ACQUISITION UNIT SPM20

The peripheral station SPM20 is the first operative segment of the CAE system and is the terminal for the acquisition of the hydrological and meteorological on-site measurements.

Programmed as a highly flexible modular structure, the station is able to manage a wide range of sensors and special modules which, thanks to the logic of distributed intelligence, are coordinated for the best efficiency of the overall system.

TECNOLOGY

The modular configuration brings important advantages, such as:

- **Versatility:** the station can be configured every time in a different way, according to the specific needs of the measurement to be executed and the site of installation.
- **Expansibility:** the station can be easily updated and integrated with new modules, following the user's need and according to the evolution of either the environmental context or the general situation.
- **Maximum efficiency:** thanks to the distributed intelligence the data elaboration takes place by subsequent processes with maximum efficiency. In this way, the station is able to guarantee

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a continued and reliable real time transmission of data.

- **Energy saving:** low consumptions; the solar cells powering with back-up system of buffer battery, makes all remote stations fully independent from network power supply, granting a long term effectiveness also in the absence of insolation.
- E**asy management and usage:** all modules connected to a station can be updated and re-programmed remotely. The user-friendly set-up allows easy operation of all diagnostic, programming, configuration and display functions.
- **Access protection:** all access are password protected with different permission levels in order to ensure adequate security of stations.

FUNZIONING

The SPM20 station is a self-governing micro system that - integrated on a wider structure - forms the CAE monitoring system.

SPM20 is based on a completely modular structure: this means that the equipment is divided into physically separated functional blocks connected to each other mechanically and electronically, in a simple and reliable way.

This is the practical application of the concept of "modular distributed intelligence": a technology of multiple level data processing able to empower the whole system's efficiency.

This is the key for a very high flexible system.

The UBM20 module is the basic acquisition unit to which all system's management activities are entrusted.

All elements of the station (sensors, interfaces, transmission devices) are independent modules that

ACQUISITION UNIT SPM20

can be connected or disconnected with the UBM20 basic unit any time, without limiting their functionalities.

Every module is equipped with a dedicated microprocessor which enables possible coordination and independent management of different functions.

Thanks to the communication bus CAENET, the acquisition unit UBM20 is able to coordinate and control the several connected modules, collecting data from every one of them.

Kd20 user interface, another important module for the functioning of SPM20 station, is specifically dedicated to the station's management by the user.

With KD20 interface it is possible to access the diagnostic, program, configuration and display data settings directly from the station.

TECHNICAL SPECIFICATIONS

STATION SPM20:

- Working temperature: -40 ÷ +60 °C
- Poly-carbonate container with IP65 protection rate equipped to ensure functionality, also in case of 100% humidity
- Possibility of light or heavy armoured container
- Container size: 600x800x250 mm

BASIC UNIT UBM20:

- 3 analogue inputs, voltage control 0-5 V or current control 0-20mA (Ri = 250 Ω)
- 3 digital inputs, galvanic insulated
- Inputs dedicated to the following sensors: air and/or thermo resistant thermometer, air hygrometer, rain gauge, anemometer, radiometer (direct radiation or reflected), barometer
- Digital output, galvanic insulated

KEYBOARD-DISPLAY KD20:

- Display LCD 128 x 64 dots (visualization capacity 16 characters for 8 lines)
- Heating element that permits the display functioning in the operative temperature field.
- 16bit CPU @ 16 MHz

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