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EXP SERIES EXPANSION MODULES

- 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.



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EXM SERIES EXPANSION MODULES

- 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
- Protective covers
- RS232/RS485 converter drive
- Connecting cables.

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Expansion modules and accessories



- Digital inputs and outputs
- Analog inputs and outputs
- Communication interface
- Data storage with clock-calendar
- Communication devices to connect LOVATO Electric products to personal computers, smartphones and tablets
- Connecting cables to link LOVATO Electric products to personal computers, modems and converter drives.

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Expansion modules

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Accessories

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Expansion modules and accessories
EXP series

Expansion modules for flush-mount products



EXP10...

	Order code	Description	Qty per pkg	Wt
			n°	[kg]
	Inputs and outputs.			
	EXP10 00	4 digital inputs, opto-isolated	1	0.060
	EXP10 01	4 static outputs, opto-isolated	1	0.054
	EXP10 02	2 digital inputs and 2 static outputs, opto-isolated	1	0.058
	EXP10 03	2 relay outputs, rated 5A 250VAC	1	0.050
	EXP10 04	2 analog inputs, opto-isolated 0/4-20mA, PT100, 0-10V or 0...±5V	1	0.056
	EXP10 05	2 analog outputs, opto-isolated 0/4-20mA, 0-10V or 0...±5V	1	0.064
	EXP10 06	2 relay outputs to increase number of steps	1	0.064
new	**EXP10 08**	2 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC	1	0.058
	Communication ports.			
	EXP10 10	Opto-isolated USB interface	1	0.060
	EXP10 11	Opto-isolated RS232 interface	1	0.040
	EXP10 12	Opto-isolated RS485 interface	1	0.050
	EXP10 13	Opto-isolated Ethernet interface with Web server function	1	0.060
	EXP10 14	Opto-isolated Profibus-DP interface	1	0.080
new	**EXP10 18❶**	IEC/EN 61850 interface	1	0.060
	Various functionality.			
	EXP10 15	GPRS/GSM modem	1	0.080
	EXP10 16	Capacitor bank protection	1	0.080
	EXP10 30	Data storage, clock-calendar with backup battery for data logging	1	0.050
	EXP10 31	Data storage, with Energy Quality (EN 50160), clock-calendar with backup reserve energy for data logging	1 1	0.060 0.050

❶ **IEC/EN 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).

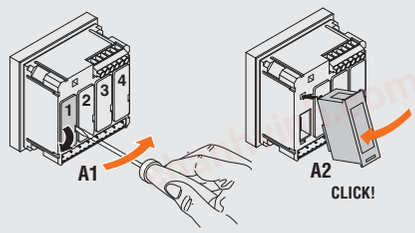
General characteristics
EXP series expansion modules can increase the functionality of the LOVATO Electric products, such as:
- Digital inputs
- Relay outputs
- Static outputs
- Analog inputs
- Inputs for PT100 temperature sensor
- Analog outputs
- Communication interface
- GPRS/GSM modem (without antenna, see page 28-4)
- Data storage.

– Powered directly by the base product
– Automatic identification by the base product
– Rear base product mounting with no need of tools.

Certifications and compliance
Certifications obtained: UL Listed, for USA and Canada (File E93601), as Listed Accessory under Auxiliary Devices; EXP10 08 and EXP10 18 excluded.
Compliant with standards:
– For EXP10 18: IEC/EN 61850 and Italian CEI 0-16, CEI 0-20
– For EXP10 04 and EXP10 10: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4, UL508, CSA C22.2 n° 14
– For EXP10 15: IEC/EN 61010-1, IEC/EN 62311, ETSI EN 301 489-1, ETSI EN 301 469-7, EN 301511, USA/FCC 47 CFR part 15, Subpart B, CAN/ICES-003
– For all other types: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 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



EXP series compatibility with LOVATO Electric products

	INTERFACE PROTECTION SYSTEM UNITS	DIGITAL MULTIMETERS			DIGITAL POWER ANALYZERS	PFC CONTROLLERS		ATS CONTROLLERS	GENSET CONTROLLERS	
TYPE	PMVF20/30	DMG 600/610	DMG 700	DMG 800	DMG 900/900T	DCRL 3/5	DCRG 8	ATL 610	RGK 800...	RGK 900
EXP10 00		●	●	●	●		●	●	●	●
EXP10 01		●	●	●	●		●	●	●	●
EXP10 02		●	●	●	●		●	●	●	●
EXP10 03	●	●	●	●	●	●	●	●	●	●
EXP10 04				●	●		●		●	●
EXP10 05				●	●		●		●	●
EXP10 06						●	●			
EXP10 08		●	●	●	●		●	●	●	●
EXP10 10	●	●	●	●	●	●	●	●	●	●
EXP10 11	●	●	●	●	●	●	●	●	●	●
EXP10 12	●	●	●	●	●	●	●	●	●	●
EXP10 13	●	●		●	●		●	●	●	●
EXP10 14				●	●				●	●
EXP10 15					●		●		●	●
EXP10 16							●			
EXP10 18	●									
EXP10 30				●	●					
EXP10 31					●					
Max n° of modules addable	2	1	4	4	4	1	4	2	3	4

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Expansion modules for modular products



EXM10 00



EXM10 10

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Inputs and outputs.			
EXM10 00	2 digital inputs and 2 static outputs, opto-isolated	1	0.137
EXM10 01	2 digital inputs, opto-isolated and 2 relay outputs, rated 5A 250VAC	1	0.147
new **EXM10 02**	4 opto-isolated digital inputs and 2 relay outputs rated 5A 250VAC	1	0.155
Communication ports.			
EXM10 10	Opto-isolated USB interface	1	0.140
EXM10 11	Opto-isolated RS232 interface	1	0.125
EXM10 12	Opto-isolated RS485 interface	1	0.140
EXM10 13	Opto-isolated Ethernet interface with Web server function	1	0.140
new **EXM10 18**❶	IEC/EN 61850 interface	1	0.140
EXM10 20	Opto-isolated RS485 interface and 2 relay outputs, rated 5A 250VAC	1	0.140
EXM10 30	Data storage, RTC with backup reserve energy for data logging	1	0.140

❶ **IEC/EN 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 interface
- Data storage.

– Connection to base product by IR (infrared beam) port
– Automatic identification by base product
– Side base product mounting.

Certifications and compliance
Certifications obtained: EAC; UL Listed, for USA and Canada (File E93601), as Listed Accessory under Auxiliary Devices; EXM10 18 excluded.
Compliant with standards:
– For EXM10 18: IEC/EN 61850 and Italian CEI 016
– For EXM10 10: IEC(EN 61010-1, IEC/EN 61000-6-2, IEC/EN 61000-6-4, UL 508, CSA C22-2 n° 14
– For all other types: IEC/EN 61010-1, IEC/EN 61000-6-2, IEC/EN 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

	INTERFACE PRO. SYSTEM UNITS		ENERGY METERS		DATA CONCENTRATORS		DIGITAL MULTIMETER
	PMVF50	PMVF51	DMED 130	DME D310 T2	DME CD	DMED CDPV1	DMG 300
EXM10 00			●	●	●	●	●
EXM10 01		●	●	●	●	●	●
EXM10 02			●		●	●	●
EXM10 10	●	●	●	●	●	●	●
EXM10 11	●	●	●	●	●	●	●
EXM10 12	●	●	●	●	●	●	●
EXM10 13	●	●	●	●	●	●	●
EXM10 18	●	●					
EXM10 20			●	●	●	●	●
EXM10 30				●	●	●	●
Max n° of modules addable	1	2	1	3	3	3	3

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Communication devices



CX 01



CX 02



CX 03

Order code	Description	Qty per pkg	Wt
		n°	[kg]
CX 01	PC ↔ LOVATO Electric product connecting cable, with USB optic connector for programming, data download, diagnostics and firmware upgrade	1	0.090
CX 02	PC ↔ LOVATO Electric product Wi-Fi connecting device for programming, data download, diagnostics and firmware upgrade	1	0.090
CX 03	GSM quad-band antenna (800/900/1800/1900MHz) for EXP10 15 expansion module	1	0.090

General characteristics
Communication devices to link Lovato Electric products to:
– Personal computers (PC)
– Smartphones
– Tablets.

CX 01
This USB/optical connector, complete with cable, allows to connect compatible Lovato Electric products with a PC without having to disconnect the the power supply from the electric panel.
The PC identifies the connection as a standard USB.

CX 02
With a Wi-Fi point connection, the LOVATO Electric products can be viewed by a PC, smartphone and tablet without having to connect cables.

CX 03
Compatible with major part of worldwide mobile networks, thanks to the 800/900/1800/1900MHz frequencies.
IEC degree of protection: IP67. Fixing by Ø12mm/0.04" drilling.

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

Protective covers

Order code	Description	Qty per pkg	Wt
		n°	[kg]
PA 96X48	Front IP65 protective cover for DMK 0/1...	1	0.048
31 PA96X96	Front IP54 protective cover for DMK 2/3... and DMK 40	1	0.077

Caratteristiche generali
In caso di necessità di elevati gradi di protezione IP, le calotte forniscono la protezione necessaria ai dispositivi su cui sono montati.

Accessories



EXP80 00

new

Order code	Description	Qty per pkg	Wt
		n°	[kg]
EXP80 00	Plastic insert for customising 0 label for DMG 600/601 and DCRL…	10	0.005
EXP80 01	IP65 gasket seal for ATL600/610 internal display frame	1	0.150
EXM80 04	Set of sealable terminal covers for DMG200/210/300	1	0.020
NTC 01	External/remote temperature sensor, with 3m/3.3yd long cable	1	0.150
RGK X00	IP65 gasket seal for RGK600/601 internal display frame	1	0.100

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Converter drive



4 PX1

Order code	Description	Qty per pkg	Wt
		n°	[kg]
4 PX1	RS232/RS485 converter drive, opto-isolated, 220-240VAC power supply (110-120VAC on request)❶. Repeater drive for RS485 bus extention	1	0.600

❶ RS232/RS485 opto-isolated converter drive, 38,400 Baud rate maximum, automatic or manual TRANSMIT line supervision, 220...240VAC ±10% power supply (110-120VAC supply on request).

General characteristics
The 4 PX1 converter drive can interface “slave” devices connected in an RS485 bus with a “master” equipped with RS232 interface port.
When configured appropriately, it can also be used as RS485 repeater whenever the devices connected to the bus are many or the maximum distance among the bus devices is longer than the allowed.

Connecting cables



51 C4

Order code	Description	Qty per pkg	Wt
		n°	[kg]
Connecting cables.			
51 C2	For PC ↔ LOVATO Electric device, 1.8m/2yd long	1	0.090
51 C3	For PC ↔ GSM modem, 1.8m/2yd long❶	1	0.210
51 C4	For PC ↔ RS232/RS485 converter drive, 1.8m/2yd long	1	0.147
51 C5	For Analog modem ↔ LOVATO Electric device, 1.8m/2yd long❶	1	0.111
51 C6	For 4 PX1 converter drive ↔ LOVATO device + EXP10 11, 1.8m/2yd long	1	0.102
51 C7	For GSM modem ↔ LOVATO Electric device, 1.8m/2yd long❶	1	0.101
51 C8	For ADX ↔ remote keypad, 3m/3.3yd long	1	0.081
51 C9	For PC ↔ analog modem, 1.8m/2yd long	1	0.137
51 C11	For PC ↔ RS232/TTL communication port, 2.8m/2yd long	1	0.090

❶ Consult Customer Service for information; see contact details on inside front cover.

General characteristics
Connecting cables to link LOVATO Electric devices to:
– Personal computer (PC)
– Modem
– Bus converter .

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