

MILK PUMP CONTROL

LEVEL CONTROL



Installation & Operation Manual_{iss4}



OPERATING & MAINTENANCE

The Davlec Level Control milk pump and plate cooler solenoid control unit is fully automatic and requires no action by the operator during normal operation. Prior to milking, the operator must ensure that the function toggle switch is set to 'Auto' and the water solenoid toggle switch is set to 'On'.

During washing of the parlour, it will normally be advisable to run the milk pump continuously by setting the function toggle switch to the 'Manual' position. It should be returned to the 'Auto' position as soon as possible after the wash water has been pumped away, to ensure that the seals of the pump are not damaged by running them in a dry condition.

Normally the water solenoid toggle switch will be in the 'Off' position during washing.

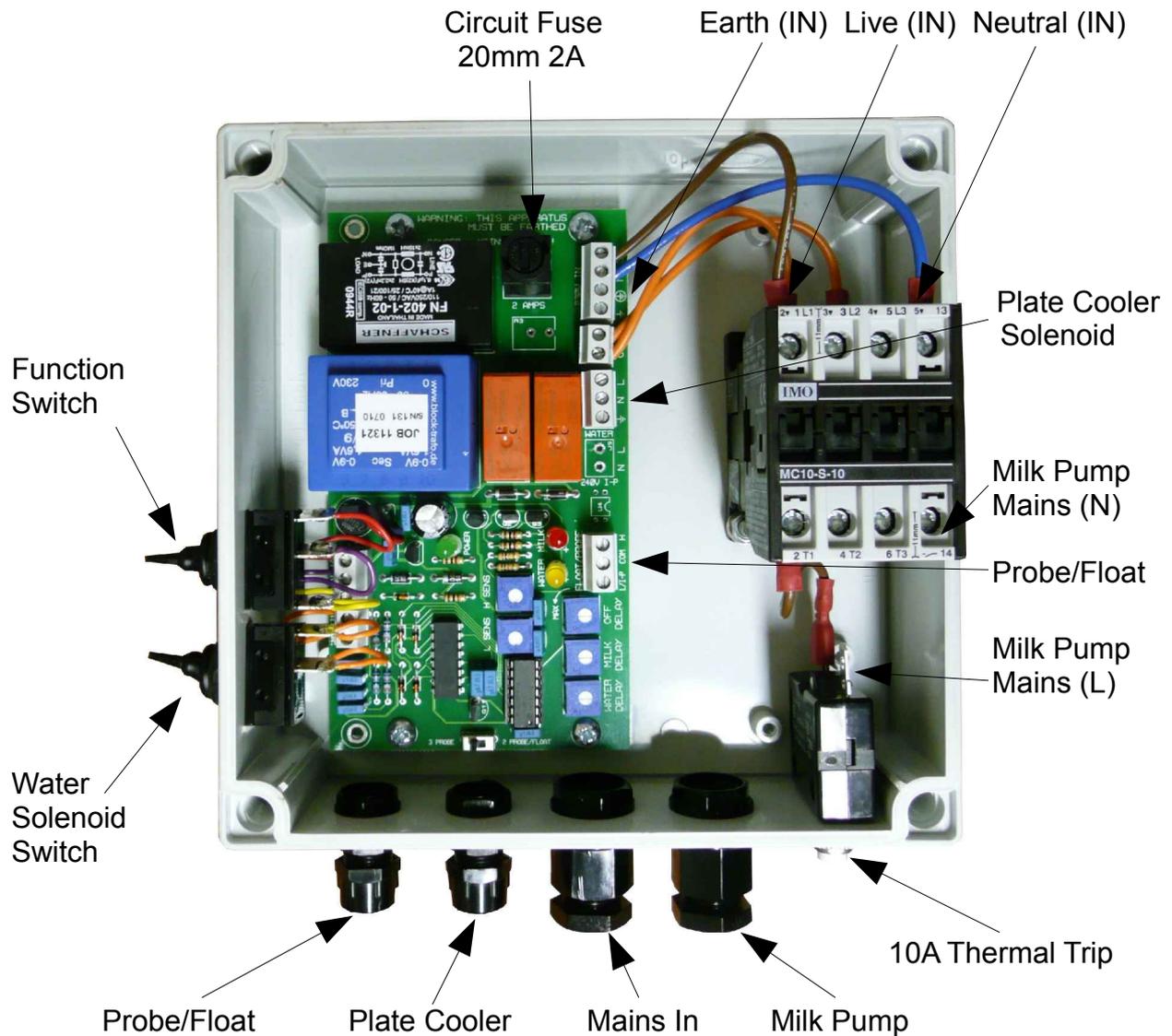
The unit is fitted with a 10 Amp thermal overload which will isolate the milk pump in the event of it taking excessive current. The overload can be reset by pressing the button on the bottom right hand side of the unit. Please note that on a three phase installation, the thermal overload is disconnected, and therefore serves no purpose.

The mains supply to the unit should be isolated when not in use, or before the unit is cleaned. Please note that a high pressure hose **MUST NOT** be used for the purpose of cleaning the enclosure. If the unit requires cleaning, then a damp cloth should be used.

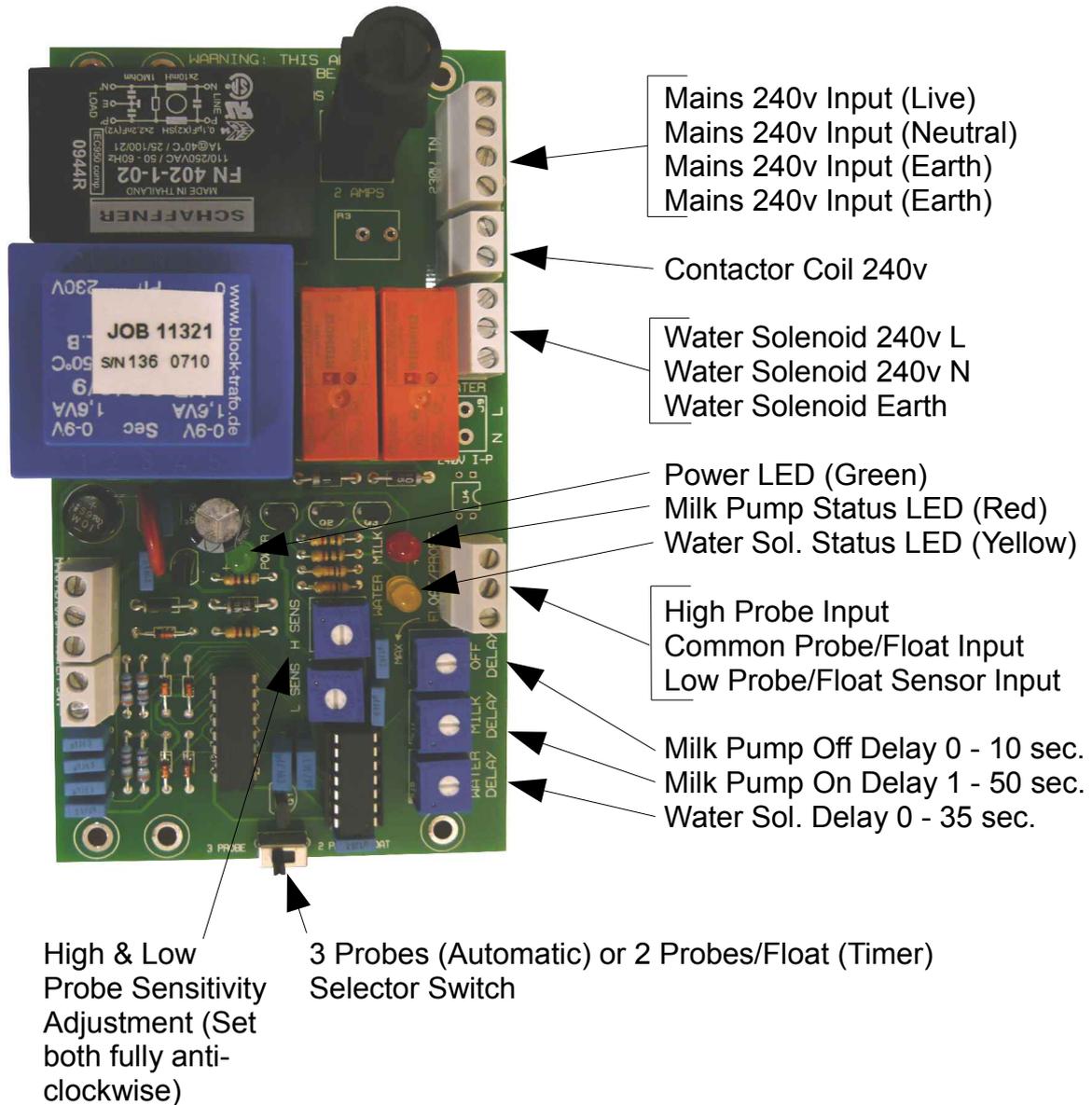
The unit contains no user serviceable parts with the exception of an internal fuse. This fuse is a 20mm 2 Amp quick blow, and protects the internal control circuitry. Do not replace with any other value.

The cover of the unit carries a "danger" warning message instructing the operator to isolate the mains supply before attempting to remove the cover.

INSTALLATION & SETUP



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Warning - Mains Voltage Wiring Involved ! All wiring should be carried out by a qualified electrician. Davlec Ltd. cannot be held responsible for any injuries caused by incorrect installation.

The control box is intended for use with a two-probe or float arrangement utilizing the milk pump delay circuit, or a three-probe (Low-Com-High) automatic system.

In the case of the two-probe or float, select 'T' on the switch located on the bottom of the circuit board. Connect the two-probe/float to the 'L' and 'Com' terminals. The 'Milk Delay' potentiometer provides adjustment for the amount of time the milk pump will run for. The adjustment range is 1 second to 50 seconds. Allow enough time so that when the milk pump switches off there is enough fluid in the vessel to cover the outlet preventing any air being drawn into the lines. The 'Off Delay' potentiometer can be a useful facility in preventing the milk pump being triggered again by milk splashes as the vessel empties. The 'Off Delay' range is between 0 seconds to 10 seconds

In the case of a three-probe system, select 'A' on the switch located on the bottom of the circuit board. Connect each of the three probes to their respective terminals on the circuit board - 'L' (Low), 'Com' (Common/Earth) and 'H' (High). Where an earth probe is not available, i.e. a two probe system having probes defining a top and bottom level only, the earth terminal in the control box should be connected to a metal object which is permanently in contact with the milk. For a stainless steel balance tank, this connection can be made to the body of the tank. In the case of a glass receiving vessel, the connection should be made to the pipe between the base of the jar and the milk pump.

False switching due to build up of froth can be suppressed by the adjustment of the 'L Sens' and 'H Sens' potentiometers. Turning the potentiometers clockwise will decrease sensitivity.

PLATE COOLER DELAY

The 'Water Delay' potentiometer provides adjustment for the amount of time the 'Water' solenoid output remains on for after the milk pump has switched off. The adjustment range is 0 seconds to 35 seconds. If the water solenoid (Plate Cooler) is not on long enough then milk remaining in the lines will not be cooled sufficiently.

MOUNTING

Mount the Level Control enclosure on a flat vertical wall near to a switched 240 volt AC 13 Amp mains supply outlet. The location of the enclosure should also be in close proximity to the receiving vessel and milk pump. The enclosure has wall fixing holes directly under the enclosure lid fixings.

Please note that the connections to the probes are low voltage and cables must not be enclosed in the same conduit as cables carrying mains voltages. Every effort must be made to ensure that the low voltage cables are segregated from those carrying mains voltage. Low voltage cables should NOT be clipped to the outside of conduit carrying cables at mains voltage.

The control unit will detect the presence of milk or water, and the latter can therefore be used to test the system.

SPECIFICATION

Product Name	Level Control IV					
Product Family	Milk Pump Controllers					
Enclosure						
IP Rating	67					
Material	ABS					
Dimensions	W	175mm	L	175mm	D	78mm
Electrical						
Supply Voltage	240 volt A.C.					
Maximum Peak Voltage	N/A					
Frequency	50 Hz					
Maximum Current Load	10 Amps					
Protection	10 Amp thermal overload					
Environmental Conditions						
Temperature	0 to 45°C					
Humidity	5 to 95%					
Location	Indoor use only					
Approvals						
EMC Conformity to: EN 61000-6-1:2007, EN 61000-6-3:2007, EN 55022:2006						