HYDRAPRO® SMART CPU CONTROL UNITS

- ◆ **Fully programmable PLC control panel. Can be configured to control bespoke designs on request.**
- ◆ **HMI interface displaying user menu, system status and alarms.**
- ◆ **8 no. Programmable function keys.**
- ◆ **Suitable for pumps of various ratings.**
- ◆ **Sensitivity adjustment for current protection circuit.**
- ◆ **MCBs for pump and auxillary circuit protection.**
- ◆ **Fuse protected on common control circuits and instruments**
- ◆ **Common control and instrumentation voltage 24V DC.**
- ◆ **System status indicator giving visual indication of extended pump and solenoid running times, mains water and rainwater meter readings monitored if required.**
- ◆ **Individual alarms for pump failure, solenoid failure, tank low level and system failure.**
- ◆ **Tank level displayed graphically and numerically.**
- ◆ **2no. configurable alarm outputs to BMS via volt-free contacts.**
- ◆ **Door interlock main switch.**
- ◆ **CE marked.**
- ◆ **IP 55 Steel enclosure with wall mounting points. External Dimensions in mm – 500(H) x 400(W) x 210(D) Colour - RAL 7035**

HydraPro Smart CPU - S1

Logic operated single pump control panel for an indirect (header tank) rainwater harvesting system.

The panel controls the pump, water level probe, mains water top up solenoid valve and level switches as standard. It can also control automatic leaf filter wash down where fitted. Option to control UV disinfection reactor complete with dirty pre filter monitoring also available.

Optional Extras

Up to 20 separate alarms could be raised and taken to BMS via VFC's if required. 2 no. analog outputs to BMS for tank water level and UV lamp life (if installed).

Also available for multiple header tank control.

ASI Bus slave. The S1 panel can be placed on an ASI network within the building. Data can be transferred through the serial network.

HydraPro Smart CPU - S2

All the functionality of the S1 model but is designed to operate dual pump (pressurised) systems. Pumps are configured in a duty / standby / assist operation. As with the S1 model, alarms are available to BMS via VFCs with optional analogue outputs as required.

Optional Extras

There is now a variable speed drive version of the S2 model. This incorporates 2no. VSD's and thus increases pump efficiency, reduces energy consumption and ultimately reduces running costs. Using VSD's allows the system to be optimised and the control and pressure maintained in a much more accurate way. Pumps shall ramp up and down running at a speed which matches demand. Drives shall be tuned to individual motor characteristics.

HydraPro® Smart CPU Control Panels

HydraPro Smart CPU - S3 & S4

These panels are designed to operate with indirect and direct rainwater harvesting systems respectively as with the S1 and S2 models, but also incorporate a user friendly touch screen interface.

Additionally communication with the BMS is available via MODBUS, Profibus, or Ethernet. As a result there are additional monitoring points in terms of system status and alarms available as standard.

The S4 model, as with the S2, has a variable speed drive version but in this instance pump performance data, for example power consumption, is available to the BMS. Drives can be controlled serially from the PLC and thus also from the BMS. Settings can be changed and optimised via set points within the VSD or local panel. Where required the panels can be configured to drive additional pumps, e.g. Booster sets.

## Management / Educational Web Interface

Additional remote monitoring functionality is also available with the S3 and S4 CPU's. This represents state of the art monitoring and management features that bring the rain harvesting system to life.

Reporting can be implemented remotely to provide information on plant operation, flows, pump running times, water quality, alarms, water pressure, maintenance updates, water pressure, trending of all inputs. This can be relayed back to a central server / database either in RHI's office or at the clients HQ for historical logging and trending.

Data sent by the system will be in a generic format allowing all common SCADA (System Control and Data Acquisition) packages to interpret the data via OPC server software. A web interface is available to allow the customer to log in and view the data being gathered remotely. If required and accepted the data from other clients systems can also be viewed and downloaded also. O&M manuals and schedules can be made available through the web interface. The GUI interface is password protected to restrict access to authorised personnel only.

Having the ability to monitor all of the afore mentioned parameters remotely will greatly enhance performance of the rainwater systems. It will virtually eradicate the requirement for an initial call out to assess system status.

The web interface can be used as a fantastic educational tool offering trending outputs, such as temperature, water usage, pump usage etc all of which provide valuable data for studies of engineering, maths and life sciences. Multiple schools worldwide can log in and view information specific to their school or any number of schools within that user group. Features such as monitoring wind speed, rainfall, sunlight are all configurable and available on request.
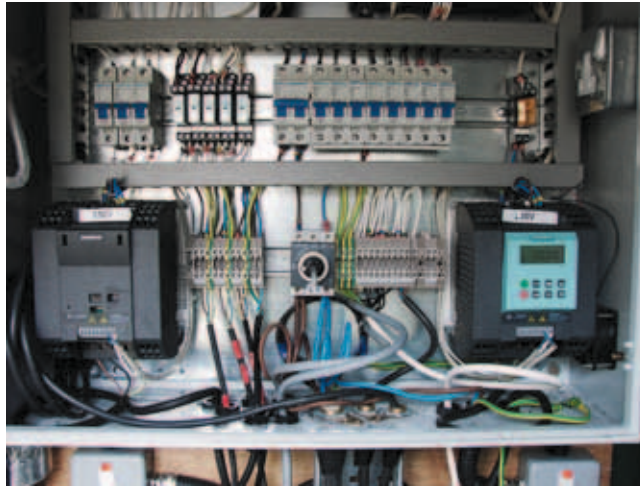
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Social housing

Gardens

Agriculture

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We are a founder member of the UK Rainwater Harvesting Association.

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