

Acquisition unit CEA520 is the key portion of automatic weather stations. It insures signals acquisition, measurements, processing and data storage, in real time and with a high metrological accuracy, even in harsh climate conditions. It performs the data transmission on a variety of communication supports: phone network PSTN/GSM/GPRS, BLU radio and satellites METEOSAT/GOES etc...

### Benefits



#### *An innovative technology*

- Reduced power consumption due to MicroAmps technology used
- Excellent reliability given by the system overview : the components option, their integration, their protective design and the minimized connectics used

#### *An unmatched operation*

- The central processing unit is multi task: The measurement is continuously done while the whole tasks works simultaneously
- Excellent quality of the metrology over the chain process from measurement to low-level signals
- Acquisition back-up and data storage for three weeks (without external charging of the internal battery)

#### *A functional use*

- Secured operation under any environmental conditions even harsh (corrosion-free and protection against lightning )
- No systematic technical maintenance
- Instant commissioning without programming

### Technology

The use of the MicroAmps technology developed by Cimel characterizes this acquisition unit in many assets:

- The optimized procedure for exchange mode between sensors guaranties a remarkable metrological reliability
- A single leak-resistant, dehydrated box protects connectics and the tiny battery against all threats (environnemental, electromagnetic and corrosion)
- Plug-in terminal box supporting all connectors for output /input connections and their protections
- Overvoltage protection and peak clipper protect the output and input
- Securized solar generator : battery monitoring and ageing detection
- Minimized number of internal and external connections
- Very reduced power consumption

This acquisition unit is designed to operate for long lifetime in severe environmental conditions without any systematic technical maintenance

### Compatible sensors

The sensors are easy to plug and play on the plug-in terminal via a pre-wired connector

<b>Sensor name</b>	<b>Sales reference</b>
Air temperature and humidity under cover	CES600
Opto-electronic anemometer	CES155
Opto-electronic wind vane	CES157
Air temperature under cover	CES185
Pavement temperature	CES185C
Automatic rain gauge	CES189
Thermopile pyranometer	CES180
Wetness	CES187
Actinometric index	CES185I
Pyrheliometer	CES183

## Functionnalités

The acquisition unit performs these functions:

### Configuration

- Temperature sensors configuration and correction
- Configuration of humidity sensor constants
- Pyranometer sensitivity configuration

### Processing

- Acquiring and measuring the signals produced by each sensor and sensors sampling once per minute or more
- Raw data processing: measurement outliers erasing, electronic filter, errors detection, scaling operation, each sensor linearization
- Various data types storage on several steps: minute, hourly, daily
- Transmitting the data in real time via one or more simultaneous communication supports

### Control

- Real time display on box screen : Instant values of measured parameters , all registered data, configuration parameters
- Self-diagnostic is available without interruption locally or remotely

## Commissioning and running

The acquisition unit is simply put on a holder inside the protection box that is fixed on the weather station main infrastructure

- Completely fitted and preprogrammed at workshop
- All the cables to be connected are equipped with plug and play connectors tagged to match the labelled plug-in terminal
- The operation validation on site or remotely is performed through a local screen display editing data and through evolutive tools (self-test, remote maintenance, automatic diagnosis)