

## Using the GEM with a 12KW (4 x 3KW) Output

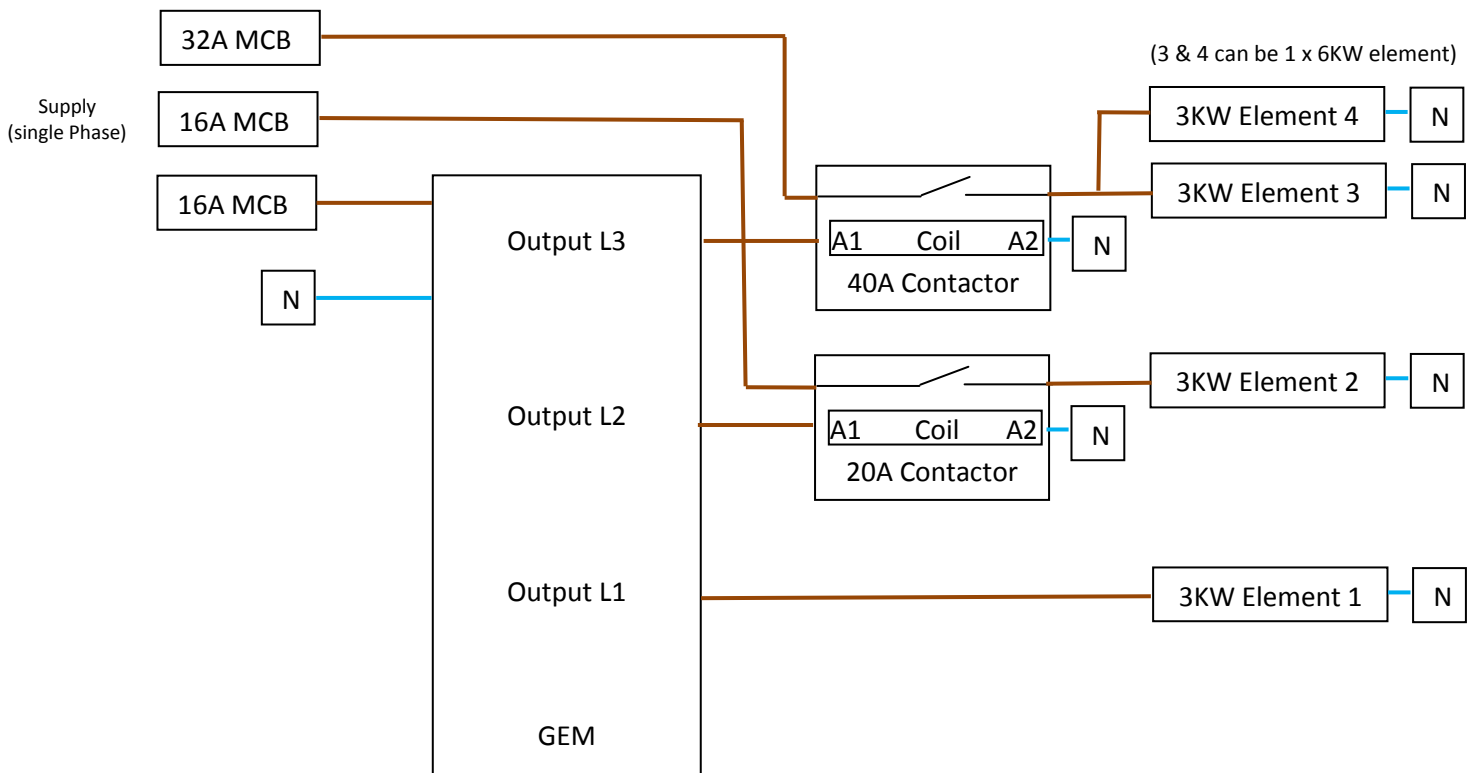
As standard the unit is set to control an element up to 3.0KW on either output 1 or output 2 in variable power mode.

The GEM can be configured to operate from 0-12KW in variable power mode but the load must be divided into four separate 3KW loads or 2 x 3KW and 1 x 6KW loads.

When set to work in high power mode the unit effectively becomes a single output unit capable of handling up to 12KW in variable power mode.

In this mode output 2 cannot be used to drive a load but is used as a contactor control output.

### Wiring Diagram



Note: Earth connections not shown for clarity.

## Menu Settings

```
Installer Menu?  YES
Mode:  SINGLE UNIT
Output: 1 (6/9/12)
Wireless PAIRED
```

May be Wired or Wireless

```
OP1 Variable 12000W
Temp Control T/Stat
```

May be "Sensor" if  
temperature probe installed

OP2 setting has no effect.

## Operation

(9KW)

For export power of 0-2999W output 1 works in the normal variable mode.

once 3000W is hit output L2 turns on and the contactor switches in the 3KW fixed load, at the same time output L1 goes to zero.

Then for export powers between 3KW and 6KW output L1 then ramps up from 0-3KW with L2 still keeping the contactor in.

once 6000W is hit output L3 turns on and the contactor switches in the 6KW fixed load, at the same time output L2 turns off and L1 goes to zero.

Then for export powers between 6KW and 9KW output L1 then ramps up from 0-3KW with L3 still keeping the 6KW contactor in.

once 9000W is hit output L2 turns on and the contactor switches in the 2nd 3KW fixed load, at the same time output L1 goes to zero.

Then for export powers between 9KW and 12KW output L1 then ramps up from 0-3KW with L2 & L3 still keeping the contactors in.

This effectively gives a variable 0-12KW output.

An important point to note is that for this mode to work all of the loads must be the same and also must be 3KW.

The internal changeover thresholds are fixed at 3,6 & 9KW.

Loads other than 3KW will cause unpredictable results.

This mode can use temperature sensor or the immersion thermostat for temperature control.

If thermostat mode is selected, the thermostat in output L1 immersion is used and this also controls the output to outputs L2 & L3 if used.