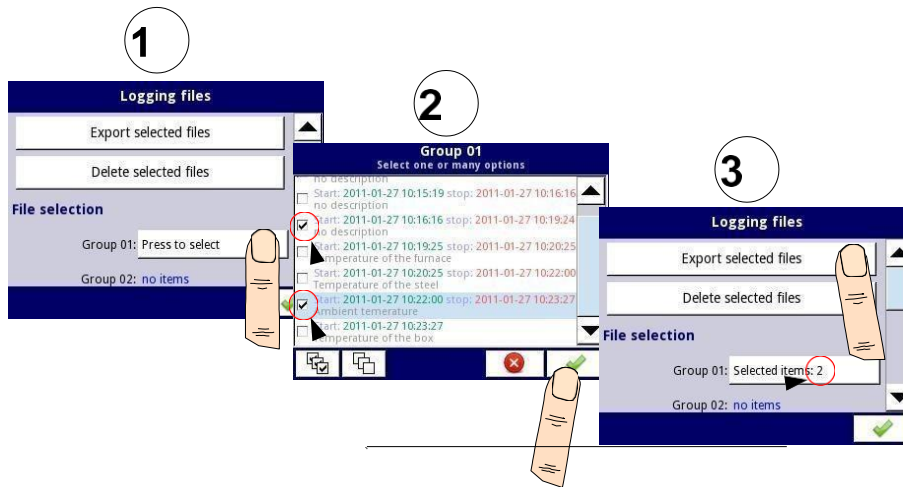


Fig. 7.22. Steps of exporting logged files to flash drive

After exporting the logging files to the flash drive, a folder with the same name as the device identification number is created, in which folders with the selected registrations are located.

Deleting files from the device is done in a similar way as exporting logging files with the difference that instead of pressing the **Export selected files** button in the third step (3) (see 7.22), you should press the **Delete selected files** button.

Bundled Configuration:

The **Bundled Configuration** button allows you to go to the file management menu related to the device configuration.

The **Bundled Configuration** menu allows you to transfer a full, complete configuration between **EDIT-99/141** devices and allows you to upload multiple files to the device in two steps. Use of this menu is recommended to transfer the complete configuration between devices.

The **Bundled Configuration** menu is shown in 7.23 and consists of buttons:

Load bundled configuration - allows you to load selected configuration files to the device from the bundled configuration archive located on the flash drive; the process of loading bundled configuration consists of two steps:

- selecting the archive to load from the list of available files on the flash drive,
- overview and selection of additional files to be loaded from the list available in the archive.

Save bundled configuration - allows you to save selected configuration files as a bundled archive to a flash drive; the process of saving bundled configuration consists of two steps:

- overview and selection of additional files to be saved in the archive from the list of available configuration files in the device memory,
- entering a name of the archive or selecting the archive to be replaced and saving it to a flash drive.

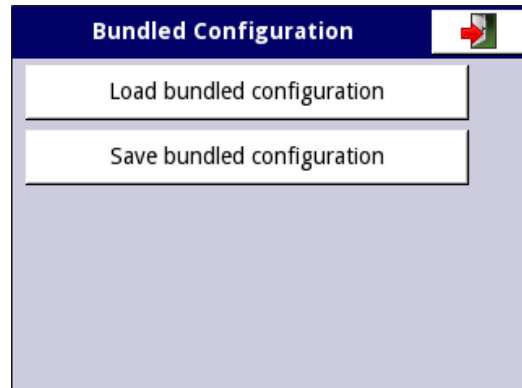


Fig. 7.23. Bundled Configuration Menu

Please note that the file name of the bundled configuration archive is assigned by the user. During the saving process, a window with available files appears, then you can select the file to be replaced or create a new file, giving it a new name by pressing the button with the key symbol in the upper left corner of the screen (see 7.24).

Then confirm the operation and the data will be saved on the flash drive.

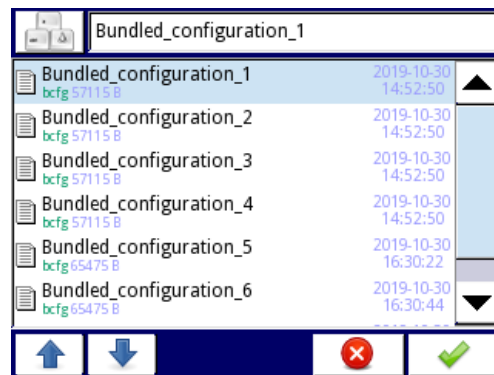


Fig. 7.24. Example of a file selection window to load a file or to name a file to save it

9. READING THE DATA VIA DAQ MANAGER PROGRAMM

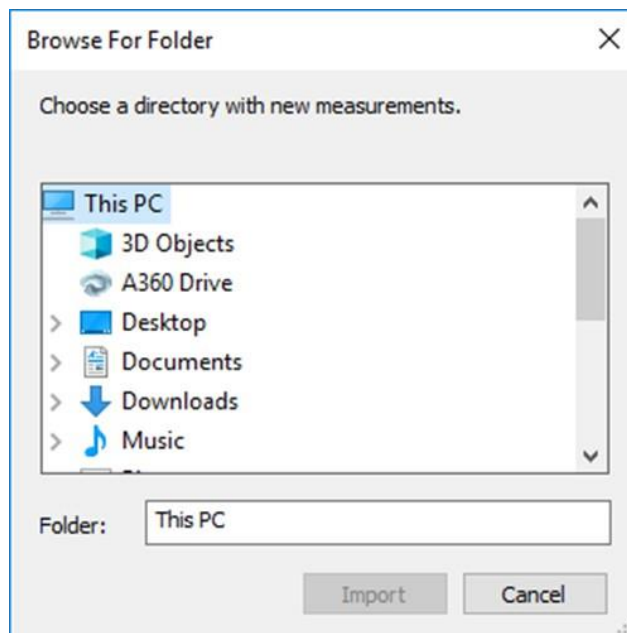
1. GENERAL CHARACTERISTICS

DAQ Manager software allows you to download data recorded by the MultiCon devices (EDIT-99, EDIT-141) and visualize them as tables and graphs. Data transfer is performed using a portable USB Flash.

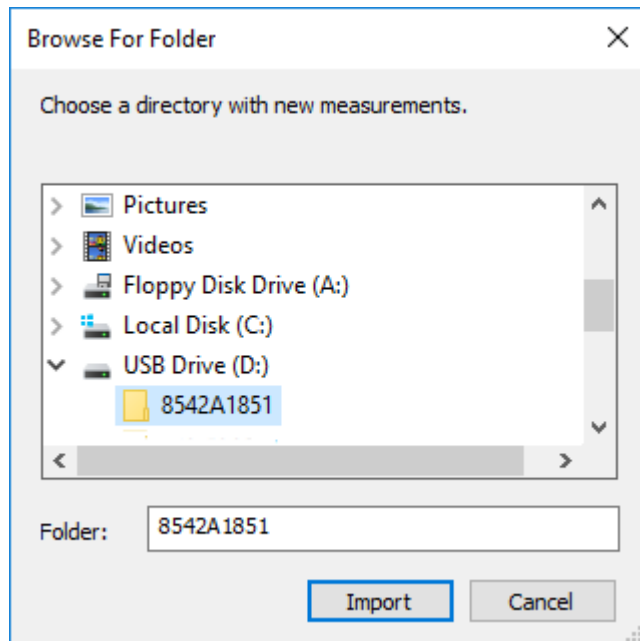
2. DATA IMPORTING FROM A FLASH DRIVE

After retrieving the data from the MultiCon device follow the steps below to visualise them in your computer.

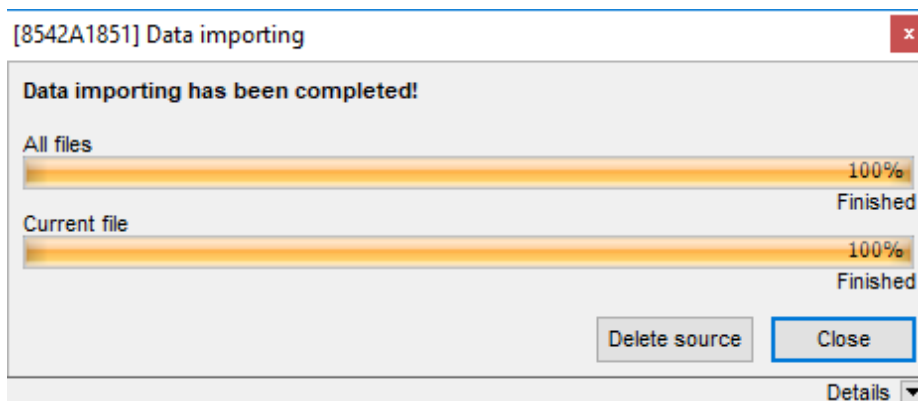
1. Run the “DAQManager-v1.8.0.89-install.exe” file to install the DAQ Manager. (If the program is installed before do not need to install it again”
2. Double-click the DAQ Manager icon from your desktop to start the program.
3. Connect your Flash Drive and wait until you see the following window. (If you don't see the windows go to File > Import Measurement on the upper left corner.)



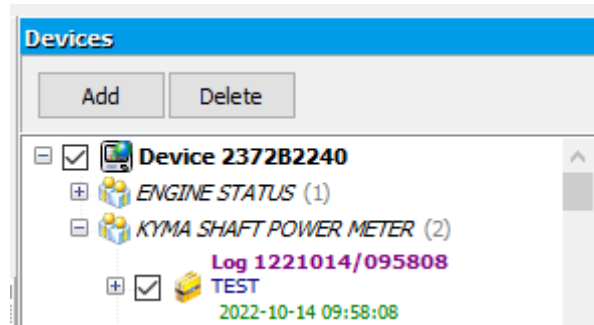
4. Find your Flash Drive on the list click on it and there you will see the file with the measurements. Select it and press import.



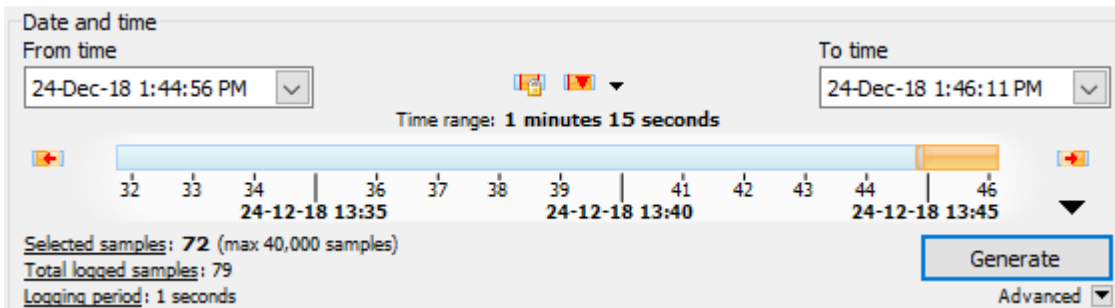
5. When the data will be imported press close.



6. On your main window under the Logs widow you will see the name of your device and under it there will be the name of the data that you imported. Press the '+' symbol and you will see a list of the imported data with the name that has been given on the MultiCon device.



7. Select the file that you want to visualise and under the Measurements Selection window select the date and the time (orange bar) of the measurements you want to import and press 'Generate'.





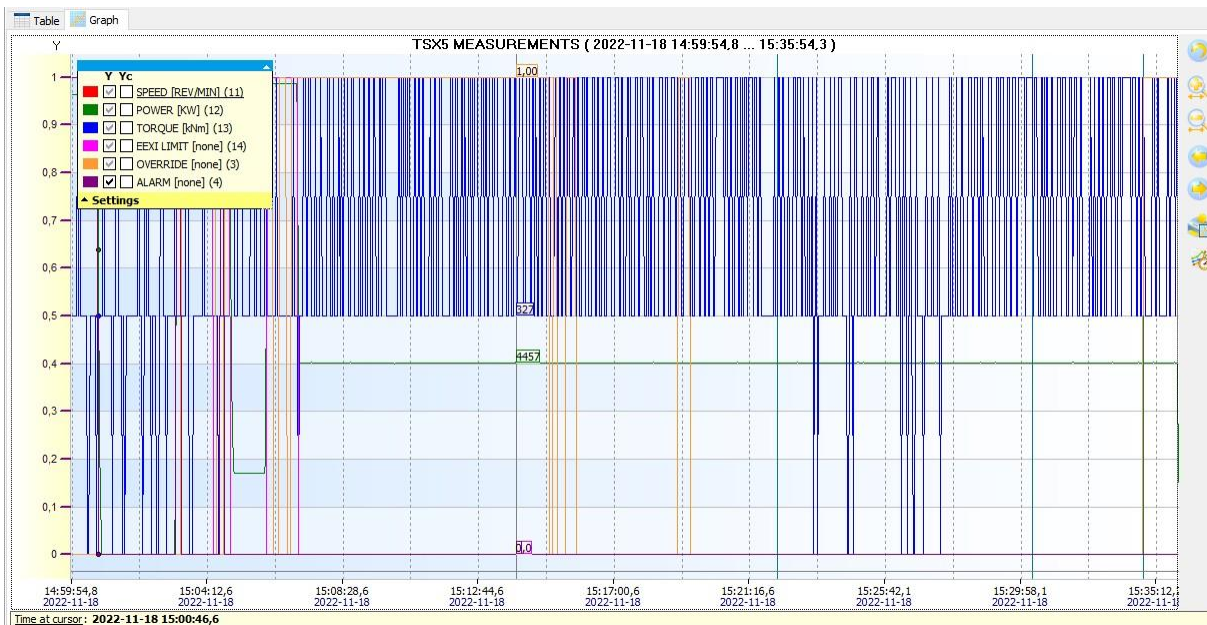
8. Under the 'Report' window, the data that has been selected to be imported will appear.

Report: SHAPOLI ECO 8 OUR LAB » TSX5 MEASUREMENTS » Log 1221118/145954

Table Graph

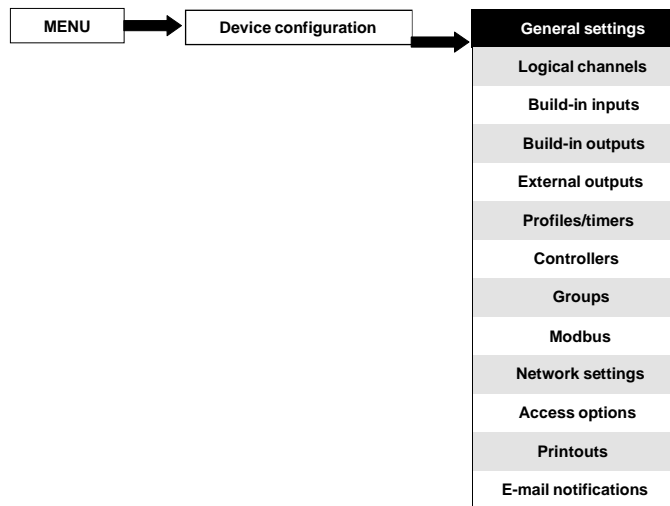
No.	Date and time	SPEED [REV/MIN] (11)	POWER [KW] (12)	TORQUE [kNm] (13)	EEXI LIMIT [none] (14)	OVERRIDE [none] (3)	ALARM [none] (4)
1	2022-11-18 14:59:54,8	122	8546	327	ON	OFF	ON
2	2022-11-18 14:59:56,8	122	8546	327	ON	OFF	ON
3	2022-11-18 14:59:58,8	122	8546	327	ON	OFF	ON
4	2022-11-18 15:00:00,8	122	8546	327	ON	OFF	ON
5	2022-11-18 15:00:02,8	122	8546	327	ON	OFF	ON
6	2022-11-18 15:00:04,8	122	8549	327	ON	OFF	ON
7	2022-11-18 15:00:06,8	122	8552	327	ON	OFF	ON
8	2022-11-18 15:00:08,8	122	8546	327	ON	OFF	ON
9	2022-11-18 15:00:10,8	122	8549	327	ON	OFF	ON
10	2022-11-18 15:00:12,8	122	8550	327	ON	OFF	ON
11	2022-11-18 15:00:14,8	122	8549	327	ON	OFF	ON
12	2022-11-18 15:00:16,8	122	8550	327	ON	OFF	ON
13	2022-11-18 15:00:18,8	122	8550	327	ON	OFF	ON
14	2022-11-18 15:00:20,8	122	8550	327	ON	OFF	ON
15	2022-11-18 15:00:22,8	122	8550	327	ON	OFF	ON
16	2022-11-18 15:00:26,6	122	8550	327	ON	OFF	ON
17	2022-11-18 15:00:28,6	122	8550	327	ON	OFF	ON
18	2022-11-18 15:00:30,6	122	8553	327	ON	OFF	ON
19	2022-11-18 15:00:32,6	122	8550	327	ON	OFF	ON

9. On the "Graph" tab you can see your measurements in a graph form.



10. To export your measurements as a '*.csv' file (Excel) press "Export to file...", select the location for the data to be saved and press 'Save'.

10.GENERAL SETTINGS



The **General settings** menu allows to configure user interface display settings, the default screen when the device powers on and automatic view change settings.

The parameters of the **General settings** menu are:

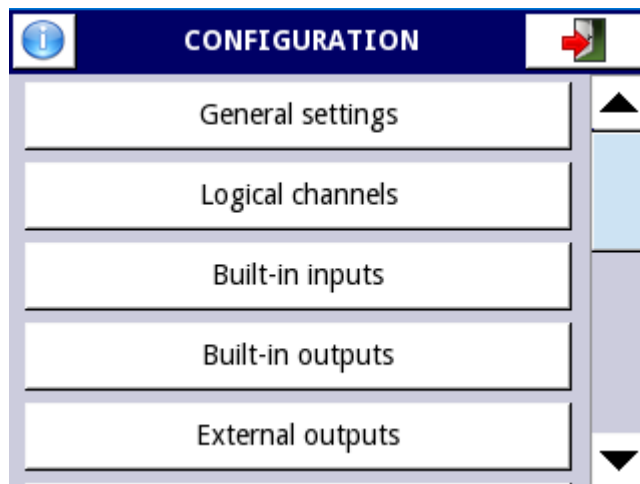
- **Basic** parameter block – this block includes two parameters:
 - **Language** - this parameter allows the user to select the language, available languages are: English, Polish, Spanish, German, Russian, French, Czech, Romanian and Hungarian.
 - **Date and time** - this parameter allows the user to set the current date and time,
 - **Time zone** – the parameter which should contain the time zone where the device works which allows to properly correct date and time in the device,
 - **Reg. num. displaying** - this parameter allows to change the mode of displaying the Register addresses for **Logical channel** and **External output** menu. Two formats are available:
 - **hexadecimal** - the registers are displayed in the hexadecimal format. To indicate that data has a hexadecimal format, the letter 'h' is added at the end - for example, 12h (0x12),
 - **decimal** - the registers are displayed in the decimal format (without any marker) e.g. 123
- **LCD screen** parameter block:
 - **Backlight** - this parameter allows the user to set the level of the LCD backlight. Available levels are: **20%** (the least backlight), **40%, 60%, 80%, 100%** (the most backlight),
- **Screen saver** parameter block - these parameters can reduce the backlight level of the LCD screen (or make it completely blank) during normal operation, i.e. when the user does not touch the screen for a set time. This block has two parameters:
 - **Mode** - this parameter has the following options:
 - **disabled** - this option turns off screen savers, the LCD screen is illuminated at all times according to parameter settings: **Backlight** (see the above **Screen saver** parameter block)
1min, 5min, 10min, 30min,
 - **Brightness** - this parameter is hidden for **Mode = disabled**, in the other modes (**1min, 5min, 10min, 30min**) this parameter is visible, the user can change the brightness level of the LCD screen after time set in parameter **Mode** elapses. The options are: **0%** (screen blank), **20%, 40%, 60%**,
- **Start-up view** parameter block - allows the user to set the initial view of data panel when the device is turned on; this block includes parameters:
 - **Selection method** – selects the method of setting the start-up view parameters:
 - **last view** – last displayed group and mode is presented, as just before the device has been turned off,



- **specified view** - allows the user to set the start-up view as specified group in right display mode.
- **Group** - selects a group displayed at start-up. If the display mode is chosen as **many groups**, the parameter **Group** specify the first of five following groups displayed on the screen (many group mode presents 5 groups in one window). For example, when the user sets Group as Group 8 then the unit will display (starting from the left side): Group 8 → Group 9 → Group 10 → Group 1 → Group 2,
- **Default mode** - select the default presentation of data in the displayed group. For possible modes see **Chapter 6.3.3. Data panels**. The default mode presents groups for which no defined mode has been set (see **defined mode** parameter in **Chapter 7.15.3. Groups - Display options**).
- **SCADALite** parameter block – this parameter block allows the user to set the home group for this display mode, this parameter block contains:
 - **Home group** – this parameter allows to choice a group, which will be displayed as a home group after clicking on the button **Home** described in **Chapter 7.1. EDIT DIALOGUES**,
- **Automatic view change** parameter block - this parameter block allows the user to set the display to change every time period. The parameters of this block include:
 - **Change mode** - this parameter has the following options:
 - **disabled** - no changes in the display. For this mode the remaining parameters in this block are not visible,
 - **change modes** - allows the user to automatically change the displayed mode,
 - **change groups** - allows the user to automatically change a displayed group,
 - **detailed list** - allows to automatically change displayed views defined by the user,
 - **Triggering mode** – this parameter has the following options:
 - **by time** – it enables to change a displayed view at fixed time intervals,
 - **from log. channel** – changes a displayed view depending on the value in a selected logical channel. If the value in this channel is less than 1, the displayed view number is 1, if the value in this parameter equals or is more than 1 but less than 2 the displayed view number is 2, and so on. The last defined view does not have the upper limit.
 - **Display time** – this parameter is visible for the **Change mode: change modes, change groups** – duration (set in seconds) for each screen,
 - **Triggering source** – this parameter is visible for the **Change mode:**

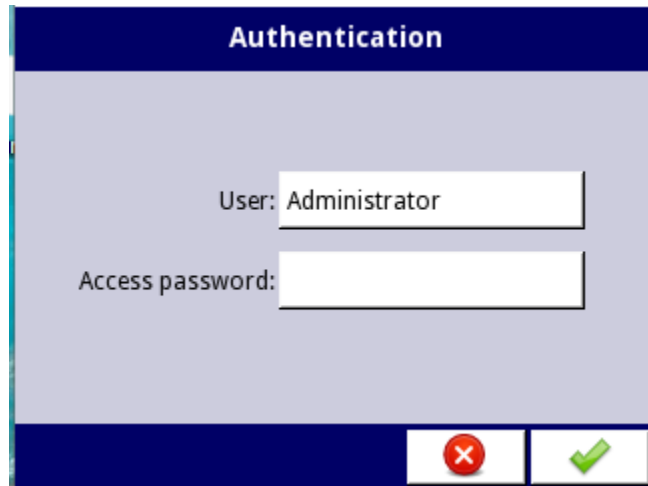
11. ADJUSTING BRIGHTNESS

1. By touching the MENU tab at the bottom of the touch screen you will find the main Menu . Press the DEVICE CONFIGURATION And below screen will appear on your display.



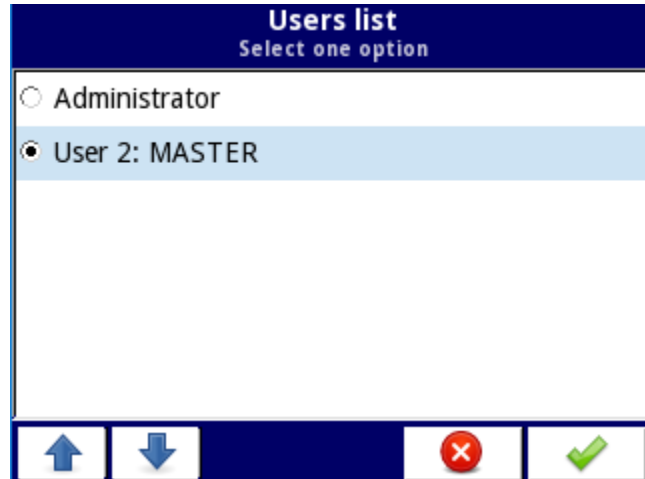


2. Press the GENERAL SETTINGS and below screen will appear.



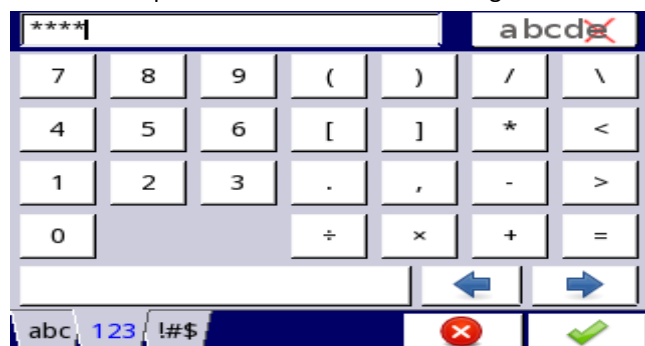
The screen is titled "Authentication" and has a dark blue header. Below the header, there are two input fields: "User: Administrator" and "Access password:". At the bottom of the screen, there are two buttons: a red "X" button and a green checkmark button.

3. Press User and select from the user list .



The screen is titled "Users list" with the subtitle "Select one option". It shows a list of users: "Administrator" and "User 2: MASTER". The "User 2: MASTER" option is selected, indicated by a black dot. At the bottom, there are four buttons: an up arrow, a down arrow, a red "X" button, and a green checkmark button.

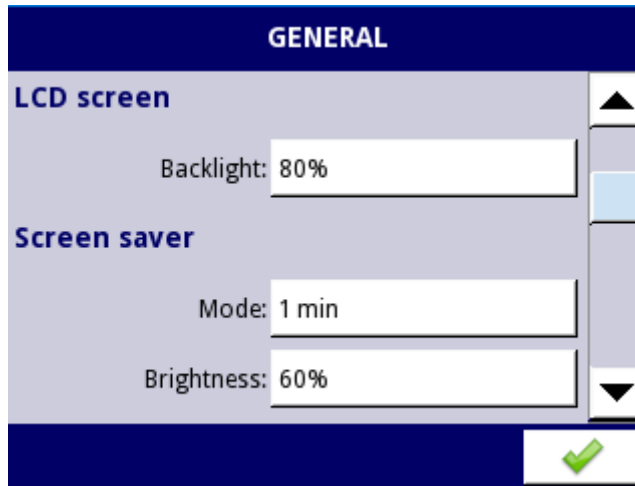
4. Select Master and write 1234 access password to enter to the setting.



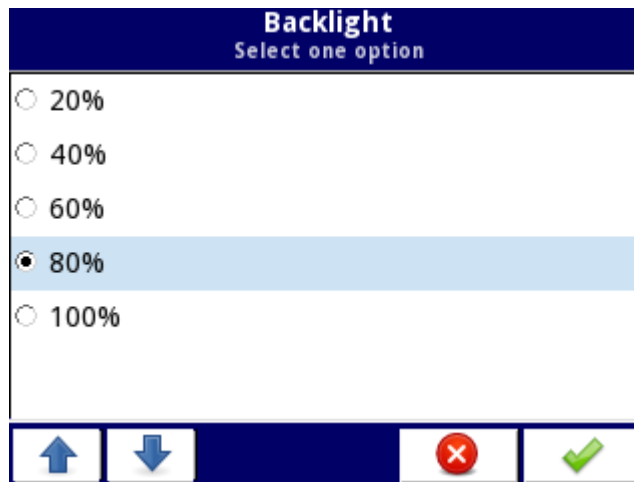
The screen shows a password entry interface. The top part has a text field with "****" and a keyboard icon. Below it is a numeric keypad with buttons for digits 0-9, symbols like [], { }, /, \, *, <, >, and =. At the bottom, there are two blue arrow buttons (left and right) and two buttons: a red "X" button and a green checkmark button.



5. Scroll down the bar and on LCD Screen and press Blacklight .



6. Select one option



7. Now you can return to main Screen

12. ASSEMBLY



- The unit is designed for mounting inside housings (control panel, switchboard) insuring appropriate protection against surges and interference. Metal housings must be connected to ground in a way that complies with the governing regulations.
- Disconnect the power supply prior to starting assembly.
- Check the connections are wired correctly prior to switching the unit on.



- In order to install the unit, a mounting hole must be prepared in accordance with 4.2. The thickness of the material the panel is made of must not exceed 5mm. While preparing the mounting hole take the grooves for catches located

on both sides of the housing into consideration (4.2). Place the unit in the mounting hole inserting it from the front side of the panel, and then fix it using the brackets (4.4). The minimum distances between the centre points of multiple units - due to the thermal and mechanical conditions of operation - are shown in 4.3.

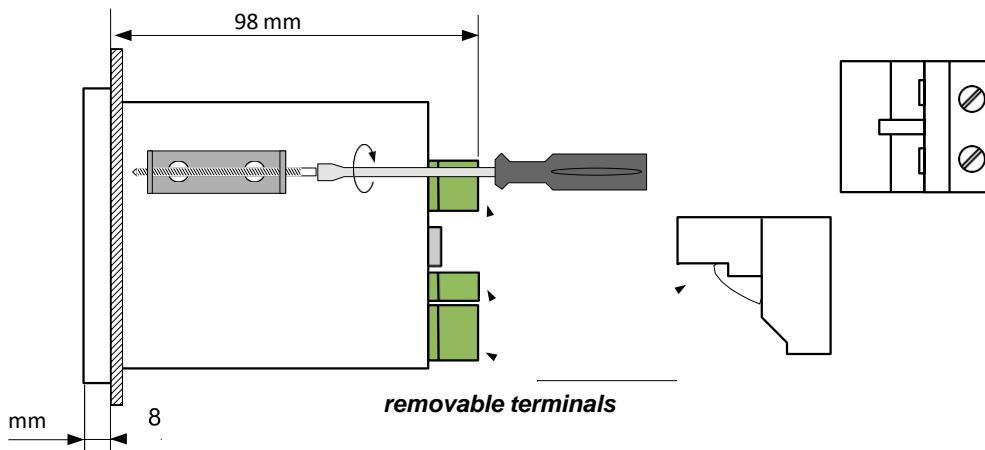


Fig. 4.4. Brackets installation

Fig. 4.5. Connectors removing method

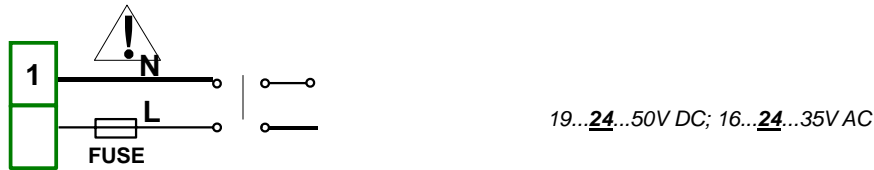


Fig. 4.6. Connection of power supply

- Avoid running signal cables and transmission cables together with power supply cables and cables controlling inductive loads (e.g. contactors). Such cables should cross each other at a right angle.
- Contactor coils and inductive loads should be equipped with interference protection systems, e.g. RC-type.
- Use of screened signal cables is recommended. Signal cable screens should be connected to the earthing only at one of the ends of the screened cable.
- In case of magnetically induced interference the use of twisted pair signal cables is recommended. Twisted pair (best if shielded) must be used with RS-485 serial transmission connections.
- If measurement or control signals are longer than 30m or go outside of the building, then additional safety circuits are required.
- In case of interference from the power supply side, the use of appropriate interference filters is recommended. Bear in mind that the connection between the filter and the unit should be as short as possible and the metal housing of the filter must be connected to the earth with the largest possible surface. The cables connected to the filter output must not be run together with cables with interference (e.g. circuits controlling relays or contactors).

Connections of power supply voltage and measurement signals are performed using the screw connections at the back of the unit's housing (see 4.7).

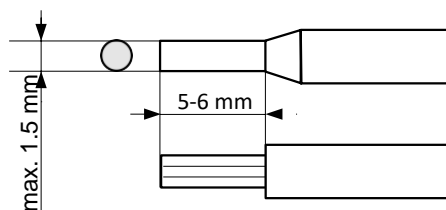


Fig. 4.7. Method of cable isolation replacing and cable terminals dimensions



All connections must be made while power supply is disconnected !

The basic performance of the device contains only the extreme left terminals:

- Power supply,
- SERVICE,
- Sensor supply output +24V DC $I_{max}=200mA$,
- Digital input 0V...15...24V DC (low state: 0÷1V, high state: 8÷24V)
- Interface RS-485.



If the **UN3** or **UN5** module is installed, the +24V DC output is available only in devices equipped with **PS42** power supply module. In other cases there is **no +24V DC output** available and these terminals remain disconnected.

Depending on customer's needs, the basic version of the device can be upgraded with:

- up to three I / O modules (installed in a place designated as **Slot A, Slot B, Slot C**),
- a communication module (additional serial, USB and Ethernet interfaces installed in **Slot D**).

Below is shown an example of a configuration of the installed modules:

- base,
- Slot A - FP4 module (4 pulse inputs),
- Slot B - EFUN4 module (4 universal/analog flowmeter/digital inputs),
- Slot C - SR45 module (4 SSR driver and 4 relay 5A/250V outputs),
- Slot D - ETU module (Ethernet interface and additional USB port).

The basic performance of the device(see Fig.4.8) contains only the extreme left terminals:

- Power supply,
- SERVICE,
- Sensor supply output +24V DC $I_{max}=200mA$,
- Digital input 0V...15...24V DC (low state: 0÷1V, high state: 8÷24V)
- Interface RS-485.



If the **UN3** or **UN5** module is installed, the +24V DC output is available only in devices equipped with **PS42** power supply module. In other cases there is **no +24V DC output** available and these terminals remain disconnected.

Depending on customer's needs, the basic version of the device can be upgraded with:

- up to three I / O modules (installed in a place designated as **Slot A, Slot B, Slot C**),
- a communication module (additional serial, USB and Ethernet interfaces installed in **Slot D**).

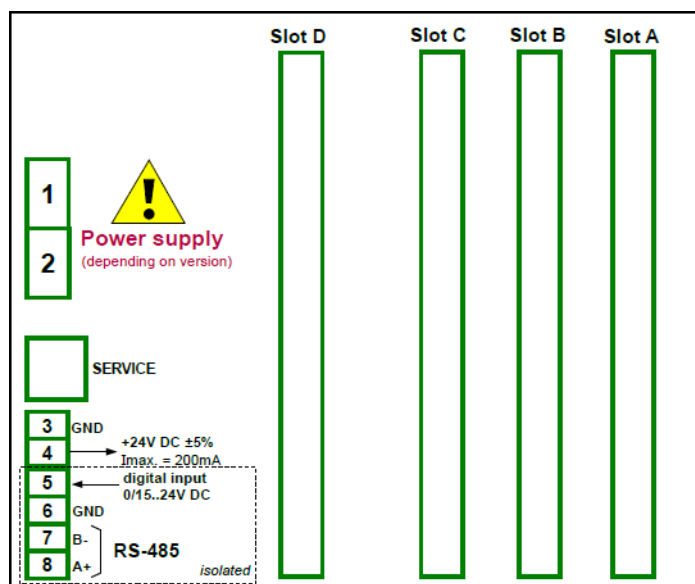
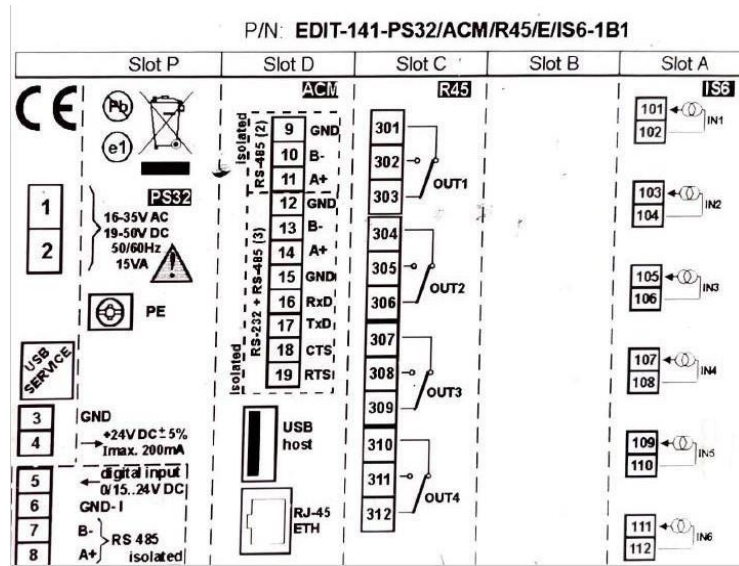
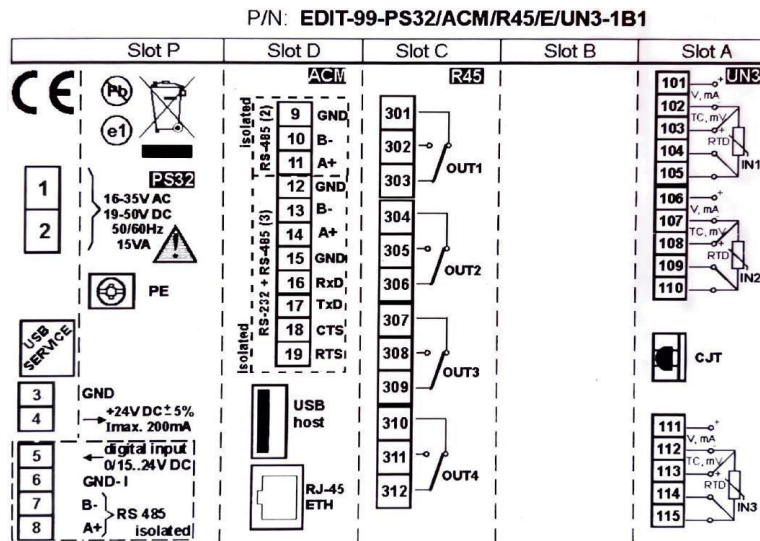


Fig.4.8 Back size of EDIT-99/141



EDIT-141 Back view slots-Terminals



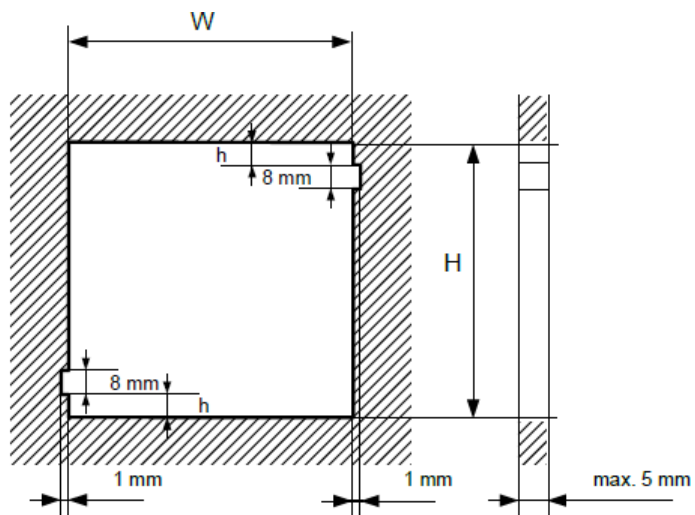
EDIT-99 Back view Slots- Terminals

DIMMENSIONS OF EDIT-99/141 DEVICES

- ◆ EDIT-99: 96X96 housing
- ◆ EDIT-141: 144X144 housing

96 x 96 housing:
H, W = 90.5 mm
h = 16 mm

144 x 144 housing:
H, W = 137
mm
h = 38,5 mm



EXAMPLE OPERATION RECORDS PRINT OUT

Report of log number 1221202/101057

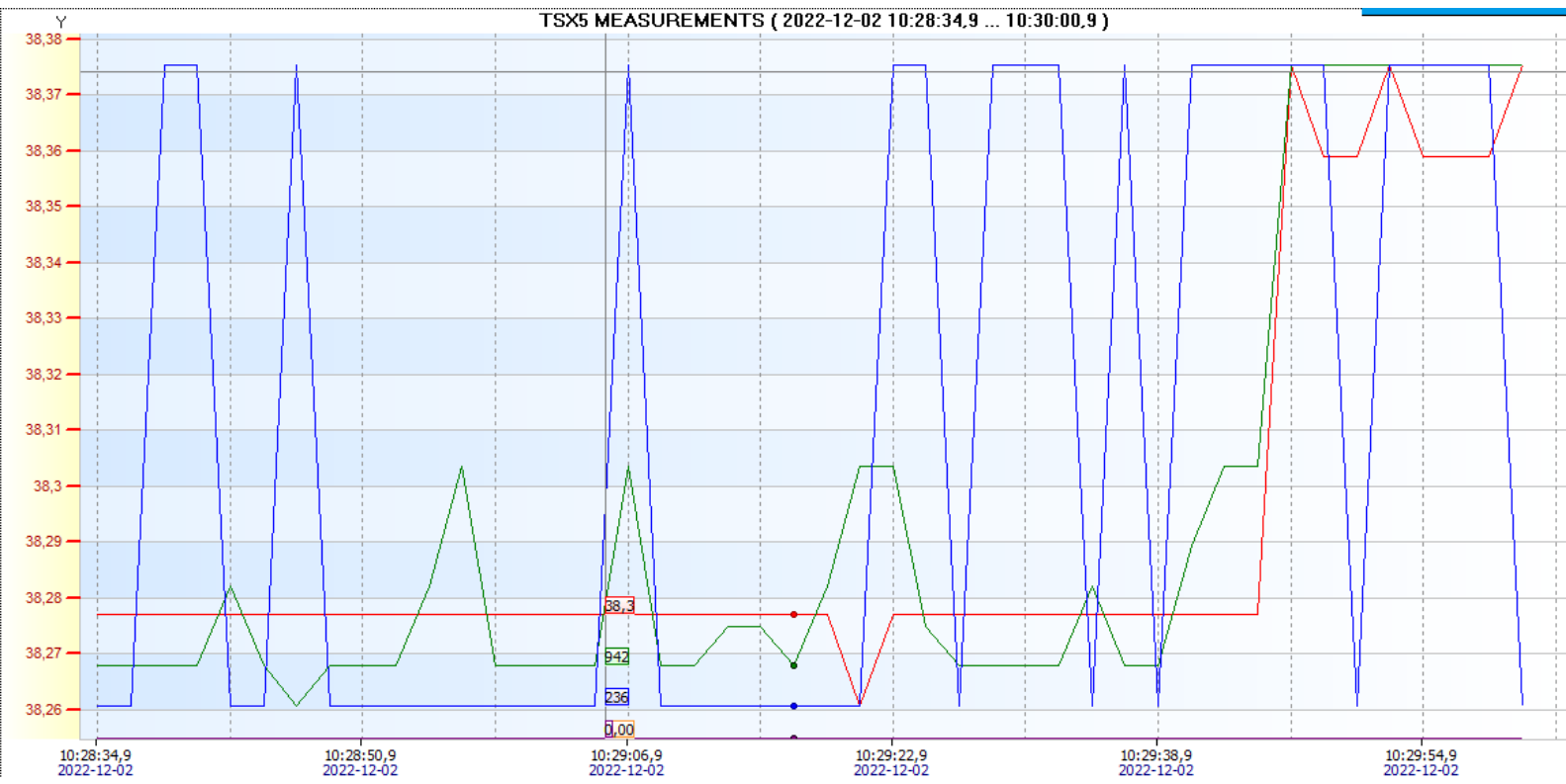
Printed on 2022.12.07 09:

Device: ShaPoLi ECO 8 : LAB (2367B2240) Group: TSX5 MEASUREMENTS (2) Description: TEST
 Time range: 2022-12-02 10:28:34,0 ... 10:30:01,0

Num	Date and time	SPEED [RPM] (11)	POWER [KW] (12)	TORQUE [kNm] (13)	EEXI LIMIT [n]	OVERRIDE [no]	ALARM [N
1	2022-12-02 10:28:34,9	38,3	942	236	OFF	OFF	OFF	5
2	2022-12-02 10:28:36,9	38,3	942	236	OFF	OFF	OFF	5
3	2022-12-02 10:28:38,9	38,3	942	236	OFF	OFF	OFF	5
4	2022-12-02 10:28:40,9	38,3	942	236	OFF	OFF	OFF	5
5	2022-12-02 10:28:42,9	38,3	942	236	OFF	OFF	OFF	5
6	2022-12-02 10:28:44,9	38,3	942	236	OFF	OFF	OFF	5
7	2022-12-02 10:28:46,9	38,3	941	236	OFF	OFF	OFF	5
8	2022-12-02 10:28:48,9	38,3	942	236	OFF	OFF	OFF	5
9	2022-12-02 10:28:50,9	38,3	942	236	OFF	OFF	OFF	5
10	2022-12-02 10:28:52,9	38,3	942	236	OFF	OFF	OFF	5
11	2022-12-02 10:28:54,9	38,3	942	236	OFF	OFF	OFF	5
12	2022-12-02 10:28:56,9	38,3	943	236	OFF	OFF	OFF	5
13	2022-12-02 10:28:58,9	38,3	942	236	OFF	OFF	OFF	5
14	2022-12-02 10:29:00,9	38,3	942	236	OFF	OFF	OFF	5
15	2022-12-02 10:29:02,9	38,3	942	236	OFF	OFF	OFF	5
16	2022-12-02 10:29:04,9	38,3	942	236	OFF	OFF	OFF	5
17	2022-12-02 10:29:06,9	38,3	943	236	OFF	OFF	OFF	5
18	2022-12-02 10:29:08,9	38,3	942	236	OFF	OFF	OFF	5
19	2022-12-02 10:29:10,9	38,3	942	236	OFF	OFF	OFF	5
20	2022-12-02 10:29:12,9	38,3	942	236	OFF	OFF	OFF	5
21	2022-12-02 10:29:14,9	38,3	942	236	OFF	OFF	OFF	5
22	2022-12-02 10:29:16,9	38,3	942	236	OFF	OFF	OFF	5
23	2022-12-02 10:29:18,9	38,3	942	236	OFF	OFF	OFF	5
24	2022-12-02 10:29:20,9	38,3	943	236	OFF	OFF	OFF	5
25	2022-12-02 10:29:22,9	38,3	943	236	OFF	OFF	OFF	5
26	2022-12-02 10:29:24,9	38,3	942	236	OFF	OFF	OFF	5
27	2022-12-02 10:29:26,9	38,3	942	236	OFF	OFF	OFF	5
28	2022-12-02 10:29:28,9	38,3	942	236	OFF	OFF	OFF	5
29	2022-12-02 10:29:30,9	38,3	942	236	OFF	OFF	OFF	5
30	2022-12-02 10:29:32,9	38,3	942	236	OFF	OFF	OFF	5
31	2022-12-02 10:29:34,9	38,3	942	236	OFF	OFF	OFF	5
32	2022-12-02 10:29:36,9	38,3	942	236	OFF	OFF	OFF	5
33	2022-12-02 10:29:38,9	38,3	942	236	OFF	OFF	OFF	5
34	2022-12-02 10:29:40,9	38,3	942	236	OFF	OFF	OFF	5
35	2022-12-02 10:29:42,9	38,3	943	236	OFF	OFF	OFF	5
36	2022-12-02 10:29:44,9	38,3	943	236	OFF	OFF	OFF	5
37	2022-12-02 10:29:46,9	38,4	945	236	OFF	OFF	OFF	5
38	2022-12-02 10:29:48,9	38,4	945	236	OFF	OFF	OFF	5
39	2022-12-02 10:29:50,9	38,4	945	236	OFF	OFF	OFF	5
40	2022-12-02 10:29:52,9	38,4	945	236	OFF	OFF	OFF	5
41	2022-12-02 10:29:54,9	38,4	945	236	OFF	OFF	OFF	5
42	2022-12-02 10:29:56,9	38,4	945	236	OFF	OFF	OFF	5
43	2022-12-02 10:29:58,9	38,4	945	236	OFF	OFF	OFF	5
44	2022-12-02 10:30:00,9	38,4	945	236	OFF	OFF	OFF	5

End of report
 (DAQ Manager v1.12.0)

EXAMPLE OF OPERATION RECORDS GRAPH



13. DRAWINGS

DWG#	DWG NAME
EDIT-004	SHAPOLI ECO 8 MIMIC DIAGRAMM
EDIT-005	SHAPOLI ECO 8 4..20mA INPUT SIGNALS EDIT-99
EDIT-002	WIRING DIAGRAMM INPUT SIGNALS EDIT-141
EDIT-001	WIRING DIAGRAMM SHAPOLI ECO 8