PUMP DUTY CYCLE CONTROL

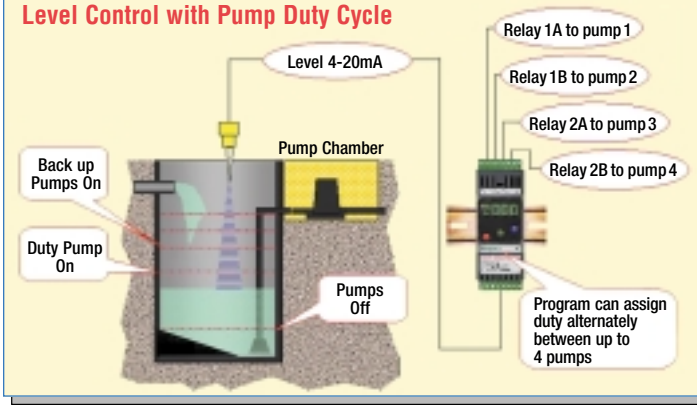
- CONTROL UP TO 4 PUMPS
- RS485 SERIAL MODBUS COMMS
- FIELD PROGRAMMABLE
- DIGITAL DISPLAYS

The Medacs Conditioner Model 2133-L1010 and DM3600-L1010 digital indicators contain a program to sequence and cycle pumps for level control. Any level sensor having a current or voltage output can be used. The sensor can be powered by the instruments. Level is displayed in engineering units: feet, gallons, %, etc.

The instrument can control up to 4 pumps and cycle the order of operation of the pumps. On start up "SET POINTS A" controls pump #1, "SET POINTS B" controls pump #2, and so on. When pump #1 cycles on/off the first time after initial power up, the pump control is shifted. "SET POINTS A" now controls pump #2, "SET POINTS B" controls pump #3, and so on. Every time the pump controlled by "SET POINTS A" cycles on/off pump "SET POINTS A, B, C & D" are shifted.

Instruments are supplied programmed. Parameters which may require field settings are easily accessible using the instruments on board keys and digital display or via RS485 using Set Up Program SL1010. Settings can be password protected. Modbus multi-drop RS485 serial communication is standard.

Level Control with Pump Duty Cycle



Application: Level control in sewage lift stations is normally provided by two or more pumps, with a level controller to tell the pumps when to start and stop. A MEDACS unit can field power a level gauge mounted in the lift station and provide the switching of the contactors for the pumps. Normally, the duty pump will lower the level, but in storm conditions, the back up pump may be called to assist. After each pump down cycle, a TFML module rotates the duty assignment to ensure all pumps remain active.

The Medacs Model 2133-L1010 is a DIN rail mount conditioner with a four digit indicator and our level pump control program. It is suitable for behind panel mount or optionally in a wall mount enclosure.

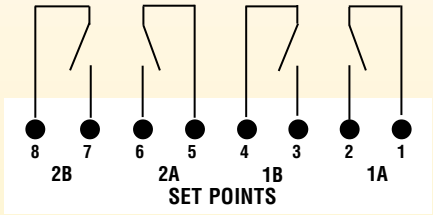
Sensor Input

mA	4-20 mA, +/-10 mA, +/-20 mA
Volts	+/-100 mv, +/-1v, +/-5v, +/-10v, 1-5v

Power: 24V DC@200 mA

Relays

	AC	DC
Max voltage	48V RMS	48 V
Max power	60 VA	30W
Max current	1A@48V	1A@30V



Order Model MEDACS 2133-L1010

Additional specifications can be found on Bulletin #MEDACS Series 12.01

The DM3600-L1010 is a 6 digit display panel mount indicator. The front panel is rated NEMA-4. Four LED's on the front panel indicate the status of each pump.

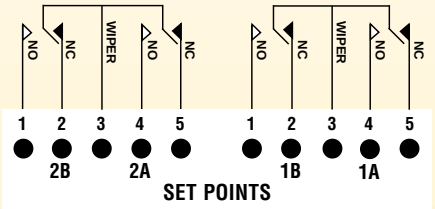
Sensor Input

mA	4-20 mA, +/-10 mA, +/-20 mA
Volts	+/-100 mv, +/-1v, +/-5v, +/-10v, 1-5v

Power: 90-253V AC
Optional 20-35V DC

Independent Line Rated Relays

Ratings	AC	DC
Max voltage	253V	253V
Max power	125VA	150W
Max current	4A@250	5A@30V



Each relay pod has two "change over" relays with a common wiper.

NC = Normally closed
NO = Normally open

Order Model DM3600-L1010

Additional specifications can be found on Bulletin #DM3600-10.02

PUMP DUTY CYCLE CONTROL

The software is supplied on a CD. Install the pump control setup software on to a PC running Windows 98 (or newer windows version).

Connect the PC with the software loaded to the Status unit via a 485/422-converter cable. Confirm that no other software is using the serial port connected to the Status unit. The first time the software is run a message box will be displayed stating "Comm Port Must Be Set". Click on the "OK" button to open a screen to set the communication port and baud rate. Select the communication port that is connected to the 485/422-converter. Select either 19.2 k (default) or 9600-baud rate that must match the baud rate set in the Status unit. Press the "Accept" button to save the setting. Press the "Cancel" button to restore the saved setting. Press the "OK" button to return to the main program screen. If the settings have been changed but not saved a message box will be displayed to save data to disk.

The software default configuration is set to communicate to a single unit attached to the 485/422-converter. Press the "Start Communication" button to open the port to talk to the Status unit. The label on the button will change to "Stop Communication". Press the "READ" button to download the current live and set up data from the unit.

Modify any of the following information:

Input Type - Select input type from a list only Voltage or Current inputs are available for level inputs.

Input Range - Select input range from list of available ranges.

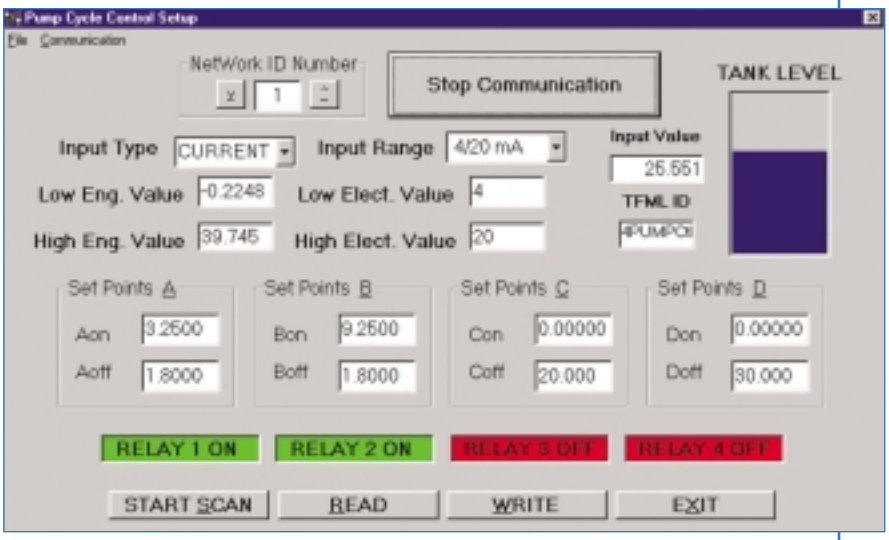
Low Eng. Value - The displayed value at the minimum signal input.

Low Electrical Value - The value of the minimum signal input.

High Eng. Value - The displayed value at the maximum signal input.

High Electrical Value - The value of the maximum signal input.

Control Set Points - "A"on, "A"off, "B"on,"B"off, "C"on,"C"off,"D"on,"D"off used to control pumps. Setting "D"on to 0 will change the pump cycle to control 3 pumps. Setting "C"on to 0 will change the pump cycle to control 2 pumps.



Press the "WRITE" button to send the set up data from the computer screen to the unit. Press the "START SCAN" button to continuously read and display the live and set up data from the unit. The label on the "START SCAN" button will change to "STOP SCAN". Press the "STOP SCAN" button to stop the continuous read and returns the button to the original label.

To configure the software to communicate to multiple Status units connected to a single 485/422-converter, choose the menu item "Communication" and then select "Network". When the menu item "Network" is checked the Network ID Number must be set to match the ID set in the Status unit.

Press the "Stop Communication" button to close the serial port.

Press the "EXIT" button to close the program.

LOCAL REPRESENTATION

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