

Summary of the V5 Irrigation Features



The V5 series of digital electronic soft starters offer a complete motor control solution for pumping applications ranging from 4kW through to 1000kW. Advanced motor control is complimented with an extensive and highly programmable set of inputs and outputs. User interface is achieved through a plain English 2 line, 32 character LCD display.

The V5 is designed and manufactured by Power Electronics of Spain. Power Electronics have been involved in soft starter design and manufacture for in excess of 25 years and this is their fourth generation of product. Power Electronics are the largest supplier of soft starters in the Spanish market and to-date has in excess of 100,000 units operational units installed in the field. With the vast majority of applications being used in the irrigation industry the V5 has been designed specifically as a stand alone irrigation controller.

Pump Control Macro

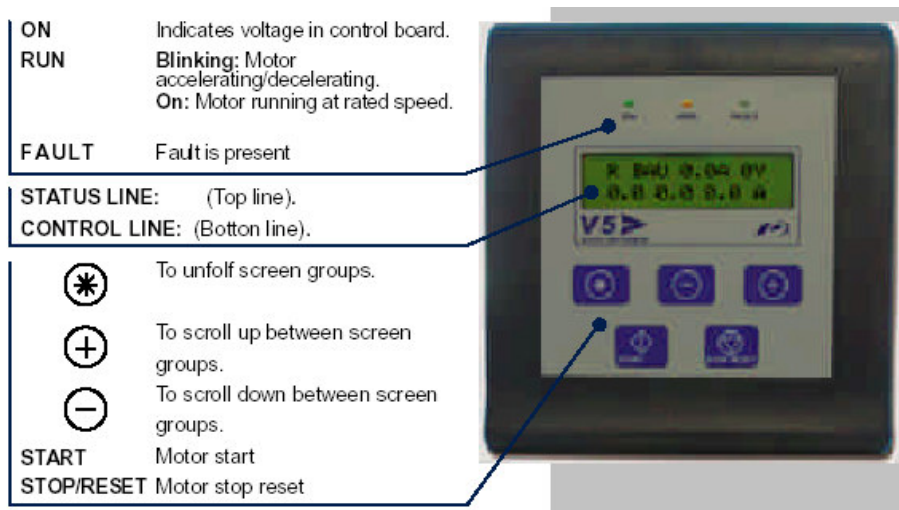
Whilst the V5 series of soft starters can be used for a variety of applications it has been designed specifically with pumping and irrigation in mind. A pump control macro is included as standard in every V5. No additional software or hardware is required to operate in this mode. When the V5 is set to pump control mode the on-board digital inputs are automatically pre-configured to allow for connection of:

- Remote 2 wire stop/start signal (alternatively user can stop/start from the keypad)
- High pressure switch (NC)
- Low pressure switch (NC)
- Flow switch (NC)
- Deep well probe (NC)
- External Trip (NC)

The LCD display can then be used to commission and monitor variables relating to the irrigation process. Variables inclusive in the pump control macro are:

- *Irrigation Time* – User can adjust the system irrigation time from 0 to 60 hours.
- *Displayed Irrigation Time* – Displays to the user the time the system has been irrigating in hours
- *High Pressure Timeout* – Allows user to enter a time for which the high pressure must be present prior to tripping.
- *Low Pressure Timeout* - Allows user to enter a time for which the low pressure must be present prior to tripping.
- *Low Pressure Bypass* – Allows user to set a time so that a system low pressure can be ignored during start.
- *No Flow Bypass* - Allows user to set a time so that a system no flow can be ignored during start.
- *No Flow Debounce Timer* – Allows user to set a time to ignore the flow switch eliminating nuisance tripping flow switch “bounce”.
- *Deep Well Probe Bypass Timer* - Allows user to enter a time for which the low water signal must be present prior to tripping.

Remote Mountable Plain English LCD Display



The V5 comes complete with a 2 line, 32 character plain English display. This unit can be remote mounted up to 2M away from the soft starter chassis. All motor and system parameters can be easily accessed and commissioned via the display.

Information is also available in plain English relating to the status of:

- Voltage, current and power in each phase.
- Kilowatt hours.
- Number of starts.
- Digital and Analogue I/O status.
- Power Factor.
- Motor Torque.
- Standard soft starter faults and pumping faults (including hi pressure, low pressure, flow switch and deep well probe).
- Elapsed irrigation time.

Adjustable “Water Hammer” Soft Stop For Pumping

The V5 contains both a standard linear soft stop and pump soft stop. The pump soft stop is an algorithm which allows the stopping profile to be adjusted to suit the systems hydraulic performance. As no two hydraulic installations display the same stopping characteristics, traditional fixed pump soft stop profiles often do not perform to expectation. Being able to “tune” the profile of the stopping curve ensures maximum soft stop performance.

Enclosure Ratings

The entire V5 soft starter range (4kW through to 1000kW) is supplied in an IP20 enclosure. All printed circuit boards within the unit are conformal coated to ensure the highest levels of component protection.

Temperature Controlled Heatsink Fans

To extend fan life, and to minimize the ingress of dust and foreign objects, the V5 only turns the heatsink cooling fans on as required. The fans are turned on only when the soft starter heatsink exceeds 65°C.

Commonality of Spare Parts

The V5 soft starter utilizes one control card for the entire range.