

S-Log Data Logger

S-Log is the smartest data logger for environmental applications available on the market. S-Log has been developed having in mind high accuracy, reliability, long list of easy to use features using Linux operative system, on board Apache web server and PHP interpreter. Complete user's interface accessible by web browser having six separate configurations working at the same time on the same unit as having six virtual units.



Highlights

- Linux OS with integrated Apache web server and PHP interpreter for setup, data display and data downloading by any web browser.
- Six configurations (n.1 Master, n.5 Users) working at the same time according to six independent user's requirements.
- No software to be installed for configuration of a wide range of achievable features.
- Internal FTP site for easy access to storage data.
- Integrated WiFi with Hot Spot feature.
- Data-push to independent FTP sites.
- N.2 RS232 ports, expandable using USB.
- N. 1 Ethernet 10/100 Mbps port.
- N. 3 USB ports.
- PC connection via Ethernet LAN, RS-232/RS-485, radio modem, GSM/GPRS/UMTS, satellite modem.
- N.8 analogues 24 bit accuracy inputs, N.5 digital inputs and modules for inputs extension.
- SMS messages.
- 128 MB internal memory. Additional external memory (industrial pen-drive) up to 64 Gb.
- Modbus RTU & Tcp, TCP-IP, HTTP, FTP, SFTP, NTP, Telnet, SMTP, Socket, I2C Bus, SDI-12, RS232/485 command line, SNMP.
- Integrated Temperature, RH, Atmospheric pressure sensors.

Main features

Sensor inputs

- N. 8 analogue 24 bit resolution inputs (n.16 single ended mode). Expandable up to 64 inputs using input extension modules.
- N. 5 digital inputs. Programmable as frequency (max.1000 Hz), counters or on/off status. Expandable up to 48 inputs using input extension modules.
- N.2÷6 serial RS232 sensors
- N.1÷100 RS485 sensors
- N.1÷100 SDI-12 sensors

Data elaboration

Each measurement is programmable to be treated according to CEI ENV 13005 guideline, processed and validate according to ISO13528. It is possible to obtain statistical values, derived measures and mathematical computing over the raw measurements.

Data storing

S-Log computes its measurements, as statistical values, derived measures and mathematical values and store them at three different security levels:

- 1 Backup memory from the first power-on
- 2 System data memory before data communication
- 3 External data memory on USB pen driver

Data communication and Protocols

Many available communication devices are available: mobile networks, radio, satellites, optic fibre or copper cable using wide range of protocols as Serial RS232/485, Modbus TCP & RTU, TCP-IP, SMTP, FTP, SDI-12. User can create its own ASCII data record.

Configuration via web

Thanks to PHP web interface and internal web server it is possible to configure S-Log using just a browser available on PC, tablet and Smartphones.

Six configurations as six virtual data loggers

S-Log can be configured with six different independent operating modes that run simultaneously as if you are using six virtual data loggers.

Data downloading

S-Log can send the data up to three FTP areas. Furthermore, using its web interface, and thanks to the internal FTP, it is possible to download CSV file of the last two months of data.

Data display

On its web interface, S-Log displays the real-time data of each measurement with dynamic charts and trends.

S-Log - Technical specifications

Features		Range	Resolution	Accuracy (@ 20°C)
Analogue inputs	Power	-100÷100 mV	140 nV @24bit	300 nV
		-2÷2 V	3 µV @24bit	8 µV
		0÷2 V	1 mV @12bit	1.5 mV
	Pt100 (4-wires)		1/100 °C	3/100 °C
	Input number	N.8@24 bit differential (N.16 single-ended) N.2 @10 bit for power and battery survey (N.1 and N.16@ 24 bit inputs expansion modules availability)		
	Power on input (each input)	12Vdc@250mA power supply and voltage reference at 2.048 Vdc		
	ESD protection	±3 kV contact discharge IEC 1000-4-2		
	Max input signal	2.048 V		
	Protections	EMC filter over all inputs		
Digital inputs	Input number	N.5 (+N.48 using external module)		
	Function	Frequency (max 5000 Hz)/logic On/Off status		
	Accuracy	2 Hz @ 1 kHz		
	Protections	Opto-Insulation 5KVrms. Transient voltage suppressor 600 W, <10 µs		
Sample and Elaboration rates	Sampling Interval	<100 µS		
	Elaboration	Rate 1 min ÷ 24 Hrs Norm: CEI 13005 N.4 programmable		
Analogue outputs	Number	Voltage output 0-2 Vdc, convertible into: 0-1/5/10 Vdc, 0/4-20 mA, RS485 (command line) or RS485 Modbus		
	Risolution	12 bit		
Digital outputs	Number	4 open collectors for relé control		
	Max current available	Vmax=50V, Imax=200 mA		
	Protections	Thermal and over current		
Communication ports	RS-232	N.2 DCE ports (1200 ÷ 115200 bps), DB-9 connector		
	RS-485	N. 1 RS485 isolated 5KVrms,		
	USB	N.2 USB Host port (12Mb/s) @500mA N.1 MiniUSB slave (480MB/s),		
	LAN	N.1 Ethernet RJ-45 10/100 Mbps port		
	SDI-12	Up to 100 sensors		
	I ² Cbus	N.1 port		
	Wi-Fi	Integrated WiFi IEEE 802.11 (Hot-Spot)		
	Protections	EMC filters on communication ports		
Protocols	Supported protocols	Modbus RTU & Tcp, TCP-IP, HTTP, FTP, SFTP, NTP, Telnet, SMTP, Socket, I2Cbus, SDI-12, RS232/485 command line, SNMP.		
Data format	Data formats available	ASCII txt file (user's programmable columns sequence), Excel, CVS, XML, email, AES encrypted		
Memory	Internal	128 MB NAND, 128 Mb RAM Program 4 MB NOR Flash for operating system		
	External	64 Gb USB pen driver hot plug for data		

Power supply	Power supply	10,8÷24 Vdc from solar panel 10.8÷15 Vdc integrated charger for battery
	Power consumption	2 W in operative mode < 0.2 W (15 mA @12 Vdc) in stand by mode
	Integrated battery charging controller	Max 5A DC, Dual Level Float Charge integrated control at 4 phases according to CEI 21-6/3. Charge indicator led included
	Protection	Transient voltage suppressor: 600 W, t = 10 µs; on polarity inversion. Overcurrent by 6 A replaceable fuse
Operative System	Operative System	Integrated Apache Server, PhP interpreter Linux Embedded (V 2.6.37)
Internal sensors	T+RH	Temperature range -40÷60°C, Accuracy 0,2°C RH% range 0÷100%, Accuracy: 4%
	Pressure	Range 600÷1100 hPa, Accuracy 0,5 hPa (23°C)
Configuration	Number	Up to 6 user's configurations running independently at the same time on the same data logger
Derived Quantities	Preset derived quantities	Dew point (Magnus Tetens), Vapor Pressure, Rainfall intensity, Hourly/Daily Precipitation, QNH, QFE pressure, Potential Evapotranspiration (Penman Motheith), Sunshine Duration (Angström-Prescott), Wind Chill, Humidex WBGT heat index (ISO7243).
Other	Internal watch	Quartz with backup Lithium battery 3,6 Vdc Resolution 1 mS
	Data clock	Accuracy ±3 min/year, Updating through server NTP, or synchronization with optional GPS.
	Display	LCD 24 x 2 [AA1]char.
	Keyboard	N.5 keys[AA2]
	AD converter resolution	24 bit
	Processor	ARM Cortex A8 - 500MHz processor @32bit with Embedded Linux Kernel (2.6.37 version).
	Environmental limits	-40÷70 °C, 15÷100 % RH (without condensation)
	Mechanical protection	IP 20
	Weight	800 g
	Dimensions	200 x 110 x 75 mm
	Installation	DIN rail

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