- Multiclient web based monitoring software, Cloud and on premises solutions.
- Software to monitor and configure LOVATO Electric devices.
- APP for monitoring and configuration via Wi-Fi or NFC.

Synergy

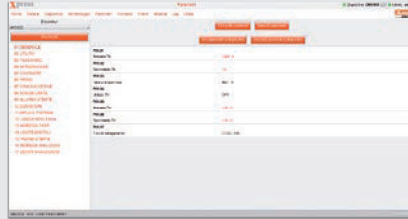**SUPERVISION AND ENERGY MANAGEMENT SOFTWARE**
- Windows services and web applications to collect and publish device data on the most popular browsers
- Data management in MS SQL database
- Multi-user access either in local area networks or internet
- Cloud service available on LOVATO Electric portal.

Xpress

CONFIGURATION AND REMOTE CONTROL SOFTWARE - FREE OF CHARGE
- Parameter setting
- Point-by-point monitoring
- Memory module management
- Free of charge.

Sam1

WiFi

APP FOR SMARTPHONES AND TABLETS
- Users can program the device, view alarm conditions, send commands, read measurements, download statistical data and events and send retrieved data by email
- iOS and Android compatible
- Free of charge.

NFC

APP FOR PROGRAMMING VIA NFC TECHNOLOGY
- Parameter setting with NFC technology
- Access without the need to power up the LOVATO Electric device
- iOS and Android compatible
- Free of charge.

Synergy   Synergy cloud   Xpress   Sam1   NFC   Lovato electric

Synergy

Synergy is a supervision and Energy Management web-based software that provides the monitoring and control of the electrical installation, from every computer or mobile device through the most popular web browsers in a simple and efficient way.
It is valid software to sustain the activities indicated by the standard EN ISO 50001 "Energy Management systems. Requirements with guidance for use".
In addition to electrical quantities, it allows to check all environmental and process information (operating status, alarms, etc.), acquired from LOVATO Electric products, equipped with communication port, and thereby to carry out commands and parameterising.
It is possible to create, without limitations, browsable pages with widgets for charts, data tables, measure indicators and alarm conditions. Data is available to be downloaded to user's computers and possibly to be sent to either a list of e-mail recipients or to FTP servers. Users can configure the exported files according to their needs.
Synergy's flexibility lets third party devices which are able to exchange data through Modbus protocol be included in the monitoring system and third party softwares gather data for further elaborations by connecting to web API service.
Third party softwares are able to access Synergy database by means of web API call. Third party Modbus devices are able to access to Synergy by means of customizable interface drivers.

FUNCTIONALITY
- Communication with all LOVATO Electric measurement and control devices, via serial ports, Ethernet or modem
- Integration of third party devices with Modbus
- Reading of instantaneous values
- Definition of custom pages with charts, data tables, measure indicators and alarm conditions
- Data tables which can be exported to customisable files, for example to generate reports with user's logo and post-processing elaborations
- Data access through web API service
- Energy consumption, minimum, maximum and average values of the instantaneous measures divided per time slots
- Alarm management with e-mail notification
- Parameter changing of devices in the field
- User's access level management.

ALARMS
Each value recorded in the archives (datalogs) can be associated with one or more alarms, defining for each one: an upper and lower limit, a reference calendar (for enabling/disabling), any representation in trend graphs and the option of automatically sending an e-mail. If the limits are exceeded, Synergy records the anomaly and reports it in the software header. A specific menu allows the display of detailed information, silencing of alarms and consultation of the datalog.

SIMPLE, GUIDED, INTUITIVE CONFIGURATION
Programming Synergy does not require any particular computer knowledge since specific configuring instruments have been developed to guide through the configuration of product networks, graphic pages, datalog reports and charts, in a simple and intuitive way.

SERVER-MULTICLIENT SYSTEM
Synergy structure and applications are based on a MS SQL relational database management system.
Synergy is consulted through the most popular browsers, so it's available on various platforms and operating systems. These characteristics make Synergy a highly versatile system, simultaneously accessible to a large number of users/workstations via intranets, VPN or Internet.
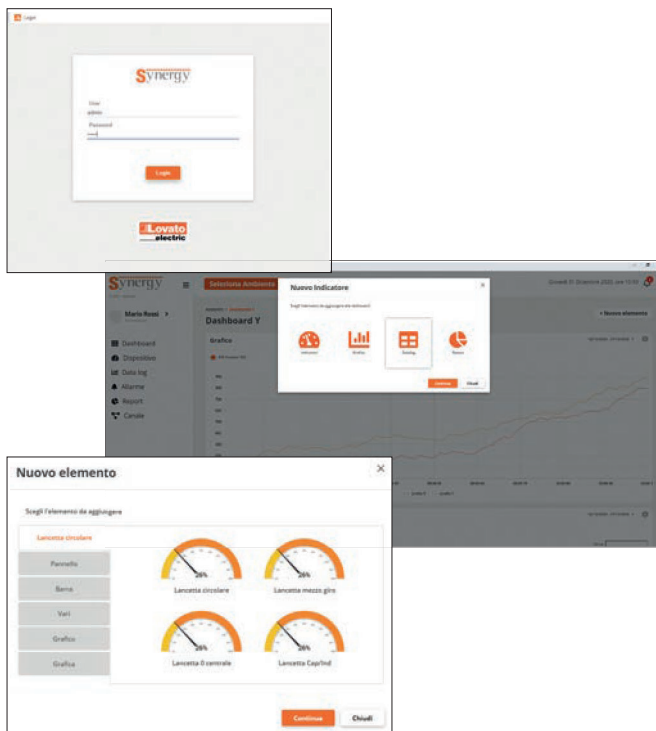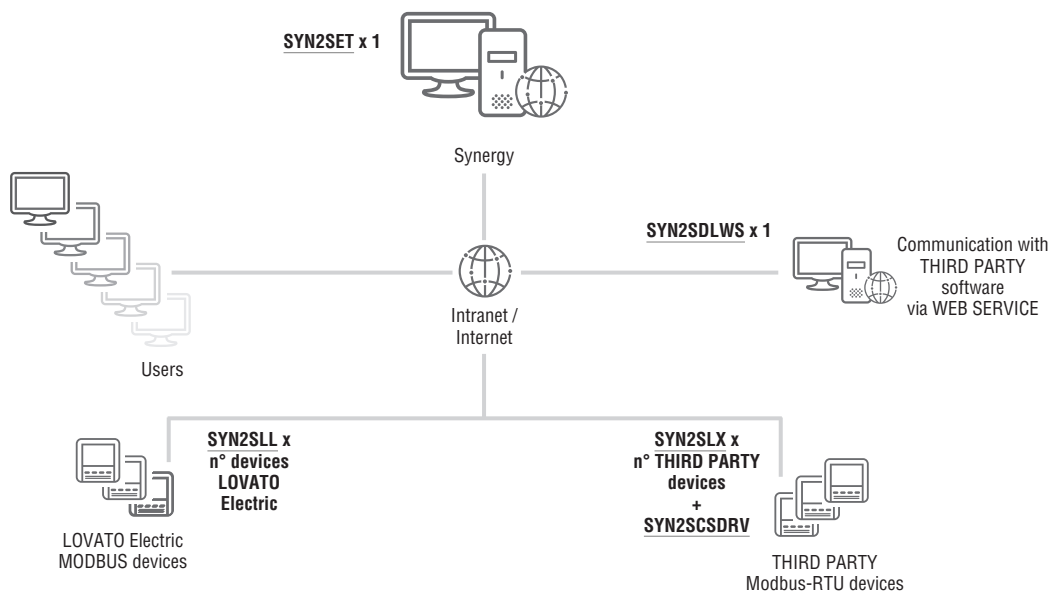

FURTHER INFORMATION
For further information on the software, consult the site:
http://**em.LovatoElectric.com**

Synergy Software

Order code	Description	Details	Provisioning
Software.			
SYN2SET	Supervision and Energy Management Synergy software	Supervision and Energy Management software web based for Windows operating system	Permanent licence
Licence.			
SYN2SLL	Synergy licence for LOVATO Electric device	Monitoring function for each LOVATO Electric device equipped by Modbus communication port	Permanent licence for single device
SYN2SLX	Synergy licence for THIRD PARTY devices	Monitoring function for each THIRD PARTY device equipped by Modbus communication port	Permanent licence for single device
SYN2SDLWS	Licence to access to Synergy database	Access function by WEB API to Synergy MS SQL database by THIRD PARTY software	Permanent licence
SYN2SLM	Licence to access to Synergy updates	Access to Synergy updates (e.g. compliant with new operating systems and new Synergy features for each LOVATO Electric or THIRD PARTY devices)	Annual subscription licence for single device
SYN2UPG	Update to Synergy2	Update from Synergy to Synergy2	Permanent licence for single device
Technical support and training.			
SYN2SCS00	Synergy technical support	Synergy technical support by phone or team viewer	Hourly rate
SYN2SCS11	Synergy on site commissioning	On site Synergy technical support: – check on field devices configuration – SYN2SET setup on customer PC – check of exchanging data between Synergy and on field devices – Synergy configuration based on customer needs – travel costs and labour hours to setup Synergy and on field devices	On site cost
SYN2SCSDRV	Interface driver development for THIRD PARTY devices	Synergy support to develop the interface driver between Synergy and THIRD PARTY devices for a maximum of 5 measurements and feasibility study by LOVATO Electric Technical support (Tel. + 39 035 4282422; E-mail: service@LovatoElectric.com)	Cost for each driver
SYN2TRAINING	Synergy training sessions (basic and advanced courses)	Introduction to Energy Management topics. Measurement devices: range and selection criteria with case studies. Synergy software key features for monitoring and supervisioning: architecture and access, channels, tools, graphs, data logs, pages and access criteria. Practical exercises. For further information visit EVENTS section on **www.LovatoElectric.com**	Confirmed

Example of a Synergy on premises solution:

SYN2SET x 1

Synergy

SYN2SDLWS x 1 — Communication with THIRD PARTY software via WEB SERVICE

Intranet / Internet

Users

SYN2SLL x n° devices LOVATO Electric — LOVATO Electric MODBUS devices

SYN2SLX x n° THIRD PARTY devices + SYN2SCSDRV — THIRD PARTY Modbus-RTU devices

Synergy cloud

Synergy Cloud is a subscription service that allows the supervision and control of systems via LOVATO Electric Cloud server accessible from any computer or mobile device through the most common web browsers. The functions of the Synergy Cloud software are the same as those made available with the local installation of the Synergy software but without the need to install any software and without the need of a dedicated server at company premises. The costs of purchase, configuration and maintenance of the hardware and software necessary for energy monitoring are saved. The devices in the field send the monitored data to the Gateway Data Logger (EXCGLA01) device which collects and represents them at the integrated web server. Synergy Cloud lets the user remotely view the instantaneous monitored data, receive reports about alarms via email and execute commands (SYN2CLRW licence). With the appropriate licence for supervision and Energy Management (SYN2CLL licence), Synergy Cloud periodically receives via Internet (either wired or mobile network) the data collected by the Gateway Data Logger in order to store historical data, process and represent them graphically as well.

● SECURITY
The security of the data is guaranteed by HTTPS encryption with certificate between server and client PC, by daily backup of the data collected and by state-of-the-art firewall for server access.

The Synergy Cloud solution:

Devices — Internet — Firewall — Cloud — Synergy
https — User
Devices
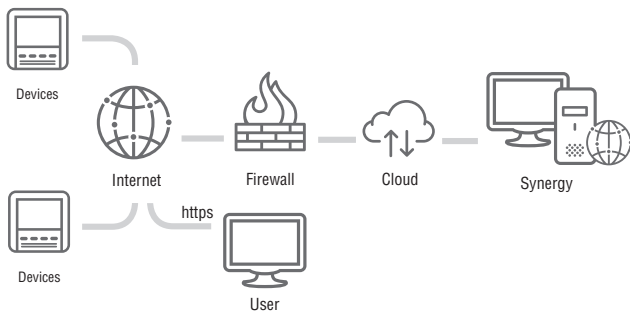
● FEATURES
– Extremely intuitive interface: no particular technical background required
– Data access from all over the world thanks to the Internet and common browsers
– Specific design for client requirements (selection of measurement scenarios)
– Low data traffic thanks to the extreme economy of the protocol used (Modbus)
– Instantaneous data acquisition from various devices that can even be located in different sites
– Simple and clear reporting of all energy data
– No investment in software database or server
– Extremely secure data thanks to HTTPS and daily backup
– Automatic updates included
– Limited subscription cost.

Order code	Description	Details	Provisioning
Licence.			
SYN2CLRW	Licence for basic remote view	Remote view of instantaneous data, creation of alarms and relevant mail sending, execution of commands	Annual subscription licence (365 days) for each device
SYN2CLL	Synergy Cloud licence for LOVATO Electric device	Supervision, Energy Management, data storage functions for a LOVATO Electric device with Modbus communication	Annual subscription licence (365 days) for each device
SYN2CLX	Synergy Cloud licence for THIRD PARTY devices	Supervision, Energy Management, data storage functions for a third party device with Modbus communication	Annual subscription licence (365 days) for each device
SYN2CDLWS	Licence to access to Synergy database	Access function by WEB API to Synergy MS SQL database by THIRD PARTY software	Annual subscription licence (365 days)
Technical support.			
SYN2SCS00	Synergy Technical support	Synergy Technical support by phone or team viewer	Hourly rate
SYN2SCS11	Synergy on site commissioning	On site Synergy technical support: – check on field devices configuration – SYN2SET setup on customer PC – check of exchanging data between Synergy and on field devices – Synergy configuration based on customer needs – travel costs and labour hours to set up Synergy and on field devices	On site cost
SYN2SCSDRV	Interface driver development for THIRD PARTY devices	Synergy support to develop the interface driver between Synergy and third party devices for a maximum of 5 measurements and feasibility study by LOVATO Electric Technical support	Cost for each driver
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Note: every monitored device has a defined set of measures that are stored and available for a customizable period.
Further information available on: **http://em.LovatoElectric.com.**

Xpress is parameter configuration and remote monitoring software shared by the entire latest generation of LOVATO Electric products with communication port. It can be installed in the Windows environment and connected individually (one node at a time) to the LOVATO Electric products.

– Supports connection via CX01 (USB) or CX02 (Wi-Fi) device, USB, RS232, RS485, Ethernet or modem.
– Product configuration:
  • Parameter setting
  • Project file management.
– Product firmware update (via CX01)
– Remote control:
  • Monitoring of main measurements
  • Measurements graphic trends
  • Sending commands to products.
– Reading alarms and events memory
– Memory modules management EXP1030, EXM1030, EXP1031.

Consult the **www.LovatoElectric.com** site for the list of products supported by **Xpress** .

Xpress can be ordered using code SYN1XP00 or downloaded for free from: **http://www.LovatoElectric.com/xpressdownload.aspx**

● MONITORING

The measurements of the product connected are divided into context menus to make searching for the right value easy and shown on appropriate graphical gauges. It is also possible to show measurements trends.
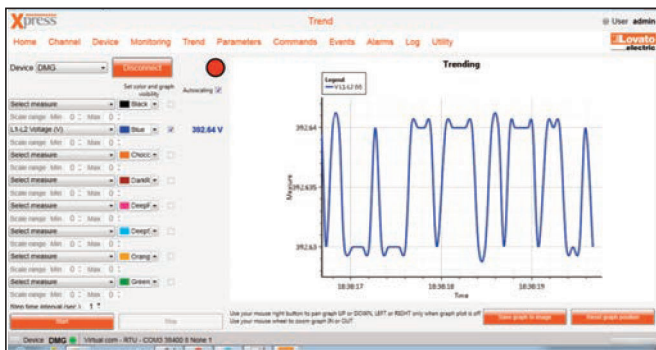
● PARAMETERS

The options in the setup menu and parameters on the product connected are replicated in the software to allow the user to operate using the terms that they already know. Parameters that differ from the factory values are highlighted in a different colour.
The parameters can be saved to a file and recalled in subsequent installations, or defined even in the absence of a connection to the product, to permit preparation of a project to send later.

● EVENTS

If the product connected features an event memory, the complete list can be downloaded for saving as an external file, in text or spreadsheet format.

● DATA-LOGGER MEMORY MANAGEMENT

Xpress can be used to configure and manage the EXP1030, EXP1031 or EXM1030 memory modules, in order to create tables indicating the history of the measurements selected by the user.
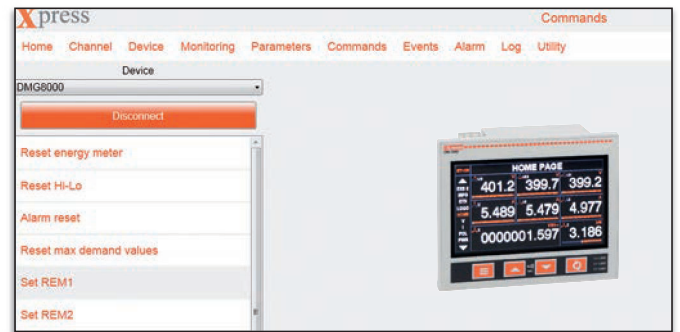In particular, the software can be used to set:
• The measurements to be sampled
• The sampling time
• The event that triggers and ends sampling
• Memory capacity management (FIFO or stop when memory is full).
The software can show the waveforms stored in EXP1031 Energy Quality module as well.
The data acquired can be displayed in graphs and exported to text files or spreadsheets.
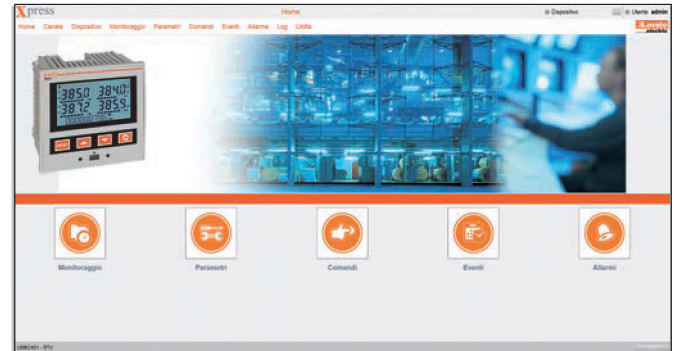
● COMMANDS

A command can be sent to the product connected to energise outputs or reset energy consumption or operating time counters for maintenance.
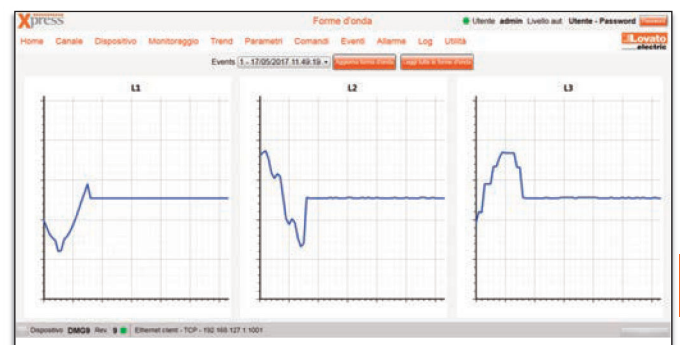

● ALARMS

The alarms active on the product connected can be displayed in the software, for a single screen with the complete list of the faults detected.

APP

General characteristics

Configuration and maintenance operations, often done in intolerable or awkward environments due to weather or noisy conditions or narrow places, are now easier to do for all LOVATO Electric devices with communication interface on the front, compatible with CX02 device. Tablets and smartphones with Android or iOS operating systems can connect to them using the new application called **Sam1**. Therefore, it is no longer necessary to connect and switch on a PC using cables to change configurations, setup parameters etc.

With this APP, a file previously saved can be uploaded; commands can be sent; measured quantities can be read from LOVATO Electric devices. The events can be viewed and saved in a text file and later shared.
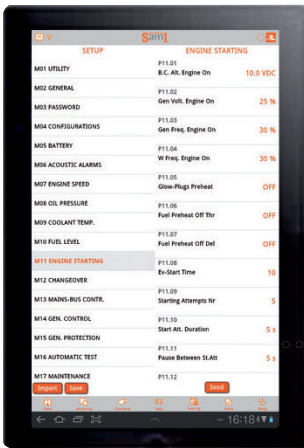
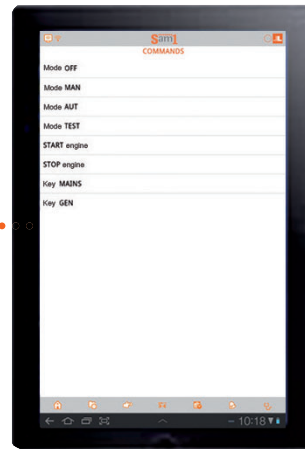The **Sam1** App LOVATO can be downloaded from Google Play Store or App store.

Updating driver

Sending e-mail
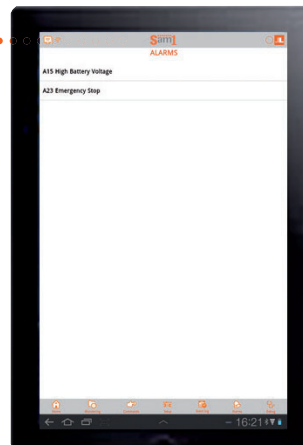(events, parameters)

PARAMETERS SETTING

EVENT LOG VIEWING

MEASUREMENTS VIEWING
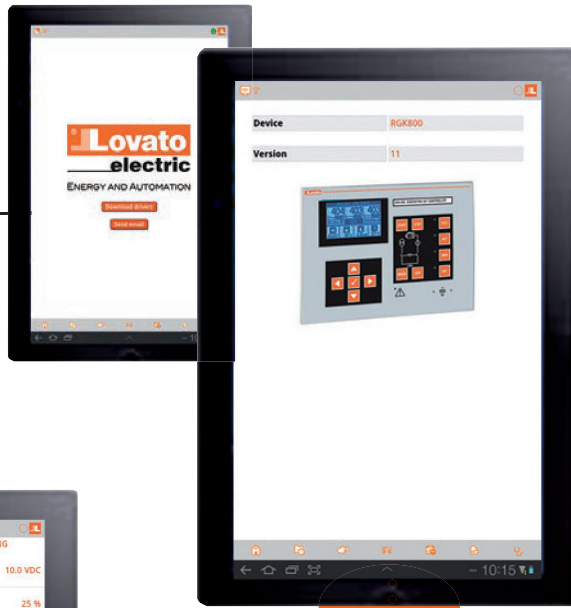
SENDING COMMANDS

ALARMS VIEWING

APP

NFC

Updating driver

Sending e-mail
(parameters)

General characteristics
The parameter setting for some LOVATO Electric products is now possible via tablet and smartphone through NFC wireless technology.
Bringing the display of a smartphone or tablet (with NFC connection enabled) in close proximity to a LOVATO Electric product, activates the LOVATO NFC App and the device connected is recognised automatically.
The parameters can be set without powering up the LOVATO Electric device.
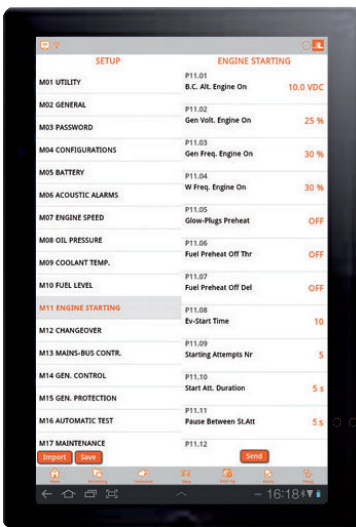The application allows you to:
– Set the parameters for the product connected
– Save the parameters in a file and share it
– Load a parameter file saved previously
– Simple, fast and intuitive programming
– Very high accuracy and repeatibility of the settings.
The app can be downloaded from Google Play Store and App Store.

PARAMETERS SETTING