Environmental Monitoring Solutions

AUTOMATIC WEATHER STATION

KME Professional Weather Station

- Professional grade weather stations
- Measurement of the seven typical quantities for meteorological applications
- High-quality sensors designed according to WMO (World Meteorological Organization) directives
- Operational limits suitable for all climatic situations
- Extremely low power consumption
- Fixed and portable configurations
- Wide range of data communication solutions
- Suitable for environmental or industrial applications

KME weather stations are professional solutions for obtaining the typical weather parameters such as air temperature and relative humidity, wind speed and direction, atmospheric pressure, solar radiation and rainfall. The station consists of a basic kit which includes a selection of sensors, a 12-input data logger and a software.

Professional solution according to WMO requirements

LSI LASTEM's weather stations are specifically designed to meet professional requirements. Even in extreme environmental situations, they ensure long-term accurate measurements. Sensors specifications comply with WMO standards (World Meteorological Organization).

KME packages

Three versions of the KME weather stations are available. All of them include:

- E-Log data logger with 3DOM software
- Sensors (see below table)
- Mounting accessories
- Cables for each sensor

Parameters	Sensors type	PN	KME101	KME102	KME103
Air Temperature & RH%	Thermo-hygrometer with radiant screen	DMA672.1 DYA233	X	X	X
Wind speed & Direction	Cup anemometer Vane anemometer	DNA202, DNA212	X	X	X
Absolute Pressure	Piezometric	DQA240.1	X	X	X
Rain	Tipping bucket rain gauge	DQA230.1		X	X
Solar radiation	2nd Class ISO9060 pyranometer	DPA053			X
N° of free inputs (analogue)			4	4	3
N° of free inputs (digital)			3	2	2
N° of free inputs (RS232)			1	1	1

E-Log (ELO305) data logger is included in each KME pakage. According to the KME version, there are still free inputs available for additional sensors not included in the KME package.

Stand alone or portable solutions

Depending on the selected accessories, the KME package can become a stand-alone or a portable solution.

As a stand alone solution the KME package is equipped with a IP66 enclosure and pole. LSI LASTEM's catalogue includes a vast range of IP66 enclosures, poles and towers.

As a portable solution the KME package is equipped with a portable ELF432 enclosure and DYA340 tripod.

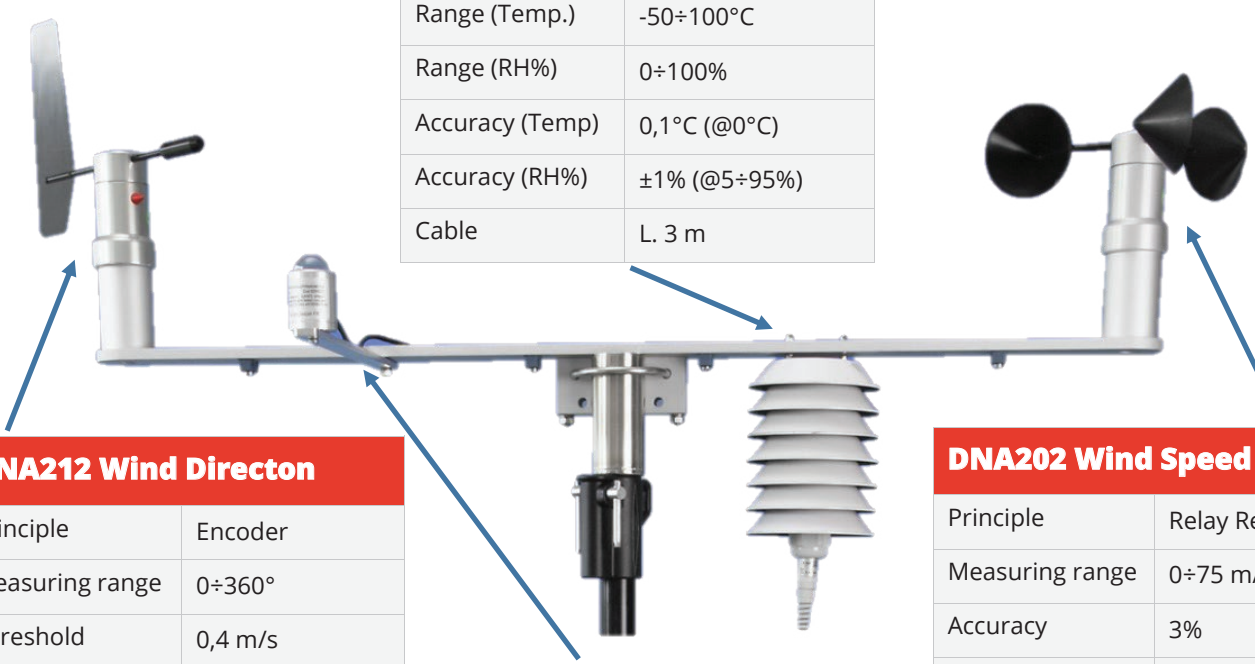
Included data Logger (E-Log ELO305)

The core of the station is the E-Log data logger. It features 12-inputs and 8 Mb memory. Measurements are stored in the form of statistical information with a programmable time base, ensuring more than 1 year continuous data storing. Data Logger comes with a factory setup where each sensor is pre-configured.

- N. 8/16 analog inputs, n. 4 digital inputs, n. 1 RS232 input.
- Extremely low power consumption.
- N. 99 measurements between channels for sensor acquisition and derived quantities.
- Internal library for calculating derived quantities and mathematical calculations.
- 8 MB Flash Memory.
- Modbus-RTU Master/Slave, TTY protocols.
- Transmission (push) of data in ASCII format with FTP protocol by GPRS modem.
- Digital outputs to implement external devices with programmable logics.
- Connection to the PC via RS232 (USB /Ethernet/Modem GPRS with external accessories).
- Display and keyboard.

Included sensors

DMA672.1 Temperature+RH%	
Temp. element	RTD (Pt100 1/3 DIN)
RH element	Capacitive
Range (Temp.)	-50÷100°C
Range (RH%)	0÷100%
Accuracy (Temp)	0,1°C (@0°C)
Accuracy (RH%)	±1% (@5÷95%)
Cable	L. 3 m



DNA212 Wind Directon	
Principle	Encoder
Measuring range	0÷360°
Threshold	0,4 m/s
Accuracy	3°
Cable	3 m

DNA202 Wind Speed	
Principle	Relay Reed
Measuring range	0÷75 m/s
Accuracy	3%
Threshold	0,5 m/s
Cable	3 m

DPA053 Solar Radiation	
Principle	Thermopile
ISO 9060 2018 classification	Second Class
Accuracy	±10%
Spectral range	285÷3000 nm
Cable	3 m

DQA230.1 Rain Gauge	
Principle	Tipping bucket with siphon
Diameter	203 mm
Collector area	323 cmq
Accuracy	Accumulated rain fall amount 0÷20 mm/hr: ± 0,2 mm 20÷240 mm/hr: 1% >240 mm/hr: 2%
Cable	10 m

DQA240.1 Absolute Pressure	
Measuring range	800÷1100 hPa
Accuracy	±0,5 hPa
Protection rate	IP43
Cable	50 cm

Included mounting accessories

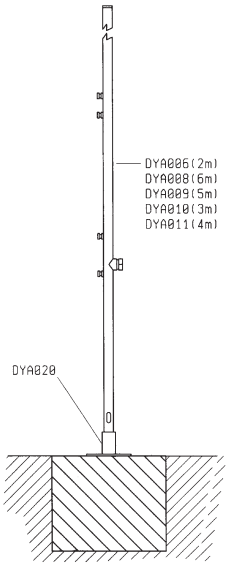
On all KME package, sensors are fixed on the a DYA046 sensor bar. The bar can be fixed at any height along a pole (diam. 45÷65 mm).

Rain gauge is installed directly on the ground with the DYA039 base. Pressure sensor is mounted next to the data logger, inside the same IP66 enclosure.

Optional accessories

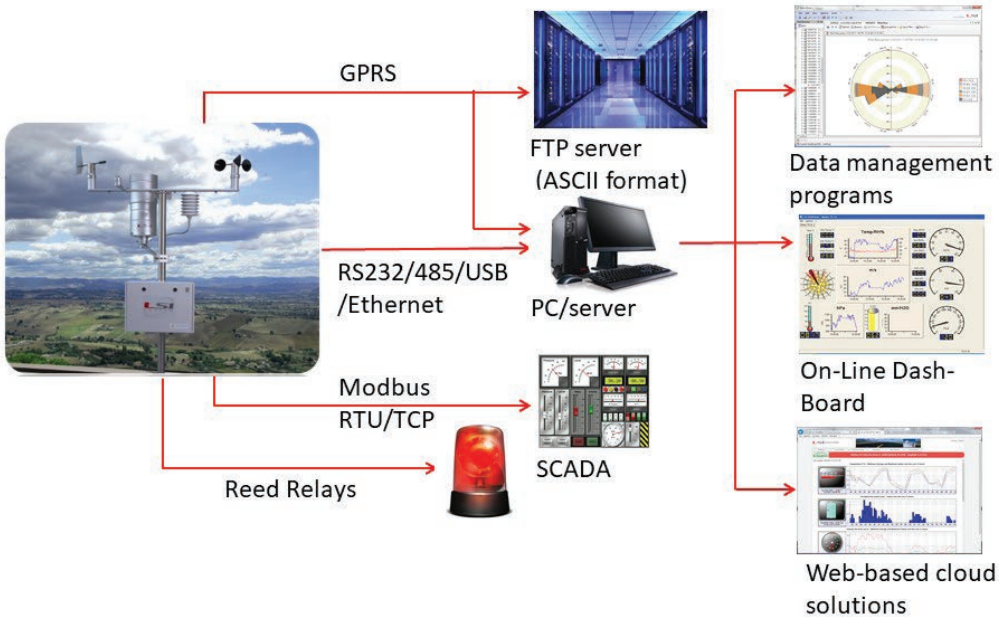
It is possible to easily integrate optional accessories to the standard KME kit. For example:

- IP66 enclosure for data logger and pressure sensor. LSI LASTEM supplies a vast range of IP66 enclosures for both stand-alone or portable installations.
- Power supply system. LSI LASTEM supplies solutions for solar panel or main power supply.
- Communication device. LSI LASTEM supplies communication accessories as: GPRS modem, TCP/IP converters, RS485 line drivers.
- Mast or tower.



These accessories can be either supplied by LSI LASTEM or sourced locally.

Data communication & data management



KME is known for the flexibility of its signal acquisition and data processing system. Produced data is then processed by LSI LASTEM or third-party applications.

LSI LASTEM supplies a vast range of PC based or Cloud based programs.

Tecnilab

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