

Honeywell Commercial Power Budget Calculator

This tool assists the security system installer in determining the power requirements and recommended backup battery size for leading Honeywell commercial control panels and peripherals.

- The Commercial Power Budget Calculator was created in Microsoft Excel 2000, and requires that you have compatible software.
- Using this tool, you could specify configurations that do not make sense in the real world (e.g. VistaKey on a Vista-40). *Always check the product documentation to make sure the selected peripherals are compatible!*
- Yellow fields are user entries.
- All current entries are in milliamps (mA)
- Grayed out fields are either not appropriate for the selected panel, or are being used for background calculations.
- Cells with small red corners have comments that may be helpful; hover the mouse over those cells to view the comments.
- Warning flags appear in red (when power is overdrawn, etc.) *In case of an overdraw, you may reconfigure the installation by powering peripheral items externally, and/or by selecting lower-current peripherals.*
- The recommended battery capacity is a minimum– use the next largest available battery size (i.e. if the calculator calls for a 30.3AH battery, install a 34.4AH battery, since this is the next available battery configuration.)
- Each panel's documentation specifies the SMALLEST battery capacity that can be used (i.e. for a VISTA-32FB, the smallest battery that can be used is 12AH.) This tool has no provision for warning if the recommended battery size is smaller than the panel's minimum; refer to the panel documentation for details.

To use this tool:

1. Enter the Facility Information (facility name, account number, panel, etc.) into the area at the top center of the tool.
2. Select the requirements (UL power limits, Commercial Fire, Commercial Burg) using the check boxes at the top left of the tool.
3. Select the panel you intend to use from the <Select Panel> pulldown control on the left side of the tool.

NOTE: Depending on your selection, some peripherals (keypads, Vplex devices, etc.) may “gray out” indicating that the selected panel does not support them. If you checked the “Commercial Fire Installation checkbox in Step 2, and the selected panel is not rated for that purpose, a flag appears.

4. At the upper right corner of the tool, enter the required Standby Time (hours; typically 4 hours for burg, 24 or 60 hours for fire). Then, enter the required Alarm Time (in minutes). A Battery Contingency Factor selection to the right of this field enables you to select either 10%, 20%, or 40%. This value is used to compensate for the way a lead-acid battery changes over time. Typically, a value of 10% is standard, when standby times are over 4 hours; a value of 40% is used when the standby time is 4 hours or less. *Consult your system documentation and/or the AHJ for assistance with these requirements. The contingency factor requirement may vary by locality.*
5. Enter the items and quantities of peripherals to be used in the installation. (For devices available from numerous manufacturers, such as four-wire smoke detectors, the tool enables you to enter the device's standby and alarm current requirements. Consult the device's documentation for these values.)

Each item includes two quantities – the total number installed, and the number powered externally. This is necessary for calculating the actual load on the panel's internal power supply, and for calculating the minimum recommended battery capacity. For example, if you plan on installing two 8132 graphic keypads, enter “2” in the quantity field. If you are powering one of these keypads from an external power supply, enter “1” in the “How Many Powered Externally?” column.

6. Sounders: In the Bell/Sounders area enter the number of sounders in use and their current draw(s). If the selected panel supports two bell outputs and both are active, enter the appropriate data for both bell outputs.

If your configuration causes any of the power budgets to be overdrawn, the appropriate item quantity column(s) turn red, and flags appear. To remedy overdraw situations: a) power some items externally, or b) select items with lower current draws.

7. After specifying the panel and peripherals, you can view the minimum recommended battery capacity in the upper right area of the tool. If your configuration exceeds the maximum battery capacity for the panel, a flag appears; review the selections and either a) power some items externally, or b) select lower current items. Requirements for external UL-listed power and bell power are also shown.
8. Below the Bell/Sounders area, you will find a 12v Wire Run calculator, which works in either feet or meters.

Note that the wire lengths are “end-to-end”, meaning if you have a sounder mounted 200' from the panel, you should select the wire gauge (AWG) using the pulldown, then enter “200” for the wire run. The wire resistance is taken from engineering standard for single wires; the tool converts the actual resistance to twin lead. The current values are taken from the calculated values for your installation. If voltage drop for a particular wire run is greater than 10%, the tool flags it; either use a heavier wire gauge or a shorter wire run to get the voltage drop within bounds.

9. A check box labeled “Remove Unused Devices from List” will blank out product names for items with zero quantity; some AHJs require this.

PS24 Battery & Power Budget Calculator

The Honeywell PS24 is a 24v power supply module, used to drive 24v fire notification devices. Like the control panel, the PS24 requires load and power budget calculations; the device may also be set up to back up the control panel, which added an additional level of complexity when doing these calculations by hand.

1. The PS24 calculator section enables you to specify 24V output devices, and select which of the two PS24 outputs each device is powered by (output A or B).
2. The required battery values for the PS24 are calculated and displayed based on these settings. As the PS24 requires that two batteries of identical value be used, the software “rounds up” to the next available battery capacity.
3. The PS24 device can also be configured to power the control panel directly from its two batteries – check the appropriate box for this configuration. If powering the panel from the PS24, the main panel battery cell shows “PS24” instead of an amp-hour value. **NOTE: The PS24 is an aux powered device, and therefore must be selected in the AUXILIARY POWERED DEVICES area (line 67).**
4. A Wire Run Calculator for 24v devices appears below the PS24 calculator section. As with the 12v wire run calculator, the wire lengths are “end-to-end”; the tool converts the actual resistance to twin lead.

If voltage drop for a particular wire run is greater than 10%, the tool flags it; either use a heavier wire gauge or a shorter wire run to get the voltage drop within bounds.

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