ENERGY SAVING TIMER

Model No.: 9149
Version : 07/2008

OPERATING INSTRUCTIONS

ATTENTION!
PLEASE READ INSTRUCTIONS BEFORE USE!
KEEP INSTRUCTIONS IN A SAFE PLACE!
ONLY TO BE USED INDOORS.
THIS PRODUCT IS NOT A TOY!
KEEP **AWAY FROM CHILDREN.**

Read the operating instructions carefully and use the product as described in the instructions to avoid injury and damage.
We accept no responsibility for damage resulting from failure **to comply with** the safety instructions.

Terms **used in these safety** instructions:

Wams against risk of injury.

The word **DANGER** warns of possible risks of severe or fatal injury.
The **word CAUTION w a s of possible risks of minor injury or damage.**

Points to further information.

INTENDED USE

This product allows you to calculate the electricity consumption of an appliance and at the same time monitor the costs. The practical functions give information about **time** and measurement condition in order to save electricity and **costs.**

TECHNICAL DATA

Model Number:	9149
Supply:	220-240 V 50 Hz
Current:	max. 13A
Battery:	2 x 1.5 V (type **LR44** LI I 54F, A76, AGi3 or RWS2 included)
Mains voltage display:	from 190 V - 276 V
Current consumption display;	**from** 0.02 A - 13 A
Power consumption display:	from 5 W - 3588 W
kwh display:	from 0.00 kwh - 9999.99 kwh
Energy cost :	from 0.000 to 9999

Accuracy:

Voltage:	**+I- 3% of value measured**
Current:	**+/- 3% of value measured** **+/-0,03 A**
Power:	**+/- 5% of value measured** +/- 10 VA
kwh :	+/- 5% of value measured +/- 0,1 kwh

Accuracy figures based on:
- a fmquency` of45-65Hz
- use of the unit under normal room temperature **conditions**
- **harmonic distortion of the voltage/current** (<15%)
- power factor (cos Phi) > 0.2

IMPORTANT SAFETY INSTRUCTIONS
DANGER of injury
- To prevent electric shock, never open the timer or place anything in it.

CAUTION - damage to property

Do not plug in **on top of each** other!

- Before using the energy saving timer, **make** sure the mains voltage is compliant with the timer voltage requirement (220-240V~).
- **Before each use, check timer for damage. The timer must be discarded if** damaged.
- Before replacing the batteries, the energy saving timer must be disconnected from the AC power supply.
- Use only the battery types recommended.
- Do not mix old and new batteries.
- Ensure batteries are inserted with the correct polarity.
- Battery supply terminals must not be short circuited,
- Make sure the timer is not placed near dampness or dirt.
- Please pay attention to the environmental conditions during storage and usage: 'Temperature min, U°C, max. 4()°C, Relative humidity: max. 75%
- If you pass the monitor on to another person, also give these instructions.

DISPLAY (SEE FIGURE 1):

The EST (Energy Saving Timer) helps to save energy and costs at **home** and in the workplace. The EST **will inform** you in a simple way of the **energy usage and** cost of running any connected equipment such as: Lights, Radio, Machines etc.

ATTENTION:

- If you remove the unit from the power supply. the display switches off after approximately 1 minute. However, the data is retained. If you press the **SELECT, SET of FUNCTION-** button, the display will be activated again. **To** extend the lifetime of the batteries, we recommend removing the batteries **from** the unit if you keep the unit unplugged from the power supply for more than 12 hours.

RE-SETT1NG:

If you press the button **R** (RESET), all data held in the memory **will** be deleted and the unit must be re-programmed. Use the **RESET** if the display shows abnormal characters of **the unit** doesn"F react when you press a button.

FIRST TIME USE:

Remove the isolating strip, which is protruding from the battery compartment at the back of the unit, and use a pen tip to press the R~button. The unit is now ready for programming.

SETTING THE TIME (SEE FIGURE 2):

- Press the SET-button. In the display you will see CLOCK SET. The sign for the day will flash. To set the required day, press the SELECT-button. Each time the SELECT-button is pressed again, another day will be flash up, in the upper line of the display. Press the SET-button, to save the selected day. Now the sign for the hours will Hash up. To set the required hour, press the SELECT-button, Then press the SET-button again to save the selected figure. Now the sign for the minutes will flash up. To change to the required minutes, press the SELECT-button, and then the SET-button again to save the selected figure.
- To finish the input, press the SET button. You have the choice to choose between 12 and 24 hour format. PM will show for the allernoon time. To do this press the SELECT button once.

PROGRAMMING THE LOCAL ELECTRICITY TARIFF (SEE FIGURE 3):

To get the cost of the consumption for one unit, you have to programme in the local electricity **tariff. You will find the cost for one unit (KWh), on an invoice** from **your electricity supply** company.

NOTE: If you don't key in a figure for about a minute during the programming process, your display will go back automatically to the voltage display screen (base mode). See FIGURE 4.

1. Press and hold down the **FUNCTION-** button for approximately 3 seconds in the voltage display mode. The **COSTIKWh** appears in **the display (see FIGURE** 3).
2. Press the SET-button and the first digit of the display will Hash. An additional sign "SET" **will appear on the** display.
3. **Now use the SELECT-button to enter** the first digit of the tariff.
4. Press the SET-button again, the first digit will be saved and the second digit will flash up on the display.
5. Now use the SELECT-button to enter the second digit of the tariff.
6. To enter further digits, repeat steps 4. and 5.
7. After you key in the last digit and press the SET-button, the decimal point indicator will flash,
8. **Use the SELECT-button to move** the position of the decimal point.
9. Now press the SET-button to save. The -:--" sign will flashup in **the upper line** of the display and **COST/KWh** will disappear.
10. If you only want to program in one tariff you **can exit by pressing the FUNCTION-** button, (To program a second tariff (for example: night time tariff), read the selection **"PROGRAMMING OF DUAL TARIFFS"** below.)
11. To return to the voltage display (base mode), press the FUNCTION-button and hold down approximately 3 seconds.
12. To check your settings, press and hold down the FUNCTION-button for approximately 3 seconds in the base mode. The display will immediately show the settings for that tariff Press the FUNCTION-button again to display the set up screen where the "maximum current" will be displayed. (You will find the procedure for the set up process later in **the manual). Press and hold down the** FUNCTION-button **for** approximately 3 seconds to return **to** base mode.

Example: Input a tariff of £ 0.152/KWh

- In the voltage display mode press and hold down the FUNCTION-button **for** approximately **3** seconds. **Then** press the **SET-** button.
- The First number "0" is flashing. Press now the SET-button again to save.
- The second digit **will** flash. Press the SELECT-button **to display "1" and save by** pressing the SET-button.
- The third digit will flash. Press the **SELECT-** button, until the number "S" is displayed **and** save by pressing the SET-button.
- The fourth digit will flash, Press the SELECT-button, until the number "Z" is displayed and save by pressing the SET-button.
- **The decimal point will Hash. Press the** SELECT-button until **the** decimal **point** is in the desired position (before number **"I")** and press the SET-button to save. Press the **FUNCTION-button** to exit the programme mode.

Press and hold down again for approx. 3 seconds to return to base mode.

PROGRAMMING OF DUAL TARIFFS:

You can set up the EST for two different tariffs. (for example: day time tariff and night time tariff). CAUTION: Price I is the price that is automatically valid from the **time** of entry (e.g. if you programme you **energy** saving timer at night, the night price is named price I. However if you programme your energy saving timer during the day the day price is **named** price I):

1. Follow the procedure for programming one tariff (see section **"PROGRAMMING OF THE LOCAL ELECTRICITY TARIFF",** step I to step 8).
2. Press the SET-button, to save the decimal point position.
3. Using the SELECT-button **enter** the combination of days, that **apply** to the first tariff. The following options are available, each

day separate (display: **either** SU **or MO or** TU.,..), Monday to Friday (display: **MO** TU.....FR), **Monday to** Saturday (display: **MO TU SE....,.SA), Weekend** (display: SU SA).

4. Save your selection of the day combination, by pressing the **SET-button.** The hour display **will** flash.
5. Use the SELECT-button to select the hour price I should start. Save by pressing the SET-button.
6. Use the same procedure, to enter the minutes.
7. Now **press the FUNCTION-button. On the** display **will** be "Price 2".
8. To **enter the second tariff, use the same method** as described above. **(Press** the **SET-**button and **the first digit of the cost factor will** start flashing**.....**).
9. After you have saved the minute settings with the SET-button, press the FUNCTION-button. The maximum current **"(MAX.** LOAD") **will** be displayed.
10. Now press the FUNCTION-button and hold down for approximately 3 seconds to go back to the voltage display (base mode).
11. Now check the figures you have entered. Press and hold the FUNCTION-button down for approximately 3 seconds. The display shows the setting for price I. If you press the **FUNCTION-button again, the** display **will** show price 2. Press the FUNCTION-button a third time and you **will see** the setting of **the** maximum **current** on the display. **Press and hold the** FUNCTION-button **down for** approximately 3 seconds **to** return to the base mode.
12. To cancel the price 2 settings press and hold down the FUNCTION-button for approx. 3 seconds, then press again to display the price 2 settings. Now press again and hold down the FUNCTION-button for approx. 3 seconds. The settings **will** be **deleted.**

FUNCTIONS

- The EST can measure the following: main voltage (V), **current (AMP), power consumption (WATT),** max. **power consumption (WATT), consumption rate (KWh) and the time, how long an appliance** has **been** connected. **Using the data entered, the EST** calculates **the** cost **of running an appliance** by **multiplying V (Volt)** x **A (Ampere)** x **cos. Phi (power factor)** x **local price (KWI1)** x **t** (connecting **time).**
- The various functions available **can** be **accessed** by pressing **the FUNCTION-button** up to 6 times.

FUNCTION I (FIGURE 4):

Display of the allemating voltage: **(VOLTaic)**
Base mode
Example:

Main voltage display:	230(V)
Frequency display:	**50** (Hz)
Time display:	14 :47 38

FUNCTION 2 (FIGURE 5):

Display of the current: (AMP)
Press Function button once
Example?

Current display:	3.30 (A)
Cos. Phi display;	**0.95 (power factor)**
Time display:	14 147 is

FUNCTION 3 (FIGURE 6):

Display of power consumption: **(WATT)**

- **The** power consumption is measured in WATT. It is calculated from the current (A), the voltage (V) and the indicated power factory **(cos.** Phi). The power factor gives the phase displacement angle and therefore the ratio of the active power to the apparent power. This is necessary, to avoid errors when measuring power consumption of inductive and capacitive equipment such as refrigerators or fluorescent light.

Example:

Watts `mput display:	721 (W)
Cos. Phi display:	0.95 (power factor)
Time display:	14 :47 38

FUNCTION 4 (FIGURE 7):

Display of the max. power consumption: **(WATT)**

- The maximum power consumption is shown on the display in WATT. To differentiate between **the power** consumption (FUNCTION 3) and the max. power consumption (FUNCTION 4), the display **will** shown the mark MAX. in this mode.
- The time and the power factor displayed, refer to the highest power consumption measured. To delete this data, press the **FUNCTION-** button and hold down br approximately 3 seconds.

Example:

Max. watts input display:	**920 (W)**
Cos. Phi display:	**0.90** (power factor)
Time display:	14 :47 38

FUNCTION 5 (FIGURE 8)-

Display of the energy consumption: (KWh)

- **Press the FUNCTION-button 4 times. The display shows the total amount of energy used. To delete the data from the memory, press and hold down the function button for approximately 3 seconds.**

Example:

Display of the energy usage:	**10.30 KWh**
Display of the time:	**12:38 59**

FUNCTION 6 (FIGURE 9):

Cost display: COST

- Press the FUNCTION-button 5 times. The unit shows the total cost of the energy used by an appliance connected to it, based on the tariff data entered. The display can show values from 0.000 to 9999. If the value is higher than 9999, the display will stop at that figure. If you want to delete this data from the memory, press and hold down the FUNCTION-button for approximately 3 seconds. Of course, this only works if both the EST and the connected unit are switched on.

NOTE: If the connected appliance draws less then 0.02A of current (min. 0.02 A displayed in FUNCTION 2), the EST can't measure the operating time.

Example:
Display of the total cost:
1.563 (£)
Display of the total connected time:
l4: 17 (H:M)

If you have programmed in two tariffs, the **EST** will display the total cost and **the** total **time** during which the **appliance** has **been connected** first. Press **the FUNCTION-button once more** for the cost and **the connected time under** price I. Press the **FUNCTION-button** again for **the cost and the connected time under price** 2.

FUNCTION 7 (FIGURE 10):

Display of maximum electricity.
This function allows the programming of a max mum current consumption. If the programmed value is exceeded, the display shows **"OVERLOAD** WARNING". During the display of warning the EST will continue the measurement. (If you don'l need this function. keep the settings for this function on the value 0:00. Then the function is deactivated)

1. Press and hold down the FUNCTION-button for approximately 3 seconds in the base mode.
2. Press the function button again, Max. Load will be displayed. If you have programmed two tariffs, you must press the FUNCTION-button twice to come to the Max. Load display.
3. Press the SET-button. The first digit will flash.
4. To adjust the host digit press the SELECT-button.
5. To adjust the other 3 digits, proceed as described above.
6. To save, press the FUNCTION-button and hold down for approximately 3 seconds.
7. Now if the maximum current programmed in is exceeded the display shows "MAX OVERLOAD". You can reset the display by pressing the FUNCTION-button.

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ERROR RECTIFICATION/RE-SETTING:

- The EST monitor produces no display: Press **one of the button, SELECT, SET** of FUNCTION or press the R-button. (If **you press the R-button the EST must be re-**programmed). **Change** the battery and press the R~button. **(In this** case you also have to reprogram re).
- The EST shows unusual displays: Press the R-button (The EST must **be** re-programmed).
- The EST did not respond to button commands: Press the R-button. (The EST must be programmed)
- The **EST** shows no current **and no output, even** though an appliance is connected: The current consumption is too small <0.02A.
- The EST didn't display any **cost: A price for one KWh has not been** programmed into the unit, The switch on time is too shon. The Energy Saving Timer has not been switched on long enough.

INSERTING / CHANGING THE BATTERIES:

- Disconnect the **F.ST from the power** supply before changing the batteries
- Open the battery compartment with a screwdriver and **insert the 2 x I.5V batteries (Type LR44, LII54F, A76, AGI3 or RW82)** according to their polarity, Close the battery compartment zLnd screw tight,

CLEANING AND CARE

Only use a dry and Huh"-free cloth for **cleaning.**

DISPOSAL
DISPOSING OF THE DEVICE

Never dispose of **the** device in normal household waste.

The device should be disposed of via an authorized waste disposal company or your local waste disposal organization.

The valid regulations **must be complied** with. If in doubt, contac! your waste disposal organization.

DISPOSING OF BATTERIES
Dispose of the battery before disposing of the device.

Pb

Old batteries must not be disposed fin household waste. Return your used batteries to your dealer or the designated returns point.

DISPOSING OF THE PACKAGING
Dispose of all packaging components in an environmentally friendly manner.

A
M

Model no.: 9149
Version: 07/2008
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Paget Trading Ltd.
c/o Paget Services
65-66 Woodrow
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UK

CE EMC

FIG. 1

FIG. 2 Time Setting

FIG. 3 Programming The tariffs

FIG. 4 Display Of AC Voltage

FIG. 5 Display of Current

FIG. 6 Power Consumption

FIG. 7 Max Power Consumption

FIG. 8 Kwatt Hour Display

FIG. 9 Cost Of Energy Consumption

FIG. 10 Max. Load Setting