TRICKLESTAR CALCULATOR
ENERGY SAVINGS CALCULATION FOR ADVANCED KEYBOARD

How the Calculation Works:
This is the calculation method used for the Advanced Keyboard in the TrickleStar calculator.

1. The power consumption by a computer with its peripherals such as Monitor, Notebook / Desktop PC, Speakers, etc. could be ranging from 5 Watts to 250 Watts, as the energy usage of those peripherals vary significantly while they are on. Users are allowed to input the values into the calculator.

2. If a computer is in idle or sleep mode, the connected peripherals will fall into sleep mode too, and the peripherals may draw miniscule range of powers from 0.5 Watts to 5 Watts. Users are also allowed to input the values into the calculator.

3. To calculate the Energy Saved ("**ES**") in sleep mode, deduct the power consumptions of the peripherals in sleep mode from the power consumed in normal mode.

   E.g.: **ES** = 60W (Normal Mode) – 3W (Sleep Mode)
   $\qquad$ = 57W

4. To calculate the Time Savings ("**TS**") due to Advanced Keyboard usage, deduct the Advanced Keyboard Countdown Timer from the configured computer sleep timer, and multiplying this with the number of sleep time events in a day.

   E.g.: **TS** = [60 mins. (Sleep Timer) – 0.5 mins. (Countdown Timer)] * 6 events
   $\qquad$ = 357 mins or 5.95 hr in a day.

   Note: This calculation compares normal sleep timer configuration without the Advanced Keyboard, and the sleep time saved when the Advanced Keyboard detects user absence, signaling the computer to immediately enter sleep mode.

   Thus, precious time to save energy is not wasted by the computer waiting for the computer sleep timer to finish counting down!

5. Then the Energy Saved / day ("**ES/d**") for the devices is calculated as follows:
   ES/d (kWh) = ES * TS / 1000

   E.g.: **ES/d** = 57 W x 5.95 hr / 1000 kW/W
   $\qquad$ = 0.3392 kWh

6. The Energy Saved / year ("**ES/y**") for the devices is calculated as follows:
   ES/y (kWh) = ES/d * Active Working Days / week * 52.1429 weeks

   E.g.: **ES/y** = 0.33915 kWh/day * 5 days/week * 52.1429 weeks
   $\qquad$ = 88.42 kWh

7. The Cost Savings / day ("**CS/d**") for the devices is calculated as follows:
   CS/d ($) = ES/d * Energy Cost / kWh

   E.g.: **CS/d** = 0.3392 kWh * $0.22 / kWh
              = $0.07

8. The Cost Savings / year ("**CS/y**") for the devices is calculated as follows:
   CS/y ($) = ES/y * Energy Cost / kWh

   E.g.: **CS/y** = 88.42 kWh * $0.22 / kWh
              = $19.45