



- Digital inputs and outputs
- Analog inputs and outputs
- Communication interfaces
- Data storage with clock-calendar
- Communication devices and cables to connect LOVATO Electric products to personal computers, smartphones and tablets.

Expansion modules

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EXP SERIES EXPANSION MODULES

- For flush-mount products
- Digital inputs and outputs
- Analog inputs and outputs
- Inputs for PT100 sensors
- Communication modules (RS232, RS485, Ethernet, etc.)
- GSM/GPRS modem
- Data storage with clock-calendar (RTC)
- Powered directly by the base product
- Automatic identification by base product
- Tropicalized versions.



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EXM SERIES EXPANSION MODULES

- For modular products.
- Digital inputs and outputs
- Communication modules (RS232, RS485, Ethernet, etc.)
- Data storage with clock-calendar (RTC)
- Separate auxiliary power supply
- Base product connection by IR port
- Automatic identification by base product.



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ACCESSORIES

- Communication devices
- Remote display unit
- Protective cover
- Connecting cable.

Expansion modules for flush-mount products



EXP10...

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Inputs and outputs.			
EXP1000	4 digital inputs, opto-isolated	1	0.060
EXP1001	4 static outputs, opto-isolated	1	0.054
EXP1002	2 digital inputs and 2 static outputs, opto-isolated	1	0.058
EXP1003	2 relay outputs, rated 5A 250VAC	1	0.050
EXP1004 EXP1004T [Ⓢ]	2 analog inputs, opto-isolated 0/4...20mA or PT100 or 0...10V or 0...±5V	1	0.056
EXP1005	2 analog outputs, opto-isolated 0/4...20mA, 0-10V or 0...±5V	1	0.064
EXP1006	2 relay outputs to increase number of steps	1	0.064
EXP1007	3 relay outputs to increase number of steps	1	0.085
EXP1008 EXP1008T [Ⓢ]	2 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC	1	0.058
EXP1040	2 digital/resistive inp. 2 static out.	1	0.054
EXP1041	2 thermocouple inp. 2 static out.	1	0.054
EXP1042T [Ⓢ]	6 digital inputs	1	0.054
EXP1043T [Ⓢ]	4 digital inputs and 2 static outputs	1	0.054
Communication ports.			
EXP1010	Opto-isolated USB interface	1	0.060
EXP1011	Opto-isolated RS232 interface	1	0.040
EXP1012 EXP1012T [Ⓢ]	Opto-isolated RS485 interface	1	0.050
EXP1013 EXP1013T [Ⓢ]	Opto-isolated Ethernet interface	1	0.060
EXP1014	Opto-isolated Profibus-DP interface	1	0.080
EXP1018 [Ⓢ]	IEC/EN/BS 61850 interface	1	0.060
Various functionalities.			
EXP1015	GPRS/GSM modem	1	0.080
EXP1016	Capacitor bank protection	1	0.080
EXP1030	Data storage, clock-calendar	1	0.050

IEC/EN/BS 61850 protocol

The module will be made available only when the competent authorities have established the exact terms of the supervision and control of the specific commands (at the time of catalogue printing, currently under study as specified in the Italian CEI 0-16 and CEI 0-21 standards).

[Ⓢ] PCB tropicalized.

EXP series compatibility with LOVATO Electric products

TYPE	INTERFACE PROTECT. SYSTEM UNIT	DIGITAL MULTIMETERS		AUTOMATIC POWER FACTOR CONTROLLERS			AUTOMATIC TRANSFER SWITCH CONTROLLERS		FIRE PUMP CONTROLLERS		ENGINE AND GENERATOR CONTROLLERS			MOTORIZED CHANGE-OVER SWITCHES
	PMVF3000	DMG 6...	DMG7000 DMG7500 DMG8000 DMG9000	DCRL3/5	DCRL8	DCRG8 DCRG8F	ATL610	ATL800/900	FFL800...	FFLRA400	RGK4...	RGK610	RGK750 RGK8... RGK9...	GLCM...
EXP1000		●	●			●	●	●		●			●	
EXP1001		●	●			●	●	●		●			●	
EXP1002		●	●			●	●	●		●			●	
EXP1003	●	●	●	●	●	●	●	●		●			●	●
EXP1004...			●			●		●	EXP1004T				● (not RGK750)	
EXP1005			●			●		●					● (not RGK750)	
EXP1006				●	●	●	●	●						●
EXP1007				●	●	●		●						
EXP1008...		●	●			●	●	●	EXP1008T	●			●	
EXP1010	●	●	●	●	●	●	●	●		●		●	●	
EXP1011	●	●	●	●	●	●	●	●		●		●	●	
EXP1012...	●	●	●	●	●	●	●	●	EXP1012T	●		●	●	●
EXP1013...	●	●	●		●	●	●	●	EXP1013T	●			●	
EXP1014			●			●	●	●						
EXP1015						● (not DCRG8F)		●	●	●			●	
EXP1016														
EXP1018	●													
EXP1030						●								
EXP1040											●			
EXP1041													●	
EXP1042T									●	●		●	●	
EXP1043T									●	●	●	●	●	
Max n° of	2	1	3	1	2	4	2	3	2	2	1	1	2/3/4	1

General characteristics

EXP series expansion modules can increase the functionality of the LOVATO Electric products, such as:

- Digital inputs
- Relay outputs
- Static outputs
- Analog inputs
- Inputs for PT100 temperature sensor
- Thermocouple inputs "J" or "K" types
- Analog outputs
- Communication interface
- GPRS/GSM modem (without antenna, see page 35-4)
- Data storage.
- Powered directly by the base product
- Automatic identification by the base product
- Rear base product mounting with no need of tools
- **T suffixed versions have tropicalized PCB.**

Certifications and compliance

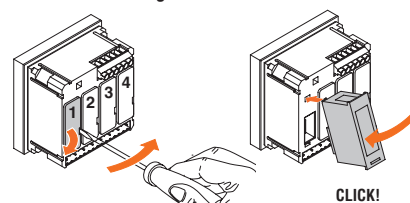
Certifications obtained: UL Listed, for USA and Canada (cULus File E93601), as Listed Accessory under Auxiliary Devices; EXP1018 excluded, EAC.

Compliant with standards:

- For EXP1018: IEC/EN/BS 61850 and Italian CEI 0-16, CEI 0-21
- For EXP1004, EXP1010 and EXP1013: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2, IEC/EN/BS 61000-6-4, UL508, CSA C22.2 n° 14
- For EXP1015: IEC/EN/BS 61010-1, IEC/EN/BS 62311, ETSI EN 301 489-1, ETSI EN 301 469-7, EN 301 511, USA/FCC 47 CFR part 15, Subpart B, CAN/ICES-003
- For all other types: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2, IEC/EN/BS 61000-6-3, UL508, CSA C22.2 n° 14.

For overall dimensions, wiring diagrams and technical characteristics, consult the technical instructions in Downloads of the local or global websites; see details on inside front cover.

Expansion module fixing



Expansion modules for modular products



EXM1000



EXM1010

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Inputs and outputs.			
EXM1000	2 digital inputs and 2 static outputs, opto-isolated	1	0.137
EXM1001	2 digital inputs, opto-isolated and 2 relay outputs, rated 5A 250VAC	1	0.147
EXM1002	4 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC	1	0.155
Communication ports.			
EXM1010	Opto-isolated USB interface	1	0.140
EXM1011	Opto-isolated RS232 interface	1	0.125
EXM1012	Opto-isolated RS485 interface	1	0.140
EXM1013	Opto-isolated Ethernet interface	1	0.140
EXM1018	IEC/EN/BS 61850 interface	1	0.140
EXM1020	Opto-isolated RS485 interface and 2 relay outputs, rated 5A 250VAC	1	0.140
EXM1030	Data storage, RTC with backup reserve energy for data logging	1	0.140

① IEC/EN/BS 61850 protocol

The module will be made available only when the competent authorities have established the exact terms of the supervision and control of the specific commands (at the time of catalogue printing, currently under study as specified in the Italian CEI 0-21 standard).

General characteristics

EXM series expansion modules can increase functionality of LOVATO Electric products, such as:

- Digital inputs
- Relay outputs
- Static outputs
- Communication interfaces
- Data storage.
- Connection to base product by IR (infrared beam) port
- Automatic identification by the base product
- Side base product mounting
- Auxiliary power supply: 100-240VAC 50/60Hz.

Certifications and compliance

Certifications obtained: UL Listed, for USA and Canada (cULus File E93601), as Listed Accessory under Auxiliary Devices; EXM10 18 excluded, EAC.

Compliant with standards:

- For EXM1018: IEC/EN/BS 61850 and Italian CEI 0-21
- For EXM1012, 1020, 1013: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2, IEC/EN/BS 61000-6-4, UL 508, CSA C22.2 n° 14
- For all other types: IEC/EN/BS 61010-1, IEC/EN/BS 61000-6-2, IEC/EN/BS 61000-6-3, UL508, CSA C22.2 n° 14.

For overall dimensions, wiring diagrams and technical characteristics, consult technical instructions online in Downloads of the local or global website; see details on inside front cover.

Expansion module fixing



CLICK!

EXM series compatibility with LOVATO Electric products

TYPE	INTERFACE PRO. SYSTEM UNITS	ENERGY METER	DATA CONCENTRATOR	DIGITAL MULTIMETER
	PMVF52/61/71/81/90	DMED310T2	DMECD	DMG300
EXM1000		●	●	●
EXM1001	●	●	●	●
EXM1002			●	●
EXM1010	●	●	●	●
EXM1011	●	●	●	●
EXM1012	●	●	●	●
EXM1013	●	●	●	●
EXM1018	●			
EXM1020		●	●	●
EXM1030		●	●	●
Max n° of modules addable	2	3	3	3

Communication devices



CX01



CX02



CX03

Order code	Description	Qty per pkg	Wt
		n°	[kg]
CX01	USB connection device PC↔LOVATO Electric device with optical connector for programming, data download, diagnostics and firmware upgrade	1	0.090
CX02	Wi-Fi connection dongle PC↔LOVATO Electric device for data download, diagnostics and firmware upgrade, project upload/download and cloning	1	0.090
CX03	GSM penta-band antenna (850/900/1800/1900/2100MHz)	1	0.090



General characteristics

Communication devices to link LOVATO Electric products to:

- Personal computers (PC)
- Smartphones
- Tablets.

CX01

The USB/optical device, complete with cable, allows to connect LOVATO Electric products to a PC without having to disconnect the power supply from the electric panel and to carry out:

- Parameter programming
- Copy of the settings
- Data and event download
- Carry out the diagnostics
- Firmware upgrade.

The PC identifies the connection as a standard USB.

CX02

This Wi-Fi point connection lets LOVATO Electric products be viewed by PC, smartphone and tablet with no need for cabling and to carry out:

- Parameter programming
- Data and event download
- Diagnostics project upload/download and controller cloning.

CX03

Antenna compatible with the majority of worldwide mobile networks thanks to the available frequencies at 850/900/1800/1900/2100MHz.

- IP67 IEC protection degree.
- Fixing by Ø10mm/0.39" drilling.
- Cable length 2.5m/2.73yd.

For dimensions, wiring schemes and technical characteristics, refer to technical instructions in downloads of local or global website or consult Technical support; see contact details on inside front cover.

Compliance for CX02

Compliant with standards: EN/BS 60950-1, EN 62311, EN 301 489-1 V2.2.0, EN 301 489-17 V3.2.0, EN300 328 V2.1.1.

Remote display unit



EXCRDU2

new

Order code	Description	Qty per pkg	Wt
		n°	[kg]
EXCRDU2	Remote display unit, widescreen colour LCD graphic display, built-in RS485 port, for the monitoring and control of max 32 starters, IP65, 3m cable included	1	0.420

General characteristics

With the EXCRDU2 remote display unit it is possible to command and monitor up to 32 starters via RS485 communication, at choice between soft starters ADXL... or ADXNP... series and variable speed drives VLB... series.

- Auxiliary power supply: 100...240VAC 50/60Hz, 110...250VDC
- Widescreen colour LCD graphic display 118x96mm
- Isolated RS485 communication port, Modbus-RTU protocol
- Configurable communication parameters
- Integrated optical port for firmware update
- Flush mount, standard 92x92mm cut-out
- Compatible with:
 - soft starters ADXL... series equipped with RS485 communication card code EXC1042
 - soft starters ADXNP... series equipped with RS485 communication module, code CX04
 - variable speed drives VLB... series equipped with RS485 logic unit, code VLBXL06 (already built-in on complete drives type VLB3...A480)
- RS485 cable included, 3m length
- IEC degree of protection: IP65 frontal with gasket (provided as standard), IP20 housing and terminals.

Certifications and compliance

Certifications: cETLus.

Compliant with standards: IEC/EN/BS 61010-1, IEC/EN/BS 61010-2-030, IEC/EN/BS 61000-6-2, IEC61000-6-4.

Accessories

**EXP8000****EXP8001****EXP8003****EXP8004****EXM8004****DMXP03****DMXP04****NTC01**

Order code	Description	Qty per pkg	Wt
		n°	[kg]
EXP8000	Plastic insert for customising label for DMG6... and DCRL3/5	10	0.005
EXP8001	IP65 gasket seal for ATL500/600/601/610 and DCRL8	1	0.009
EXP8003	35mm/1.38" DIN rail mounting accessory for ADXL0018600..., ADXL0115600 and DCTL... up to 60Kvar	1	0.200
EXP8004	Fan for ADXL... soft starter and DCTL... thyristor modules	1	0.004
EXM8004	Set of sealable terminal covers for DMG100/110/200/210/300	1	0.020
DMXP03	Panel mounting for 3 modules devices	1	0.052
DMXP04	Panel mounting for 4 modules devices	1	0.054
NTC01	External/remote temperature sensor, with 3m/10ft long cable	1	0.150

Connecting cable

**51C2**

Order code	Description	Qty per pkg	Wt
		n°	[kg]
51C2	For PC ↔ LOVATO Electric device, 1.8m/6ft long	1	0.090

General characteristics

Connecting cable to link LOVATO Electric devices with RS232 port to personal computers.

Certification

Certification obtained: EAC.