



SM96 PUMP CONTROLLER INFORMATION BRIEF

Release 1.6 FEBRUARY 2007



Manufactured in Australia by Alian Electronics Pty. Ltd.
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N12656

AS3100 ACREDITED
CS03057V

Nominated for an
Australian Innovative
Design award in 2004



GENERAL DESCRIPTION:

The SM96 Pump Controller has been designed specifically to cater for distributed sewage pumping systems. It is used where a building or dwelling has its own sewage & waste water storage tank that must be periodically emptied into a pipe network at a high positive pressure. These distributed sewage systems are used where terrain is unsuitable for simple gravity fed outlets. Where dwellings are close to the water table or on rocky, undulating land, these domestic pumping systems can greatly reduce the costs of connecting a building to a public sewage network.

The SM96 pump controller is a compact wall mounted unit which will manage the operation of a pump motor integral to a domestic waste water collection tank. Three probes within the tank will inform the controller when the tank has been pumped dry, when a tank is in danger of overflowing, or when a normal pump cycle needs to be initiated. The probes may be either submersible float switches or conductive probes set to different levels within the tank. A number of alarm conditions will be declared and recorded where normal operating parameters have been exceeded.

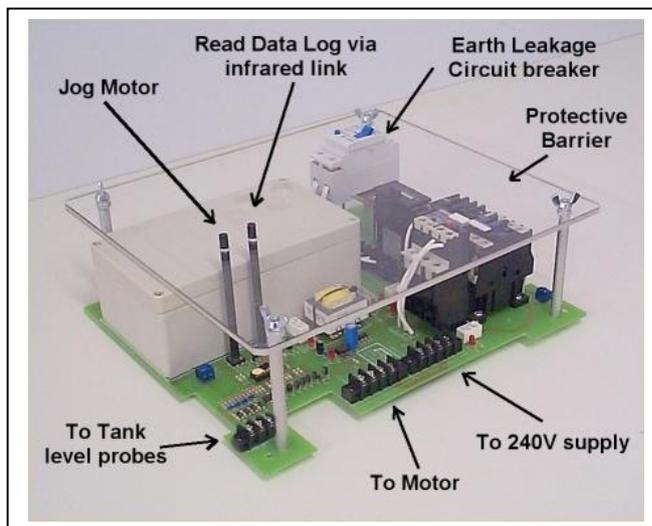
The controller has been independently laboratory tested and is fully compliant with Australian AS3100 electrical safety standards (CS03057V) and with the new Electromagnetic Compatibility, EMC standards. (C-tick no. N12656)

The SM96 unit features an advanced microprocessor controller bonded to the backplane within the enclosure. Heavy contactors and current overload devices support single phase 240VAC pumps with Start/Run motor windings and an average load current of up to 15 Amps. An integral Residual Current Device (RCD) ensures protection against earth leakage faults.

Where the pump motor requires a separate high current starter circuit, an approved 'Starter Module' may be fitted to the SM96 backplane. (shown below)

A perspex barrier behind the cabinet door separates all internal wiring from the user console. This allows routine pump maintenance to be carried out without the presence of electrical staff. (Installation and maintenance of all electrical components will still require the presence of a qualified electrical contractor.)

The cabinet is an extremely tough moulded polyester composition, with stainless steel hinge and latches and foam door seals. Stainless Steel door latches will accept padlocks. The cabinet is intended to be wall mounted with brackets provided and cable access may be effected from all sides or rear.



OTHER FEATURES

Should tank levels become too high or too low, audible and visual alarms will be triggered for the duration of the fault. A single or double flash will indicate the fault type. The audible alarm may be suppressed for 6 hours by briefly pressing an 'Alarm Mute' button on the underside of the cabinet. Motor operation is inhibited with 'Tank Low' alarms. A third alarm condition will indicate the accidental reversal of the 'High' and 'Low' probes by installation staff.

A 'Motor Jog' button inside the cabinet will force the pump to operate for a brief period. (This feature is inhibited if tank levels are low)

An electromechanical hour-meter (resettable) indicates total pump activity.

The cabinet size is 360mm high, 310mm wide and 160mm deep. Unit weight is 7.5 Kg

A full electronic 'Data Logging' system is standard with each controller. It records pump cycles, hours of operation, alarm conditions both as running totals and within 4 hour blocks over the last 24 hours. A counter also indicates the number of hours since the last power interruption.

Data is extracted from the unit by bringing a standard PC with a special terminal program near the controller. When the 'Send Data' button is pressed, the entire data log contents are sent to the PC by an infrared signal broadcast through the protective perspex barrier. The log data is stored indefinitely in a special memory which requires no backup battery.

The retrieved information may be saved within the PC in a simple 'Microsoft Access' format for later analysis. (The infrared receiver probe and software package are available as separate product, 'SM96 TERM'.)

