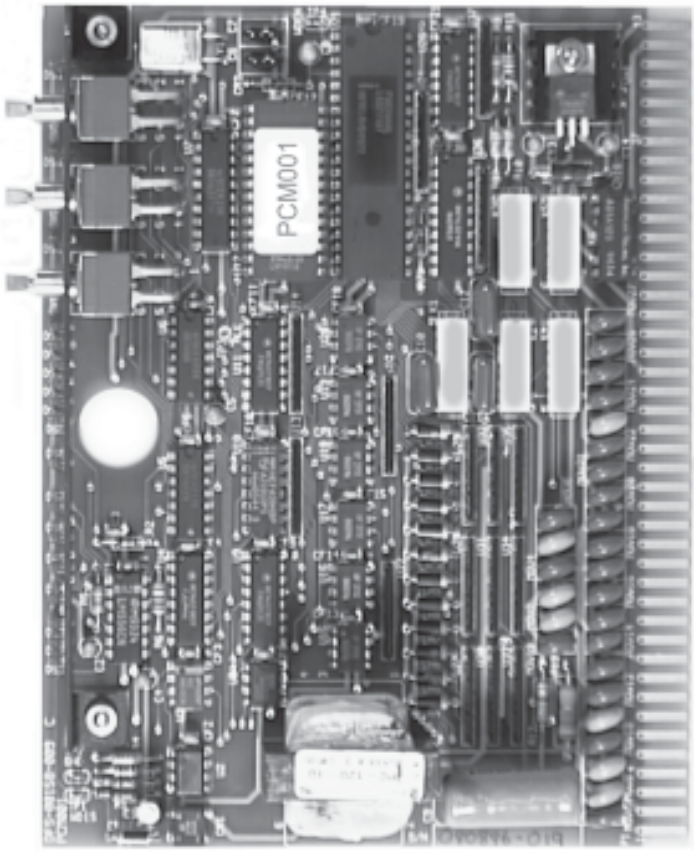
PUMP CONTROL MODULE



Features

- ✧ Controls up to three pumps
- ✧ Six float input points
- ✧ On-board pump alternator
- ✧ Eight second pump restart delay
- ✧ Three phase power monitor
- ✧ External phase monitor input
- ✧ Light and bell alarm output points
- ✧ Alarm silence input point
- ✧ Hand-Off-Auto switch for each pump
- ✧ Exclusive DFS “Flow Equalization” algorithm
- ✧ Input & output points opto-isolated
- ✧ LEDs indicate status of all input and output points
- ✧ On-board communications and functional firmware
- ✧ On-board voltage regulation
- ✧ Module is removable without disturbing field wiring
- ✧ Time tagged messages
- ✧ Watchdog timer
- ✧ Gold edge connector fingers
- ✧ 1200 baud communication
- ✧ UL Listed

Description

The Pump Control Module (PCM001) is a microprocessor-based pump controller. The PCM cycles up to three pumps based on the status of up to 6 floats, and provides telemetry data through the TAC II system. Many conventional discrete controls such as alternators, phase monitors, relay logic, ETMs, ect. can be replaced by a PCM. Pumps can be overriden On or Off with HOA switches. The alternator function will work around these pumps and any malfunctioning pumps. The PCM is capable of equalizing flow between multiple lift stations. Solid state relays drive an alarm light and an alarm bell or horn. A high well, low well, or phase fault condition will activate the alarm light and sound the alarm bell. The alarm bell can be silenced by use of the alarm silence input.

DFS
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PUMP CONTROL MODULE (PCM001)

Brief Specifications

The Pump Control Module (PCM) shall be a microprocessor-based multi-pump controller module, Triplex/Duplex/Simplex configurable, designed for use with the telemetry system. The PCM shall have local automatic control from float or pressure switch inputs and local manual control provided by HOA switches. The HOA switches shall function with the floats to provide extra operational flexibility (i.e., one pump can be taken out of service for repair by the HOA switch and the floats will control the remaining pump[s]). Remote control from the central site computer shall provide individual pump overrides, station and alarm disables. The module shall automatically sense the station type and configure itself. A Triplex configuration shall use emergency high, lag 2, lag 1, lead, off and emergency low float or pressure switch inputs, Duplex configuration shall use emergency high, lag, lead, off and emergency low floats, and Simplex configuration shall use emergency high, lead, off and emergency low floats. The alternator function shall alternate around pumps that don't run when called. The alternator shall allow the operator to override a pump ON or OFF with the HOA switches and the alternator will still provide alternator control over the remaining pump(s). The on-board phase monitor functions shall: a) provide transformer isolation b) detect loss of phase, phase reversal, and low leg phase problems c) provide automated calibration for 220 VAC three phase power inputs. An external phase monitor is required for 440 VAC three phase power. The alarm light and bell outputs shall be capable of driving 120 VAC loads to 1 amp. The alarm bell shall be silenced locally or from the central site computer. An emergency low float provides shut down control when floats are operating out of sequence. An alarm shall report back to central site computer if: floats are operating out of sequence; a Pump/Starter/Breaker Faults; a HOA Switch is not in the AUTO position. The Pump/Starter/Breaker alarms shall be activated when a pump is called to run, but fails to run, or turned off by the PCM, but continues to run. RTU Power status and Pump Run status shall be reported back to central site computer. Pump run times recorded with 2 second accuracy. LEDs shall Indicate: a) RTU power, b) Alarm Bell, c) User defined input, d) Module power, e) Transmit and Receive data, f) Phase Alarm/Calibration, g) Processor fault, h) Six float inputs, i) Pumps on/off. All inputs and outputs shall be optically or magnetically isolated and surge suppressed. Connector fingers shall be gold-over-nickel-over-copper plated to inhibit corrosion.

Technical Data

Board size	5.25" x 6.88"
Input Voltages	10-30 volts AC/DC, 30-300 volts AC/DC with
Input Protection	inline resistors M.O.V., Transorb, and Opto-isolated
Input Impedance	5K ohm
Output Control	Solid State Opto-isolated Zero crossing 1 Amp 20-140 Vac Relays
Supply Voltage	8 to 14 Vdc
Supply Current	250 mA

Order Model PCM001-1

Warranty

Data Flow Systems, Inc. (DFS) offers a one (1) year on-site warranty covering defects in materials and workmanship. All DFS "plug-in" function modules, Pump Control Units (PCU), Supervisory Control Units (SCU), and Back Pack Radios (BPR) carry an extended two (2) year return-to-factory warranty. This extended warranty does not cover misuse, vandalism, or Acts of God. However, these items are warranted against damage due to lightning for the entire three-year period.

Represented by

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