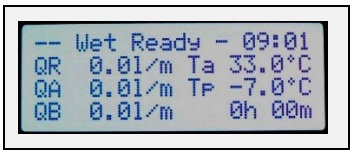
8. Alarm and warning messages

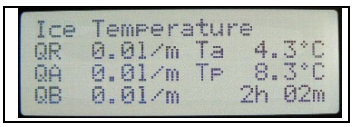
Alarm messages are linked to situations that cause EPS regulation to stop. Instead, **Warning messages** are linked to faults that do not block operations.

From version 2.0 of the EPS firmware, the temperature and pressure values can be viewed with Imperial units of measure (°F and psi). Therefore, where the text indicates the unit of measure available in °C, it is considered to be °F, and where bar is indicated, it is considered to be psi. For the conversion values, use the following formulas: °F = 32 + (°C x 9/5), psi = bar x 14.5.

When the device is running normally, the home page is displayed:

1		System status: see paragraph 4.2; RTC hours and minutes
2		Required rated water flow, in l/m; external temperature in °C/°F
3		Effective ramp "A" water flow rate ramp , in l/m; plenum temperature in °C/°F
4		Effective ramp "B" water flow rate, in l/m; value totaled by the hour meter

If an alarm is triggered, the corresponding message is displayed **in the first row of the display**; for example, if the external temperature drops below the value set for the ice alarm, the following message appears:

1		System status: ice alarm (**Ta** < **T Ice**)
2		Input pressure 5.0 bar, control voltage 1.0 V
3		Temperature plenum = **-7.0** °C (19.4 °F), output control relays on: none
4		Value totaled by the liter meter (l/m), value totaled by the hour meter

The cause of the alarm is indicated in the first row of the display with a specific message. If the device is in the normal working phase, the display starts to blink to attract the operator's attention. If in the programming phase, the error is displayed when exiting this phase. **In any case, alarm relay RL1 is de-energized (see paragraph 3.3.5) and LED DL3 turns on and the EPS adjustment cycle is interrupted**

- Alarm messages are displayed one at a time in decreasing order of priority, as per the following table that indicates the relevant cause. A higher priority alarm prevents the display of those with lower priority.

1	**Alarm Power V. MOT**	Power alarm (probable short circuit) on the power supply of motorized valve **(2)**
1	**Fault Motor Valve A**	Fault (overload or open circuit) on motorized valve drive “A” **(3)**
1	**Fault Motor Valve B**	Fault (overload or open circuit) on motorized valve drive “B” **(4)**
1	**Alarm Power ELV**	Power alarm (probable short circuit) on open/closed solenoid valve power **(1)**
1	**Board Overheating**	Stop due to logic board temperature **> 85 °C (185 °F)**
1	**Ice Temperature**	Ice alarm: external temperature below **Ice Alarm Temperature**
1	**IN2 Under or Open**	Input signal IN2 under minimum value (< -4 °C/24.8 °F) or open
1	**IN2 Over or Short**	Input signal IN2 higher than maximum value (> 68 °C/154.4 °F) or short-circuit
1	**IN4 Under or Open**	Input signal IN1 under minimum value (< 1 Vdc) or open
1	**IN4 Over**	Input signal IN1 over maximum value (> 11 Vdc)
1	**IN5 Under or Open**	Input signal IN1 under minimum value (< 1 Vdc)
1	**IN5 Over**	Input signal IN4 over maximum value (> 11V)
1	**IN1 Under or Open**	Input signal IN1 under minimum value (< 1 Vdc)
1	**IN1 Over**	Input signal IN1 over maximum value (> 11 Vdc)

1	**Valve A UnderFlow 75%**	Valve A Flow Rate insufficient (<25%) see note (1)
1	**Valve A OverFlow 125%**	Valve B Flow Rate insufficient (<25%) see note (1)
1	**Valve B UnderFlow75%**	Valve A Flow Rate excessive (>125%) see note (2)
1	**Valve B OverFlow 125%**	Valve B Flow Rate excessive (>125%) see note (2)

Note (1) UnderFlow: error signal with message on the display, RL1 relay open, DL3 turn on but does not adjust the EPS, continuous water distribution

Note (2) OverFlow: error, control is cut-ff; it can be canceled by the reset button, ModBus control, stop/start command. It is automatically reset when the command falls below the Stop threshold for the spray and makes a new attempt.

- All described alarm conditions are self-resetting and automatically canceled when the cause is removed, except for flow rate errors, see Note (1) and Note (2).