STATION CONTROLLER SC2000

MADE IN THE U.S.A.

UL FILE # E101681

TYPICAL APPLICATIONS

Simplex, Duplex, Triplex or Quadraplex Pump Control
Single Speed or Variable Speed Control

DESCRIPTION

The SC2000 is a SCADA ready pump controller designed to perform level control in a wide range of lift station applications. The SC2000 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 SC2000 alternates the pumps, performs lag pump delays, and provides high and low level alarms. The SC2000 has a variety of control options available in the setup menu that may be used to customize the controller for a specific application.

The SC2000 comes standard with 18 Discrete Inputs, 10 Level Probe Inputs, 6 Relay Outputs, an Analog Input for the level input, and an RS232 Serial Port with the Modbus RTU protocol.

The SC2000 can be ordered with the following options:

- Up to 4 Isolated Analog Outputs for VFD speed control.
- Up to 4 Isolated Analog Inputs for collecting analog data.
- Isolation of the Analog (4-20mA) Level Input.
- Ethernet Port with the Modbus TCP and DNP3 protocols.

ORDERING INFORMATION

Part Number: SC2000 - X X

Analog Outputs

0 = No Analog Outputs
1 = 1 Analog Output
2 = 2 Analog Outputs
3 = 3 Analog Outputs
4 = 4 Analog Outputs

Analog Inputs

0 = No Aux. Analog Inputs
1 = 1 Aux. Analog Input
2 = 2 Aux. Analog Inputs
3 = 3 Aux. Analog Inputs
4 = 4 Aux. Analog Inputs

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

To add an Ethernet Port with Modbus TCP and DNP3 protocols, add E to end of part number.

STATION CONTROLLER SC2000 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 (4-20 mA 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
  - Split Alternation - Pumps 1 & 2, and Pumps 3 & 4
  - 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
- Security Code Protected Parameter Setup
- 18 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
  - Call Pump Last - for Connection to VFD/Bypass Logic
  - 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
- Plug-In Style Connectors
- 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:	
Without Analog Outputs:	-20°C to +65°C
With Analog Outputs:	-20°C to +50°C
Level Display:	3 Digit, 7 Segment LED
Level Display Range:	0 - 999 ft. Decimal Point Position Menu Selectable
Indicators:	LED
Color:	White with Blue Lettering
Relays:	6A @250VAC
Analog Level Input:	4-20mA, 250Ω Load Transient Protected
External Dimensions:	6.9"H x 8.5" W x 4.9" D
Cut Out Dimensions:	6.0" H x 7.5" W

Power for Discrete Inputs:	24VDC Unregulated Transient Protected
Power for Analog Input:	20VDC ±1V Regulated Transient Protected
Analog Outputs:	Isolated 4-20mA Maximum Load 600Ω Transient Protected
Aux. Analog Inputs:	Isolated 4-20mA 250Ω Load Transient Protected
Power for Level Probe:	±8V Square-Wave, 60 Hz