INDEX

01 Motor protection circuit breakers

02 Contactors

03 Motor protection relays

04 Electromechanical starters and enclosures

05 Soft starters

06 Variable speed drives

07 Pushbuttons and selector switches

08 Signal towers and beacons

09 Limit, micro and foot switches

10 Rotary cam switches

11 Switch disconnectors

12 Fuse holders and fuses

13 Miniature and residual circuit breakers

14 Surge protection devices

15 Modular contactors

16 Earth leakage relays

17 Time relays

18 Monitoring relays

19 Level controls

20 new General purpose relays

21 Micro PLCs and HMI

22 Switching power supplies

23 Automatic battery chargers

24 Metering instruments and current transformers

25 Power factor controllers and thyristor modules

26 Automatic transfer switch controllers

27 Engine and generator controllers

28 new Fire pump controllers

29 Software and applications

30 Expansion modules and accessories

Lovato electric

NEW PRODUCTS
2018/2019

BF series contactors from 85 to 150A in AC3

They have a small footprint: 75mm for the three-pole versions and 100mm for the four-pole versions. Motor currents at 400V from 85 to 150A and thermal currents Ith from 125 to 165A. They have power terminals with double lug clamp and 4-terminal coil. They are available with two types of coil: AC or AC/DC with electronic control and wide supply voltage range.
The contactor with AC/DC coil has low power consumption, only closes at correct supply voltage, with built-in noise filter. Also available in specific versions for controlling capacitors and DC load breaking.

PAGE 2-4

RFE series electronic overload relays

For currents from 0.4 to 110A. They have a high trip accuracy, a very low heat dissipation and do not need any auxiliary supply. Four trip classes can be selected using dedicated dip-switches: 5, 10, 20, 30. Each single relay covers a wide current range. RFE45 can be installed directly on contactors BF09...38 or on an independent support for mounting on DIN rail. RFE110 is supplied with the support for independent mounting on DIN rail as standard. Reset can be selected in automatic or manual mode.

PAGE 3-11

VLA series single phase variable speed drives

They have single phase power supply 200...240VAC and three-phase power output 240VAC max., powers from 0.25kW to 2.2kW and small footprint with book format. The VLA series is ideal for controlling pumps and fans thanks to built-in functions such as PID and quadratic torque control. Keyboard with removable display and built-in EMC filter are also standard equipment. Programming, monitoring and diagnostics from PC through optional USB module are also possible.

PAGE 6-3

VLB series three phase variable speed drives

The range of the VLB series variable speed drives is extended with six new sizes: 37kW, 45kW, 55kW, 75kW, 90kW and 110kW.

PAGE 6-5

LP series metallic pushbutton control stations and enclosures

LOVATO Electric adds to its range of plastic control stations an offering of aluminum metallic enclosures.
The main characteristics of these enclosures are superior robustness and resistance even to the most chemically aggressive environments. They are cULus certified with protection rating IP66, IP67 and NEMA 4X. The range includes control stations already drilled in versions from 1 to 16 holes and enclosures without holes which are ideal for customised installation.

PAGE 7-44

LP series monoblock LED pilot lights

Available in 6 different colors (green, red, yellow, blue, transparent and orange) and 5 supply voltages (12V AC/DC, 24V AC/DC, 48V AC/DC, 110V AC, 230V AC). They are cULus certified with protection rating IP66, IP67, IP69K, that is protected against dust and close water jets at high pressure and temperature. The Type 4X rating also guarantees resistance to UV rays.

PAGE 7-13

Safety switches with solenoid and separate actuator

These are suitable where a hazardous situation may persist for a certain time after machines or systems are powered off. The presence of a solenoid holding the drive locked until the coil receives a specific control guarantees that guards can be opened only in the expected safety conditions. Versions with the release of the drive when the solenoid is powered on or alternatively when it is powered off are available. Three different combinations of electrical contacts guarantee the possibility of adapting to the most common control conditions.

PAGE 9-26

GL series switch disconnectors

For currents from 160 to 315A. The product structure is compact and also enables mounting directly on DIN rail. Disconnector switches and transfer switches are available in three-pole and four-pole version; the fourth pole can be mounted as an accessory by the customer. Contacts are visible thanks to the transparent window on the poles. UL98 certified versions suitable for mounting in electric boards intended for the North American market are available. The range is completed by a wide selection of accessories and handles.

PAGE 11-22

GM series switch disconnectors

They are specifically intended for the North American market as they are compliant with the UL98 standard. They have CC type fuses for 30A, J type fuses for 30 to 600A and L type fuses for 800A. The series includes many accessories, such as the NFPA79 compliant drive handle.

PAGE 11-36

Switch disconnectors in metal or stainless steel enclosure

Disconnector switches and transfer switches are available in three-pole and four-pole version from 16 to 315A. They offer a high mechanical robustness combined with resistance even to the most chemically aggressive environments. There is a ground terminal and accessories can be added such as auxiliary contacts and neutral terminal. The protection rating is IP65. Switch disconnectors up to 100A are also available in stainless steel enclosure.

PAGE 11-20

NEW PRODUCTS
2018/2019

Type 2 surge protection devices

The SG2 series in alternating current has the following characteristics:
- Rated discharge current In (8/20µs) 20kA
- Max. discharge current Imax (8/20µs) 50kA
- Backup protection necessary only for supply higher than 315A
- Max. continuous voltage Uc=300VAC
- Available in version with or without relay output for remote status indication.

PAGE 14-5

Type 3 surge protection devices and for data lines

Type 3 SPDs are suitable for protecting systems with electronic equipment. They are available in version for DIN rail or in version with reduced dimensions for mounting in boards and ducts. The version for DIN rail is equipped with built-in remote contact; the version with reduced dimensions is available with acoustic or visual trip indication. The range is completed by the C2-D1 type surge arresters for RS485 5VDC and Ethernet cat. 6 data lines, suitable for mounting on DIN rail.

PAGE 14-6

Type 2 surge protection devices for photovoltaic applications

The range is renewed by the new SG2 DG types with the following characteristics:
- Rated voltage Un 1100VDC or 1500VDC
- Short circuit current Iscpv 11kA
- Rated discharge current In (8/20µs) 20kA
- Plug-in cartridges.

PAGE 14-7

Multifunction timer with NFC technology

The range of timers is completed with a new multi-voltage timer (12...240V AC/DC), multifunction with output contact, programmable through NFC and App (LOVATO Nfc). The NFC connectivity enables a simple and fast configuration using a smartphone; settings are thus accurate and repeatable and programming can be carried out even on a powered-off device.
The programming can also be password protected. More than 30 functions are available, including those of the TMM1 model multifunction timer and of the TMPL model recycle time relay independent timing.

PAGE 17-2

Monitoring relay with NFC technology

The PM series is completed with a new voltmeter and frequency meter relay for three phase systems with or without neutral programmable through the NFC and App (LOVATO Nfc) technology.
The NFC connectivity makes the relay programming easier by using a smartphone and an intuitive App. Programming will be fast and accurate and is even possible on a powered-off device. The new PMV95 includes the following functions: phase sequence, phase loss, no neutral, min. and max. voltage, asymmetry, min. and max. frequency. The single functions can also be enabled or disabled independently and the programming can be password protected.

PAGE 18-8

HR series general purpose relays

It is composed of electro-mechanical relays and solid state relays; from 1 to 4 switching contacts with rated currents up to 16A. "Slim" versions (only 6 mm wide), compact versions, versions with indication LED and test mechanical actuators are available. The range is completed by a wide selection of sockets with screw and spring terminals, filters, marking elements and connection jumpers.

SECTION 20

LRH series HMI (Human Machine Interface)

Equipped with resistive colour 64k touchscreen display and LED backlighting. Available in three different sizes: 4.3", 7" and 10.1". The Ethernet, USB and serial ports (that can be configured as RS232-RS485-RS422) enable interfacing with any device communicating with the Modbus RTU, Modbus TCP and OPC UA protocols. The LRH SW software enables intuitive and advanced programming of the HMIs, with the possibility of acquiring data, showing trends, displaying interactive and customised graphic pages, managing alarms, storing recipes and many other functions.

PAGE 21-7

M-Bus energy meters

The new models of energy meters with built-in M-Bus port can be easily integrated in a data collection system including also water and gas meters which typically use the M-Bus protocol to communicate.
They are available both in single phase and three phase versions, with direct connection up to 80A or through CT to read currents up to 10,000A.

PAGE 24-8

MID certified energy meters

LOVATO Electric has extended MID certification to single phase and three phase meters in the following versions:

- with static outputs to generate pulses indicating energy consumption or alarms
- with RS485-Modbus communication port for integration with the Synergy supervision software and other systems
- with M-Bus communication port for integration in systems with water and gas meters.

PAGE 24-11

Multimeter with current measurement through Rogowski coils

The DMG611 multimeter is a measuring device with four voltage inputs (three phase and neutral) and three inputs for reading the phase currents through Rogowski coils. The main advantage of these coils is their flexibility and deformability, so that they are highly suitable for system retrofitting. The built-in RS485 communication port enables the inclusion of DMG611 in a supervision network. The multimeter is compatible with the Synergy and Xpress software and with the App SAM1.

PAGE 24-17

Lovato electric

NEW PRODUCTS
2018/2019

DCRG8F automatic power factor controller

It has been designed to control power factor correction panels with steps added through thyristor modules, particularly suitable for systems with inductive loads that change very quickly over time. The controller includes 8 steps that can be increased using the EXP series expansion modules.

PAGE 25-10

DCTL series thyristor modules for controlling capacitors

NFC

They are available for the most common values of reactive power (kvar). They are equipped with a front optical port for parameter programming, diagnostics and statistical data collection. Thanks to the NFC technology and to the App LOVATO Nfc, it is possible to connect with the modules even if they are powered off using a smartphone. It is possible to add an RS485 (EXC1042) communication port for supervising remotely and controlling activation through serial bus, thus saving on the panel wiring.

PAGE 25-13

ATL100 automatic transfer switch controller

The offer dedicated to automatic transfers is extended with the ATL100 automatic transfer switch controller in modular format. The device has two single phase measuring inputs and is able to verify the applied voltages, identifying the most suitable line for connecting to the module's output.
Ideal for supplying contactors, changeover switches and motorised circuit breakers. The control is managed by a micro-controller with fixed trip thresholds. The two single-phase voltage inputs are independent, insulated and each capable of supplying the internal measuring circuit. The LEDs on the device front are well visible and inform the user on the conditions of the input networks, of the outputs and on any possible malfunction.

PAGE 26-6

ATS switching panels

This is a range of automatic switching panels in IP65 metal enclosure.
They are used for the automatic or manual switching of the load from the main line to a stand-by or emergency line. The panels are available in 6 electrical sizes from 40 to 160A and include the following components:

- 2 interlocked four-pole contactors
- ATL600 model automatic transfer switch controller
- ATLDPS1 dual power supply module for control and measurement of the voltages at the supply inputs
- Fuses for the protection of the auxiliary supply
- Connection terminal blocks.

PAGE 26-9

FFL series controllers for electric pumps and fire fighting motor pumps

NFC

LOVATO Electric introduces its controller for sprinkler type fire-fighting systems thanks to its expertise in applications for pumping and controlling electric motors and diesel engines. The FFL control units are designed according to the EN 12845 European standards; besides complying with these standard requirements, these devices also feature additional functions for the supervision, monitoring and maintenance of the fire-fighting systems. On completion, two unit versions of remote alarm panels are available and enable reporting of the condition of the fire-fighting unit to a supervised room.

SECTION 28

Synergy software

Synergy is upgraded with important functions which increase flexibility in use. The possibility of integrating third party devices - provided that they are able to communicate through Modbus protocol - has been added. Furthermore, the collected data can be accessed not only through the traditional web interface but also using the web APIs specifically designed to interface Synergy with third party software. Finally, the indicators used in live pages have been upgraded, the functions that can be associated with the alarm events have been increased and the data collection algorithms have been optimized to face the steady increase in information necessary in the applications for monitoring and energy analysis. All functions are now also available in the Cloud version: energy data always update and available everywhere.

SECTION 29

Gateway data logger

Data collection in production machinery and systems often requires frequent sampling procedures to process detailed analyses. This leads to the need for a local data warehouse, thus avoiding complete reliance on the performance of the internet, which is not always fast and reliable.
The Gateway data logger EXC GLA01 collects the data from the instruments on the field through RS485-Modbus communication and transfers it without time constraints through the internet to the Synergy supervision software data log, on remote server or cloud. The connection with the internet can be through the Ethernet interface or through the optional EXC GLAX1 modem module which allows phone lines to be used, thus solving the problems of authorisations for accessing customers' company networks.

PAGE 30-5

EXP series expansion modules

The range is expanded with the new models:
- 6 digital inputs
- 4 digital inputs and 2 static outputs
- tropicalized versions.

PAGE 30-2

Lovato electric

INTERNATIONAL PRESENCE

The presence of LOVATO Electric in the major world markets is the result of its ongoing strategy of internationalisation.
LOVATO Electric Italy distributes its products worldwide to over 100 countries through its foreign subsidiaries and importer network.

Canada
LOVATO Electric Corp.
www.Lovato.ca

USA
LOVATO Electric INC.
www.LovatoUsa.com

100 COUNTRIES

90 IMPORTERS

13 FOREIGN SUBSIDIARIES

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LOVATO Electric S.L.U.
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Lovato electric

A LONG TRADITION **OF STYLE**

We have been managing energy since **1922**, led by the same family for four generations, from the early days of electrical engineering to the present day, in which electronics and automation go hand in hand.
Italian design has always been our hallmark and an ever-present requirement in the daily work of our designers, researchers and engineering experts.
Our company mission has always been the same: to create **innovative and reliable** products, offering services that exceed customer expectations.

ITALIAN
DESIGN

THE FOUNDATION ON WHICH WE ARE BUILT

Quality is a keyword in every market, especially ours. That is why we have always made quality a top priority, such that in 1992 we were one of the first companies in Italy to certify our management system according to the **ISO 9001** standard.
These days, quality is a broad concept that embraces many issues. We have identified two issues that are central to our business. The first is environmental management and we have aligned our corresponding system with the **ISO 14001** standard in order to protect and sustain the environment in which we live.
The second issue is safety, a primary consideration in any workplace, which is why we are certified to **OHSAS 18001**.

Lovato electric

KEY COMPONENTS OF OUR SUCCESS

Products that are designed for the most diverse applications and installed all over the world need to meet high standards of reliability.
Behind our products there is a solid, flexible and innovative organisation with cutting-edge production facilities, where robotics and automation ensure that we can consistently replicate the desired results. Our testing laboratory is authorised to issue **ACAE/LOVAG certificates**, accredited to EN ISO/IEC 17025 and qualified to conduct tests according to national and international standards.
Our technical support service helps customers to select the right products and commission them, in addition to offering after-sales advice.

TECHNICAL SUPPORT

CUTTING-EDGE LABORATORY

Main tests performed:

- Making and breaking capacities
- Short-circuit with comparator system
- Temperature rise
- Thermal protection functionality
- Verification of dielectric properties
- Verification of terminals mechanical properties
- Verification of IK code degree of protection (impact withstand)
- Verification of IP degree of protection (ingress protection against water jets)
- Shock and vibration withstand
- Electrical and mechanical durability
- Low current-low voltage contact functionality
- Ambient simulation in climatic chamber
- Glow-wire ignitability of insulating parts
- Immunity to conducted and radiated emission fields
- Immunity to surges, fast transients / bursts and electrostatic discharges.

Lovato electric

EXPERIENCE AND EXPERTISE

To meet the growing demand for technical training of industrial automation and energy management professionals, LOVATO Electric provides a high-profile program of courses through the **LOVATO Academy**. The curriculum includes courses on micro PLCs, **energy management** and motor starting and control technologies.

TECHNICAL TRAINING

Lovato electric ACADEMY

A training area equipped with the latest audiovisual technology and **interactive training benches** provides the perfect setting for understanding the true potential of our products and software during both function programming and simulation phases.
Training is also available over the Internet:
LOVATO Academy offers **free live seminars** that are streamed worldwide and simply require an Internet connection to participate. There is even a LOVATO Electric channel on YouTube, complete with **video tutorials** that demonstrate how to configure and use our products by means of practical examples.

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