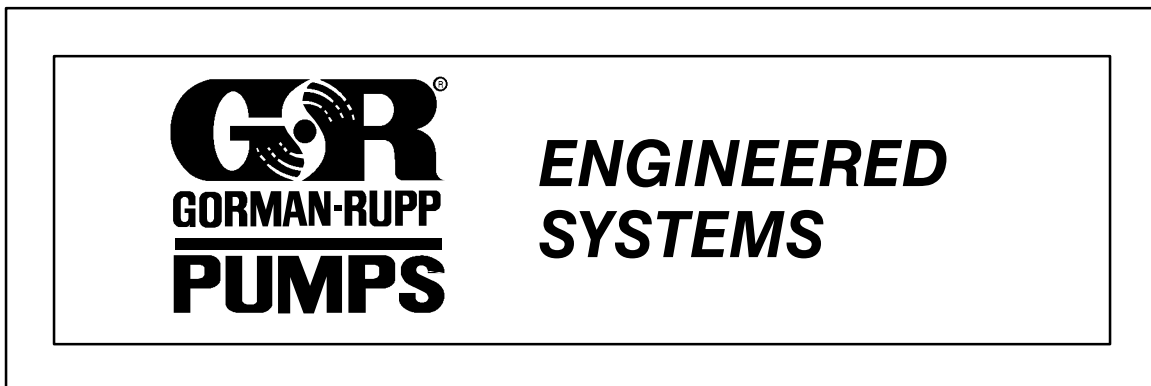


**EPS 2000
ELECTRONIC PRESSURE SWITCH
OPERATION MANUAL**



THE GORMAN-RUPP COMPANY MANSFIELD, OHIO

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EPS 2000 BASICS OF OPERATION

NOTE

Descriptions of operation assume appropriate transducer and pumps are connected to the EPS 2000 and that the EPS 2000 is energized.

Description of Front Panel Switches, Lamps, and Display:

LCD screen shows relevant data, settings, level, etc.

LED's A – H shows status of outputs; i.e. if LED A is 'on', output A is 'on' also.

NOTE

The [SHIFT/ENTER] key is multifunctioned. Its function depends upon what menu item is displayed on the LCD screen.

Operator Adjustable Settings

Adjusting Contrast

PRESS [UP/DOWN ARROW] to adjust display contrast. LCD shows that user is adjusting LCD contrast on line two of LCD.

Toggle Setpoints

PRESS [SHIFT/ENTER] to toggle between setpoints A–D or setpoints E–H. Current setpoints are indicated by LED just left of lowest order setpoint. In this case, key functions as 'SHIFT'.

Adjusting Setpoints

PRESS [ON/OFF] of a particular setpoint (A–H) to view that setpoint's setting. If the setting you wish to view or change is not showing, press [ON/OFF] again. If you wish to change the setting, PRESS [UP–ARROW] to increase the setting. PRESS [DOWN–ARROW] to decrease the setting. If the display shows 'Setpt is Locked', you cannot change the setting.

Adjusting Simulation

PRESS [SIMULATE] to change to Simulate Mode of operation. Operator can simulate level changes. PRESS [UP–ARROW] to simulate level increase. PRESS [DOWN–ARROW] key to simulate level decrease. When finished simulating, PRESS [SIMULATE] to return to Normal Mode of operation.



Pumps and other devices connected to outputs may suddenly energize when in the simulate mode.

NOTE

Behind the 'GR Pumps' Logo is a hidden key. This key allows access to other settings and information.

Enter Access Code

PRESS [HIDDEN] to show ACCESS CODE: menu. You must have a valid ACCESS CODE to lock or unlock access to other settings. **Valid access code is 0305.** Digits can only be viewed when [UP/DOWN ARROW] is depressed.

- (1) PRESS [UP/DOWN–ARROW] to change digit above cursor.
- (2) PRESS [SHIFT/ENTER] to 'SHIFT' to the next available digit.
- (3) Repeat steps (1) and (2) until all digits are set. When you PRESS [SHIFT/ENTER] for the last time if your ACCESS CODE is accepted, you will be allowed to toggle the status of the current setup. If the ACCESS CODE is rejected you will return to the Normal Mode of Operation.
- (4) The current setup will either be LOCKED, i.e., no changes can be made to current settings, or the setup is UNLOCKED and changes can be made to the current settings. PRESS [UP/DOWN–ARROW] to toggle from locked to

unlocked. The system must be unlocked to make changes.

Analog Input Type

PRESS [HIDDEN] to show the current setting for the ANALOG INPUT TYPE.

- (1) To look at current input types available, press [UP/DOWN ARROW]. Leave setting at desired input type when finished.

EPS Calibration

NOTE

Zero and span calibrations are only necessary to calibrate a new EPS, or when replacing the transducer. Once calibrated, settings are stored in unit's memory.

Calibrate Zero Setup

Zero calibration tells the unit when the transducer is exposed to zero water (atmospheric) pressure. To set:

PRESS [HIDDEN] once more to show CALIBRATE ZERO SETUP. LCD will show binary reference to 00.0 feet.

- (1) Subject transducer to normal atmospheric pressure. Allow several seconds for the EPS 2000 reading to stabilize. PRESS [SHIFT]. This records binary reference to 00.0 feet in memory.

Calibrate Span Setup

Span calibration sets the unit to a known water pressure (depth). To set:

PRESS [HIDDEN] once more to show CALIBRATE SPAN SETUP. LCD will show binary reference to xx.x feet.

- (1) Submerge transducer to an exact, known depth greater than 00.0 ft. Allow several seconds for EPS 2000 reading to stabilize. Adjust the display to the known level using the [UP/DOWN ARROW].

- (2) PRESS [SHIFT]. This records binary reference to the known depth in memory.

Setpoint Assignment

Setpoint Assignment tells the unit when to turn a pump on and off. To set:

PRESS [HIDDEN] once more to view SETPOINT ASSIGNMENTS.

- (1) PRESS [SHIFT] to view setting for each pump. Press [SHIFT] to advance to the next pump.
- (2) PRESS [UP/DOWN ARROW] to cycle through available options for each pump.

Display Units

PRESS [HIDDEN] once more to view DISPLAY UNITS.

- (1) PRESS [UP/DOWN ARROW] to toggle between English and Metric.

Pump Application

PRESS [HIDDEN] once more to choose PUMP APPLICATION TYPE.

- (1) PRESS [UP/DOWN ARROW] to toggle between pump-up application (i.e., water tower) or pump-down (i.e., wetwell).

Analog Output Type

PRESS [HIDDEN] once more to view ANALOG OUTPUT TYPE.

- (1) PRESS [UP/DOWN ARROW] to toggle between options available for ANALOG OUTPUT TYPE.

Low Endpoint Setting

PRESS [HIDDEN] once more to view Analog Output LOWER ENDPOINT SETTING.

- (1) PRESS [UP/DOWN ARROW] to adjust the level (in feet or meters) setting for minimum voltage/current from Analog Output.

Upper Endpoint Setting

PRESS [HIDDEN] once more to view Analog Output UPPER ENDPOINT SETTING.

- (1) PRESS [UP/DOWN ARROW] to adjust the level (in feet or meters) setting for maximum voltage/current from Analog Output.

LCD Backlight Option

PRESS [HIDDEN] once more to view LCD BACK-LIGHT OPTION.

- (1) PRESS [UP/DOWN ARROW] to toggle between available options.

PRESS [HIDDEN] once more to view BACK-LIGHT BRIGHTNESS.

- (1) PRESS [UP/DOWN ARROW] to toggle between Dim setting or Bright Setting.

Setpoint Security

PRESS [HIDDEN] once more to view setpoint security.

- (1) PRESS [UP/DOWN ARROW] to toggle between Unlocked or Locked. If setpoints are locked, an operator can view the setpoints but cannot change them.

PRESS [HIDDEN] once more to return NORMAL OPERATION mode.

NOTE

The act of pressing the [HIDDEN] key for the next menu item compares the current item settings with the settings in Non-Volatile memory. If the current settings have been changed, the new value is stored in Non-Volatile memory. It is important to PRESS [HIDDEN] to cycle through all settings that have been changed or all the way back to NORMAL OPERATION to insure that any settings changed are stored in Non-Volatile memory.
