

Pumps controller MPC

Features

Input: 4-20mA from a level transmitter (Milltronics PROBE or MiniRanger ultrasonic level systems).

* 4 set-points: Duty pump and Stand-by pump activation levels; "stop" and over flow levels.

Protection signals for each pump motor:

KL- klixon, contact from the Temp. Sensor;

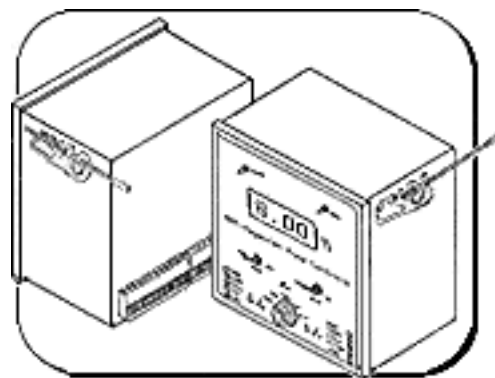
OL- overload, contact of the OL switch; ST- operation (from the pump activation relay);

LOE - loss of echo alarm; O.F.- over flow alarm.

* Sophisticated processing for pump operation.

* LCD display.

* LED indication lights for each pump.



Pumps controller **MPC** is a dual pumps controller for submerged pumps for sewage or potable water.

Description of the front panel

[3] Operation sequence switches for each pump:

MAN - manual pump activation,

AUTO - automatic pump operation control,

OFF - pump will not activate.

[4] Pot' ON.DELAY (man. adj. 0-30 min) in order to prevent any possible mis-operation.

[5,9] LED's indicate: ALARM - a general failure;

PUMP1 / PUMP2 - when appropriate pump is operating;

FAIL1 / FAIL2 -failure at one of the protection-signals (OL, KL, ST) for each pump;

O.FLOW - a flooding;

HIGH - level is above the set point HI;

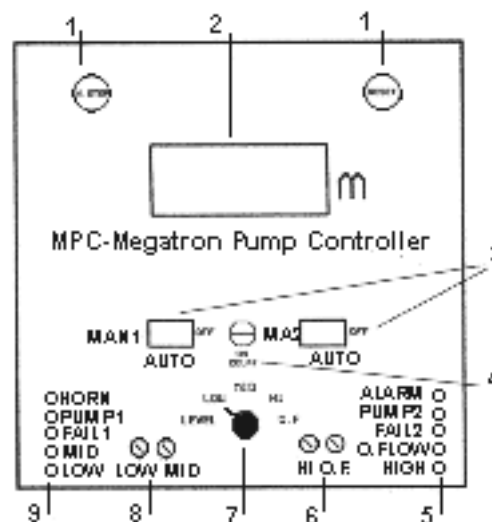
MID - level is above the set point MID;

LOW - level is below the set point LOW;

HORN - general failure (buzzer is activated).

[6,8] Pot' for setting set-points: LOW - Stop level

MID - activation of duty pump; HI - activation both of pump; O.F. - Over Flow



[1] Pushbuttons: H.STOP - buzzer turns OFF;
RESET - turns OFF LED's, ALARM and HORN
[2] Display 3.5 digits (0-199.9), 1/2" height, LCD

level

[7] Selector enables to show on display the set-points and levels' value.

Operation

Switches [3] at mode Auto - automatic pump operation.

At normal operation sequence when level has exceed "MID" level,

- MID-LED is lighted and duty pump is activated (appropriate PUMP-LED is lighting too).
- Pump will operate until level goes to "LOW" or during 30min (time can be adjusted).
- If the liquid level didn't go down to "LOW" level, first pump stops and stand-by pump is activated (appropriate PUMP-LED comes ON). All above provided there are no failures KL, OL, ST.

- After 30 min of operation this pump will stop also and be replaced by the first one until the liquid drop below Stop, or vice versa.

In case of failures KL,OL or St of any pump motor, the following abnormal operation sequence is initiated:

- HORN, ALARM signals will go on and appropriate FAIL-LED will be lighted.
- If pump was operated or was ready to work it will stop and second pump will operate (provided there are no failures KL, OL, ST at second pump).
- Disappearance of the failure will take place when Fail-LED is lighted off but HORN-LED and ALARM-LED [5,9] light on until H.Stop and Reset pushbuttons are pressed. Buzzer is stopped by H.Stop pushbutton or automatically after 4 min.

In case the liquid level has exceed "HI" level and there aren't failures:

- Second pump is activated and both of them operate until liquid level is going down to "LOW".

If level exceeds "O.FLOW":

- O.FLOW-LED and ALARM-LED light on and buzzer activates. The warning O.FLOW is received by the set-point O.F or from external float O.F.
- Two pumps operate 30 min or until liquid drops below Stop.

Switches [3] at mode Man - manual pump operation.

All provided when liquid level is minimal LOW (LOW-LED lights on).

- For pump1 manual operation is in mode MAN1 and there are no signals KL1, OL1, ST1.
- For pump2 manual operation is in mode MAN2 and there are no signals KL2, OL2, ST2.

There is an option for connection external float "No Water". Contact N.C. is in series with the pump activation contact.

Application

Connections of MPC are according to the label by the terminal.

