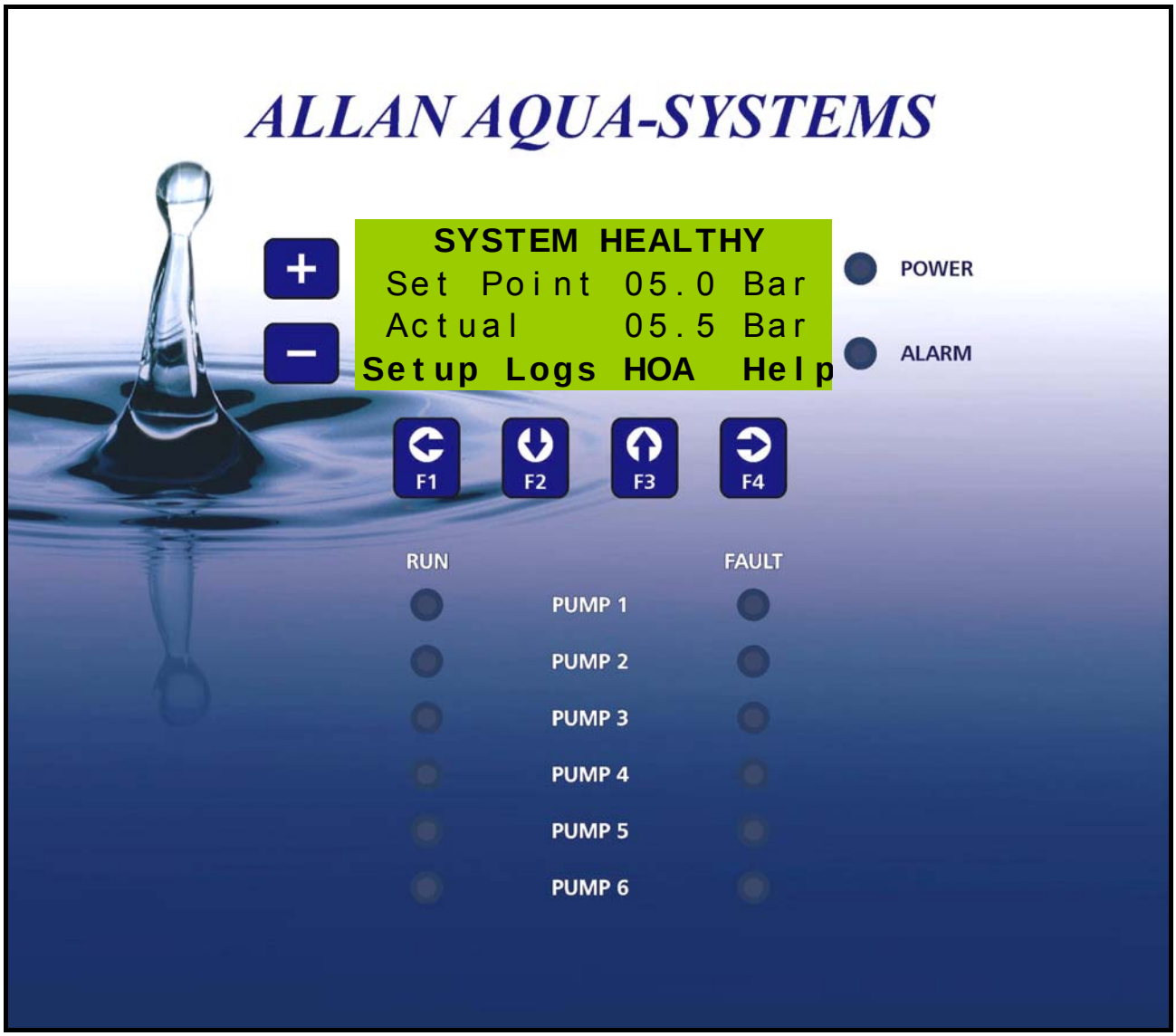
ALLAN AQUA-SYSTEMS

The Next Generation Pump Controller

PCU600



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Technical Details

PCU600 Control Features

- Options for fixed or variable speed control;
- Up to 6 pumps can be accommodated;
- Caters for single or multiple jockey pumps by assigning start priorities to each pump;
- Individual pump inverters on variable speed systems;
- Communication to the individual inverters via high speed RS485 link. Eliminating the programming and wiring of the digital inputs to each drive;
- Individual DOL contactors or electronic soft starters on fixed speed systems;
- Up to two pressure transducers can be used to monitor the system pressure. Automatic transducer failure alarm with selectable override in the event of disparity between the devices. The system will work with either 4-20mA or 0-10v control signals.
- HMI display with 4 lines of 20 characters, 6 multi-function keys;
- LED's for Power on, common alarm and individual pump run and fault;
- Intelligent pump control algorithms with adaptive self-tuning to calculate required pumps speeds for smooth pump control with minimal hydraulic shock. Traditional PID control is not used;
- Intuitive, multi-menu system for easy setup;
- Non-volatile fault history with time/date and event logging (150 events maximum);
- Pump information display for hours run, pump status and current operating mode;
- Low system pressure monitoring alarm with selectable system response. The controller can be programmed to either provide a warning or shutdown the pumps with manual reset;
- High system pressure monitoring alarm with selectable system response. The controller can be programmed to either provide a warning, shut down the pumps with manual reset or shut down the pumps with an automatic restart when the pressure has returned to normal;
- HMI operated "hand/off/auto" pump mode selection with manually adjustable speed control in hand mode on the variable speed system. Operating speed in hand mode is restricted to operate below the high pressure alarm limit;
- Automatic reduced performance start-up mode. Under low pressure starting on power up or after a system shutdown the pump set will operate in 'reduced start mode' until the system reaches the nominal system operating pressure. In fixed speed systems only one pump will be permitted to run and on variable speed systems only one pump will operate under reduced performance. This function virtually eliminates the likelihood of pressure surge due to the 'cold starting' or restarting of the system after a fault condition;
- Break tank low and high level monitoring by either float switches or conductive probes for single or dual break tank installations with adjustable time delay after low level condition reset. Dual break tank systems are provided with an override facility to eliminate one of the tanks from the monitoring process during maintenance procedures;
- Relay outputs to fixed speed pump starters;
- Single volt free change over relay output for common fault to the BMS;
- Engineering screen to assist with fault diagnosis detailing the status of all digital inputs, level controls, relay outputs and pressure transducer feedback signals.

PCU600 Electrical Data

Electrical supply	500mA, 230v, 50/60Hz, ±10%
Pressure sensor supply	24v DC ±20%, maximum load 40mA
Pressure sensor inputs	2x analogue signals, max cable length 10m Voltage signal - 0-10v DC, R>50k Ω Current signal – 4-20mA, R=175 Ω
Digital inputs	10x 12v DC, input current <3mA
Relay outputs	7x volt free change over contacts, 5A @ 230v AC maximum
Serial communications	RS485
LED indications	**Power On:** The controller has a mains supply and the processor is healthy **Alarm:** A warning or fault is present **Pump LED's Off:** Pump is available and in standby mode **Pump Green LED Static:** Pump is running in Automatic mode **Pump Green LED Flashing:** Pump is running in Hand mode **Pump Red LED Static:** Pump is in fault **Pump Red LED Flashing:** Pump has been set to Off mode
Real time clock	Battery backed date/time including automatic daylight saving and leap year
Ambient temperature	-20°C/40°C
Humidity	30 to 95%, non-condensing
EMC	EN 61 800-3, commercial and industrial areas CISPR 11, Class B, G1