# STATION CONTROLLER SC1000


***MADE IN THE U.S.A.***

UL FILE # E101681

## TYPICAL APPLICATIONS

Simplex, Duplex, Triplex Single Speed Pump Control
Level Pump Down (Empty a Tank) or Pump Up (Fill a Tank) Control

## DESCRIPTION

The SC1000 is a SCADA ready pump controller designed to perform level control in a wide range of lift station applications. The SC1000 operates the pumps based on the selected setup values and the wet well level signal. The level input source is menu selectable for either a 4-20 mA pressure transducer, or a conductance probe. The S1000 alternates the pumps, performs lag pump delays, and provides high and low level alarms. The SC1000 has a variety of control options available in the setup menu that may be used to customize the controller for a specific application.

The SC1000 comes standard with 12 Discrete Inputs, 10 Level Probe Inputs, 5 Relay Outputs, an Analog Input for the level input, and an RS232 Serial Port with the Modbus RTU protocol.

The SC1000 can be ordered with the following options:

Isolation of the Analog (4-20mA) Level Input.
Ethernet Port with the Modbus TCP protocol.

## ORDERING INFORMATION

**Part Number: SC1000**

To add Isolation to the Analog Level Input, add S to end of part number.

To add an Ethernet Port with the Modbus TCP protocol, add E to end of part number.

## STATION CONTROLLER SC1000 STANDARD FEATURES:

- All Setup Parameter Values May be Viewed or Changed From the Front of Unit
- 120 VAC input power
- Level Input Source - Menu Selectable
  - Analog Level Input (4-20mA from Pressure Transducer)
  - Level Probe (Conductance Probe with 10 Electrodes)
- 20 VDC Power for Analog Level Input Loop
- 6 Amp Relay Outputs for: Pump Call, High Level, and Low Level Alarms
- RS-232 Serial Port, Modbus RTU Protocol
- Optional Ethernet Port for Modbus TCP and Modbus RTU Protocols
- Alternation Modes - Menu Selectable
  - Standard Alternation
  - Pump 1 Always Lead - Stays On with Other Pumps
  - Pump 1 Always Lead - Turns Off with Other Pumps On
  - Pumps 1 & 2 Alternate, and Pump 3 Always Last
  - Fixed Sequence - Pump 1 Always Leads
  - Stepped On/Off - Only One Pump Runs at a Time
- Alternation - First On - Last Off or First On - First Off
- Alternator Logic Skips Disabled Pumps
- Remembers Lead Pump Position During Power Outage
- Timed [1 minute] Level Simulation
- Plug-in Style Connectors
- 12 Discrete Inputs that can be Programmed for the Following Functions:
  - Pump Disable with HOA in OFF, or Pump Fault
  - External Lead Pump Selector Switch
  - All Pump Disable - for Connection to Phase Monitor
  - Limit Number of Pumps Called While on Emergency Power
  - Alternation by External Time Clock
  - Float Switch Backup
  - A Variety of Telemetry Functions
- Status of Discrete Inputs May Be Viewed From Front of Controller
- Flush Cycle Feature to Reduce Sludge Build-up within the Wetwell
- Flow Calculator Feature for Latest Inflow Rate, Average Daily Flow, Pump Outflow Rate
- Unused Output Relays Programmable via SCADA for Additional Control Uses
- Full manual available in pdf format at our website: www.mpelectronics.com

## SPECIFICATIONS

| | |
|---|---|
| Input Power: | 120VAC ±10%, 13VA max |
| Agency Approvals: | UL 508, CAN/CSA |
| Ambient Operating Temp: | -20°C to +65°C |
| Level Display: | 3 Digit, 7 Segment LED |
| Level Display Range: | 0 - 999 ft.<br>Decimal Point Position<br>Menu Selectable |
| Indicators: | LED |
| Color: | White with Blue Lettering |
| Relays: | 6A @250VAC |
| Level Analog Input: | 4-20mA, 250Ω Load<br>Transient Protected |
| External Dimensions: | 6.9"H x 8.5" W x 4.1" D |
| Cut Out Dimensions: | 6.0" H x 7.5" W |

| | |
|---|---|
| Power for Discrete Inputs: | 24VDC Unregulated<br>Transient Protected |
| Power for Analog Regulated Input: | 20VDC ±1V<br>Transient Protected |
| Power For Level Probe: | ±8V Square-Wave,<br>60 Hz. |