3P Technik UK

RCPM1

Pump Time-out Alarm / Leakage Detection Alarm

Installation and Operation Manual

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Description Of Operation

The RCPM1 Display Panel provides a visual and audible alarm in the event of a pump run-time exceeding a pre-set limit, typically indicating a suspected leak or over-use due to an outlet being left open, faulty control system, or disconnected pipework. It can also be wired into some automatic pumps wherever it is possible to obtain a return live from the pump's common motor pole. In the case of automatic pumps it is possible to gain advance warning of unintended over-running due to poor installation, limiting the potential for damage to the pump itself.

The visual indicators include a green light indicating that the pump is live, and a red light with audible alarm indicating excessive run-time.

Installation

Safety Precautions

Mains Voltage – There are exposed electrical conductors inside this appliance. This appliance must be installed and serviced by a competent electrical technician to the current requirements of BS7671 and IEEE recommendations. Before servicing this appliance, normal safe isolation procedures should be implemented.

Do not touch any connection terminals while energised.

Do not attempt to service this item when wet, or in a wet or high humidity environment.

If the housing of the control panel becomes damaged, you must shut down and securely isolate this appliance immediately.

Included Components

RCPM1 Alarm Panel
Attached mains cable
Installation & Operation Manual

Layout

The control panel cannot be mounted outside, it is not fully weather resistant, but can be installed in sheltered outdoor locations (barns, covered areas, etc).

Voltage drop will affect the cable size needed to take power to your appliances. The more current is drawn the greater the effect over distance. Over very long runs, you may find it more economical to install contactors near to the pumps, allowing you to control the pumps with a sensible cable size. It is strongly recommended that you calculate voltage drop for cable runs which exceed the length of cable supplied with the pump. Failure to do so may result in cable overheating, conductor migration, and risk of fire.

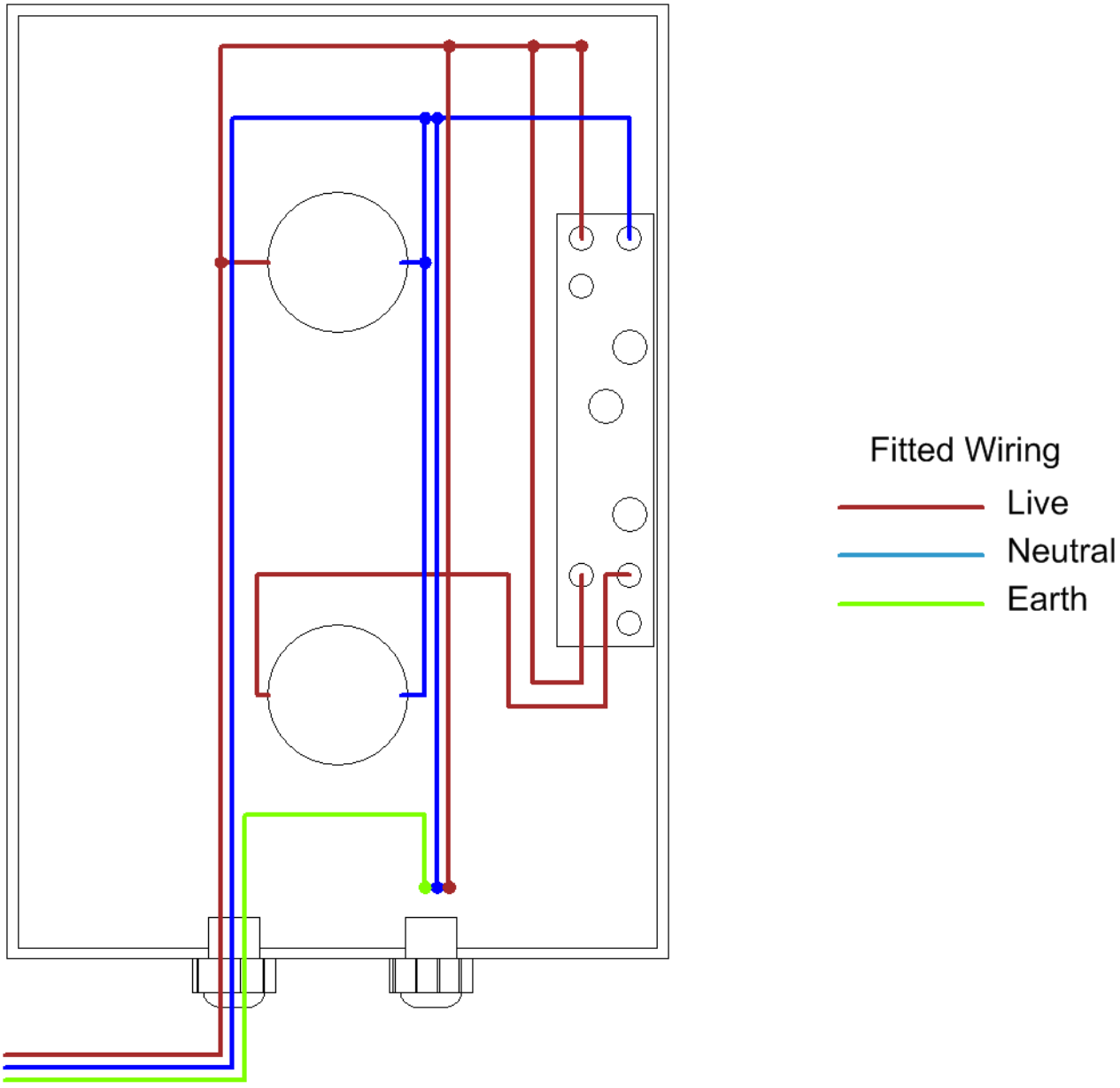
Suitable circuit protection must be installed and should include as a minimum a suitable earth, overcurrent protection, and residual current protection at 30mA, ideally on it's own circuit, but always in accordance with BS7671 and applicable regulations.

Control Panel Mounting

Open the cover of the control panel. There are 4 recesses, one on each corner of the panel. Drill through at these locations and attach to the wall or a suitable support, taking care not to damage cabling inside the panel. Fixings are not included and should be selected to suit the material to which the panel will be mounted.

Connections

Pump Switched by External Controller

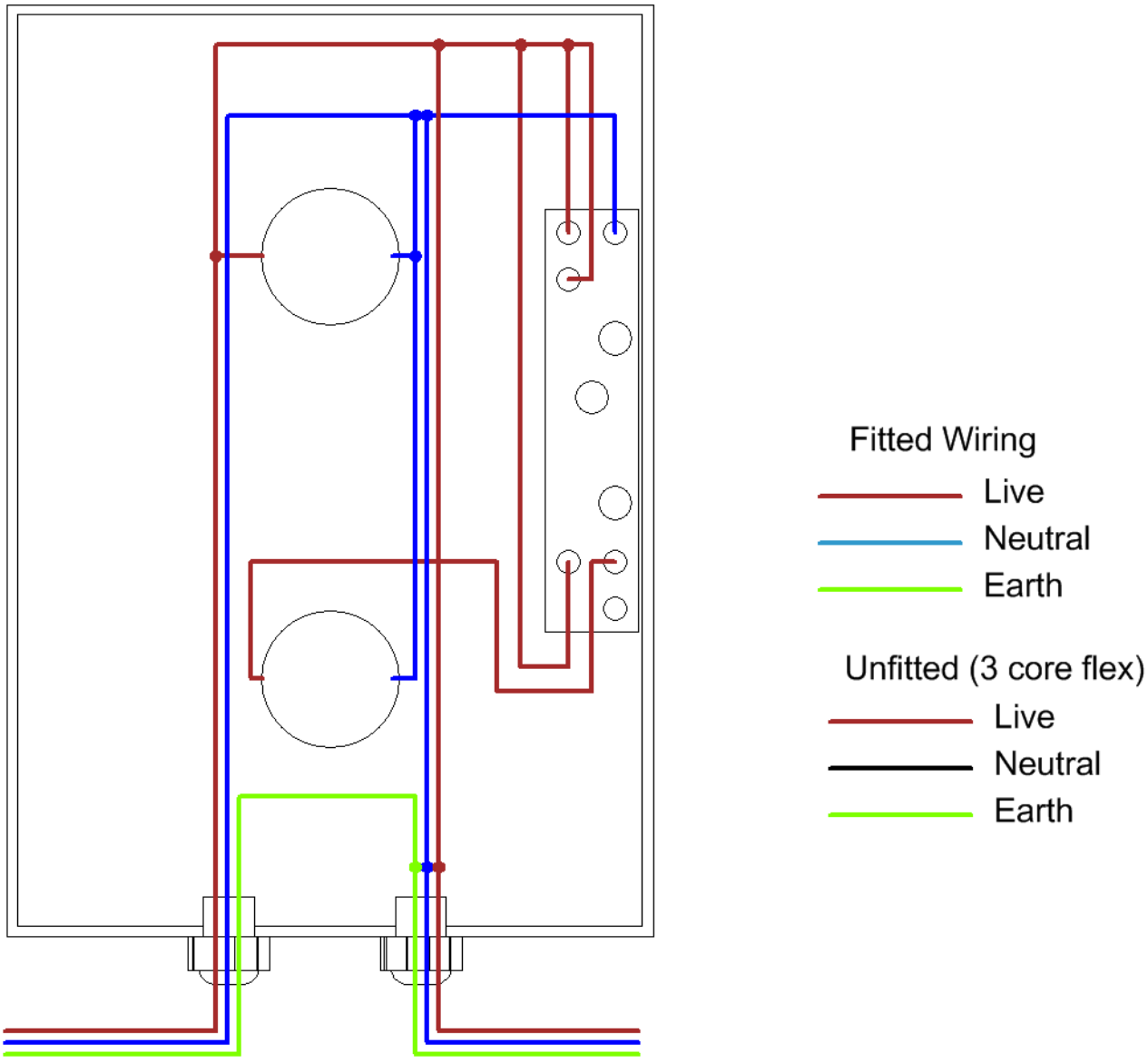


The control panel is supplied with wiring installed in the drawing shown above.

For monitoring a pump without an in-built automatic controller the alarm panel should be installed in the wiring between the controller and pump so that the controller switches on both the alarm panel and pump.

If it also possible to split the control output from the controller using a junction box if it is not

convenient to place the alarm panel in-line in this circuit.



The power supply cable to the pump then if connected to the live, neutral and earth poles inside the alarm panel using the grey connectors supplied. Note also that terminal B1 of the timer module should be connected to live.

Automatic Pumps With Internal Controller

For use with an automatic pump with in-built pressure controller, it is necessary to take a return live signal back from the pump after the control PCB. This should be wired to the motor common pole. Submerged pumps may require the use of a 4 core flex to allow the return signal to use the same cable that supplies power to the pump so as not to affect the water resistance of the pump. This may not be possible with all models of pump, if in doubt consult the manufacturer or approved service agent for advice.

Note that 4 core flex contains different conductor colours to the European Harmonised Wiring colours normally used for single phase appliances. You may wish to mark cable ends with harmonised colours or attach warning notices to cabling and junction boxes as required by current regulations.

The neutral conductor to the pump is coloured black, and the live signal from the pump back to the control panel is coloured grey.

Please consult the wiring diagram for your pump in order to determine the correct wiring for the return signal from the pump. Note that the voltage of this signal will be at single phase mains voltage.

Setting The Timer

The timer module is set using 3 dials as follows.

The upper dial sets the full range scale of the timer, so if set to 2hr then the maximum setting possible with the blue dial beneath would be 2 hours.

The blue dial in the centre sets the duration and is marked 1 to 20. 20 is equal to the range set above, so if set to 2hr then 20 would be 2 hours, 10 would be 1 hour, etc.

The maximum time duration achievable is 24 hours, and minimum is 0.1 seconds.

We would generally recommend a setting of between 20 minutes and 2 hours depending on expected usage, although commercial and industrial installations may expect longer periods of continuous use and so require a longer delay.

Operation

Safety Precautions

Mains Voltage – There are exposed electrical conductors inside this appliance. Before servicing this appliance, normal safe isolation procedures should be implemented.

Do not attempt to operate this item when wet, or in a wet or high humidity environment.

If the housing of the control panel or attached wiring becomes damaged, you must shut down and securely isolate this appliance immediately.

Usage

Once energised the display panel will show a green light. This light is constantly energised as long as there is power to the pump. It indicates that the pump is energised, and that there has been no disconnection or trip of any circuit breaker. When connected to a pump controller this light will switch on and off as the pump is used. For an automatic pump with internal pressure control this light will remain on.

The red light shows that the pump has run for some time and exceeded the limit set on the timer. If this occurs for no apparent reason, cease using water. If the alarm still continues shut down the system and investigate possible leaks, open outlets, or pump failure. Consult a suitable qualified person if necessary.

Shutting down a faulty pump system once the alarm sounds may help prevent unnecessary damage to the pump.

Specifications

Dimensions	180mm x 110mm x 90mm
Enclosure Material	Polystyrene
Ingress Protection	IP66
Electrical Protection	Class 2
Voltage	230VAC 1~