STATION CONTROLLER SC1000

MADE IN THE U.S.A.

c UL us LISTED

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 SC1000 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, an Analog Output for output of Wet Well Level, an RS232 Serial Port with the Modbus RTU protocol and an Ethernet Port with the Modbus TCP.

The SC1000 can be ordered with the following option:

Isolation of the Analog Level Input.

ORDERING INFORMATION

Part Number: SC1000 - E X

Ethernet Port

Analog Level Input AIX1

Blank = AIX1 is Non-Isolated
S = AIX1 is Isolated

The S-Option makes the Analog Level Input (AIX1) Isolated from the Controller's Power Supply Ground.

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SC1000 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 (AIX1) (4-20mA from Pressure Transducer)
  - Level Probe (E1 - E10) (Conductance Probe with 10 Electrodes)
- 20 VDC Power for Analog Level Input Loop
- 8 Amp Relay Outputs (ROX1 - ROX5) for: Pump Call, High Level, and Low Level Alarms
- 1 Analog Output (AOX1) provides a copy of Wet Well Level.
- RS-232 Serial Port (COM1) with Modbus RTU Protocol
- Ethernet Port (ENET1) with Modbus TCP Protocol
- 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
- Alternation - First On - Last Off or First On - First Off
- Alternator Logic Skips Disabled Pumps
- Timed [1 minute] Level Simulation
- Plug-in Style Connectors
- 12 Discrete Inputs (D1 - D12) 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 Wet Well
- 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

SC1000 OPTIONAL FEATURE:

- Isolation of the Analog Level Input from Power Supply ground.

SPECIFICATIONS

Input Power:	120VAC ±10%, 13VA max
Agency Approvals:	UL 508, CAN/CSA
Ambient Operating Temp:	-20°C to +65°C
Level Display:	5 Digit, 7 Segment LED
Level Display Range:	0 - 2310 ft. Decimal Point Position Menu Selectable
Indicators:	LED
Color:	White with Blue Lettering
Relays:	8A @ 120VAC
Level Analog Input:	4-20mA, 100Ω Load Transient Protected
External Dimensions:	8.5" W x 6.9" H x 4.09" D
Cut Out Dimensions:	7.5" W x 6.0" H

Power for Discrete Inputs:	24VDC Unregulated Transient Protected
Power for Analog Input:	20VDC ±1V Regulated Transient Protected
Power For Level Probe:	±6V Square-Wave, 60 Hz.