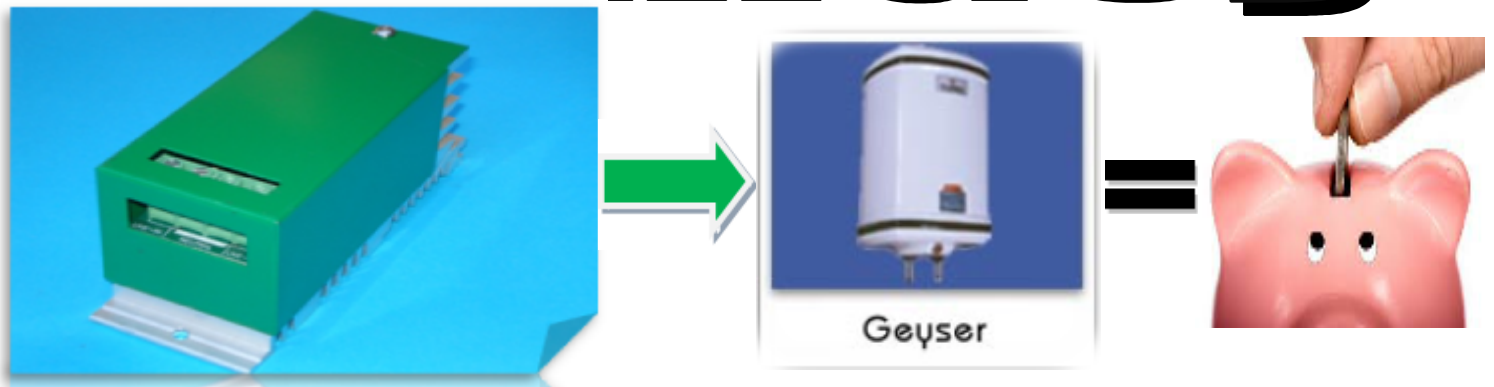


DemGey



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Upto 45% Power reduction

Do you want to save energy and money?

Do you want to reduce your geyser power consumption?

The [Dem-Gey](#) was designed and developed in April 2008 in direct response to extensive load-shedding by ESKOM which nearly crippled the economy and seriously affected our quality of life. The aim of this design was to reduce the electricity consumption of the geyser to avoid having to switch it on and off at certain times each day.

With the assistance of a microprocessor, energy consumption is controlled in a unique way by the [Dem-Gey](#), thereby saving up to **45.7%** in electricity. Using profile programming, the [Dem-Gey](#) unit reduces power during peak demand periods to assist the ESKOM network in times of maximum loading. This in turn reduces the likelihood of load-shedding and ultimately reduces your electricity bill each month. The [Dem-Gey](#) has an additional feature which enables you to programme in a specific energy profile to suit your individual requirements.

For those concerned with the “greenhouse effect”, the installation of [Dem-Geys](#) in about 25,000 houses, in an area about the size of Sandton, could reduce electricity consumption by as much as 1 Megawatt. This, over time, would reduce greenhouse gas emission considerably.

Another [Dem-Gey](#) feature ensures that after a mains failure the unit will automatically switch the geyser on again with a 10 seconds delay before the geyser operates normally. The advantage of this is that the building’s mains supply has time to settle down again to full output thereby not putting sudden pressure on the ESKOM switchgear which could cause the mains to fail (by switching on and off as the switch gear

the LORON overgear which could cause the frame to fail (by switching on and off as the switch gear fails to energise properly).

The unit has been tested by an accredited testing facility which followed specific procedures used to test similar products. It simulates typical household hot water consumption. First a test was done on a conventional geyser, without the device, for one week, and the electricity consumption measured. The [Dem-Gey](#) was then connected and the process repeated. ([Click here to view test reports](#))

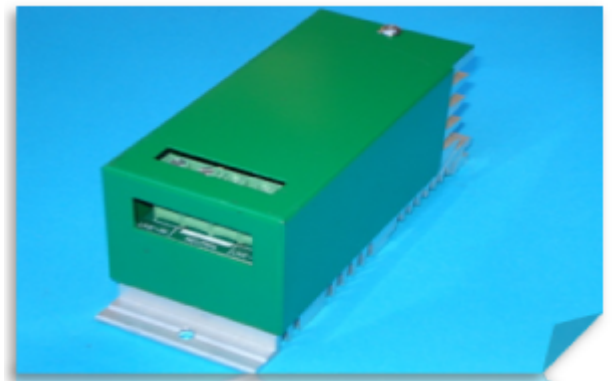
These are the results that were achieved

	Normal house hold system	Dem-gey controlled system
Output Temperature	53.248	52.027
Geyser internal temperature	60.597	58.852
Energy consumed (Kwh)	18.78	10.18

Key Features:

- Simple to install (two wires in two wires out)
- Small and compact
- Easy to modify program (By pre-selecting the different power profiles on the [Dem-Gey](#) that you require, the output power can be changed on an hourly basis.)
- Programming with Usb coms
- Dedicated application modules

End user interface:

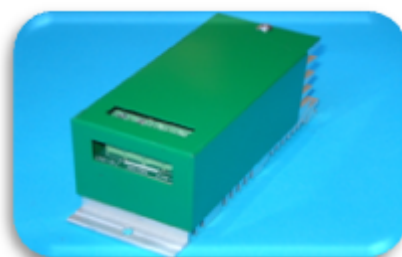


The unit has been designed for maximum control over the output to the geyser. This has been pre-programmed for optimum management, however this setup can be changed by connecting your computer via the USB port to the unit and you can change all the parameters as seen by the "end user interface". There is an additional function whereby if there is a problem all relevant information can be emailed to help@demgey.co.za and we can assist you, as the client, to rectify any problems that you may have. This free program can be downloaded from our website: www.demgey.co.za and is a freeware product.

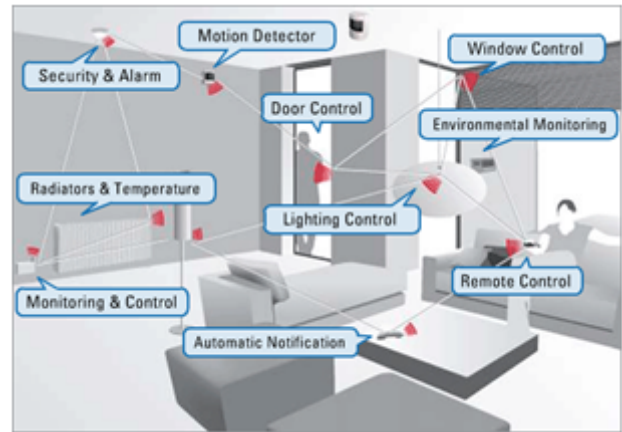
Options

Options that are available for the [Dem-Gey](#) unit are the following:

Gsm module

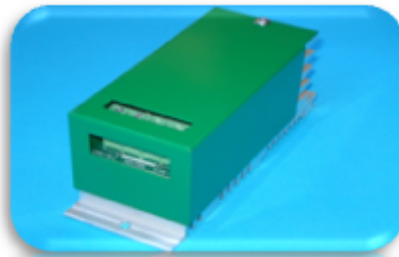


By fitting the Gsm module to the Dem-Gey you will have the advantage of that the [Dem-Gey](#) can be used to control geysers where you live, as well as those in buildings a long distance away, such as holiday homes. Before going on holiday, you can switch on the geyser at your holiday home by sending an SMS from your cell phone to the [Dem-Gey](#) there. The geyser in your own home can then also be switched on again remotely, by SMS, before you return home



If you have your own home automation system, you could purchase the [Dem-Gey](#) with a home automation module which will enable you to control the operation of your geyser more precisely to suit your specific need. With this module fitted to the [Dem-Gey](#), you would be able to modify the energy-saving program and switch the geyser on and off at will. You could then also purchase the [Dem-Gey](#) to control any other power-controlled features wirelessly.

Solar geyser interface



Solar geysers are installed with timers that allow the water to be heated by the sun during the day and by an electric element at night. The disadvantage of a timer is that it does not allow for poor weather conditions when there is not enough sunlight to heat the water sufficiently during the day.

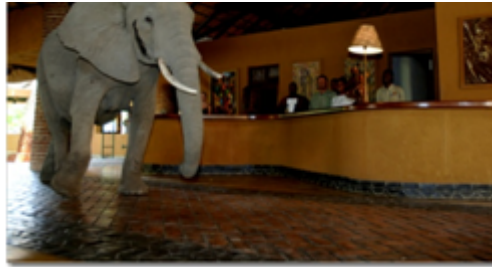
The [Dem-Gey](#) eliminates this problem by monitoring the temperature of the water throughout the day. It only uses electrical power for heating the water when there is insufficient sunlight for the time of day or season of the year. The intelligence of this interface allows it to monitor the temperature within a certain pre-determined range.

Ideally, the solar geyser should be located in such a way that nothing casts shadows on the solar panels between 09h00 & 15h00 when solar radiation is at its maximum.

Water in the geyser has to be heated by electrical power at night. The [Dem-Gey](#), with its energy-saving capabilities, then switches off the electric heating element at 5h00 when solar energy is used to heat up the tank. On days when weather conditions are not ideal for solar heating, the unit measures the temperature of the water at 15h00, and if it is not hot enough, the [Dem-Gey](#) switches on the electricity to the geyser, ensuring that you can have a hot shower or bath after a hard day's work!

Resort control module





Resort chalets and apartments are not occupied continuously throughout the year, yet without the **Dem-Gey** resort control module, all of these geysers would operate permanently, resulting in a lot of electricity being consumed unnecessarily!

The resort control module allows you to switch geysers on and off remotely through the booking-in system. For example, if a resort has 100 chalets and each of them has a 150 litre geyser, 300kw/hour of energy could be used. If only 20% of the chalets are occupied, the resort should only be using 60kw/hour of energy. This can be achieved by using the resort control module to interface with the booking-in system, switching the geysers on or off depending on which chalets are to be occupied.

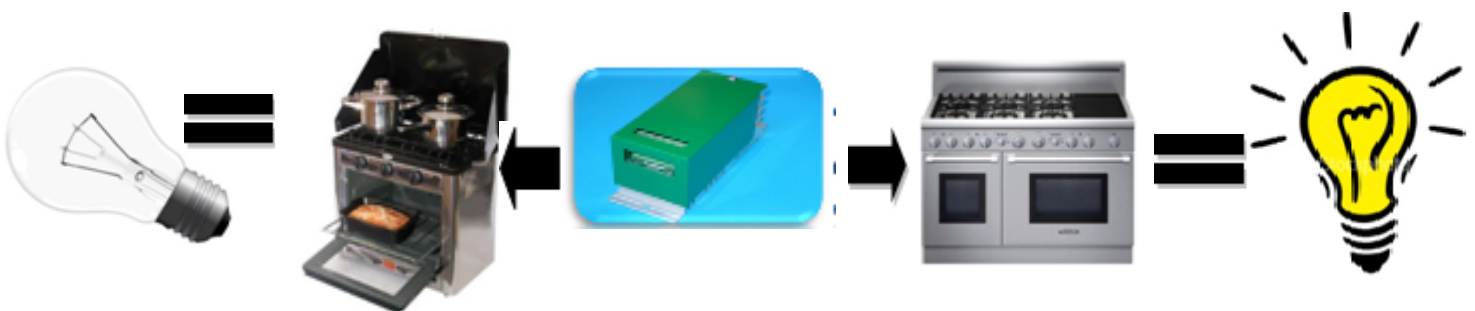
The quantity of hot water heated can also be regulated, depending on the size of the chalet and occupancy, by changing the energy profile to suit each chalet's specific requirements.

The resort control module interface can manage up to 500 (**Dem-Gey** controlled) geysers, but additional interface nodes can be added if required. The system works on a daisy-chain configuration, working optimally if chalets are spaced not more than 200 metres apart. The interface or master unit at reception transmits to unit 1 which retransmits to unit 2, etc. Provided that the distance from one chalet to the next is not further than 200 metres, the information can be transmitted down the chain for kilometres. Each Dem-Gey unit has its own unique identity number to control the geyser effectively.

A display unit can also be added to the **Dem-Gey** unit in the chalets which are controlled by the master unit at reception, to notify guests of upcoming events etc, at the resort. The display unit can be programmed to allow for limited responses from the guests, such as requests for maintenance or housekeeping.

Other features that can be added to the unit.

Stove/oven monitor unit



This stove/oven monitor unit interface manages the household power usage by also monitoring the power consumed by the stove and any other large appliance to ensure that the DB board is not overloaded. The geyser switches off before the power consumed by these appliances could overload the board. In other words, peak current is reduced while the "home chef" does her gourmet cooking for the family or a jacuzzi party is in progress!

This particular interface is especially beneficial for households with limited available power.

Other functions:

The **Dem-Gey** can be used to control electrical devices remotely, through "wireless" applications, for various additional items, such as:

- power switches

- power switches
- light dimmers
- borehole pump switches for single phase motors
- pool pump switch for single phase motors
- element controllers
- jaccuzis

Certification

The **Dem-Gey** was shown to meet the following standards when tested at a facility at the CSIR. These are the latest certification standards for electrical products for domestic use:

IEC 60950-1:2001
SANS 60950-1:2003

Specifications:

- Size: 160mm x 55mm x 65mm
- Weight: 500g
- Maximum amps: 25 amps
- Maximum voltage: 240vac
- Maximum Cable size: 4mm

International patent pending