

ultra-flow

autolube electronic lubrication control unit

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Autolube

autolube electronic lubrication control unit

manual setup procedures






















autolube specifications

The AUTOLUBE is a universal lubrication system controller capable of handling all common lubrication systems from the simplest run - pause timer through progressive, single and dual line systems. Innovative algorithms also give new flexibility and greater control over traditional single line systems.

The practical layout gives clear indication of exactly what is happening at any time and the advantaged diagnostics will help to pinpoint any faults quickly. Although highly flexible, it remains simple to operate and program by using Ultra-Flow's proprietary **Lube-Logic**® setup procedure. By specifying what type of system is being used, **Lube-Logic**® asks the user only relevant information in a clear step by step manner and the operator need only concern himself with the particular system he is using.

The built in Real Time Clock allows the unit to log a history of operations and faults conditions. Serial communications allows the operation / history and setup to be modified / altered via a PC. By using the GSM option available, all conditions can be monitored remotely using GSM cellular network and the unit can even be programmed to report any fault conditions to a remote PC located elsewhere in the country or in a different country.

FEATURES:

-  Runs progressive, single line and dual line lubrication systems.
-  Real time clock logs date and time of faults (80 critical records).
-  RS232 serial port allows connection to PC.
-  Option to connect to GSM modem allowing remote monitoring via GSM networks.
-  Optional Dongle available for remote downloading of data without the need of a Laptop.
-  Timing intervals from 5 seconds to 24 hours.
-  Cycle Counting.
-  10Vdc to 30Vdc operation.
-  Short circuit/open circuit detection with audible warning.
-  External fault lamp drive (Flash or steady output)
-  Low level reservoir monitoring.
-  Two sensor switch inputs.
-  Visual & audible fault indication.
-  Non-volatile memory.
-  Built in "blown fuse" indicator.
-  3 digit LED display indicates exact status of system.
-  Simple "**Lube Logic**" setup procedure.
-  Test mode allows testing of all the circuits connected to the Autolube for verifying.
-  Practical attractive housing with mounting bracket.

SPECIFICATIONS:

| | |
|--------------------|--|
| VOLTAGE: | 10VDC TO 30VDC |
| CURRENT DRAIN: | 150ma MAX (no load) 70ma nominal |
| PUMP OUTPUT: | 7Arms.MAX |
| LAMP OUTPUT: | 3A MAX |
| SWITCHING: | Solid state short circuit protected |
| FUSE: | 8 Amp fast blow 20mm glass |
| CONNECTION: | 14 way MOLEX MINIFIT - JR |
| COMMUNICATIONS: | RS232 Type |
| DIMENSIONS: | 70mm X 145mm X 38mm (including mounting bracket) |
| WEIGHT: | 300g |
| PROTECTION: | IP54 |
| TEMPERATURE RANGE: | -25C to 80C |

general precautions

The user manual is intended to familiarize the user with the autolube controller and its designated use. The operating instructions contain important information on how to operate the autolube controller safely, properly and efficiently. Observing these instructions will help reduce confusion and actual damage to the autolube controller. This manual must be read and applied by any person in charge of carrying out any form of setting up or work on the autolube controller.

Operational Precautions:

Includes the total understanding of the autolube specifications. Never connect to any other voltage supply other than that specified in the manuals contained within.

The owner/user must ensure at all times that installation or inspections are executed by authorized and qualified personnel who have thoroughly read the operating instruction manual.

Any setting up or work on the autolube controller must be done while the machine is off. The machine must be in such a position that it will not cause harm to any person should the machine be switched on for the setting up of the autolube controller.

In the event that the machine needs to be on for the setting up of the autolube controller it must be on condition that the operator or personnel working on the machine are advised.

Never switch the machine on without the prior knowledge of the operator/owner or somebody that has full knowledge of the machines operation.

Warnings:

Never weld on a machine while the main switch of the machine is on. Insure that the machines main switch is off and correctly tagged. Welding on a machine can cause serious damage to the autolube controller.

Do not alter or modify any part of the autolube controller.

Insure that the autolube controller is mounted in a suitable area.

Do not mount the autolube controller near excessive heat areas.

Always use the right specified fuse rating for the autolube controller.

Never exceed the voltage rating of the autolube controller.

Never expose the autolube controller to direct sunlight.

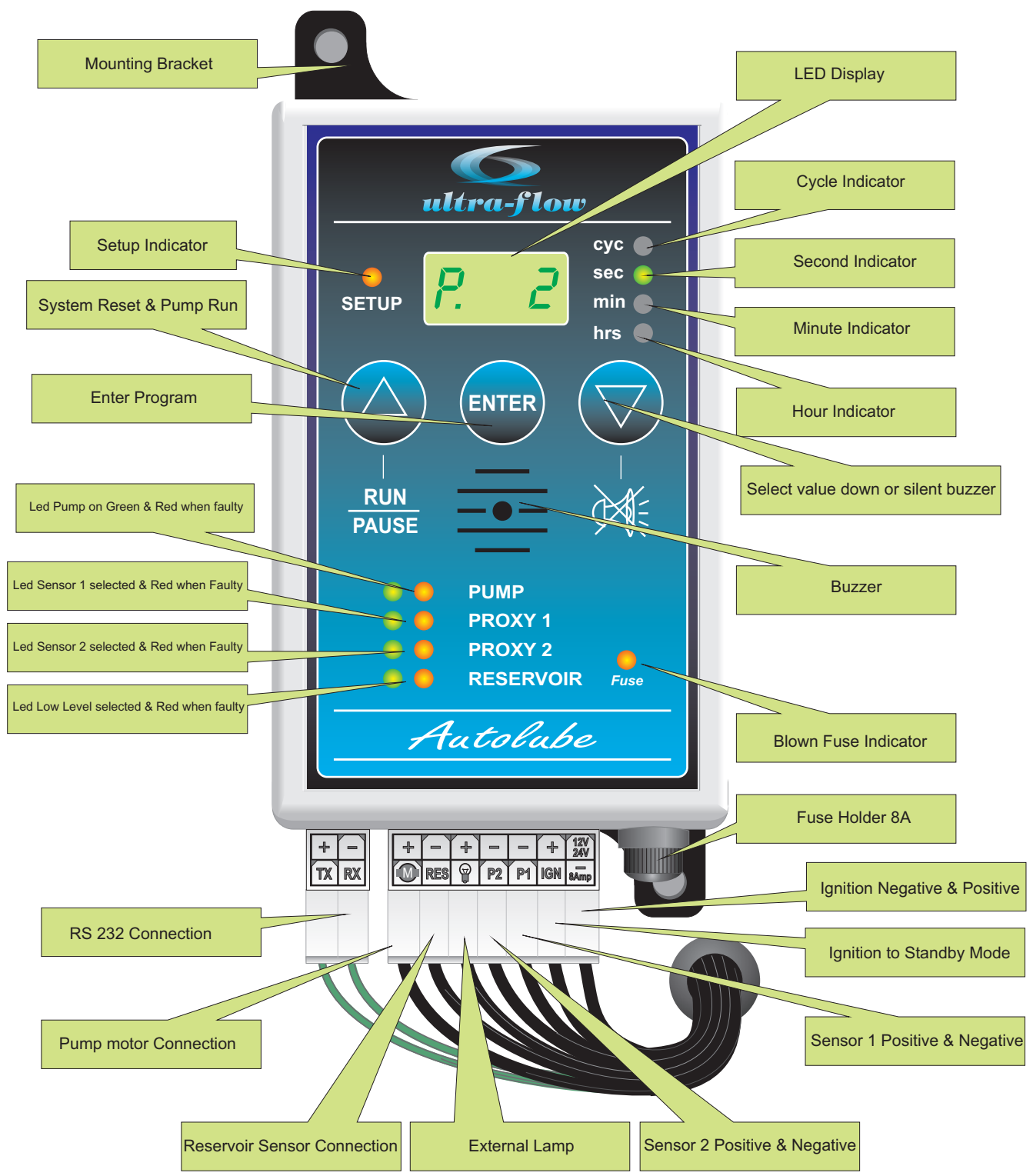
Never expose the autolube controller to water or other substances.

MANUFACTURER:

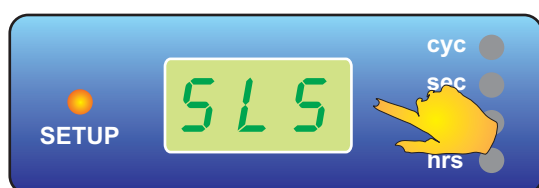
Ultra-Flow Lubrication Systems c.c.
Email technical inquiries - arno@ultra-flow.com



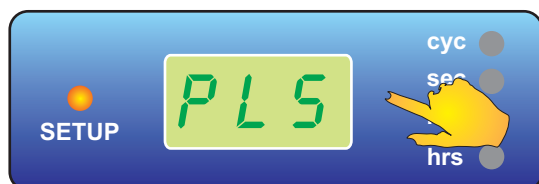
autolube key pad layout



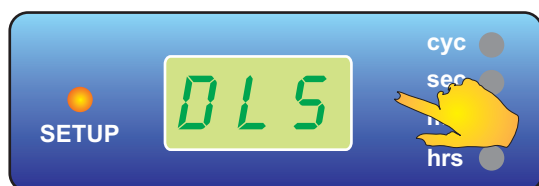
panel description



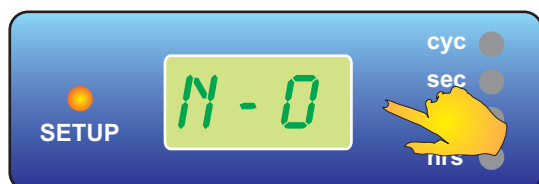
SLS = Single Line Systems



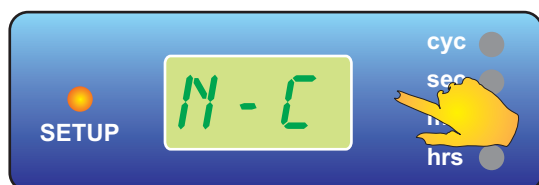
PLS = Progressive Line Systems



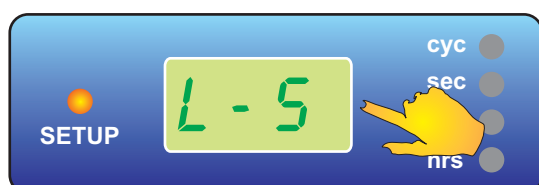
DLS = Dual Line Systems



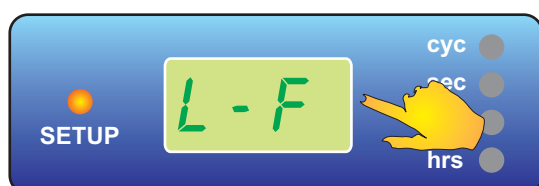
N-O = Normally Open (Sensors)



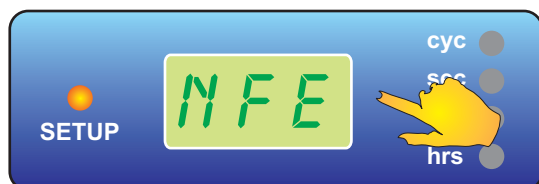
N-C = Normally Closed (Sensors)



L-S = External Lamp Steady (Continues supply)

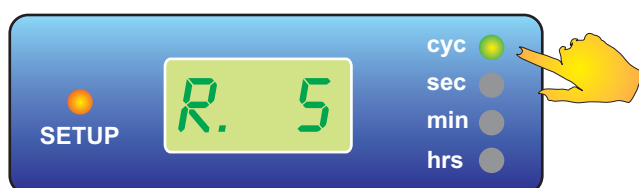


L-F = External lamp Flashing (Pulsed Supply)

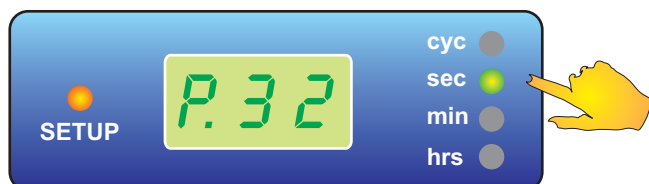


NFE = Non Fatal Error (Pump Continues on Low Level Fault)

panel description



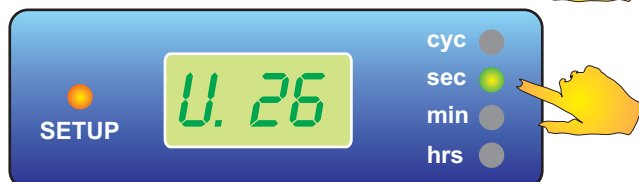
R = Run Time in Cycles



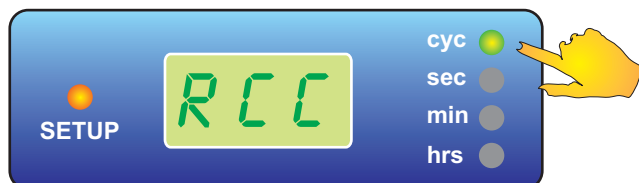
P = Pause Time in Sec, Min or Hrs



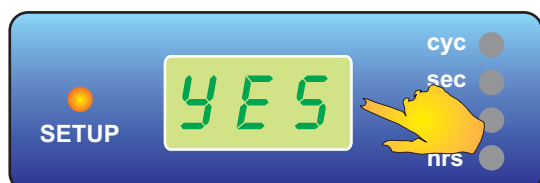
F = Fault Time in Sec, Min or Hrs



U = Vent Time in Sec, Min or Hrs



RCC = Run Cycle Counter



YES = Yes for accepting program changes

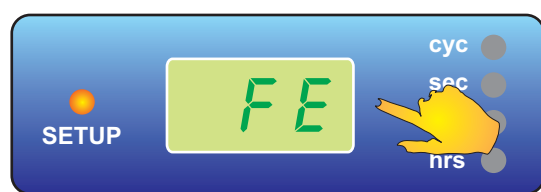


TST = Test Mode for Checking Installed Devices

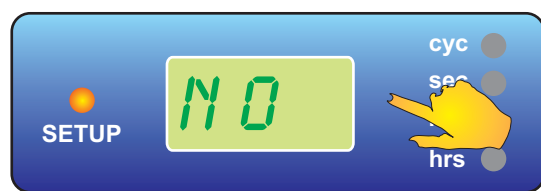


T = Time out or Dwell Time for Sensors

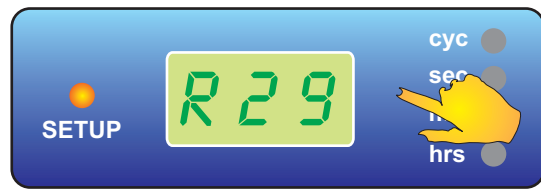
panel description



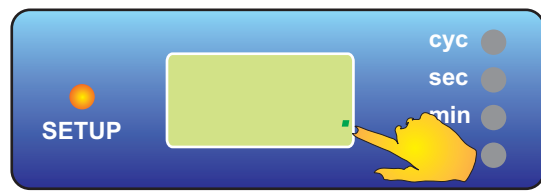
NE = Fatal Error (Pumps Stops on Low Level Fault)



NO = Do Not Select Selection



R = Run Time in Secs, Mins and Hours



. = Standby Mode

manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 1

To enter the setup mode of the autolube controller press the ENTER button, hold and keep depressed while switching on the ignition switch or any other power source to the controller. Let go the ENTER button and the red LED (Setup) should now be illuminated. The green LED on the description PUMP will be flashing. PLS (Progressive Line Systems) should also appear in the display.



STEP 2

To select what type of system you require press the RUN/PAUSE (up) button and this will change the type of system required. By pressing the UP button the next system displayed will be SLS (Single Line Systems), the next system displayed after that would be DLS (Dual Line Systems). Continue to press the UP button till DLS is displayed. This procedure will enter into the Dual Line Mode.

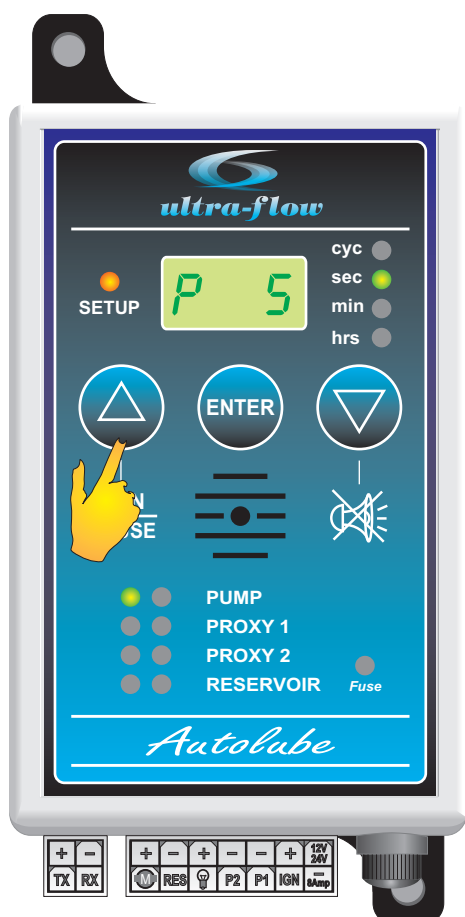
manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 3

Press the ENTER button to accept DLS. By pressing the ENTER button you have confirmed that you want to use Dual Line Systems.



STEP 4

As you press the ENTER button P (Pause) will now appear in the display. By pressing the UP button you can change the time from any amount in seconds to minutes then to hours. Note that the Led will change from seconds then to minutes and finally hours. The amount in the display will indicate what the pause time will be.

manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 5

Press the ENTER button to accept the pause time. By pressing the ENTER button you have confirmed that you want to use a pause time of 2 hours as indicated.



STEP 6

The next information in the display is the Dwell or time out for the pressure switches. This time can be adjusted by pressing the up button to the required time. Note that for large systems the time out will be substantially greater to that of smaller systems. The time out or dwell is the actual time that it takes the pressure switch to close its contacts. When the pressure switch has closed it then sends a signal to the controller to inform it that the system is now pressurized. Should a pipe break then it is obvious that the pressure switch would never close. This is merely a safety and control feature to indicate to the controller when the system can change over. The timeout setting in Proxy 1 will apply by default for that of proxy 2 when using a 2 pressure switch system.

By pressing the up button this will increase the timeout and to execute that required time press the ENTER button to accept.

manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 7

After you have pressed the ENTER button N - O (Normally open) will appear in the display. This is an indication whether your pressure switch is normally open or normally closed. For Dual Line Systems N-O Switches are used. Press the up button to choose between N-O or N-C. Press the ENTER button to accept your choice.

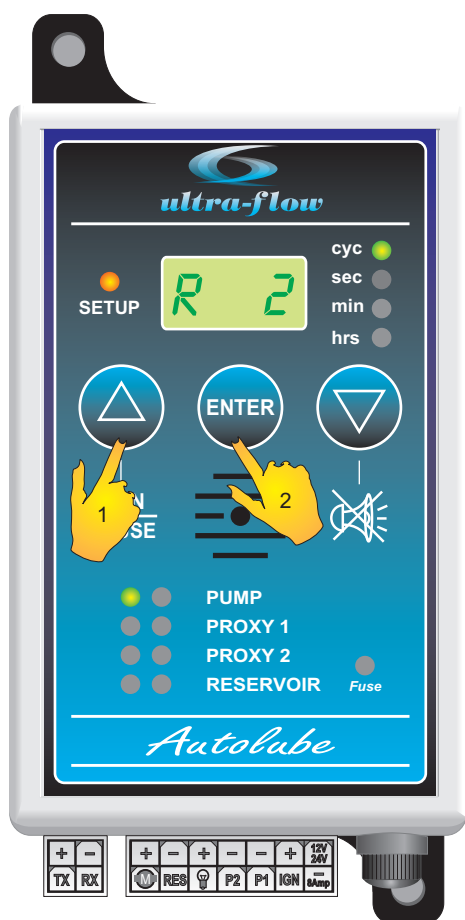


STEP 8

After pressing the ENTER button YES (YES) will appear in the display. Note that the green LED on proxy2 is now illuminated. Because we are using a 2 pressure switch system we then must press the up button to select YES. Press enter to accept and proceed to the next part of the setup.

manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 9

After you have pressed the ENTER button the system will skip the proxy 2 setup as it has defaulted to the settings made in proxy 1. The information in the display is the number of cycles you would like the dual line system to run for before going into its pause cycle. The Autolube controller has the unique feature of running multiple cycles because the system actually monitors the state of the pressure switch, whether it is closed or opened to allow for the next cycle to commence.

Press the up button to select the number of cycles. By pressing the ENTER key will accept your settings.



STEP 10

After you have pressed the ENTER button NO will appear in the display. Note that the green LED on reservoir will now be illuminated. In this setup procedure you have the choice of selecting low level detection or not. Should you not require low level detection then push the up button and select NO. Press the ENTER button to accept.

In this example we are going to select the low level option. Press the up button till YES appears in the display. Press the ENTER button to accept your choice.

PLEASE NOTE THAT WHEN USING THE LOW LEVEL SENSOR A 10 SECOND DELAY ON STARTUP WILL TAKE PLACE. THIS IS TO ENSURE THAT THE PADDLE ASSEMBLY IS IN THE RIGHT POSITION TO THE SENSOR. AFTER 10 SECONDS OF RUNNING THE SENSOR WILL IMMEDIATELY ACTIVATE ON LOW LEVEL. THE LOW LEVEL WARNING WILL BE DISPLAYED WHEN THE UNIT REACHES ITS PAUSE STATUS. THE UNIT WILL NOT DISPLAY A LOW LEVEL WARNING WHILE IN RUN MODE.

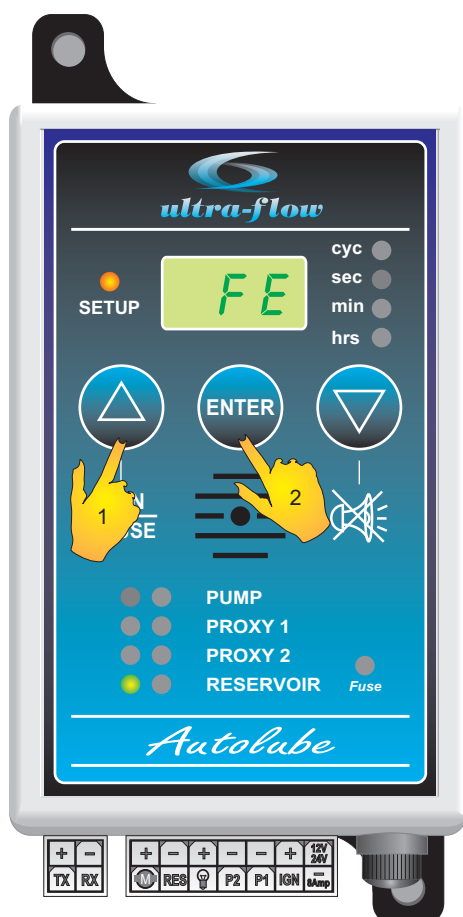
manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 11

After you have pressed the ENTER button N - O (Normally open) will appear in the display. This is an indication whether your sensor is normally open or normally closed. Press the up button to choose between N-O or N-C. Press the ENTER button to accept your choice.



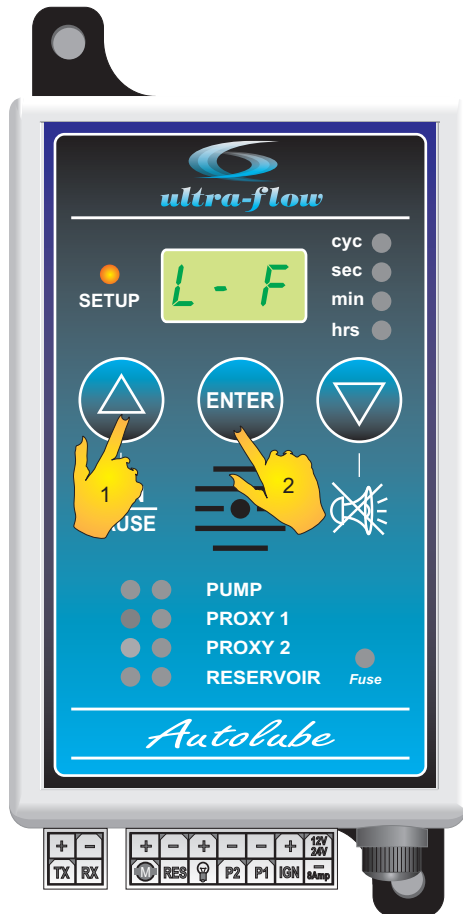
STEP 12

After you have pressed the ENTER button either FE (Fatal Error) or NFE (Non Fatal Error) will appear in the display. The option of using FE (Fatal Error) is for the pump to stop on a low level warning. This is mostly used on pumps with reservoir capacities of 1L to 10L. It is preferred to stop the pump at low level in order to maintain a layer of grease above the pump element area. This would help by not allowing an air pocket to form around the pump element when filling up the reservoir.

In the case of NFE (Non Fatal Error) it is mostly used on larger pump reservoirs whereby the distance of the pump tube to the bottom of the reservoir is substantial. Select your choice and press the ENTER button.

manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



STEP 13

After pressing the ENTER button L - F (Lamp Flashing) will appear in the display. This option is for an external warning lamp to be fitted. Normally if you have any sort of monitoring installed then this function will be used.

By pressing the up button the status will change from L - F (Lamp flashing) to L - S (Lamp static).

L - F is a pulsed output supply and L-S is a constant output supply.

Press the ENTER button to move onto the next part of the programming.



STEP 14

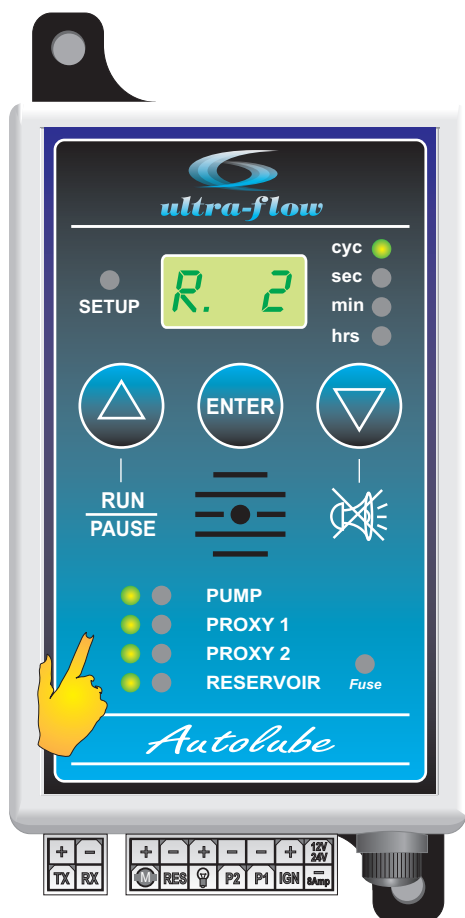
After pressing the ENTER button TST will appear in the display. This indicates that you are now in the test mode of your setup procedure. By pressing the up button you will note that your pump will now start turning. Should the pump turn in the wrong direction it is now possible to correct by changing the polarity of your wiring. It is possible to check all other sensors as well by energizing them manually and watching if the green LED illuminates in that process. If the LED does not illuminate then there is a problem either with the wiring or setup procedure. By pressing the down button and should you have an external warning lamp then this will either flash or show steady. This is an indication that your external device is working

If all is correct you may turn off the power supply to the autolube controller and then back on for the unit to proceed into normal mode. The red setup LED will not be illuminated when the unit is in normal run mode.

PLEASE NOTE THAT TST MUST APPEAR IN THE DISPLAY BEFORE SWITCHING OFF THE POWER TO THE UNIT. SHOULD YOU SWITCH OFF POWER TO THE UNIT WHILE IT IS IN ANY PART OF THE PROGRAMMING THE SYSTEM WILL NOT SAVE YOUR CHANGES. TST MUST APPEAR IN THE DISPLAY IN ORDER FOR THE CHANGES TO BE ACCEPTED.

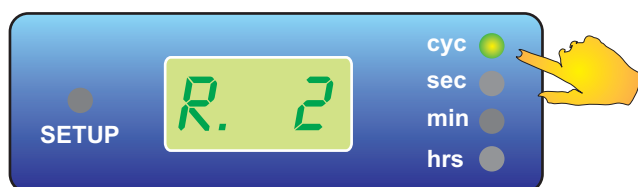
manual setup for dual line systems

dual line system using 2 pressure switches & hydraulic change over valve



RUN CYCLE MODE

After the power has been terminated on the unit then switched on again the unit will proceed in its run mode. All devices teen selected will now be displayed. Note that after each cycle received the amount will decrease by 1 until all cycles have been reached and the unit will proceed to its pause time.



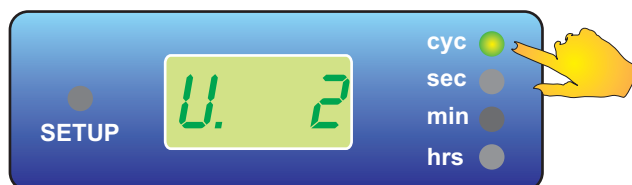
Running System.(Pump run)

When the controller is switched on the run cycle counter will appear in the display as it was setup for. The counter will appear from the actual counts set and count down to zero. The green LED will indicate that you are in run cycle counter. The green LED on the pump function will be flashing indicating that the pump is now turning or pumping.



Running System.(Pump pause)

When the controller has reached the required cycle counts it will go into its pause time that it was setup for. The pause time will count down from what it was setup for to zero and then resume its cycle count. Note that the green LED will be steady on the pump section of the decal. This is a indication that the pump is thereby not turning while it is in the pause mode.

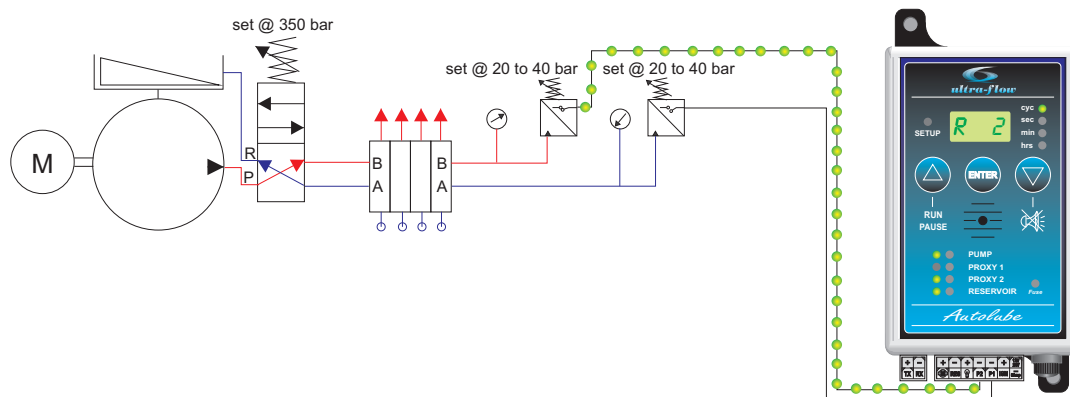


Running System.(Vent cycles)

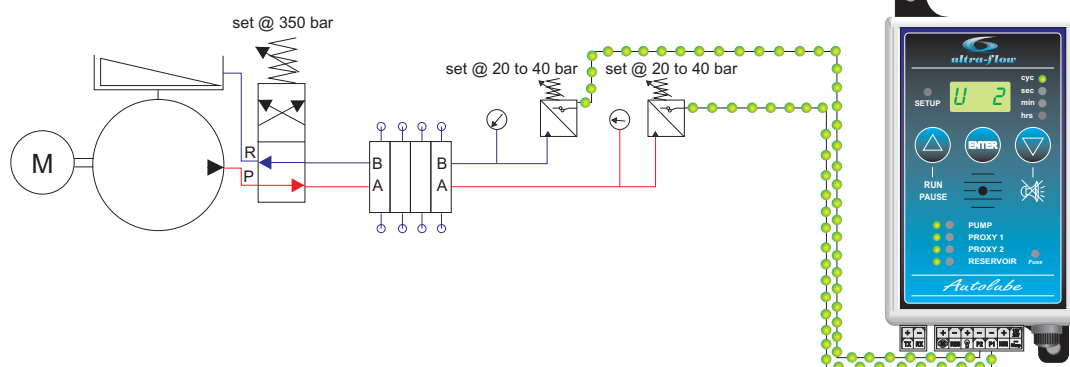
In the Dual line system when U appears in the display the pump will stop pumping until either line A or Line B pressure switch has opened or that the line has totally vented. As the cycles are completed the cycle count in the U display will also count down.

manual setup for dual line systems

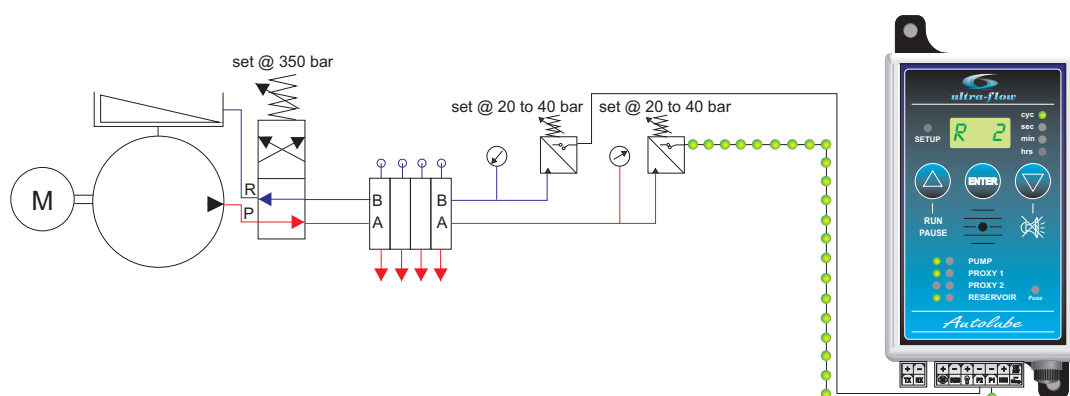
dual line system using 2 pressure switches & hydraulic change over valve



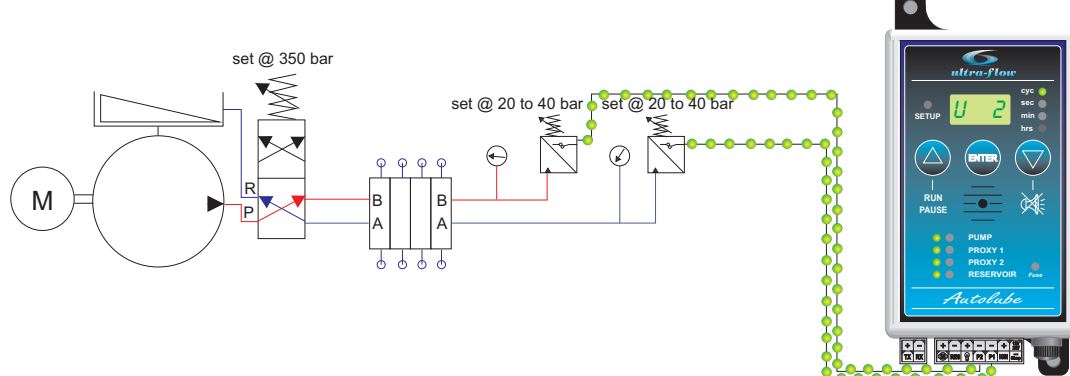
Stage 1:
The cycle begins to pump lubricant through line B. As the line begins to pressurize the pressure switch closes. The green LED on the controller will now be illuminated. The pump will continue to pump until it has reached the pressure set on the change over valve. At this stage the pressure switch remains closed.



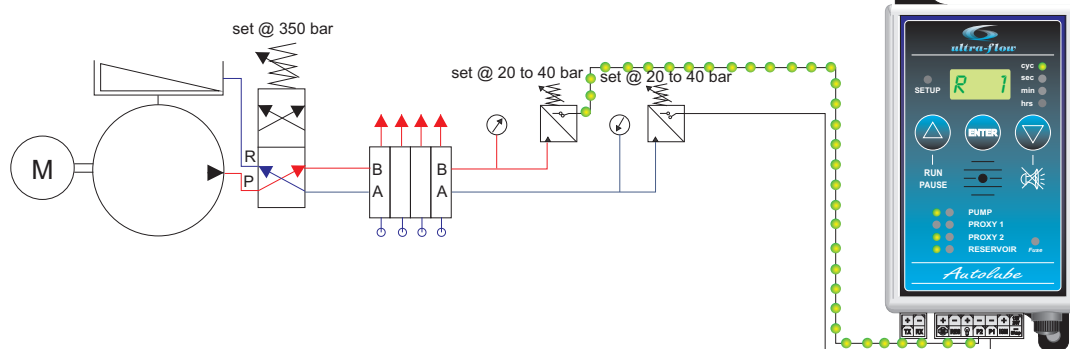
Stage 2:
As the pressure is reached on the change over valve, the valve will change the direction of flow. The grease in line A will now begin to pressurize while Line B vents. As Line A reaches 20 Bar the pressure switch will close and shut the pump off until the line B has totally vented. The pressure switch in line B must be open before the cycle will continue. Note the LED's will both be illuminated.



Stage 3:
As Line B has vented the pump will now continue to pressurize Line A until it has reached the pressure setting of the change over valve. The LED for line A pressure switch will remain on in this process. In the display R will indicate that the cycles set has not yet been completed.



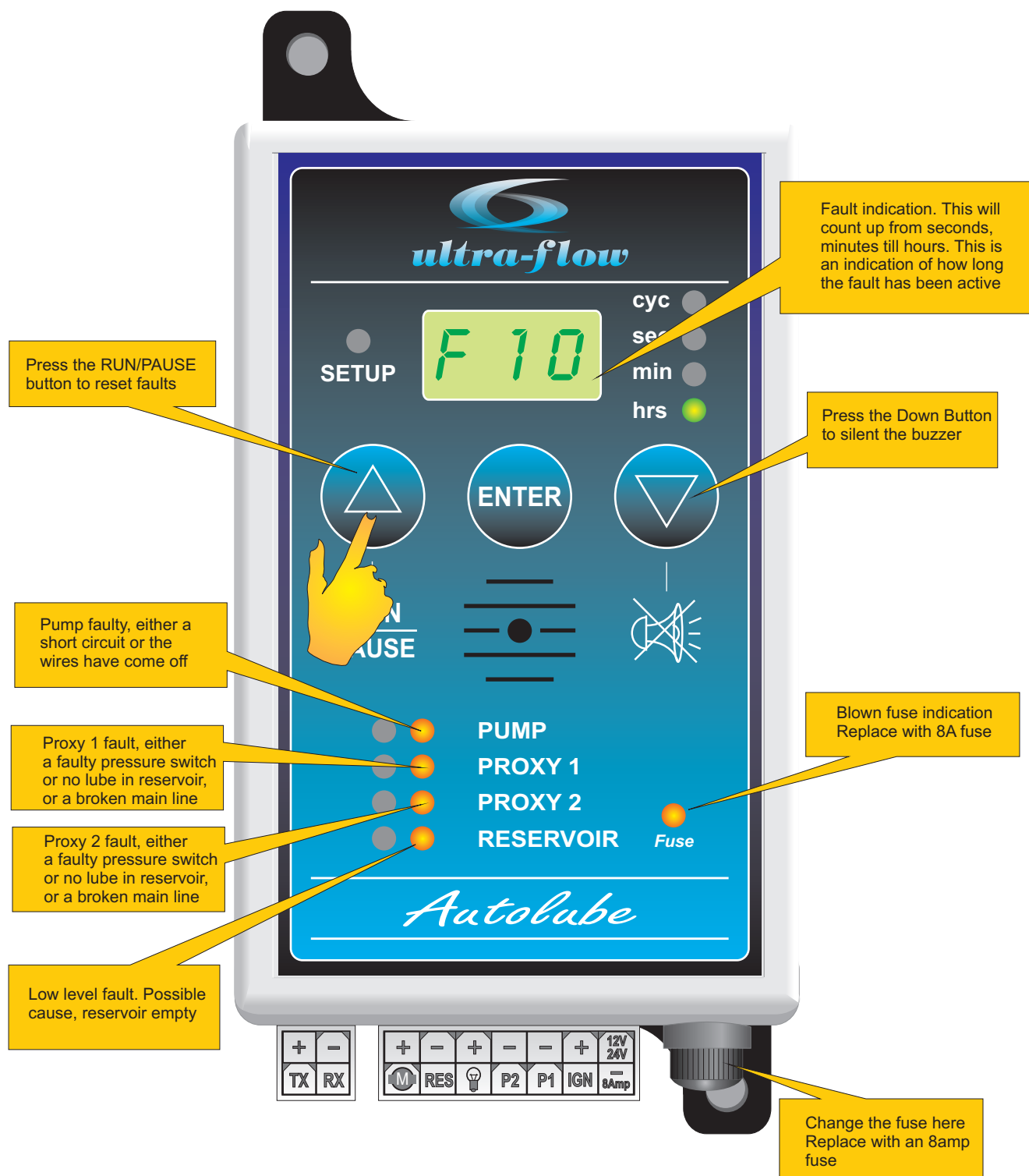
Stage 4:
As the pressure is reached in line A it will switch over the change over valve and change the direction of flow. Line B will now begin to pressurize until it reaches 20 bar. As the pressure switch in line B closes the pump will stop and wait for line A's pressure switch to open. Note both LED will be illuminated at this stage. In the display U 2 is indicated. (In vent) and 2 cycles remaining.



Stage 5:
As line A pressure switch opens then the pump will begin to pump once again. In the display it will now show that one completed cycle has finished and the same process will begin once again. Once the last cycle has been reached then the pump will resume its pause cycle. Note it is possible to set up as many run cycles as desired.

manual setup for dual line systems

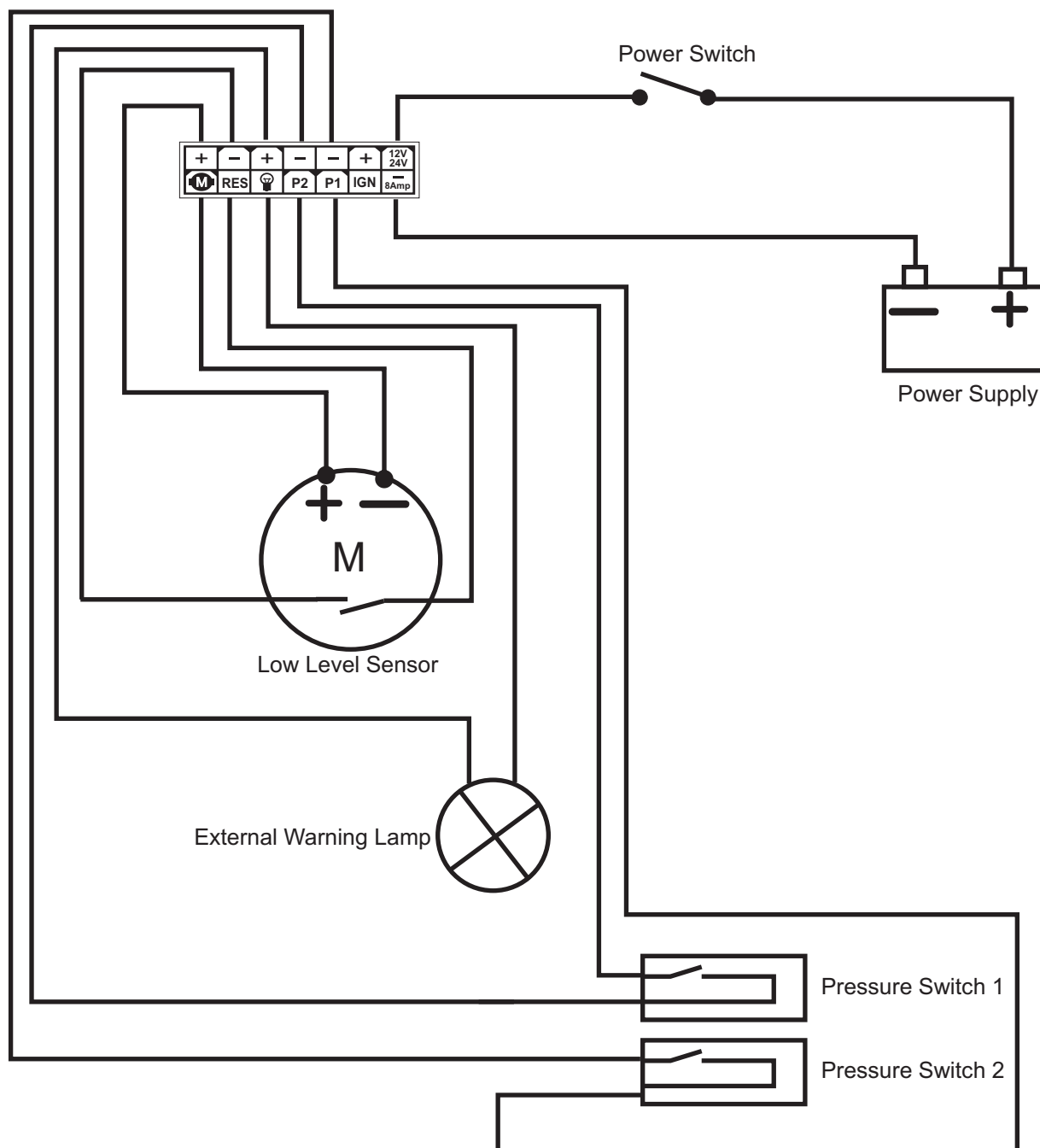
dual line system using 2 pressure switches & hydraulic change over valve



NOTE: IN ORDER FOR A FAULT TO BE TOTALLY RESET THE UNIT MUST PERFORM 1 COMPLETE CYCLE OF RUN AND PAUSE TO CANCEL AN EXISTING FAULT OUT OF MEMORY. THE UNIT IS DESIGNED TO MEMORIZE THE TOTAL TIME OF ANY SPECIFIC FAULT. THE ONLY WAY THE UNIT CAN FUNCTION CORRECTLY WITHOUT THE SAME FAULT OCCURRING IS FOR IT TO RUN 1 COMPLETE CYCLE.

manual setup for dual line systems

dual line system wiring diagram using 2 pressure switches



manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 1

To enter the setup mode of the autolube controller press the ENTER button, hold and keep depressed while switching on the ignition switch or any other power source to the controller. Let go the ENTER button and the red LED (Setup) should now be illuminated. The green LED on the description PUMP will be flashing. PLS (Progressive Line Systems) should also appear in the display.



STEP 2

To select what type of system you require press the RUN/PAUSE (up) button and this will change the type of system required. By pressing the UP button the next system displayed will be SLS (Single Line Systems), the next system displayed after that would be DLS (Dual Line Systems). Continue to press the UP button till DLS is displayed. This procedure will enter into the Dual Line Mode.

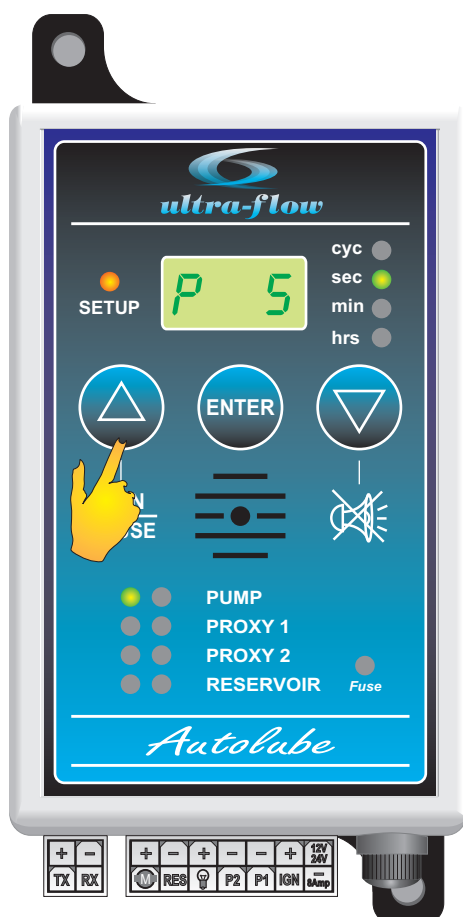
manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 3

Press the ENTER button to accept DLS. By pressing the ENTER button you have confirmed that you want to use Dual Line Systems.



STEP 4

As you press the ENTER button P (Pause) will now appear in the display. By pressing the UP button you can change the time from any amount in seconds to minutes then to hours. Note that the Led will change from seconds then to minutes and finally hours. The amount in the display will indicate what the pause time will be.

manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 5

Press the ENTER button to accept the pause time. By pressing the ENTER button you have confirmed that you want to use a pause time of 1 hours as indicated.



STEP 6

The next information in the display is the Dwell or time out for the micro switch. This time can be adjusted by pressing the up button to the required time. Note that for large systems the time out will be substantially greater to that of smaller systems. The time out or dwell is the actual time that it takes the micro switch to close its contacts. When the micro switch has closed it then sends a signal to the controller to inform it that the system has changed over. By pressing the up button this will increase the timeout and to execute that required time press the ENTER button to accept.

manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 9

After you have pressed the ENTER button NO will appear in the display. Note that the green LED on reservoir will now be illuminated. In this setup procedure you have the choice of selecting low level detection or not. Should you not require low level detection then push the up button and select NO. Press the ENTER button to accept. In this example we are going to select the low level option. Press the up button till YES appears in the display. Press the ENTER button to accept your choice.

PLEASE NOTE THAT WHEN USING THE LOW LEVEL SENSOR A 10 SECOND DELAY ON STARTUP WILL TAKE PLACE. THIS IS TO ENSURE THAT THE PADDLE ASSEMBLY IS IN THE RIGHT POSITION TO THE SENSOR. AFTER 10 SECONDS OF RUNNING THE SENSOR WILL IMMEDIATELY ACTIVATE ON LOW LEVEL. THE LOW LEVEL WARNING WILL BE DISPLAYED WHEN THE UNIT REACHES ITS PAUSE STATUS. THE UNIT WILL NOT DISPLAY A LOW LEVEL WARNING WHILE IN RUN MODE.

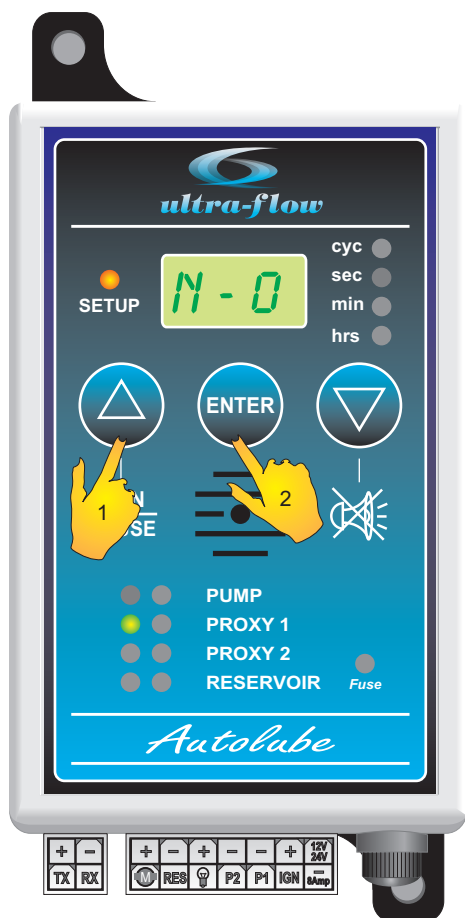


STEP 10

After you have pressed the ENTER button N - O (Normally open) will appear in the display. This is an indication whether your sensor is normally open or normally closed. Press the up button to choose between N-O or N-C. Press the ENTER button to accept your choice.

manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 7

After you have pressed the ENTER button N - O (Normally open) will appear in the display. This is an indication whether your micro switch is normally open or normally closed. For Dual Line Systems N-O Switches are used. Press the up button to choose between N-O or N-C. Press the ENTER button to accept your choice.

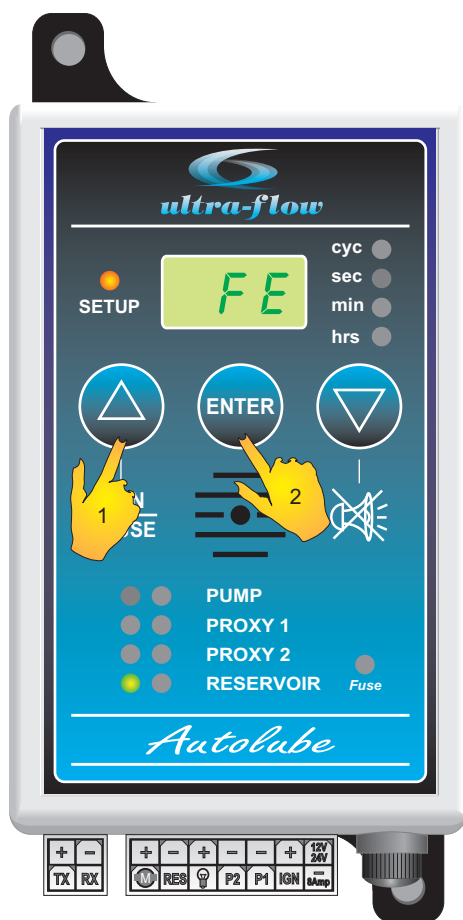


STEP 8

After pressing the ENTER button NO (NO) will appear in the display. Note that the green LED on proxy2 is now illuminated. Because we are using a micro switch monitoring half cycles select NO. Press enter to accept and proceed to the next part of the setup.

manual setup for dual line systems

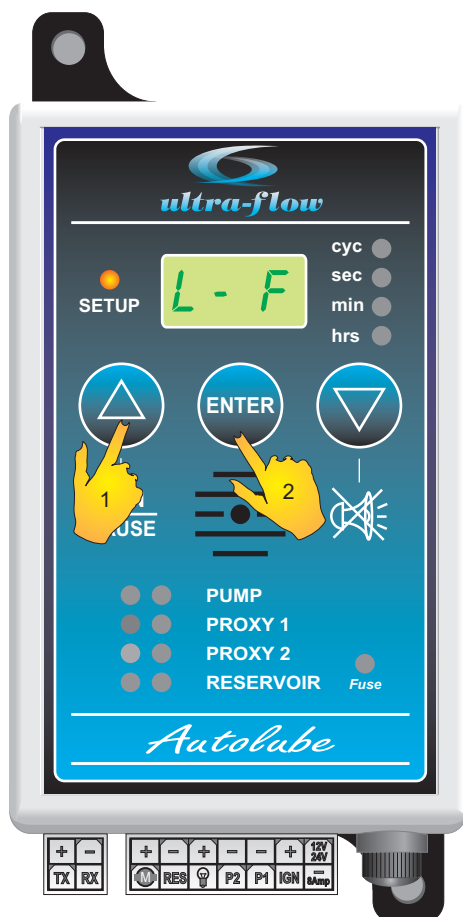
dual line system using 1/2 cycles and hydraulic change over valve



STEP 11

After you have pressed the ENTER button either FE (Fatal Error) or NFE (Non Fatal Error) will appear in the display. The option of using FE (Fatal Error) is for the pump to stop on a low level warning. This is mostly used on pumps with reservoir capacities of 1L to 10L. It is preferred to stop the pump at low level in order to maintain a layer of grease above the pump element area. This would help by not allowing an air pocket to form around the pump element when filling up the reservoir.

In the case of NFE (Non Fatal Error) it is mostly used on larger pump reservoirs whereby the distance of the pump tube to the bottom of the reservoir is substantial. Select your choice and press the ENTER button.



STEP 12

After pressing the ENTER button L - F (Lamp Flashing) will appear in the display. This option is for an external warning lamp to be fitted. Normally if you have any sort of monitoring installed then this function will be used.

By pressing the up button the status will change from L - F (Lamp flashing) to L - S (Lamp static).

L - F is a pulsed output supply and L -S is a constant output supply.

Press the ENTER button to move onto the next part of the programming.

manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve



STEP 13

After pressing the ENTER button TST will appear in the display. This indicates that you are now in the test mode of your setup procedure. By pressing the up button you will note that your pump will now start turning. Should the pump turn in the wrong direction it is now possible to correct by changing the polarity of your wiring. It is possible to check all other sensors as well by energizing them manually and watching if the green LED illuminates in that process. If the LED does not illuminate then there is a problem either with the wiring or setup procedure. By pressing the down button and should you have an external warning lamp then this will either flash or show steady. This is an indication that your external device is working

If all is correct you may turn off the power supply to the autolube controller and then back on for the unit to proceed into normal mode. The red setup LED will not be illuminated when the unit is in normal run mode.

PLEASE NOTE THAT TST MUST APPEAR IN THE DISPLAY BEFORE SWITCHING OFF THE POWER TO THE UNIT. SHOULD YOU SWITCH OFF POWER TO THE UNIT WHILE IT IS IN ANY PART OF THE PROGRAMMING THE SYSTEM WILL NOT SAVE YOUR CHANGES. TST MUST APPEAR IN THE DISPLAY IN ORDER FOR THE CHANGES TO BE ACCEPTED.

manual setup for dual line systems

dual line system using 1/2 cycles and hydraulic change over valve

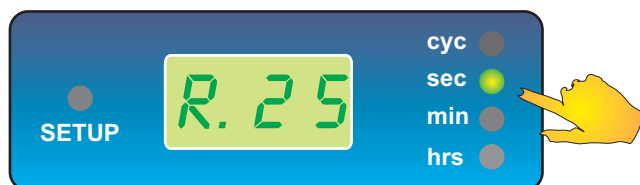


RUN CYCLE MODE

After the power has been terminated on the unit then switched on again the unit will proceed in its run mode. All devices teen selected will now be displayed. The devise will count up in seconds then to minutes depending on how long it takes for the lubrication to reach the change over pressure.

Once the change over pressure has been reached the change over valve will activate the micro switch which in turn sends a pulse to the control unit. As the control unit receives this pulse the system will stop pumping and resume into a pause cycle that it has been setup for.

Once the pause cycle has counted down the system will begin to work. The same process will continue. As per example the system explained will pump Line B for its predetermined time depending on change over pressure. The system will then pause for 1 hour. As the pause time elapses the system will begin to pump Line A for the same sequence as that of Line B. The system will then resume the next 1/2 cycle of pause time.



Running System.(Pump run)

As the controller is switched on the run time will appear in the display. Please note that in all cases when the unit is switched off the on a default time of 5 seconds will first appear. In the DLS 1/2 cycle mode the run time will continue until change over pressure is achieved.

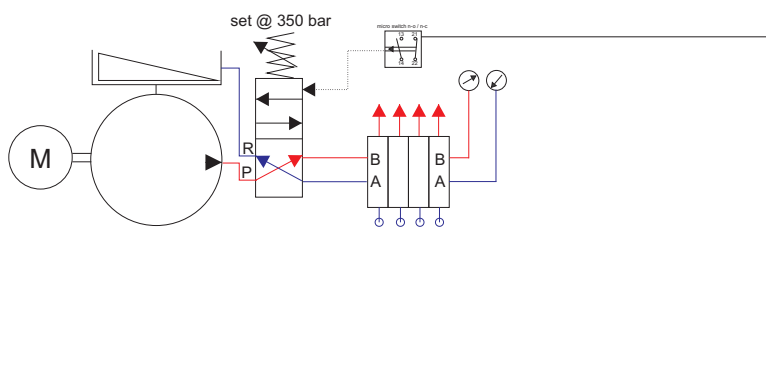


Running System.(Pump pause)

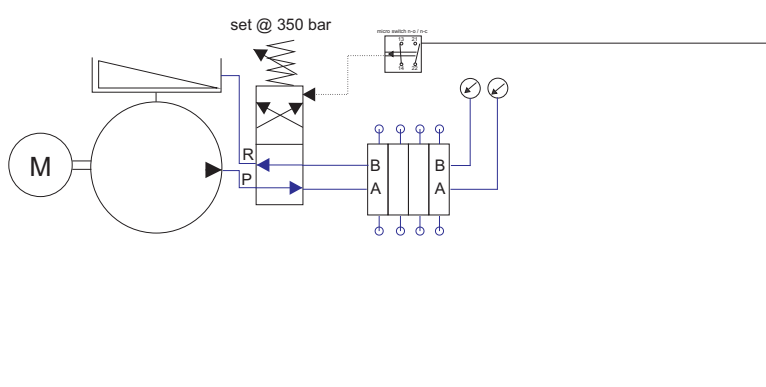
As the pump reaches change over pressure it will stop and go into a pause cycle that it has been setup for. The unit will count down from the maximum time to zero seconds. As the time is reached it will resume the next run cycle..

manual setup for dual line systems

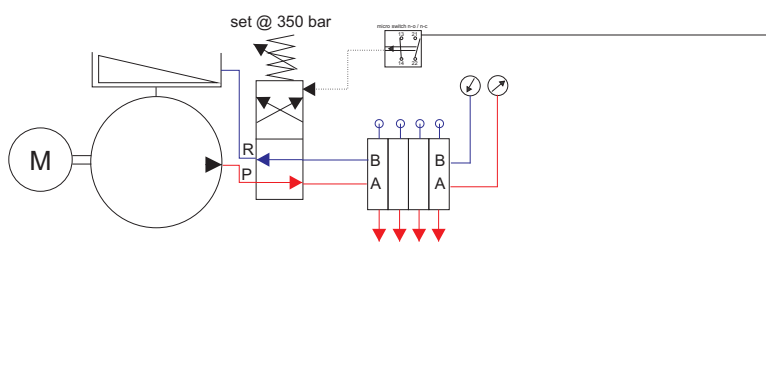
dual line system using 1/2 cycles and hydraulic change over valve



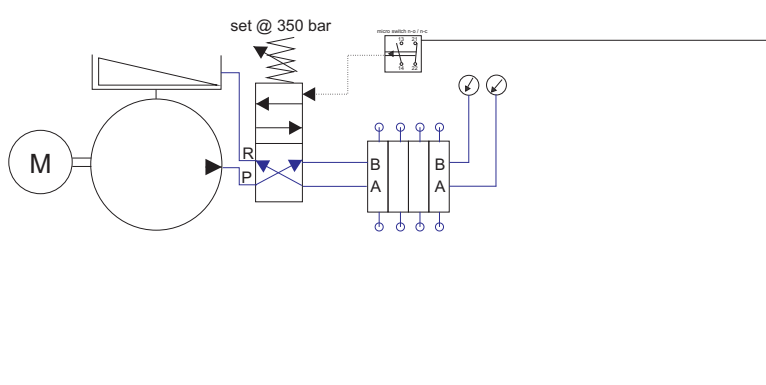
Stage 1:
The cycle begins to pump lubricant through line B. The run time in the display will start time from 1 sec. up to the point when the system has reached the pressure to activate the change over valve. As soon as the change over valve is activated it switches a micro switch. The pump led on the control unit will flash while the pump is working.



Stage 2:
As the micro switch is activated the pump will stop working and resume the pause time that it has been setup for. The display will indicate the time left of your pause cycle. All other led's will be illuminated. Note that the pump led will not flash.



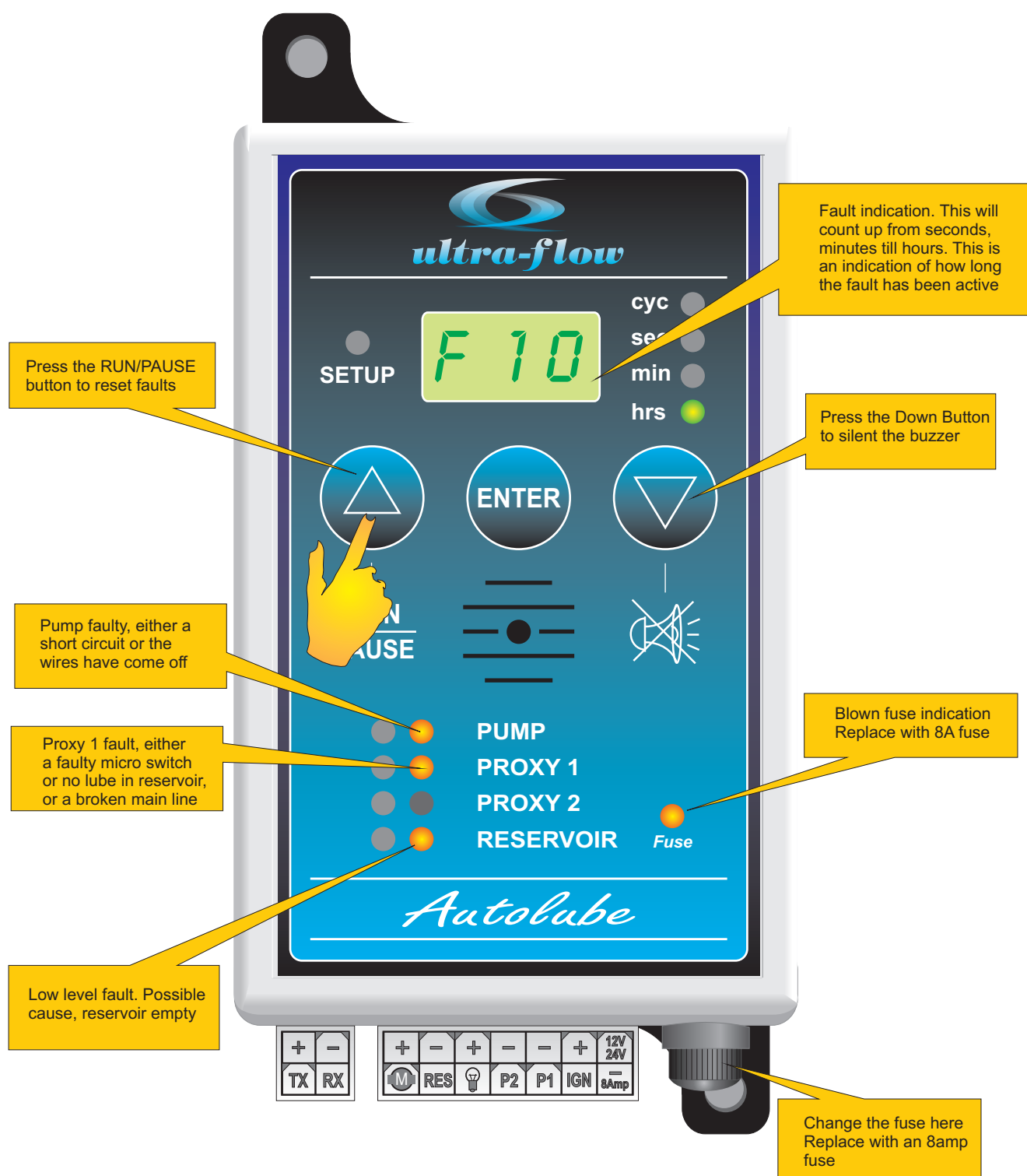
Stage 3:
As the pause time has completed its cycle, the pump will begin to pump and pressurize line A. The time to reach the pressure setting might vary to that of line B because of the different configurations which will effect the back pressures. Note that the pump led will flash while the pump is working.



Stage 4:
As the pressure in stage 3 is reached the change over valve will activate and change the position of the micro switch. At this point the pump will stop and the system will resume its pause cycle. This process will continue as explained above.

manual setup for dual line systems

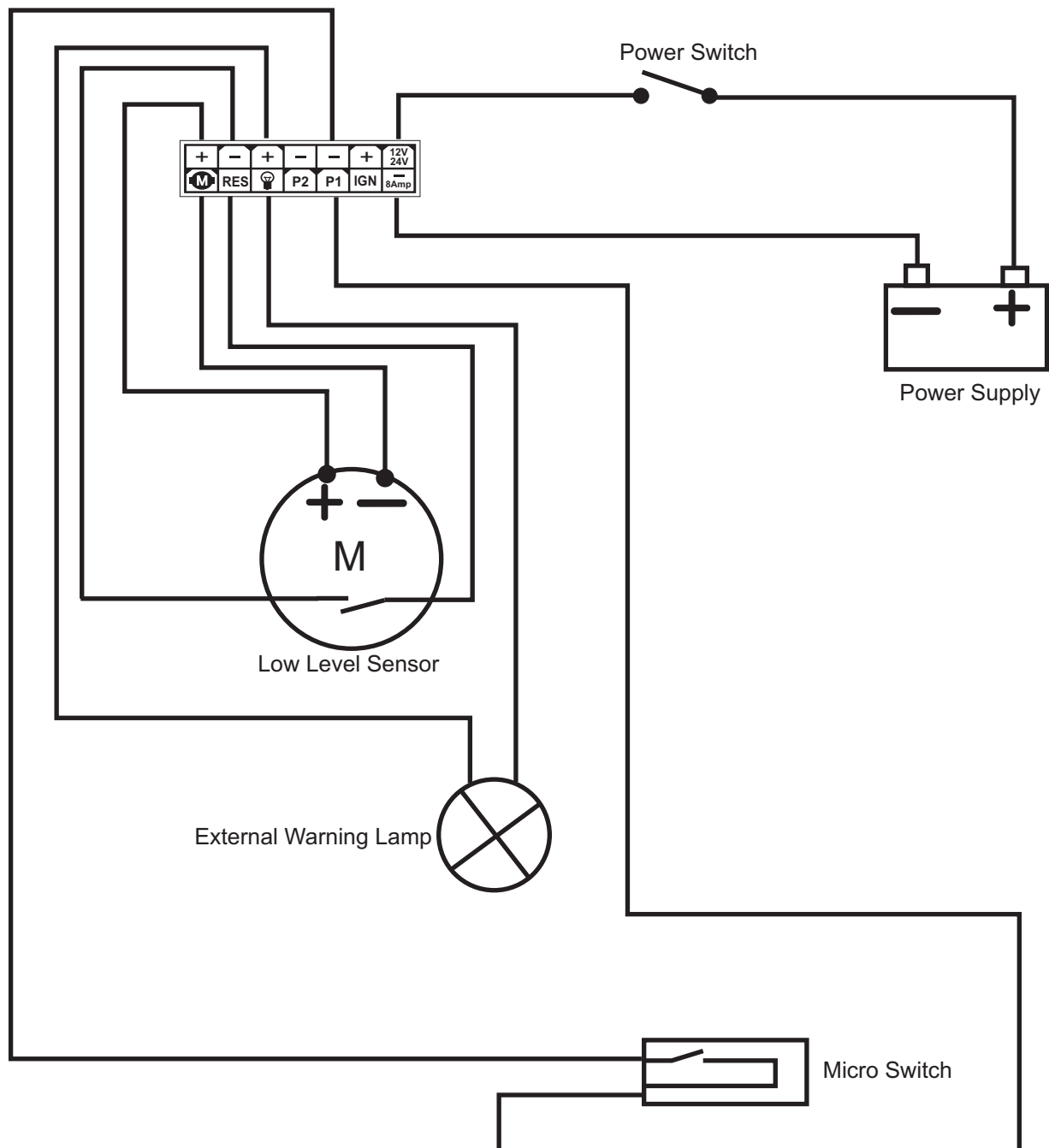
dual line system using micro switches & hydraulic change over valve



NOTE: IN ORDER FOR A FAULT TO BE TOTALLY RESET THE UNIT MUST PERFORM 1 COMPLETE CYCLE OF RUN AND PAUSE TO CANCEL AN EXISTING FAULT OUT OF MEMORY. THE UNIT IS DESIGNED TO MEMORIZE THE TOTAL TIME OF ANY SPECIFIC FAULT. THE ONLY WAY THE UNIT CAN FUNCTION CORRECTLY WITHOUT THE SAME FAULT OCCURRING IS FOR IT TO RUN 1 COMPLETE CYCLE.

manual setup for dual line systems

dual line system wiring diagram using micro switch



optional equipment autolube controller

remote data shuttle



The autolube controller has the capacity to store all critical faults up to 80 records. The Data Shuttle is a device that can retrieve this data without the use of a laptop PC. The data shuttle can retrieve information from up to 100 different controllers. This information can be then downloaded from the Data Shuttle to your desktop PC to the autolube program whereby all the relevant faults can be scrutinized. The Data Shuttle has its own battery power and all information downloaded from the autolube controllers will be safely stored without the risk of loss.

optional equipment autolube controller gsm modem



The autolube controller can also communicate together with a GSM modem. This is the ultimate tool for downloading data from the autolube and more importantly to upload information and settings to the controller without having to send a technician to site. The gsm modem needs to be installed together with the autolube controller. The main centre for receiving and uploading of data needs to have a modem connected to their pc in order to send and receive data. Each modem has its own identity and unique address.