PUMPING STATION

REFERENCE : SPBE-C

Non contractual photo

SERVICE :

Intended to be part of the testing area of electrotechnical systems, this system aims to wire, by students, automated turntables associated with an operative part.
The operative part models a drinking water pumping station in a small town.
It allows the visualization of the circulation of the liquid in each step of the process.
The system meets the safety standards in force.

Principle of operation
The dewatering pump draws water from the water table and fills a catch basin. Two pumps start successively. They draw water from the catch basin to fill the water tower. Two valves placed on the water tower simulate household consumption with return of water to the tank (wastewater).

Technical specifications :

Description of the operative part :

The dewatering well is simulated by a PVC tank. It can be drained by the 0.75 kW dewatering pump or by a drain valve
general installation and sewer evacuation.
The catch basin is simulated by a tank with venting on the top and one side is transparent. It is equipped with a minimum and maximum level detection by resistivity measurement of the water.
The evacuation of the water from this tank can be carried out by a manual valve or by the two return pumps ensuring the transfer to the water tower.
The water tower is simulated by a tank with venting, one side of which is transparent. It is located at the same height as the catch basin and is fed by the recovery pumps. It is equipped with a minimum, intermediate and maximum level detection, by measuring the resistivity of the water. It is drained by two valves with manual controls also simulating the consumption of users.
The set is mounted on a chassis equipped with 4 wheels.

Description of the order part :

The containment cabinet is an integral part of the system. He receives the board to be wired by the student or pre-wired
The containment box also includes a differential circuit breaker, a safety limit switch on the cabinet door and a safety relay that allows the turntable to be powered up. A quick fastener and connectors allow a quick installation of the wired turntable by the student.

Characteristics :

Dimensions: length 1550 mm, depth 600 mm, height 1750 mm,
Power supply by standard plug 3 x 400 V + N + T 16 A,

Realizable educational activities:

- Study and wiring of an automatic relay version,
- Study and wiring of an automation system in Zelio version,
- Study and wiring of an automation system in TSX37 version,
- PID level control (only with TSX37 board),
- Frequency variation of the asynchronous motor (only with the TSX37 board),
- Level detection by conduction
- Control of the quantities of the installation: absence or presence of tension (system which can be used for the electrical authorization),
- Commissioning and verification of correct operation after wiring,
- Troubleshooting and setting the system (thermal protection, level detection ...)

OPTIONS :

We offer several lots of equipment allowing the student to realize the wiring of this board: - OPTION 1A: Lot of hardware relay version, - OPTION 2A: Hardware Lot Zelio version, - OPTION 3A: Lot of hardware version TSX37 (with measurement and regulation of level). Or pre-wired lots: - OPTION 1B: Lot of hardware relay version, - OPTION 2B: Zelio hardware package, - OPTION 3B: Lot of hardware version TSX37 (with measurement and regulation of level)