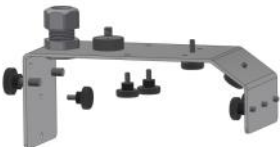# Accessories

LSI LASTEM data loggers share a range of common accessories for their installation, communication and power supply.

Sensors and data logger arms for indoor applications

M-Log (ELO009) used for temporary applications can be mounted on an arm fixed on a tripod, together with sensors.

BVA305	Sensors and data logger arm. Fixing to BVA304 tripod	
	Dimensions	850x610x150 mm
	Number of sensors	N.6 using threaded screws + N.1 ring for ESU403.1-EST033 sensors
	Weight	0.5 Kg
BVA320	Sensors and data logger arm. Fixing to BVA304 tripod or to wall	
	Dimensions	850x610x150 mm
	Number of sensors	N.6 using threaded screws + N.1 ring for ESU403.1-EST033 sensors
	Weight	0.5 Kg
BVA315	Sensors and N.2 data logger arm. Fixing to BVA304 tripod	
	Dimensions	400x20x6 mm
	Number of sensors	N.22 using threaded screws + support for N.4 ESU403.1-EST033 sensors
	Weight	1.6 Kg
BVA304	Three arm tripod	
	Occupied area size	Max 1100x1100 mm
	Maximum height	1600 mm
	Weight	1.6 kg
	Bag for transportation	Included

Power supplies

When the data logger (see Compatibility) isn't supplied with an ELF box, we recommend having external power supply units.

BSC015	Power supply converter/battery charger for indoor applications.	
	Voltage	230 Vca -> 9 Vdc (1,8 A)
	Connection	On data logger power plug
	Protection degree	IP54
	Compatibility	M-Log (ELO009)
DEA261 DEA261.1	Power supply converter/battery charger for indoor applications to data logger	
	Voltage	10W-90..264Vac-> 13,6 Vdc (750 mA)
	Connection	DEA261: with 2C connector DEA261.1: free wires to data logger terminal board
	Protection degree	IP54
	Compatibility	DEA261: E-Log DEA261.1: E-Log, Alpha-Log, ALIEM

DEA251	Power supply converter/battery charger for outdoor applications. N.2 outputs	
	Voltage	85...264 Vca -> 13.8 Vcc
	Power	30 W
	Max output current	2 A
	Connection to sensors or data logger	On free terminals board
	Protection degree	IP65
	Protections	• Short Circuit • Overvoltage • Overcurrent
	Operative temperature and humidity	-30...+70 °C ; 20...90 %
	Compatibility	E-Log, Alpha-Log, ALIEM
DYA059	Bracket for DEA251 on poles of 45...65 mm diameter	

RS485 modules

Required to connect RS485 sensors (up to 3 signals) to Alpha-Log's RS485 port.

TXMRA0031	Three signal RS485 active star wiring hub. The unit has three independent RS485 input and output channels, each with their own driver, which can transmit signals across 1200 m of cable on each channel.	
	Input	N.3 RS485 Channel: Data+, Data-
	Output	N.1 RS485 Channel: Data+, Data-
	Speed	300...115200 bps
	ESD protection	Yes
	Power supply	10...40 Vdc (not insulated)
	Power consumption	2.16 W
EDTUA2130	Three signal RS485 active star wiring hub.	
	Input	N.3 RS485 Channel: Data+, Data-
	Output	N.1 RS485 Channel: Data+, Data-
	Maximum current	16 A
	Voltage	450 Vdc
	Protection degree	IP68

Radio signals receiver

EXP301	Radio signal receiver from radio sensors or from EXP820 RS-232 Output compatible with data loggers (M/E-Log) • Maximum number of receivable sensors 200 • Battery NiCd 9 V • Power supply 12 Vdc • Antenna included
DWA601A	Serial cable L=10 m for connection of EXP301 to E/M-Log data logger RS-232 port
DYA056	Support for EXP301 to pole D=45...65mm

Radio signals repeaters

	EZB322	Zig-Bee radio signals repeater	
		Mounting	Universal AC socket
		Power supply	85...265 Vac, Universal AC socket
		Protection degree	IP52
		Environmental limits	0...70°C
		Compatibility	E-Log radio (ELO3515)
	EXP401	IP64 radio signals repeater "Store and forward". Power supply: 12 Vdc	
	DEA260.2	Power supply 230->13,8V 0,6A for EXP401 repeater	
	EXP402	IP65 radio signals repeater "Store and forward". Power supply: 12 Vdc	
	DYA056	Support for EXP401-402 to pole D=45...65mm	
	DWA505A	Cable for EXP402, L=5 m	
	DWA510A	Cable for EXP402, L=10 m	

Batteries

External batteries are required for E-Log, Alpha-Log operation when not powered from the mains and or to increase the M-Log battery life. Batteries are usually mounted inside ELF boxes and connected to the data logger using the terminal power supply input.

	MG0558.R	12 V Pb 18 Ah battery	
		Type	Rechargeable Sealed Lead-Acid
		Dimensions	181x76x167 mm
		Weight	6 Kg
		Compatibity	ELF345-345.1-340-340.1-340.5-340.8 box
		Operating temperature	• Charge -15°C to 40 °C • Discharge -15°C to 50 °C • Storage -15°C to 40 °C
	MG0560.R	12 V Pb 44Ah battery	
		Type	Rechargeable Sealed Lead-Acid
		Dimensions	151x65x94 mm
		Weight	13.5 Kg
		Compatibility	ELF345-345.1-340-340.1-340.5-340.8 box
		Operating temperature	• Charge -15°C to 40 °C • Discharge -15°C to 50 °C • Storage -15°C to 40 °C

Mini-DIN Adapters

To connect sensors with free-wires to data loggers with min-DIN input (ELO009), these adapters are needed:

	CCDCA0010	Terminal board/mini-DIN adapter+cable	
	CCDCA0020	N. contacts	CCDCA0010: 4 + shield (for digital sensor) CCDCA0020: 7 + shield (for analogic sensor)
		Cable	L=2 m

RS232 cables, USB interface

To connect data loggers to PC via RS232 or USB cable. In each pack of M-Log and E-Log , the ELA105.R serial cable and the DEB518.R USB adapter are included.

	ELA015.R	L= 1,8 m serial cable Included in each M-Log and E-Log pack
	DEB518.R	RS232->USB converter Included in each M-Log and E-Log pack

RS485 converters, TCP/IP

To obtain a long cable (more than 1 Km) beetween the data logger and the PC. It is possible to use a RS232-485 converter. A TCP/IP connection to the Ethernet web, allows to send data to the PC within a network also connected via the Internet. These devices can be mounted inside ELF boxes.

	DEA504.1	RS232<->RS485/422 422 converter with electrical protections	
		Insulation (optically)	Optically insulated (2000 V)
		Insulation (surge protection)	From electrostatic discharge (25KV ESD)
		Bit rate	300 bps...1 M bps
		RS232 connector	DB9 female
		RS422/485 connector	DB9 male, 5-pin terminal
		Power supply	9...48 Vdc (power supply included)
		Fixing	DIN bar
		Cable	DB9M/DB9F (included)
	MN1510. 20R	Cable LAN Category 5 to connect DEA504 converters. L= 20 m	
	MN1510. 25R	Cable LAN Category 5 to connect DEA504 converters. L= 25 m	
	MN1510. 50R	Cable LAN Category 5 to connect DEA504 converters. L= 50 m	
	MN1510. 200R	Cable LAN Category 5 to connect DEA504 converters. L= 200 m	

DEA553	Industrial secure serial port to Ethernet device server with 1xRS-232/422/485 and 2x10/100Base-T(X)	
	Input	RS232/422/485 (DB9)
	Output	Ethernet 10/100Base-T(x) Auto MDI/MDIX
	Protocols	ICMP, IP, TCP, UDP, DHCP, BOOTP, SSH, DNS, SNMP, V1/V2c, HTTPS, SMTP
	Power supply	12...48 Vdc
	Consumption	1.44 W
	Operative Temperature	-40...70°C
	Fixing	DIN bar
	Protection degree	IP30
	Weight	0,227 kg
DEA509	Gateway Modbus-TCP. Modbus-RTU in Modbus TCP converter	
	Input	RS232/422/485 (DB9)
	Output	Ethernet 10/100 M
	ESD protection	15 KV for serial port
	Magnetic protections	1.5 KV for Ethernet port
	Power supply	12...48 Vdc
	Consumption	200 mA @ 12Vdc, 60 mA@ 48Vdc
	Operative Temperature	0...60°C
	Fixing	DIN bar
	Protection degree	IP30
	Weight	0.34 kg

Converter RS232/RS485 - > optical fibre

TXMPA1151	Serial converter RS232 / optical fibre mono modal
TXMPA1251	Serial converter R485 / optical fibre mono modal

Dropping resistors

EDECA1001	Five 50 ohm-resistors kit (1/8 W, 0.1%, 25 ppm) to convert 4...20 mA -> 200...1000 mV

Modem GPRS, 3G, 4G. UMTS Router. Wi-Fi Module

For remote connections, 3G-4G modems are available. Via modem, is possible to send ("push mode") data to FTP server or, using the program P1-CommNET, to LSI LASTEM GIDAS database. These devices can be mounted inside ELF boxes.

	DEA718.3	Modem GPRS - GSM-850 / EGSM-900 / DCS-1800 / PCS-1900 MHz Quad-Band. GPRS class 10	
		Operative temperature	-20...70°C
		Power supply	9...24 Vcc from data logger
		Consumption	Sleep: 30 mA, during com. 110 mA
		Weight	0.2 kg
		Compatibility	E-Log
	ELA110	Connection cable between E-Log and DEA718.3 modem	
	MC4101	Fixing bar for DEA718.3 in ELF boxes	
	DEA609	Modem adapter DEA718.3 / external antenna DEA611	
	TXCMA2200	Modem 4G/LTE/HSPA/WCDMA/GPRS Quadband/class 10/class12	
		LTE FDD	Download speed 100Mbps Upload speed 50Mbps
		Frequency band (MHz)	850/900/1800/1900MHz
		Input	2 x RS232, 1 x RS485
		Cellular Antenna	Standard SMA female interface, 50 ohm, lighting protection(optional)
		SMS	Yes
		Connection cable to data logger	Included
		Operative Temperature	-35...75°C
		Power supply	5...36 Vdc from data logger
		Consumption @12 V	Sleep: 3 mA. Standby: 40-50 mA. Communication mode: 75-95 mA
		Casing	Iron, IP30
		Mounting	DIN bar
		Weight	0.205 kg
		Compatibility	Alpha-Log
	DEA611	External antenna for 3G, LTE modem TXCMA2200 double gain GPRS/UMTS/LTE	
		Frequencies	GSM/GPRS/EDGE: 850 / 900 / 1800 / 1900 MHz. UMTS/WCDMA: 2100 MHz LTE: 700 / 800 / 1800 / 2600 MHz
		Free license ISM band	Field 869 MHz, UHF Frequency
		Irradiation	Omnidirectional
		Gain	2 dBi
		Power (max)	100 W
		Impedance	50 Ohm
		Cable	L=5 m
		Fixing accessory	Included
		Compatibility	TXCMA2200, DEA718.3 (adapter)

	TXMPA3770	High-Gain 2.4 GHz Wi-Fi USB adapter	
		Wireless data rate	Up to 150 Mbps
		Port	USB 2.0
		Security	WEP, WPA, WPA2, WPA-PSK/WPA2-PSY Encryptions
		Standard	IEE802.11
		Environmental limits	0...40°C (Not condensing)
		Weight / Dimensions	0.032 kg / 93.5 x 26 x 11 mm
	TXCRB2200 TXCRB2210 TXCRB2200.D	Dual SIM Industrial 4G/LTE Wi-Fi router, 3 models depending on number of LAN ports (e.g. data logger and camera with ethernet) and region covered	
		Mobile	4G (LTE), 3G
		Max data rate	LTE: 150 Mbps. 3G: 42 Mbps
		SMS	Yes
		WiFi	WPA2-PSK, WPA-PSK, WEP, MAC Filter
		Ethernet WAN port	N.1 (config. to LAN) 10/100 Mbps
		Ethernet LAN port ()10/100 Mbps	• N.1 (TXCRB2200, TXCRB2200.1) • N.4 (TXCRB2210)
		Network protocols	TCP, UDP, IPv4, IPv6, ICMP, NTP, DNS, HTTP, HTTPS, FTP, SMTP, SSL v3, TLS, ARP, VRRP, PPP, PPPoE, UPnP, SSH, DHCP, Telnet, SMNP, MQTT, Wake On Lan (WOL)
		Region (operator)	• TXCRB2200, TXCRB2210: Global • TXCRB2200.D: Europe, The Middle East, Africa
		Frequencies	• TXCRB2200, TXCRB2210: **4G (LTE-FDD)**: B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28. **4G (LTE-TDD)**: B38, B39, B40, B41. 3G: B1, B2, B4, B5, B6, B8, B19. **2G**: B2, B3, B5, B8 • TXCRB2200.1: **4G (LTE-FDD)**: B1, B3, B5, B7, B8, B20. **4G (LTE-FDD)**: B1, B3, B7, B8, B20. **3G**: B1, B5, B8. **2G**: B3, B8
		Power supply	9...30 Vdc (<5W)
		Operating temperature	-40...75°C
		Weigth	0.125 kg
		Compatibility	Alpha-Log
	TXANA3033	Network directional antenna 28dBi	
		Weight / Dimensions	550 g / 110 x 55 mm
		Cable	H=3 m
		Compatibility	TXCRB2200-00.1, TXCRB2210

	TXRMA4640	Satellite Modem (GPS+GLONASS L1 freq.) Thuraya M2M	
		Narrowband IP	UDP and TCP/IP
		Frequency band	TX 1626.5 to 1675.0 MHz R X 1518.0 to 1559.0 MHz
		Typical latency	< 2 s 100 bytes
		Power	10...32 Vdc
		Wi-Fi	IEEE 802.11 B/G, 2.4 GHz
		Weight / Size (L x W x H)	< 900 g / 170 x 130 x 42 mm
		Operative temperature	-40°C...+71°C
		Support to pole	DYA062
	TXCRA1300	Industrial router 3G/LTE dual SIM, removable magnetic antenna. Input RS232/485 for communication of independent devices	
		Max data rate	3G: 14 Mbps
		SMS	Sì
		Ethernet LAN port	N.1 LAN port, 10/100BT
		Network protocols	PPP,PPPoE,TCP,UDP,DHCP,ICMP,NAT, DMZ,RIPv1/v2,OSPF,DDNS,VRRP, HTTP,HTTPs,DNS, ARP,QoS,SNTP, Telnet
		Power supply	9...26 Vdc (<5W)
		Operating temperature	-40...75°C
		Compatibility	M-Log, E-Log
		Communication ports	RS232, RS485
		Antenna	3G/2G Omnidiretional Quad-Band included + second connector
	TXRGA2100	Router/repeater/client Wi-Fi industrial	
		Wi-Fi	N.1 radio IEEE 802.11a/b/g/n, MIMO
		Sensitivity	Receiver: -92 dBm for 802.11 b/g/n and -96 dBm for 802.11a/n
		Ethernet LAN Port	N.1 LAN port Gigabit 10/100/1000
		Power Supply	9...48 Vdc
		Operative temperature	-20...60 °C
		Compatibilità	Alpha-Log
		Flat antennas	N.2 3dBi@2,4 GHz/4dBi@5GHz
		Mounting on DIN bar	With kit MAOFA1001
	TXANA1125	Omnidirectional antenna SISO "stick" 2 dB	
		Bandwidth	Broad 698..3800 MHz
		Gain	2 dB
		Length	16 cm
		Cable	3 m with SMA connector
		Mounting	Pole/wall mounting kit included

TXANA1125.1	Omnidirectional antenna SISO "stick" 6 dB	
	Bandwidth	2.4 GHz
	Gain	6 dB
	Length	25 cm
	Cable	2 m with N-f/RSMA connector
	Mounting	Pole/wall mounting plate included

Long distance VHF radio

VHF radios allow easy, cost-free connections, several kilometers away. Via radio it is possible to connect several data loggers with MASTER/SLAVE logic or to connect a data logger to a PC. These devices can be mounted inside ELF boxes.

TXRMA2132	160 MHz radio modem for PC or data logger connection, VHF-500 mW erp; includes 3 elements Yagi antenna. **Transmitting part** of the system, connected with ELA110+ELA105 to data logger, included in M-Log and E-Log.	
	Operating band	169.400...169.475 MHz
	Output power	500 mW ERP
	Number of channels	12.5 – 25 – 50 kHz
	Radio data rate (Tx/Rx)	4.800 bps@12.5kHz, 9600 bps@25kHz, 19200 bps @50 kHz
	Power supply	9...32 Vcc
	Consumption	140 mA (Rx)
	Operative temperature	-30...70°C
	Antenna	Included. N.3 elements antenna Yagi. L=10 m cable
	Line-of-sight	7...10 km
	Weight	0.33 kg without antenna
	Communication port	RS232, RS485
TXRMA2131	160 MHz radio modem for PC or data logger connection, VHF-200 mW erp; includes dipole antenna. **Receiving part** connected with ELA105.	
	Main features	See TXCMA2132
	Antenna	Included Dipole antenna L=5 m cable
ELA110	Connection cable radio/data logger	
ELA105	Serial cable L=1.8 m. To be quoted to connect TXMA2131 to PC. Included in each package of M-Log and E-Log for data logger connection.	
DEA260.1	230 Vca/12Vcc power supply for radio TXRMA2131 PC side	
DEA605	Serial adapter null-modem 9M/9F	
DEA606.R	Serial adapter null-modem 9M/9M	

Solar panel

For applications where mains power is not available or where a double power supply is required, the data logger can be powered by a photovoltaic panel. In these cases it is advisable to place the data logger inside an ELF345-345.1 box that includes DYA115 regulator that doesn't have to be supplied separately. When a solar panel supply is present, an external battery must be housed in the ELF345 box model MG0558.R (18 Ah) or MG0560.R (44 Ah), chosen according to the autonomy required and the availability of hours of sunshine. The solar panel is mounted on a pole through a tiltable support (DYA064). Alternatively, the ELU001 box is available, which includes a 20 W panel mounted on its front panel.

DYA101	60 Watt solar panel	
	Power	70 Wp
	Operative voltage (VMP)	16.4 V
	VOC voltage	22.4 V
	Dimensions	813x535 mm
	Weight	5.2 Kg
	Tecnology	Monocristalline
	Frame material	Aluminium
	Cable	L=5 m
	Regulator (DYA115)	• Battery Voltage: 12/24V • Charge/Discharge Current: 10 A • Battery type: Lead/Acid • Float voltage: 13.7 V • Auto Power Off Voltage: 10.7 V • Auto Reconnect Voltage: 12.6 V • Self-consumption: < 10 mA • USB Output: 5 V /1.2 A Max • Operating temperature: -35°/+60°C • included inside ELF345-345.1 boxes • Inside Alpha-Log
DYA064	Tiltable support for solar panel fixing to poles of diam. 45...65 mm Weigth: 1.15 kg	

Shockproof case to contain data loggers in portable applications

For portable applications, data loggers can be mounted inside IP66 cases to be protected against shocks, water, dust and atmospheric agents. Inside the case can be also be housed the communication device.

ELF432	Portable IP66 shockproof case. Complete with rechargeable battery (18 Ah) and power supply/battery charger (230 Vca/13,8 Vcc)	
	Dimensions	520 x 430 x 210 mm
	Weight	12 kg
	Compatibility	E-Log, Alpha-Log

IP66 boxes for data logger fix installations

For fix outdoor installations, data loggers can be mounted inside IP66 enclosures that give protection against shocks, water, dust and atmospheric agents. Each box houses the relative power supply system as well as specific accessories, and has the predisposition to house the communication device that can be chosen from the list of Accessories. Each box can be equipped with a support for pole or wall fixing.

ELF345	IP66 box. Complete with regulator for photovoltaic panels. Compatibility with 18 or 44 Ah batteries	
	Power supply	From solar panel using regulator
	Solar panel regulator	Included
	Dimensions	H 502 x L 406 x D160 mm
	Weight	7 kg (battery excluded)
	Material	Fiberglass
	Compatible batteries (not included)	MG0558.R (18 Ah), MG0560.R (44 Ah)
	Compatibility	E-Log, Alpha-Log

ELF345.1	IP66 box. Complete with regulator for photovoltaic panels and 110-230 Vca battery charger power supply. Compatibility with 18 or 44 Ah batteries.	
	Solar panel regulator	Included
	Power supply	110-230 Vca-> 13.8 Vcc Thermal magnetic switch. Power: 50W
	Dimensions	H 502 x L 406 x D 160 mm
	Weight	17.5kg (battery excluded)
	Material	Fiberglass
	Compatibility	E-Log, Alpha-Log

ELF345.3	IP66 box for Alpha-Log connection to photovoltaic panels. Compatibility with 18 or 44 Ah batteries	
	Power supply	From solar panel using regulator inside Alpha-Log
	Dimensions	H 502 x L 406 x D160 mm
	Weight	7 kg (battery excluded)
	Material	Fiberglass
	Compatible batteries (not included)	MG0558.R (18 Ah), MG0560.R (44 Ah)
	Compatibility	Alpha-Log

ELF340	IP66 box. Complete with 110-230Vca-> 13.8 Vcc power supply (50 W) and 2 Ah battery. Compatibility with 18 or 44 Ah batteries	
	Power supply	110-230 Vca-> 13.8 Vcc Thermal magnetic switch. Power: 50W
	Dimensions	H 502 x L 406 x P160 mm
	Weight	7 Kg
	Material	Fiberglass
	Battery	2Ah rechargeable, included
	Compatibility	E-Log, Alpha-Log

	ELF340.5	Same as ELF340, plus external connectors to use sensors with cables with connectors. To facilitate the connection of the sensors to the data logger
		• N.8 female connectors (7-pin) for analog signals
		• N.2 female connectors (4-pin) for pulse signals
		• N.1 female connector (7-pin) for power supply

	ELF340.10	IP66 box. Complete with 110-230Vca-> 13.8 Vdc power supply and 2 Ah battery and 230/24V transformer. With provision for installation of Relays for actuations (MG3023.R type) and IN-OUT terminal for analogue signals	
		Power supply	110-230 Vac-> 13.8 Vdc 30W 230Vac/24Vac 40VA Thermal magnetic
		Provision for Relays (not included)	Up to N.5 Relays (MG3023.R type)
		IN-OUT signals terminal board	Terminal for analog signals input N.7 IN signals N.7 OUT signals

	ELF340.8	IP66 box. Complete with 110-230Vca-> 13.8 Vdc power supply and terminal board for up to N.3 RS485 signals. Compatibility with 18 or 44 Ah batteries. Used to receive digital signals	
		Power supply	110-230 Vca-> 13.8 Vdc 50W Thermal magnetic
		Dimensions	H 502 x L 406 x D 160 mm
		Weight	7,5 Kg
		Battery	2Ah rechargeable, included
		Compatibility	E-Log, Alpha-Log

	ELF344	IP66 box. Complete with 110-230Vac-> 13.8 Vdc power supply, 2Ah battery and 230 Vac/24 Vac transformer for heated sensors	
		Power supply	85-264 Vac-> 13,8 Vdc 2A 30W
		Transformer	230Vac/24Vac 4.1 A 100VA
		Dimensions	H 502 x L 406 x D 160 mm
		Weight	7.5 Kg
		Battery	2Ah rechargeable, included
		Compatibility	E-Log, Alpha-Log

	ELF347	IP66 box. Complete with 110-230Vac-> 13.8 Vdc power supply, 2Ah battery and 85-266 Vac/24 Vdc transformer for ALL IN ONE heated version sensors	
		Power supply	85-264 Vac-> 13,8 Vdc 30W
		Transformer	85-266Vac/24 Vdc 6.25 A150 W
		Dimensions	H 502 x L 406 x P 160 mm
		Weight	7,5 Kg
		Battery	2Ah rechargeable, included
		Compatibility	E-Log, Alpha-Log

	DYA074	Support for IP66 enclosures H 502 x L 406 x P160 mm to pole Ø 45...65 mm
	DYA072	Support for IP66 enclosures H 502 x L 406 x P 160 mm to wall
	DYA148	Support for two IP66 enclosures H 502 x L 406 x P160 mm to pole Ø 45...65 mm
	DYA081	Door lock for ELFxxx boxes
	MAPSA1201	Protection tile for ELFxxx boxes. Dimensions: 500 x 400 x 230 mm
	SVSKA1001	Fixing kit for A-Log in ELFxxx boxes when E-Log is already installed
	MAGFA1001	Cable gland for ELF340-340.7-345-345.1-345.3-344-347 box and RJ45 / Ethernet cable

Carrying cases

To transport data loggers and their accessories, LSI LASTEM supplies the following cases.

	BWA314	Shockproof case, watertight (52x43x21 cm) for data loggers and probes Weight:3.9 kg
	BWA319	Shockproof case with wheels, watertight (68x53x28 cm) for data loggers and probes Weight: 7 kg
	BWA047	Soft bag for data logger transport Weight: 0.8 kg
	BWA048	Bag to transport BVA304 tripod and stands Weight: 0.4 kg

Relay

Data logger versions with terminal inputs can switch external devices on/off via their digital outputs. The voltage available at the outputs corresponds to the supply voltage of the data logger (normally 12 Vcc). In order to convert the output into a clean On/Off contact, LSI LASTEM provides relay suitable for mounting inside ELF boxes.

	MG3023.R	Relay for On-Off actuation of the digital output. DPDT type.	
		Maximum switching voltage contact	250 V AC/DC
		Minimum switching voltage contact	5 V (at 10 mA)
		Min. switching current contact	10 mA (At 5 V)
		Limiting continuous current contact	8 A
		Typical input current coil	33 mA
		Coil voltage	12 Vdc
		Protective circuit	Damping diode
		Operating voltage display	Yellow LED
	MG3024.R	Maximum switching voltage contact	400 V AC/DC
		Minimum switching voltage contact	12 V (at 10 mA)
		Min. switching current contact	10 mA (At 12 V)
		Limiting continuous current contact	12 A
		Typical input current coil	62.5 mA
		Coil voltage	12 Vdc
		Protective circuit	Damping diode
		Operating voltage display	Yellow LED

USB Drive

XLA010	USB Pen drive 3.0 Industrial Grade, Flash type MLC	
	Capacity	8 Gb
	Power consumption	0.7 W
	Operative temperature	-40...+85 °C
	Vibration	20G @7...2000Hz
	Shock	1500G @ 0.5ms
	MTBF	3 million hours

Data logger protections

EDEPA1100	Protection unit (SPD) for power line, single phase 230 V.	
	Mounting	DIN bar
	Compatibility	Alpha-Log, E-Log
EDEPA1101	Protection unit (SPD) for RS-485 communication line.	
	Mounting	DIN bar
	Compatibility	Alpha-Log, E-Log
EDEPA1102	Protection unit (SPD) for Ethernet communication line.	
	Mounting	DIN bar
	Compatibility	Alpha-Log, G.Re.T.A.

Optical/acoustic signallers

SDMSA0001	Optical/acoustic signaller for indoor use	
	Lens colour	Red
	Power supply	5...30 V DC
	Protection grade	IP23
	Operative temperature	-20...+60 *C
SDMSA0002	Optical/acoustic signaller for outdoor use with 8 SMT LED	
	Lens colour	Red
	Power supply	10..17 V AC/DC
	Protection grade	IP65
	Operative temperature	-20...+55 °C

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