BRAUDE

Heating and Cooling Systems for Corrosive Solutions

LEVELMASTER LEVEL CONTROLLER
to IP65 for automatic control of corrosive solutions.

INSTALLATION INSTRUCTIONS

We strongly recommend that installation is carried out by a qualified electrician. This controller is manufactured from top quality non-corrodable materials and should give trouble free service provided it is installed, operated and maintained properly.

Warning—This controller operates on Mains Voltage

- Always disconnect supply before removing cover or attempting connections.
- The output relay of the controller is rated at 5 amps, however, it is recommended that any heater should be connected through a contactor as shown in Figs 2 and 3.
- The mains supply must be fused with the correct size circuit breaker or fast blow fuse for the load.

Note: Failure to connect the Earth may result in a serious safety hazard.

- The casing of the Levelmaster is manufactured to IP65 standard. If the cover is removed ensure that the gasket is firmly seated in the locating groove before replacing the cover and tightening the retaining screws.

INSTALLATION

Caution The controller must be isolated from the electrical supply during installation.

1. Mounting

   Remove the clear plastic cover by undoing the 4 plastic screws at the corners. The controller should be fixed to a suitable surface within reach of the probe lead using suitable screws through the 4 fixing holes in the corner pillars. The fixing holes are on 110mm x 110mm centres.

2. Electrical Connection

   The controller is fitted with flying leads for easy connection. The output lead is marked with a red warning label. The other lead is the mains supply.

2.1 Power Supplies The controller is supplied for 230V power supply as standard (unless otherwise specified) however, it can be adjusted simply for 115V operation as follows:

   a. Remove the transparent cover as above and then remove the faceplate by undoing the 4 screws.

b. Locate the red jumpers (J7) on the top left hand corner of the board. (see fig 1)

c. Both jumpers should be moved to select the desired voltage. ie Place them across pins 1 and 2 for 115V and 2 and 3 for 230V.

NB Both jumpers must be moved otherwise the pcb will be damaged.

2.2 Relay Operation Your Levelmaster is fitted with a relay with volt free contacts as standard unless otherwise specified
The 3 wire output lead connections are:

Black - Common
White - N/O Break on low level (Heater control)
Red - N/C Break on high level (Pump control)

The relay can be converted to mains contacts as follows:

a. Locate the blue jumpers (J9) sited below the relay on the bottom board. (see fig 1)

b. Both jumpers should be moved to select the desired operation ie place them across pins 1 and 2 for volt free and 2 and 3 for mains operation.

NB both jumpers must be moved otherwise the pcb will be damaged.

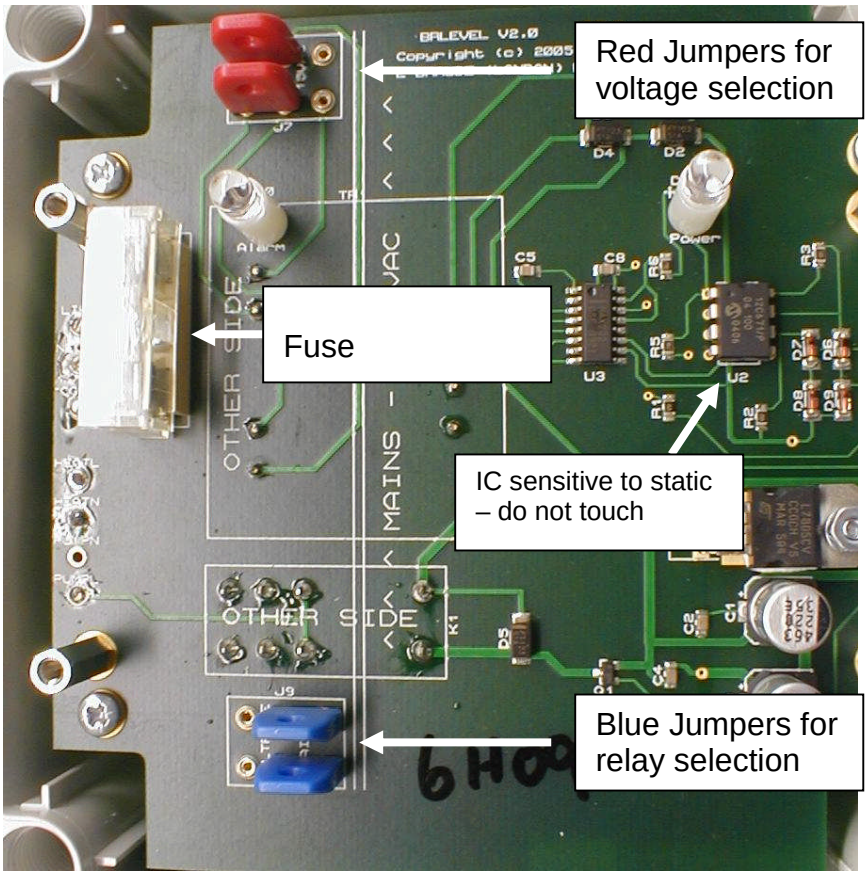
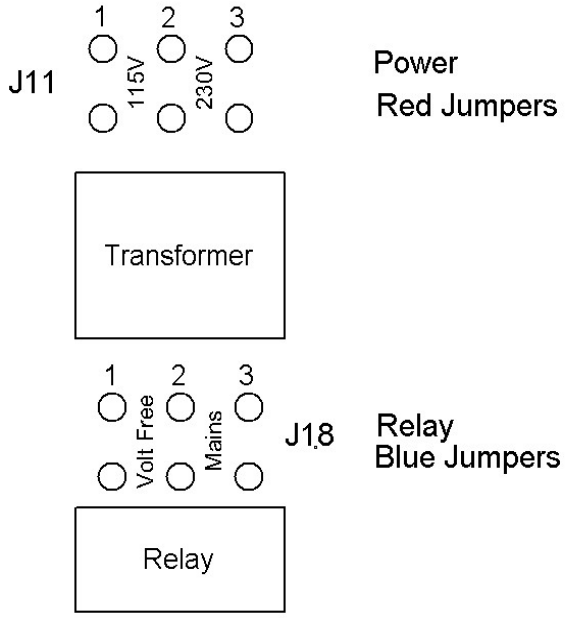


Fig 1 Location of jumpers on top board.

Once the set up is complete reassemble the controller and replace the cover, ensure the lid is correctly seated and the 4 retaining screws are firmly tightened.

CARE The IC on the PCB shown on fig 1 is sensitive to static and must not be touched as it could be damaged.

Note: The board is fitted with a 5 amp 20mm glass fast blow fuse



2.3 Wiring Connection For an application where no other controllers (such as temperature controllers) are connected, connect as in fig 2

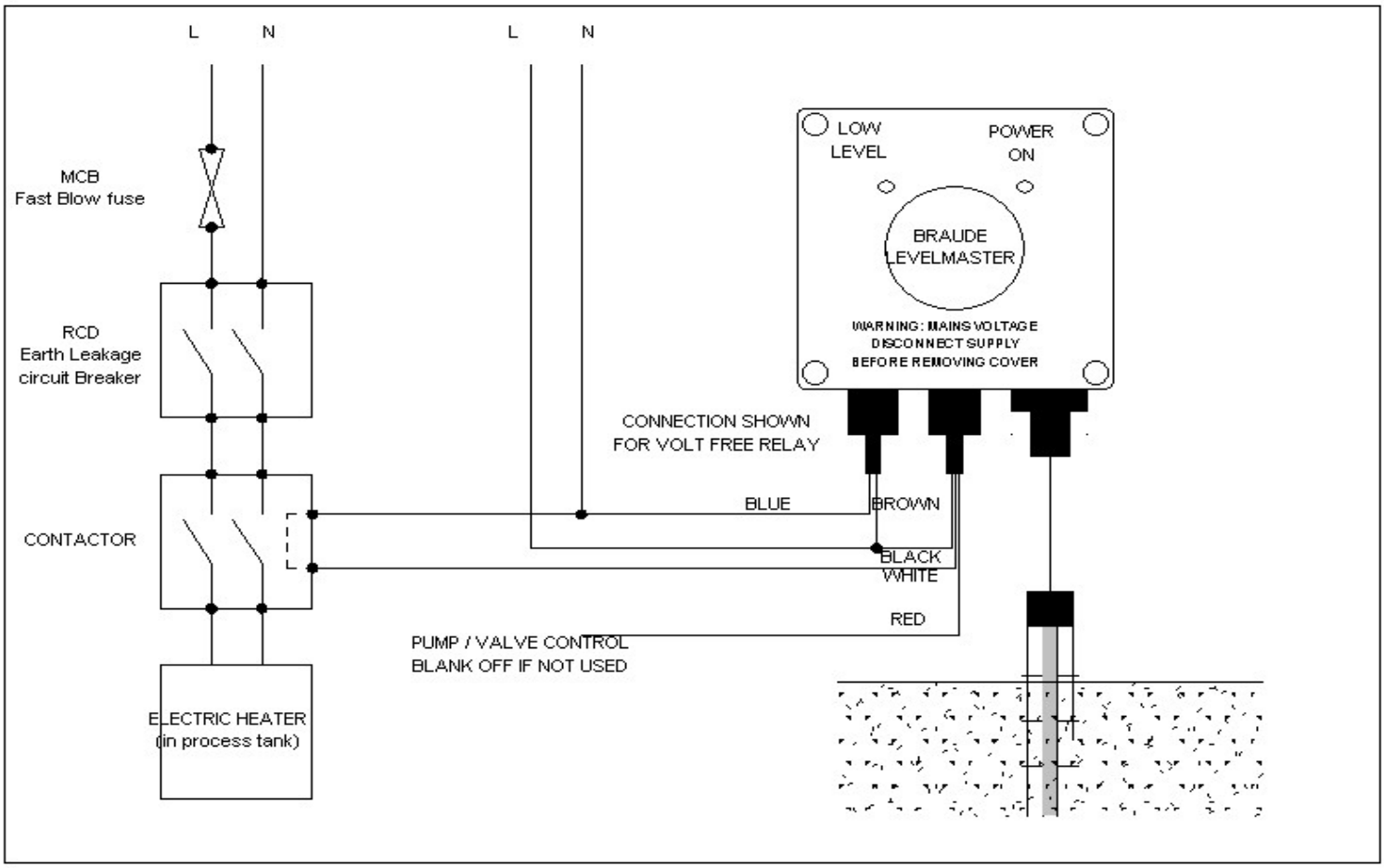


Fig 2: Wiring diagram for Levelmaster connected to Polaris heater.

The Levelmaster may also be used in conjunction with another controller. In this case it is essential that at least one of the relays in the controllers is volt free. Figure 3 shows the wiring diagram for connection with a second controller also fitted with a volt free relay.

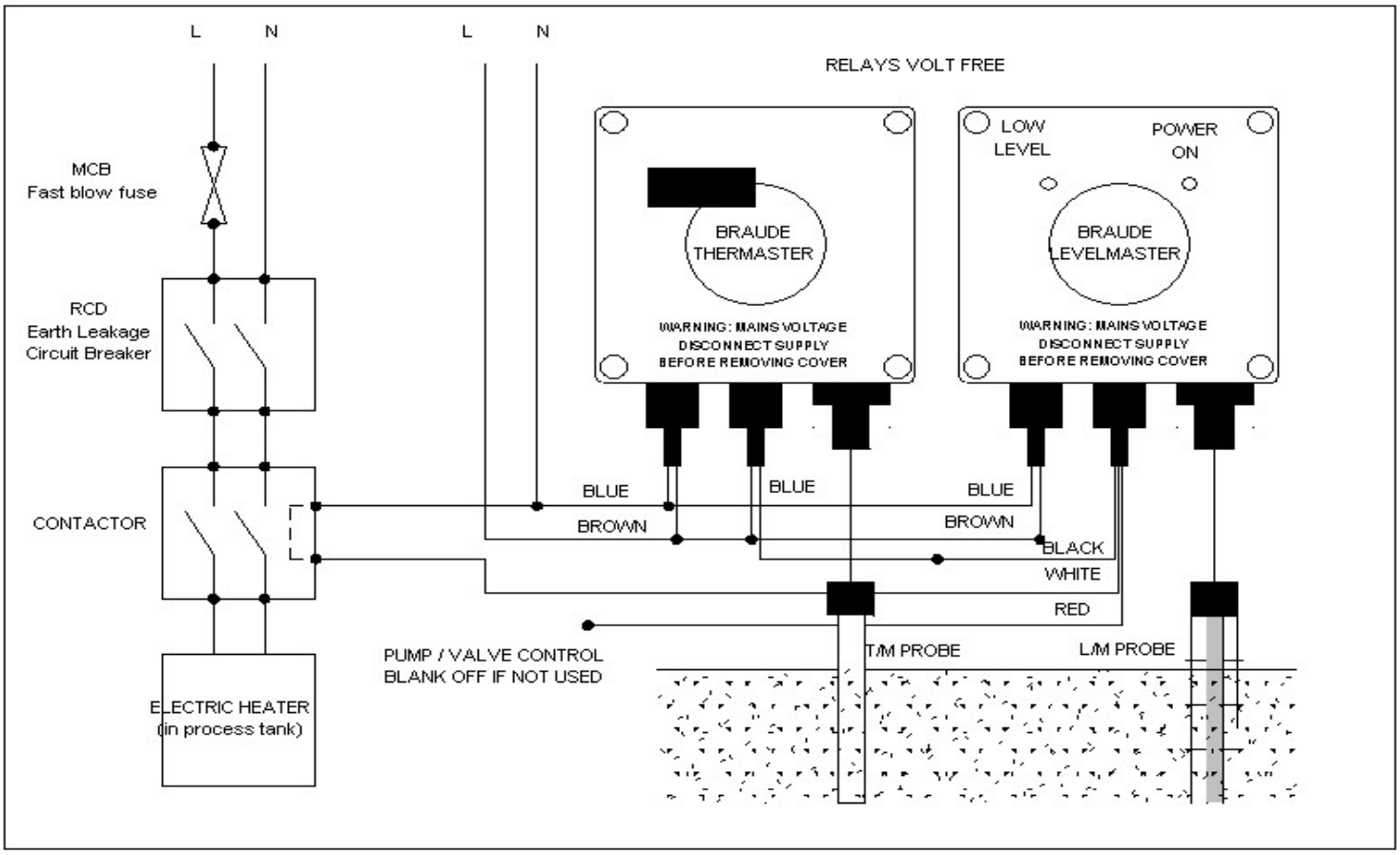


Fig 3 Wiring Diagram for Levelmaster connected to a second controller

3. Installation of Sensor

3.1 Probe Mounting Position the probe at a suitable point in the tank where it will not be damaged. The probe may be fixed using the clip provided with the black shroud above the solution level.

The probe is supplied with a three pin IP66 standard plug which should be connected to the socket on the underside of the control box. Ensure that the locking ring is tightened to secure.

Double check all connections before supply is switched on.

3.2 Setting the Probe

Low level only (eg for heater protection)

Cut the red sensor to the low level required.
Cut the white sensor 50mm higher than the red sensor.

High level only

Cut the white sensor to the level required.
Cut the red 50mm lower than the white sensor.

Dual level control

Cut the white sensor to the level required
Cut the red sensor to the low level required.

There is no need to cut the green sensor, but if it needs to be shortened it must not be less than 30mm longer than the red wire.

The insulation should be stripped from the ends of all the sensors to expose a minimum of 5mm of carbon. (The white glass fibre covering should also be stripped away).

3.3 Deionised Water

For deionised water and similar low conductivity solutions a special high sensitivity controller is available with a stainless steel probe. The probe sensors are marked as follows:

White high level
Red low level
Green Common

The sensors should be cut to length in the same way as described for the carbon probe

4. Operation

During commissioning of standard units, it may be necessary to add a small amount of salt to water to ensure it is properly conductive otherwise the controller may not work correctly

On mains power up the green power on light should display. The low level light will be on until the liquid level reaches the top sensor and will not be extinguished until the liquid level falls to expose the low sensor.

5. Maintenance

The controller does not require maintenance but it is recommended that the probe assembly is cleaned as part of a regular maintenance schedule to avoid build up of scale or other solids. The operation of the controller and probe should be checked on a regular basis.

Please contact the Braude Technical Department on 01252 876123 if you have any queries or require help during installation and operation.

BRAUDE NON CORRODABLE EQUIPMENT

POLARIS	non corrodable electric immersion heater 0.5 to 18kW
THERMASTER	digital thermostatic controller to IP65
LEVELMASTER	liquid level controller
TANKMASTER	Combined temperature and level controller
CHEMICAL TRANSFER PUMPS	self priming select from a range of seals to suit the application
EXTERNAL ELECTRIC	solution heating system
NAUTILUS	tank heater/cooler for use with steam hot water, thermal fluid or chilled water
JET STREAM	External Tank Heating/Cooling system for use where heavy workloads can damage internal tank heaters
FROGSPAWN	thermal insulation spheres 10 – 150mm
CHEMICAL TANKS	PP, CPVC,PVDF and GRP

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