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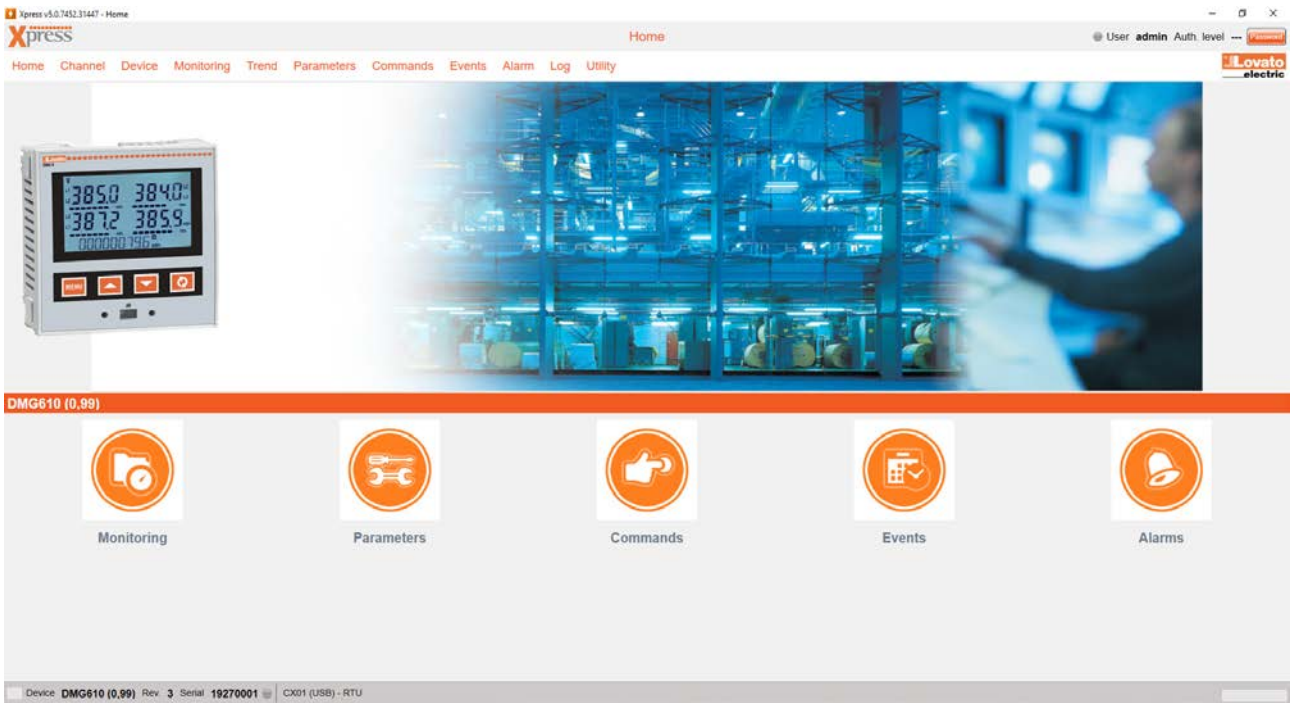
XPRESS

Setup and remote control software

INSTRUCTION MANUAL



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1 Introduction

Xpress is a software for setup and remote control of Lovato Electric products equipped with communication capabilities via CX01 (USB) and CX02 (WiFi) dongles for the frontal optical port or by connecting through serial ports, ethernet or modem. Supported protocols are Modbus RTU, Modbus ASCII and Modbus TCP. For the updated list of Lovato Electric products supported by Xpress please visit www.lovatoelectric.com at the section dedicated to the software.
The software is able to:

- set up the operating parameters of the devices;
- show the main measures;
- show a trend graph with a maximum of 8 measures at the same time;
- send commands;
- download the event memory of products equipped with it;
- list the active alarms;
- handle the data log memory (EXM1030, EXP1030 expansion modules).

Xpress is a client application which must be installed on the PC.

This manual describes the functionalities available for the users updated to version 4.0. If some features mentioned in this manual are not present in the software, proceed with the upgrade to the latest version.

2 Hardware and software requirements

PC HARDWARE REQUIREMENTS

- Dual core CPU, 2GHz;
- 2GB RAM;
- hard disk 1GB;
- communication port number and type according to the application: USB, ethernet, WiFi lan, serial RS485, serial RS232 or modem types.

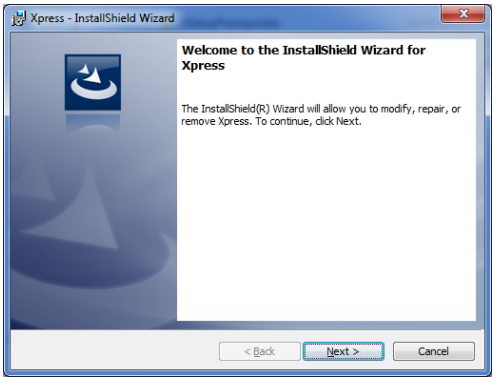
SUPPORTED OPERATING SYSTEMS

- MS Windows 7, Windows 8.1, Windows 10.

For updates of the requirements please visit www.lovatoelectric.com at the section dedicated to the software.

3 Setup

It is recommended to faithfully follow the steps below. In case assistance is needed during the installation, please contact our Customer Service.
In order to install the software properly, an account with the privileges of the "true" administrator of the PC (users of user or poweruser type are not allowed) is required.
During installation of the software, anti-virus and firewall should be temporarily disabled.
To run the setup for Xpress installation, log in the PC as an administrator user and click with the mouse right button on the setup.exe file and choose "Run as administrator".



The setup proceeds automatically to install Xpress. The onscreen instructions should also be followed to complete the job successfully.

At first run, Xpress installs FlashLoader software which is used to upgrade the device firmware and PLC software which lets the built-in PLC configuration for the devices supporting that functionality. The onscreen instructions should again be followed.

In case of need of removing Xpress, go through Windows Control Panel.

4 Password

Some of the functions are password protected:

- commands;
- parameter setup;
- project modifications.

The password can be set in the user menu, as described below. The default password is “admin”.

5 Home page

The home page is the page shown when the software is started. The menu and status bars are available everywhere in the software.

The device status lamp indicates the link status:

- device on line;
- communication problem;
- communication is not active.

6 Channel

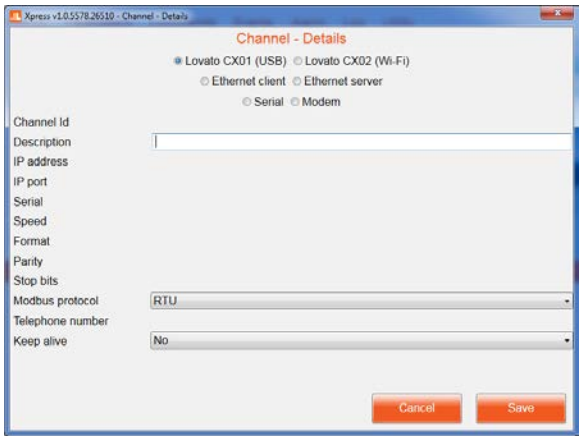
A channel identifies the mean by which the software communicates with the devices in the field, such as a serial or ethernet connection. Even if many channels can be programmed, only one of them can be used. The remaining channels are in standby condition ready to be used.
The communication channel can be of different types:

- Lovato CX01 (USB): the USB port of the PC and the device are linked through CX01 dongle for the front optical port;
- Lovato CX02 (WiFi): the Wi-Fi lan board of the PC and the device are linked through CX02 dongle for the front optical port;
- ethernet
  - ✓ client: Xpress is TCP client, so it opens the initial connection with the channel which must be assigned with static IP address;
  - ✓ server: Xpress is TCP server, assigned with static IP, and therefore the devices of the channel will open the initial connection;

  The one which opens the connection (TCP client) can have static or dynamic IP.
- Serial (RS232, RS485, virtual COM);
- Modem (dial-up).

6.1 Channel creation (Channel→New)

At the creation of a new channel the user has to select the type, thus determining the necessary parameters to be included in following steps.



	Channel Type					
Parameter	Lovato CX01 (USB)	Lovato CX02 (WiFi)	Ethernet client	Ethernet server	Serial	Modem
Description	●	●	●	●	●	●
IP address		●	●			
IP port		●	●	●		
Serial					●	●
Speed format parity stop bits					●	●
Protocol	●	●	●	●	●	●
Telephone number						●
Keep alive	●	●	●	●	●	●

- Description: free text to identify the channel in the software.
- IP address: address of the device which the connection is being created to.
- IP port: port of the device which the connection is being created to.
- Serial: list of COM ports available from the operating system.
- Speed, format, parity, stop bits: serial communication parameters which must be the same of those in the device.
- Protocol: selection of protocol among modbus RTU (default for devices), modbus ASCII and modbus TCP.
- Telephone number: number to call the modem at device side.
- Keep alive: option to enable the periodic sending of slave id message to recognise the device.

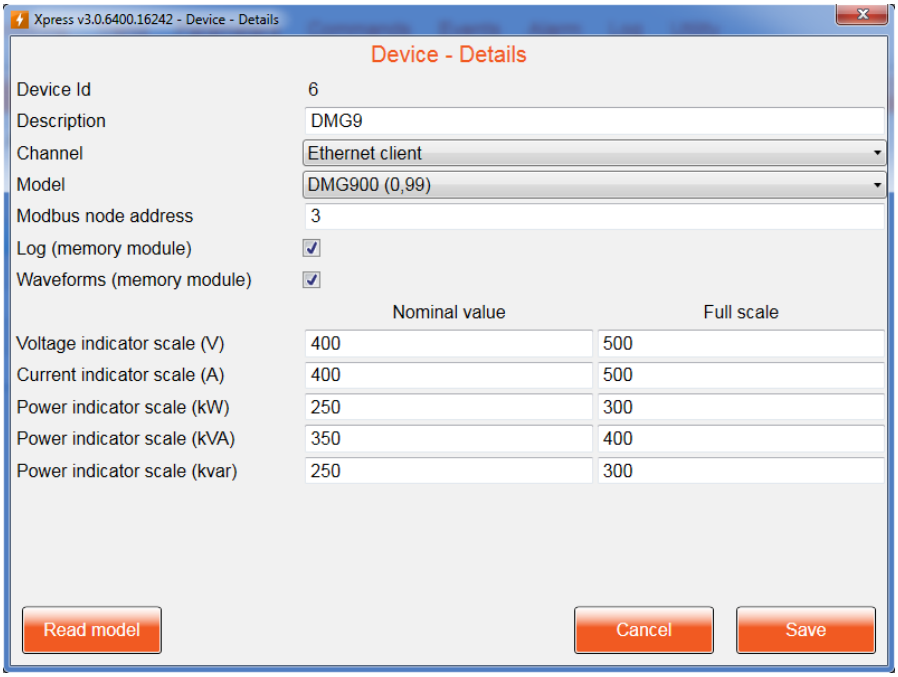
6.2 Viewing and modifying channels (Channel→View)

By accessing to the channel list, it is possible to select one of them to delete or modify it by the same window used for creation.

7 Device

The devices are the products in the field which Xpress makes data exchange with, using the modbus protocol.
For the updated list of supported Lovato Electric products consult www.lovatoelectric.com website at the section dedicated to software.

7.1 Creation of a device (Device→New)



In order to create a device, all the information required must be filled in.

- Description: free text that lets the users recognize the device in Xpress.
- Model: type of device selection; an automatic detection of the model can be attempted by clicking on “Read model” push button, after having selected the channel and the modbus node address.
- Channel: channel name on which the device is located.
- Modbus node address: modbus node by which the device is identified during the communication; on the same channel the node number must be unique, while it can be repeated among different channels.
- Log (memory module): enable the flag if EXP1030 or EXM1030 memory module is supposed to be used.
- Waveforms (memory module): enable the flag if EXP1031 memory module is supposed to be used.

The ratings and the full-scale values for some measurements can be entered as attributes of the device, so that graphical indicators are automatically sized in the most appropriate way when showing these quantities.

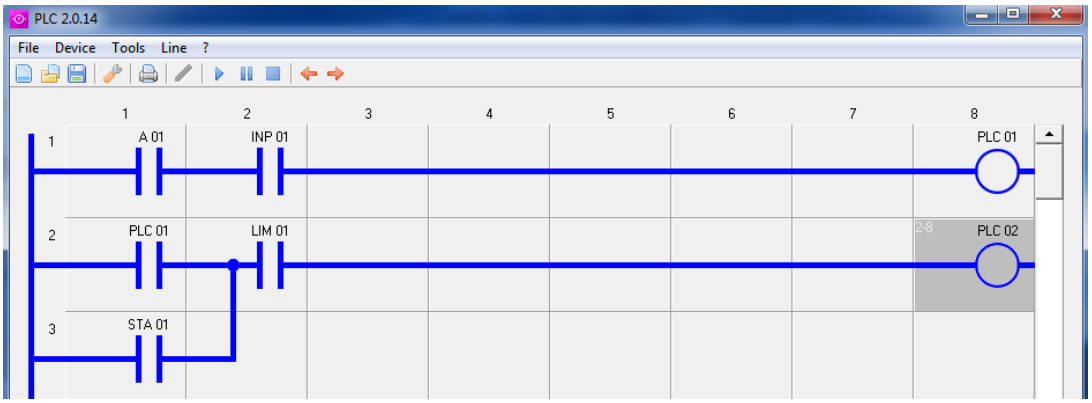
7.2 Viewing and modifying devices (Device→View)

By accessing to the device list, it is possible to select one of them to delete or modify it by the same window used for creation.

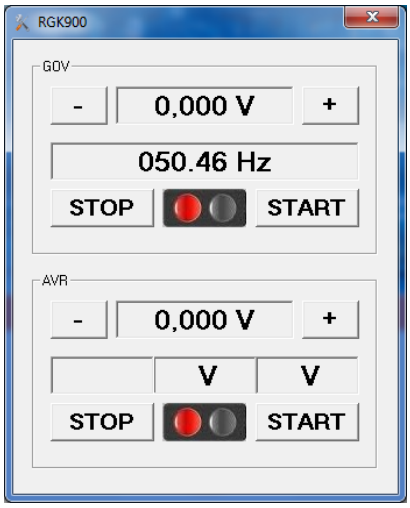
If Xpress recognises a device model different from the one set, that is in the “Actual Model” field a different device model is indicated, due to this discrepancy, the link is suspended in order to avoid to work with data which are not consistent.

If the device supports projects, a push button lets the user access them by clicking on the dedicated push button.

A project, made by some files which are typical for the linked device, can be created starting from project templates or read directly from the device. After all the modifications have been done, the project can be saved on the hard disc for archive purpose (the project is available in the directory opened by the “Open project folder” push button) and reusage and sent to the device. The files can be read and written one by one or all together. In this section the built-in PLC programming, AVR and Governor test and PID setting and device simulation panel functions are available for the devices supporting them.

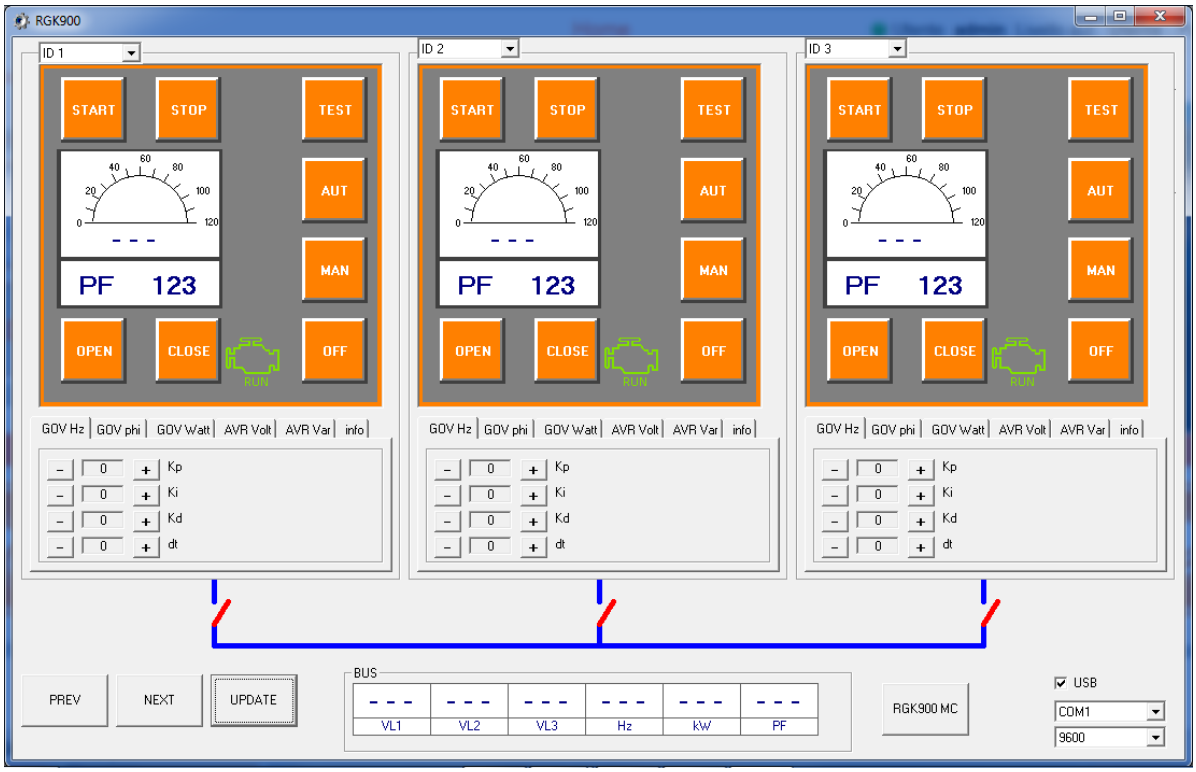


Built-in PLC function: the editor lets the ladder project design to be sent to the device.



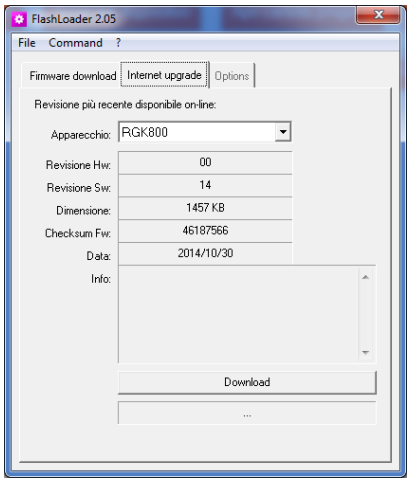
AVRGOV permits to manually set the analog outputs of the device in order to verify the "reaction" of AVR and Governor installed in the system and therefore the ability to controll them for the LOVATO Electric device.

The PID function permits the on line setting of the systems with feedback which control the synchronisation of generator voltage, phase and frequency with the reference voltage (mains or bus) and the load sharing in the gen-set devices.



By clicking on "Run FlashLoader" push button, Flashloader software is launched to let the user update the device firmware to the latest version, loading it from the hard disc or downloading it from www.lovatoelectric.it website. Flashloader software is available outside Xpress as well,
in <install_dir>\Repository\FlashLoader folder,
(C:\Lovato Electric\Xpress\Repository\FlashLoader if the suggested installation directory has been kept).

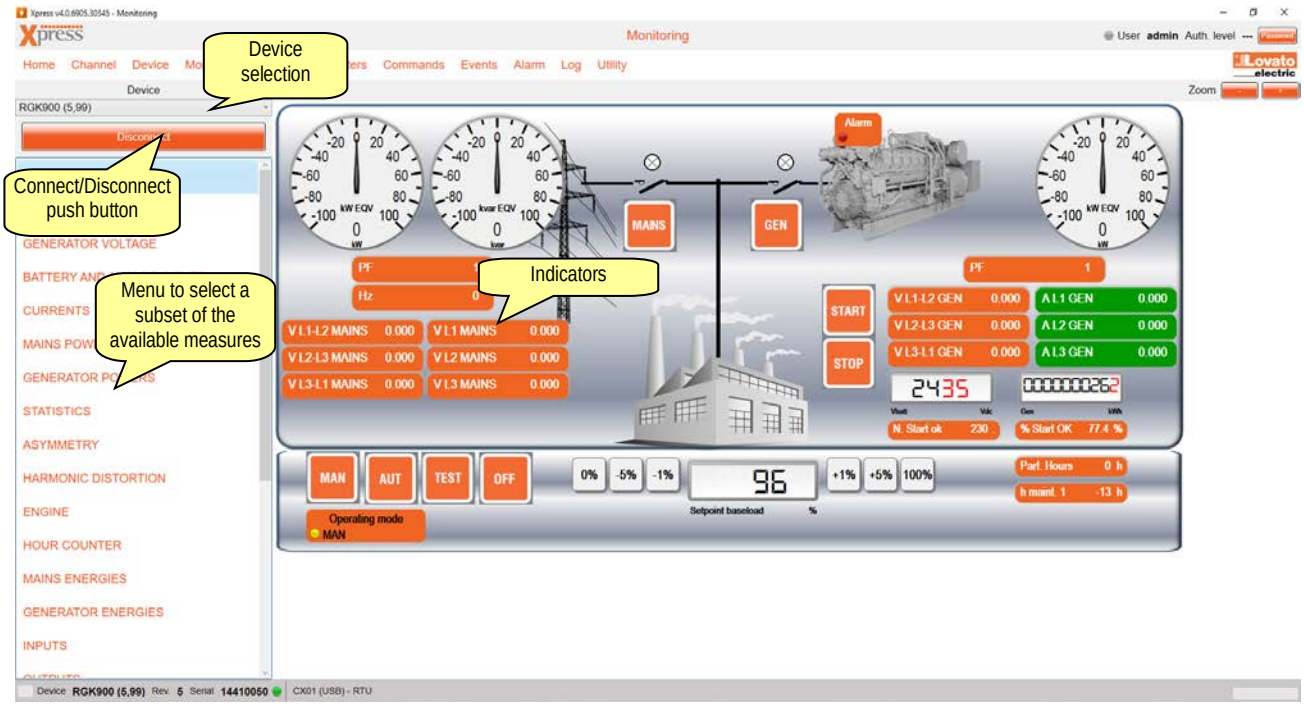
By clicking on "Clock setting" push button, the software reads date and time from the PC and transmits them to the connected device. If the device does not support the real time clock, the button is disabled.



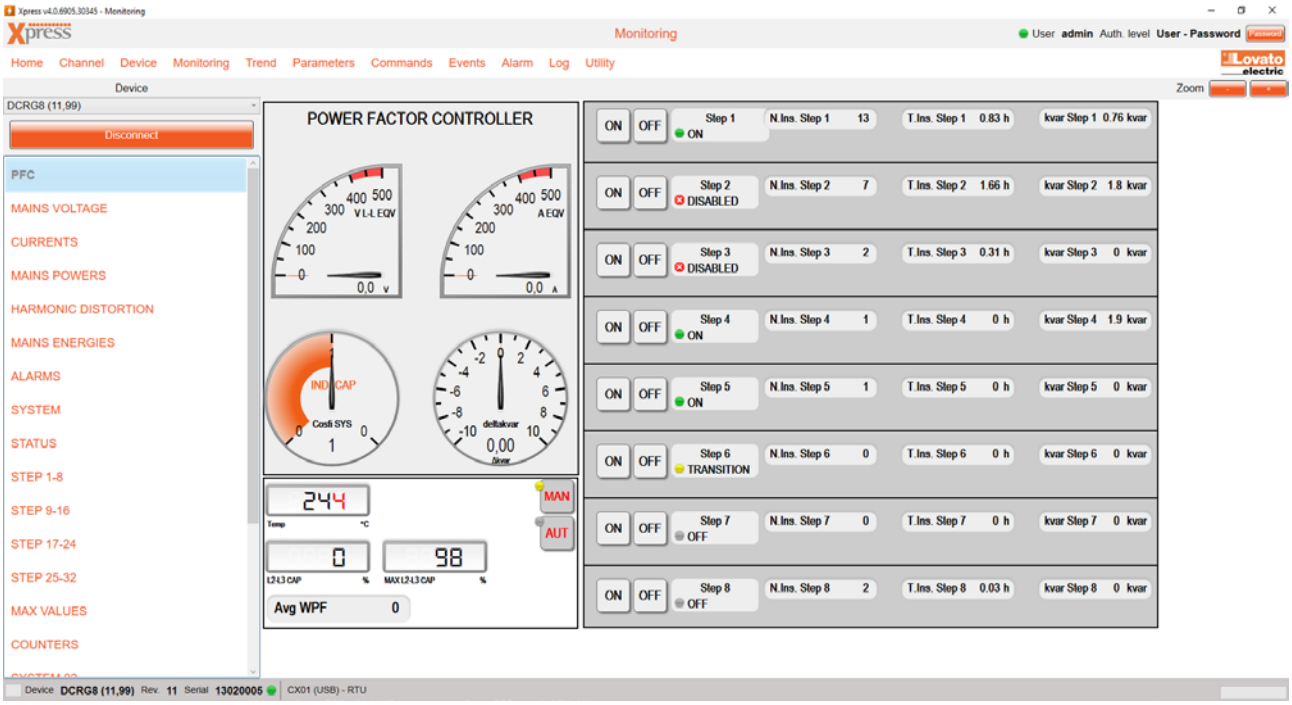
8 Monitoring

Xpress shows the main measures read from the linked device. The link can be done from PC to one only device at once. Examples of main pages follow.

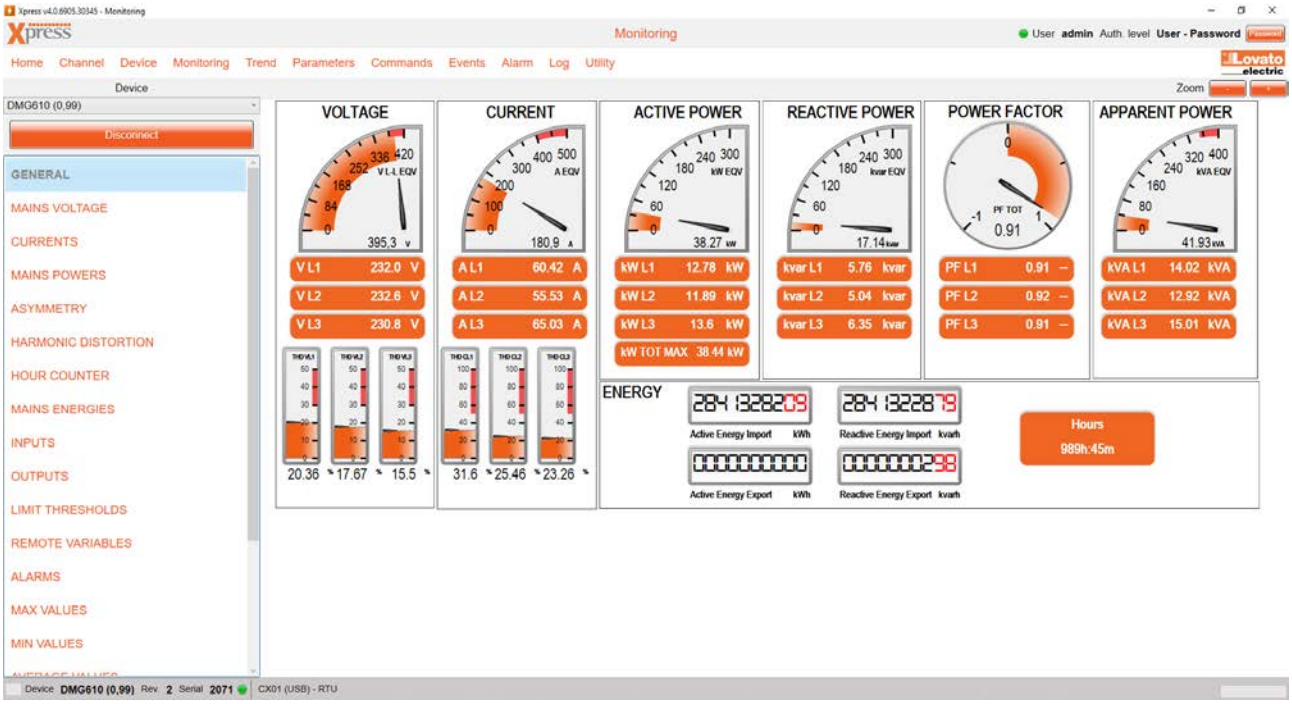
Gen-set systems (RGK...)



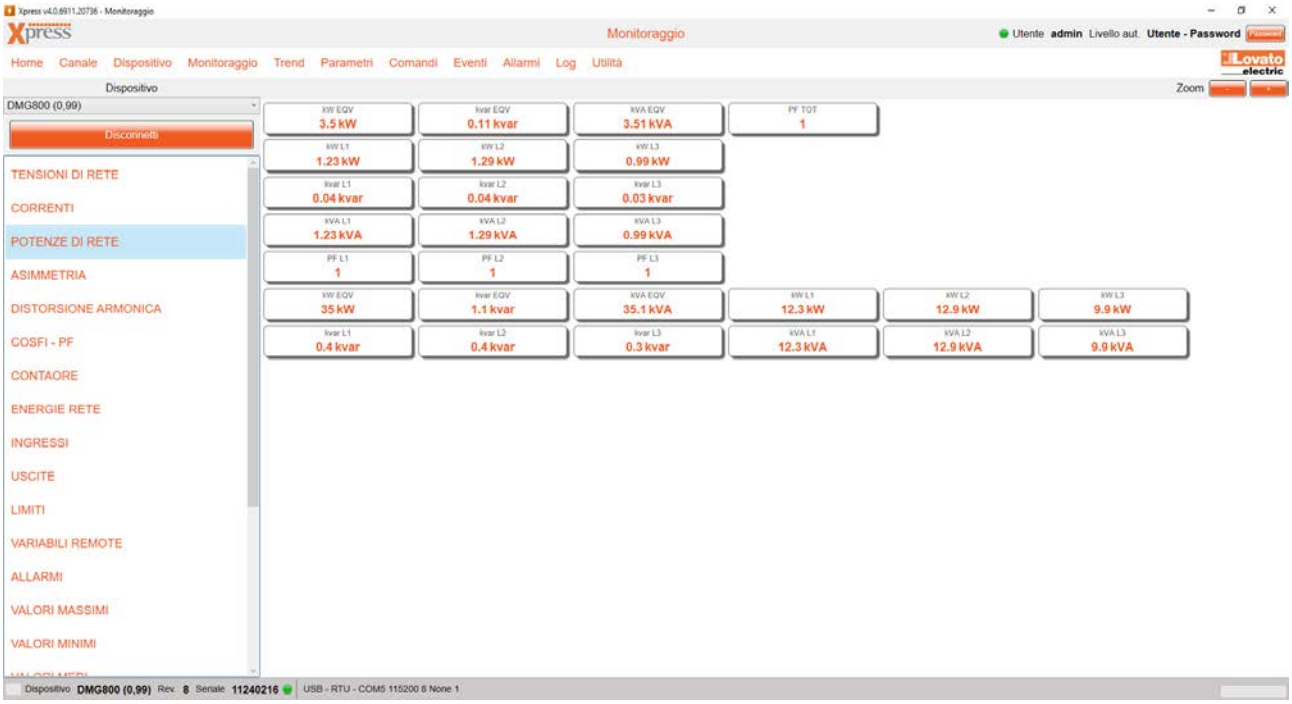
Power factor systems (DCR...)



Multimeters and energy meters (DMG e DME)



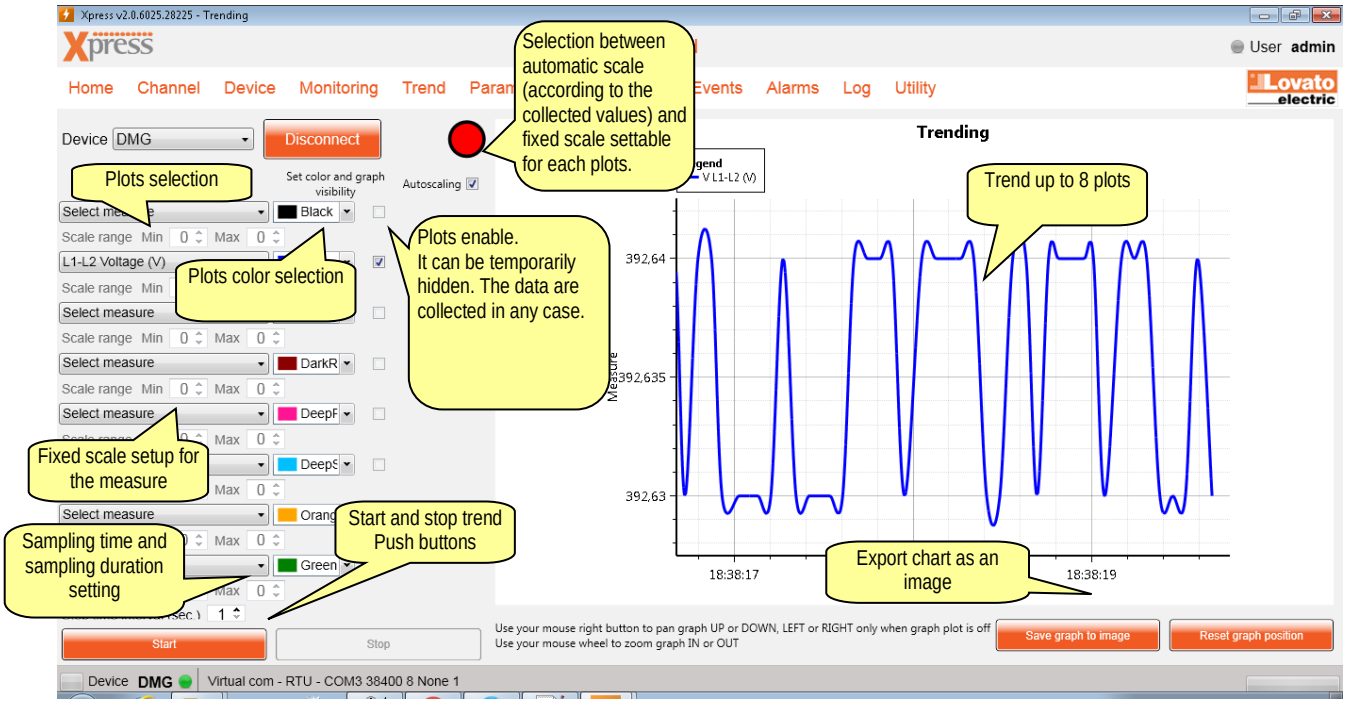
Submenus



9 Trend

Xpress can show a trend graph with up to 8 plots referred to selected measures among all the ones which are available for the connected device. The chart can be saved as an image.
Some analysis can be performed through the graph thanks to the available mouse functions:

- zooming in and out is possible by the wheel;
- by clicking on the left button the value of the plots where the pointer is located is shown;
- by keeping down the right button, it is possible to move the graph reward/forward and up/down;
- a push button (Reset graph position) resets the graph position to the default.

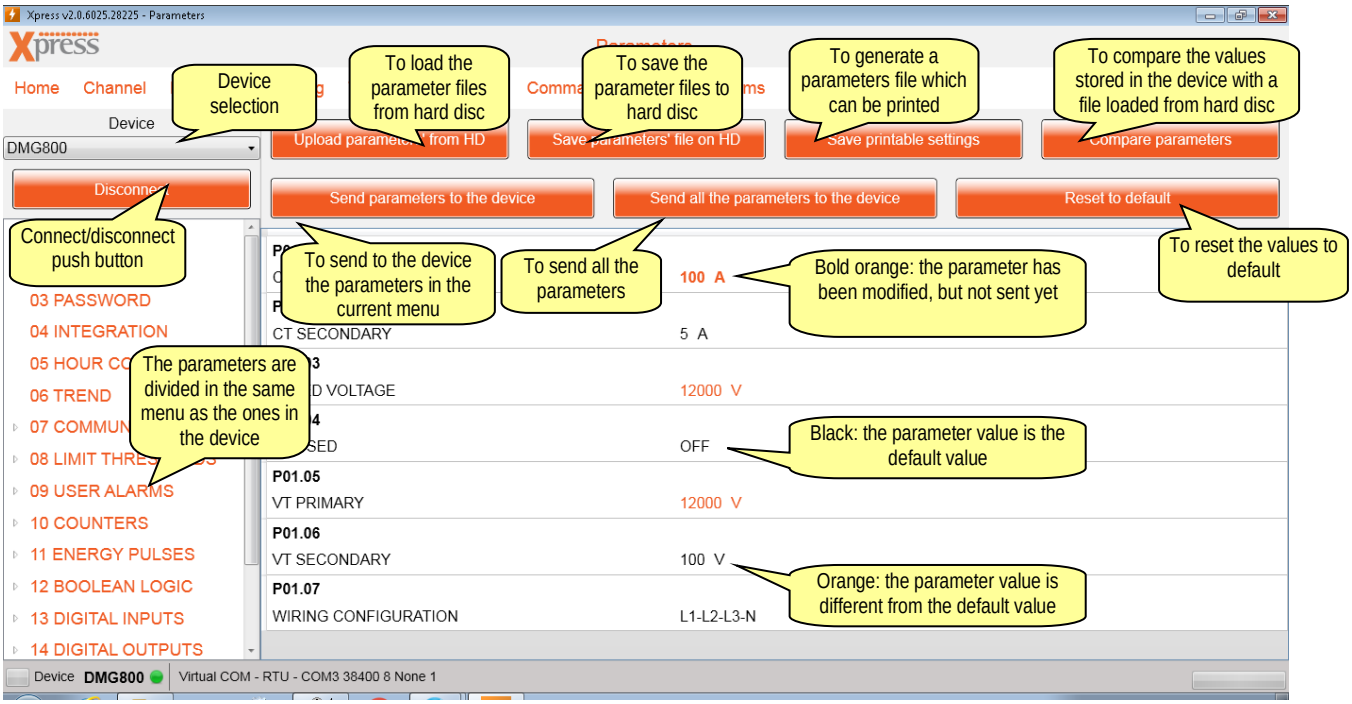


10 Parameters

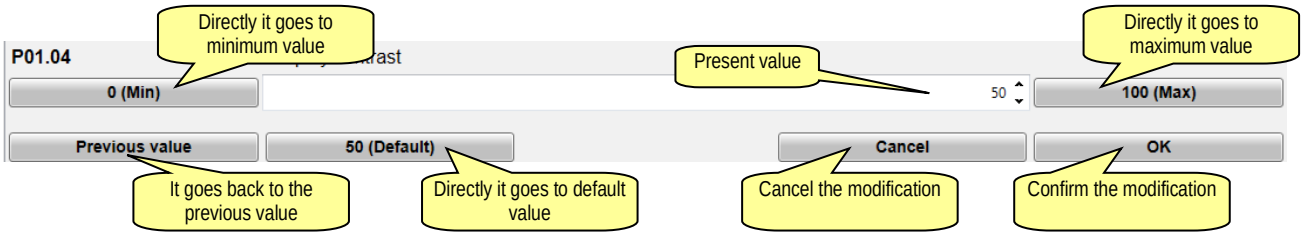
One of the missions of Xpress is the parameter setup for devices. Once the device has been selected, the user can follow two different modes to operate:

- online: clicking on “Connect” push button, the link between PC and device is activated and at first selection of each parameter menu, its parameters are read and offered to the user for modification;
- offline: in case it is not possible to connect to device, the proper parameter file can be loaded from hard disc and used to prepare a new file which can be saved on hard disc.

In both cases, the parameters can be copied per each menu or as a single block from the PC to the device.

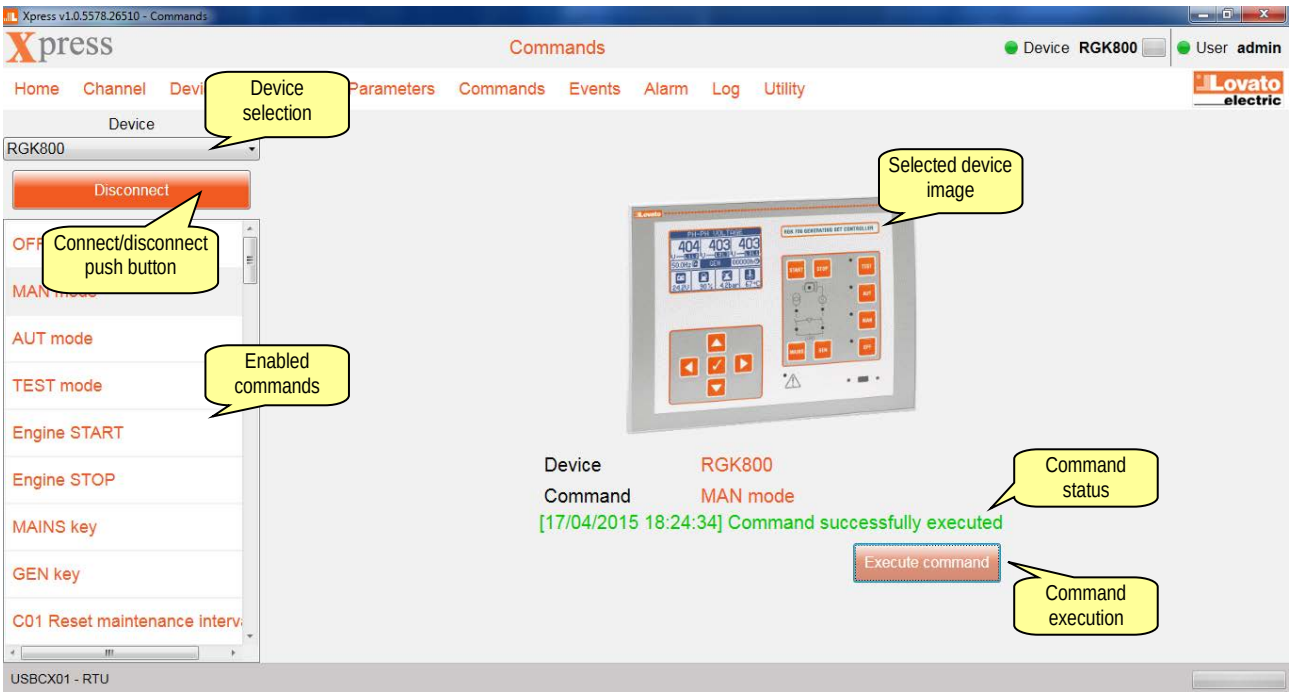


When a parameter is selected, a modification mask is open where the new value can be entered.



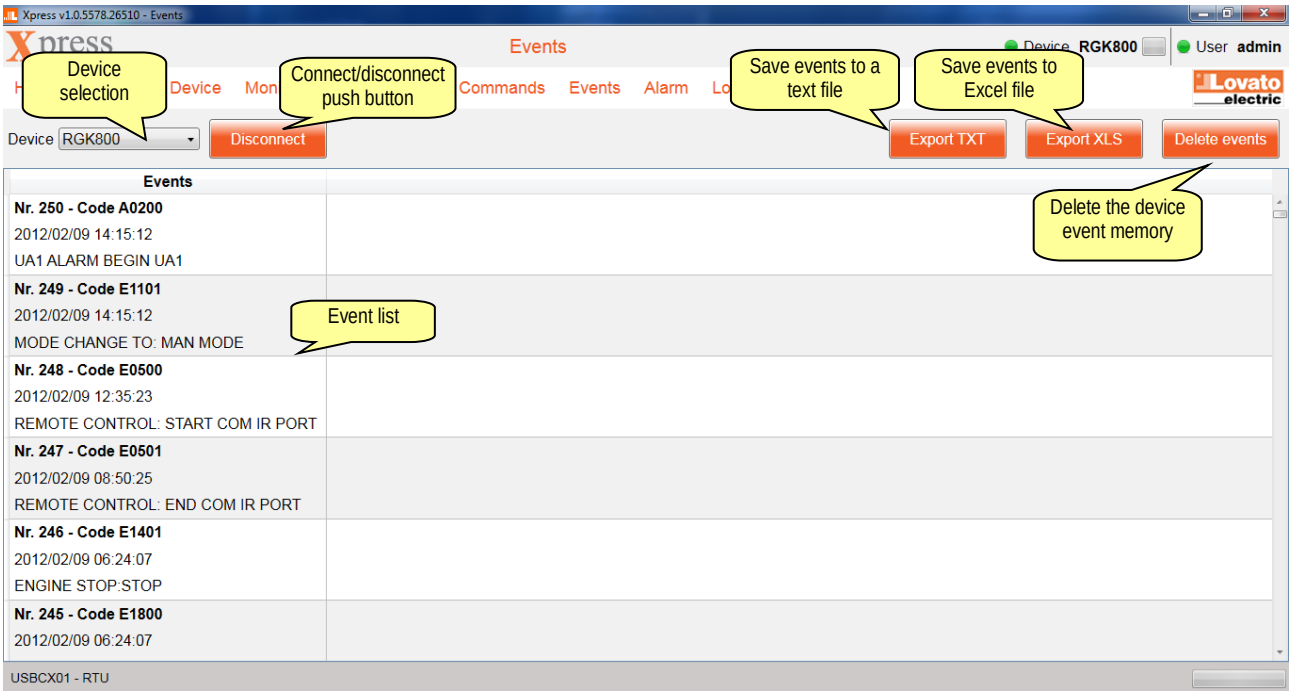
11 Commands

By accessing the command menu, a list of supported commands is shown for the selected device.



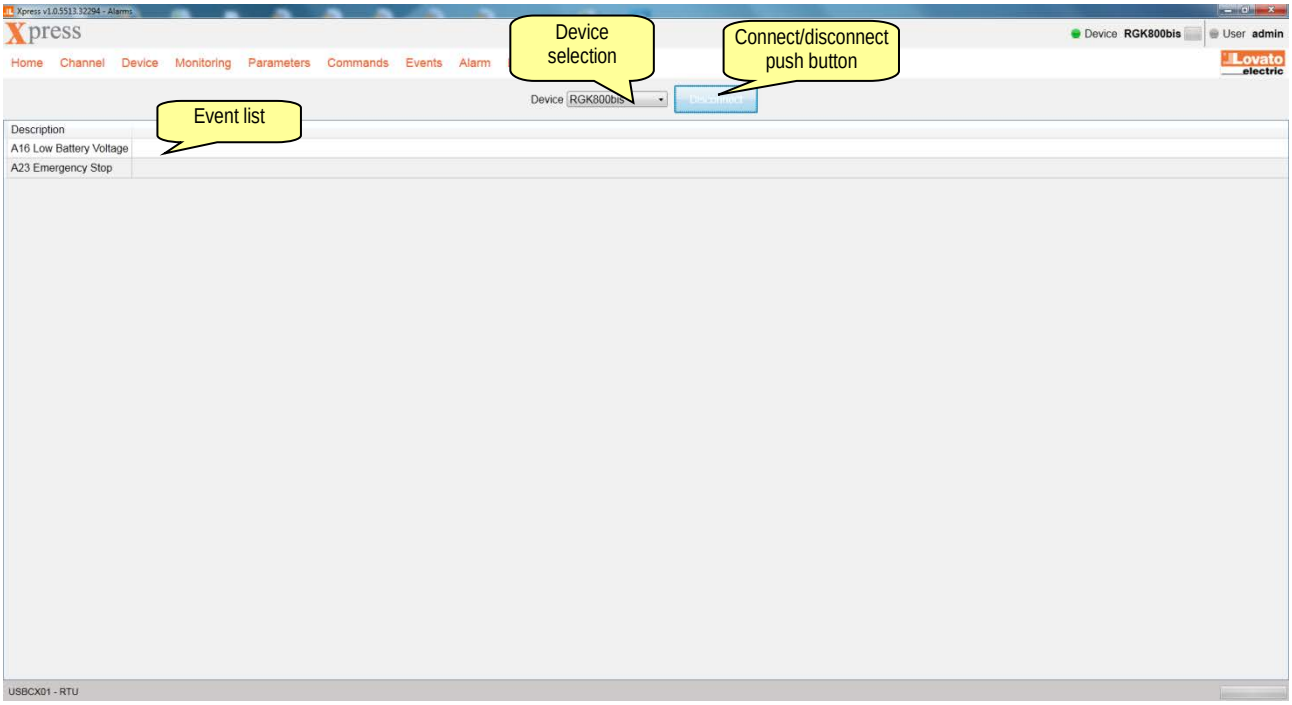
12 Events

If the connected device supports the event memory, it is possible to download a copy of that and proceed saving it to Excel or text file.



13 Alarms

All the alarms which are active in the connected device can be grouped in a single screen to get the complete list.

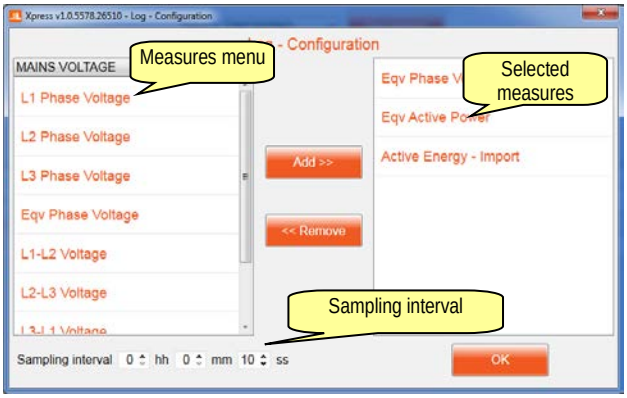


14 Data log

A data log is a data table consisting of a set of measurements associated with the devices in the field, collected at regular time intervals. Xpress manages data logs saved in EXM1030 and EXP1030 memory modules, EXP1031 quality module (waveforms included) and in the built-in device memory, thanks to a number of push buttons which let the user do the following actions.

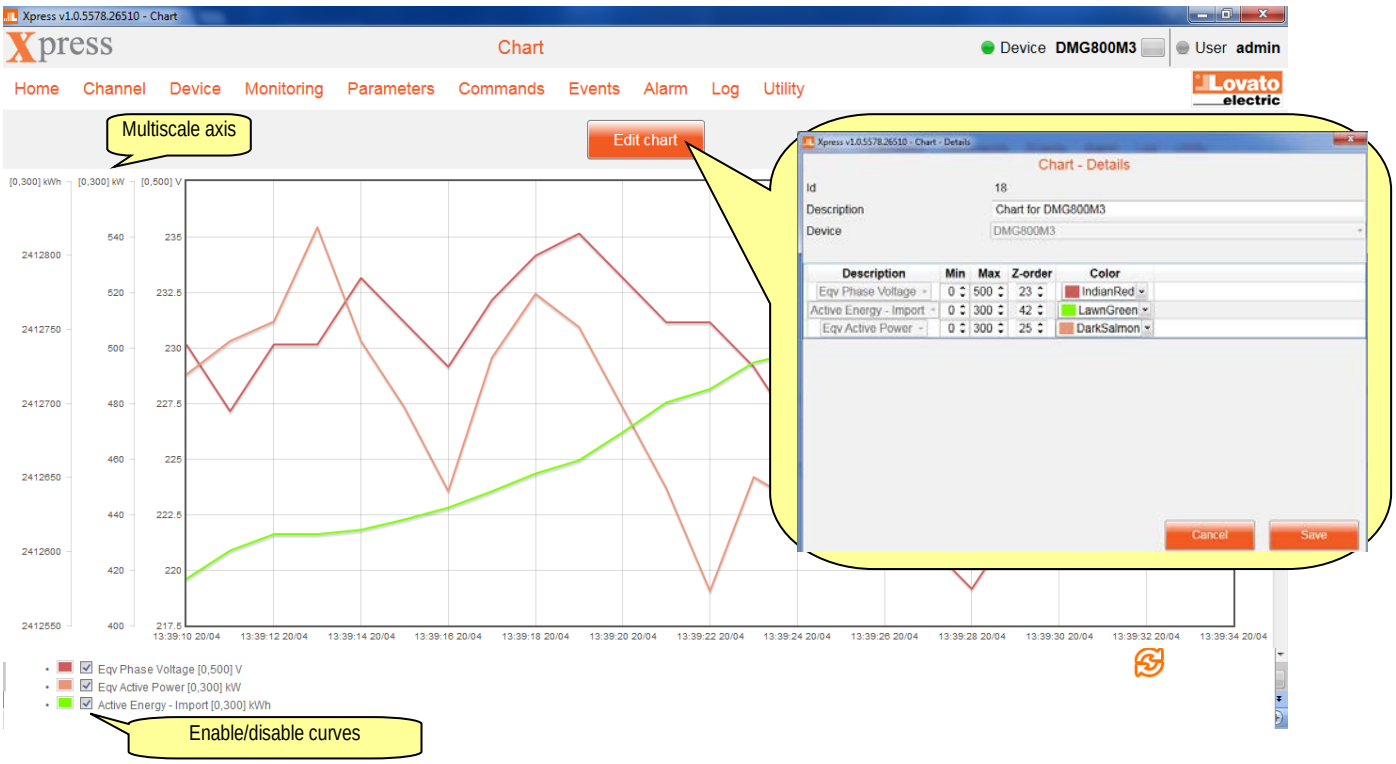
- Read configuration. Read from the memory a preset configuration. In the so created table the list of measures is shown, while under that the following can be found:
  - ✓ registration mode, which describes the behaviour of the memory when it is full: with LOOP option, the oldest data are overwritten (FIFO logic); with STOP option the recording is paused;
  - ✓ registration status: ON when it is active, OFF when it is stopped;
  - ✓ sampling interval in hours, minutes and seconds;
  - ✓ memory full indicates how wide the recording time window is (data history).

  In the measure table, the column “Visible” gives the possibility to hide some of the mueasure in the data table.
- Write configuration. Write to the memory module the set configuration. The memory will be reset and the data in the memory module deleted.
- Edit configuration. It let the user select the measures to be recorded and the sampling time in hours, minutes and seconds. By flags, the user can enable the daylight saving time and synchronisation of samples with the clock functions.
- Set clock. Set the memory module clock with the value shown by the PC.
- Set loop/stop. Set the registration mode to LOOP or STOP.
- Set Start. Select the event causing the recording start, which can be the module power on, an alarm or any event



typical of the connected device.

- Read data. Download from the memory module the data relevant to the selected time window.
- Import XLS. Reload an Excel file with memory module data previously saved. The file loading succeeds only if the saved file has never been changed by other softwares.
- Export. Save to disc in Excel or text format the data downloaded from the memory module.
- Show chart. Plot a chart with the data in the table. One or more scales are drawn for the vertical axis: a new scale is shown per each unit and per each range of the quantities. The vertical axis is dynamic and it changes to fit the value to be shown (autoscaling). All the curves are shown. Nevertheless the user can hide the ones which are not interested in. By clicking on “Edit chart” push button, colors and ranges of each quantity can be modified.



- Show waveforms. Read from EXP1031 module the wavaforms which have been saved in case of events programmed in the device.

15 Utilities

15.1 User (Utility→User)

For the protected function, the user is asked for entering a password. In order to set the password, the user must access the present section, where the interface language can be selected as well.

15.2 Update drivers (Utility→Update drivers)

In case the user needs to update the driver, that is the tables by which Xpress is able to comunicate with the devices, two ways are available:

- if the PC is connected to internet, use the “download” push button;
- alternately, it is possible to import a file earlier downloaded from www.lovatoelectric.com website in the dedicated section of the software and saved to disc by clicking on “import” push button.

In both cases, the operation requires several minutes to be performed. A driver update is suggested at first Xpress run after installation.

15.3 Import language (Utility→Import language)

In the standard installation of Xpress the user interface is available in 6 languages:

- Italian;
- English;
- French;
- Spanish;
- Russian;
- Polish.

On www.lovatoelectric.com website (section dedicated to the software) other languages are available. Use "Import language” function to import the file downloaded from the website. If the language already exists, it is overwritten, otherwise it is added to the other ones available for the users.