CONTROL & MONITORING SYSTEMS
STANDARD AND NON-STANDARD APPLICATIONS

e)))LESS®
Lacaze Energies Smart System

CE compliance
• 2014/35/UE
• 2014/68/UE

AVAILABLE MODELS AND PRICES

As a key factor in energy consumption, when optimised, hot water production can be a source of energy savings. With the e-LESS®, the control and monitoring of your hot water production and storage installations, and the automation of certain maintenance operations, will provide you with a perfectly optimised performance. Scalable and user-friendly, the e-LESS® will also surprise you with its communication capabilities (remote access).

Standard system
• Back-lit display of 2"4 128 x 64 pixels, 4 lines.
• 20-key IP65 keyboard.
• Power; 24 V DC/8 mA.
• Maximum consumption of 6 W.
• All-or-nothing 24 V DC inputs.
• 4-20 mA inputs for all types of probes and sensors.
• All-or-nothing 30 V DC, 250 V AC 1A relays.
• RS485 communication port.
• Depending on the version, Ethernet card + SD 2 Go card.

Several options possible depending on the application.

Basic shared user-defined functions
• Equipment control and safety devices:
  - Heating element (automatic or manual boost);
  - Gas burners (Hydrogaz®);
  - Single or double pumps (homogenisation for example);
  - Solenoid valves (rapid flushing);
  - Motorised valves (heating regulation circuits).
• All-or-nothing or PID temperature regulation, or via a 3-way valve (depending on application).
• Control and management of thermal shocks (anti-legionella),
• Alarm management (temperature, water consumption, instantaneous flow rate, pressure).
• Equipment cut-out in the event of faults (memorised).
• Detailed metering of DHW consumption, energy, heating time, temperatures, alarms.
• Choice of communication modes: via Modbus RS485 or TCP-IP on request.
• Password-protected local and remote access.

Note : The ability to obtain certain information is subject to the presence of optional measuring devices.

Advanced functions (depending on the version)
• Ethernet remote access (integrated server, no need for management software):
  - Password-protected access;
  - Visualisation of input/output and fault status;
  - Set point modifications;
  - Configuration of alerts via email.
• Alert messages sent automatically by e-mail or SMS.
• Operating data logged on a Micro-SD card (temperatures, meters, status of peripheral devices, faults).

Ewample of production of Non-Solar Domestic Hot Water with up to 2 cylinders in a series.
Temperatures measured by PT100 probes and regulated by thermostats.
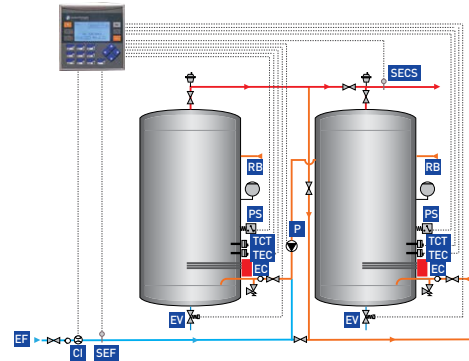
Maximum number of cylinders (boiler for CE1 - exchanger for EP1)	ELSNB1 2	ELSNE1 3	ELSCE1 1
ALARMS			
Fault alarm for each safety thermostat (TSC)	•	•	•
High and low alarms in relation to distribution of DHW (SECS / SEC for the EP1 version) or water for heating on the boiler (SEC)	•	•	•
Fault alarm for one or several pressure switches (PS)	•	•	•
Fault alarm for each pressure switch (PS)			•
Flow rate controller fault alarm (CD)			•
Fault alarm for one or several pumps	•	•	•
Delay activation for each fault (P or P1P2, except EP1 version for P3)	•	•	•
Emergency cut-off depending on the version, in the case of ice, overheating, loss of flow or pressure	•	•	•
METERS, MEASUREMENTS			
Control and measurement of sunlight levels (W/m² - probe)			
Metering of the volumes of water consumed with reset (CI)	•	•	
Metering of the solar energy recovered in kWh with reset (SEF/SBS) - Thermal audit			
Metering of the total energy consumed in kWh with reset (SEF/SECS)	•	•	•
Hourly operating meter for each heating element or for each of the boiler's power stages with reset	•	•	•
CONTROLS			
Control of each heating element with the thermostat (TEC)	•		
Control of each heating element with a PT100 probe (3 or 6 stages on the boiler depending on the power)		•	•
Control of the single charge pump (P2)			
Control of the single or double charge pump (P2)			
Control of the single homogenisation (P3, P) or circulation (P) pump	•	•	
Control of the single or double homogenisation (P3, P) or circulation (P) pump	•	•	
Control of solenoid valves upon draining (rapid flushing)	•	•	
Control of the 3-way regulating valve			
Remote control of the heating by dry contact (if deactivated, recovery is possible)	•	•	•
SETTINGS, PROGRAMMING			
Adjustment of the actuation thresholds for pumps (solar and domestic circuit differential)			
Limiting the temperature of solar panels (CS)			
Programming the start time and the duration of the thermal shocks	•	•	
Adjustment of the set point temperature on each device (TEC thermostat)	•		
Adjustment and regulation of the set point temperature and the hysteresis with e-LESS® for each device (PT100-SEC probe)		•	•
Adjustment and regulation of the thermal shock temperature on each device (TCT thermostat)	•		
Adjustment and regulation of the thermal shock temperature and the hysteresis with e-LESS® for each device (PT100-SEC probe)		•	

Nota : The acquisition of certain information is subject to the presence of measuring devices that may be optional (water meters with pulse output, pressure switches, flow rate controllers, sunlight sensors, probes, thermostats, pumps, solenoid valves, etc.). Our prices ranges illustrate the extent of our supplies.
• series / o : option

Lacaze Energies
GROUPE CAHORS