



## PEREGRINE LOW VOLTAGE COOLANT HEATERS Information sheet

There are many instances when the need to power engine coolant heaters from a low voltage supply arises, generally because there is no convenient mains power supply readily available.

The most restricting factor which arises with low voltage heating is the high current consumption, which can tend to limit the heater wattage used.

### **EXAMPLE**

Consider 1000-watt coolant heaters, used on 240vAC and 24vDC supplies.

A 240-volt heater at 1000 watts has a current consumption of 4.2 amps. A 24vDC heater at 1000 watts will require 42 amps.

The higher current levels required for the 24vDC heater mean that whereas the 240volt unit is a single element heater, the 24vDC unit has FOUR elements, and each of those elements is larger than the single 240volt element. The 24vDC heater is consequently a considerably larger unit than the 240volt heater.

The higher current level also means that the temperature control, rather than being direct thermostat switching as with the 240v unit, is now controlled via an integral low voltage contactor, again further increasing the required operating current.

The overall effect of installing a 24vDC heater in lieu of a 240vAC heater is to increase the physical size of the heater, increase the quantity of elements within the heater, add a contactor, increase the cable diameter and increase the labour involved. You will appreciate that the price of a 24vDC heater is therefore somewhat higher than that of a 240vAC heater. The main problems incurred in using a low voltage heater are in finding sufficient low voltage power to provide sufficient current to power the wattage of heater required.

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On some very low ambient applications where there is a requirement for a coolant heater, sump heater, diesel fuel heater, battery pan heater etc, it can be more cost effective to use 240vAC equipment and install a small portable generator to power them.

Peregrine coolant heaters are available in 12, 24, & 36, volts DC, and 42, 47 & 55 volts AC, other low voltages being available upon request. Low voltage heaters are also available for engine sumps, diesel fuel tanks, diesel pipe-lines and many other applications.

Please advise us of your exact requirements should you require advice as to what wattage heater you will need for a given application, and what current requirements it will incur.