

# uPHP Reference

uPHP functions have an identical syntax to PHP functions in most cases. Below is a list of all the functions that have been implemented.

Click on the function name for further details:

| FUNCTION NAME                    | PARAMETER(S)  | RETURN  | DESCRIPTION   |
|----------------------------------|---|---|---|
| <a href="#">adc_read</a>         | <a href="#">int</a> <a href="#">channel</a>   | <a href="#">int</a> ADC value                           | Read an onboard ADC <a href="#">channel</a>   |
| <a href="#">array</a>            | <a href="#">mixed</a> <a href="#">values</a> ...  | <a href="#">array</a>                                   | Create an <a href="#">array</a> , with optional <a href="#">values</a>                        |
| <a href="#">array_key</a>        | <a href="#">array</a> , <a href="#">int</a> <a href="#">index</a>   | <a href="#">string</a> key                              | Return the key for an <a href="#">array</a> <a href="#">index</a>                             |
| <a href="#">array_keys</a>       | <a href="#">array</a> with key/value pairs  | <a href="#">array</a> of keys                           | Return keys for an <a href="#">array</a> that has key/value pairs                             |
| <a href="#">base64_decode</a>    | <a href="#">string</a> <a href="#">base64</a>   | <a href="#">string</a> decoded or <a href="#">int</a> 0 | Decode a base64-encoded <a href="#">string</a>  |
| <a href="#">base64_encode</a>    | <a href="#">string</a> to encode  | <a href="#">string</a> base64 or <a href="#">int</a> 0  | Return the base64-encoded version of a <a href="#">string</a>                                 |
| <a href="#">call_user_func</a>   | <a href="#">string</a> <a href="#">function_name</a> , <a href="#">mixed</a> <a href="#">parameters</a> ... | <a href="#">mixed</a> result                            | Call a user defined function with optional <a href="#">parameters</a>                         |
| <a href="#">charat</a>           | <a href="#">string</a> , <a href="#">int</a> <a href="#">index</a>  | <a href="#">int</a> ASCII code                          | Return the ASCII code for a character in a <a href="#">string</a> at an <a href="#">index</a> |
| <a href="#">chdir</a>            | <a href="#">string</a> <a href="#">directory</a>  | <a href="#">int</a> 0=OK                                | Change the current directory  |
| <a href="#">chr</a>              | <a href="#">int</a> <a href="#">code</a>  | <a href="#">string</a> 1 character                      | Return the character for an ASCII <a href="#">code</a>  |
| <a href="#">cos</a>              | <a href="#">number</a> <a href="#">radian_angle</a>   | <a href="#">float</a> cosine                            | Return cosine of a <a href="#">radian_angle</a>   |
| <a href="#">debug</a>            | <a href="#">string</a> <a href="#">output</a>   |   | Print to debug output   |
| <a href="#">debugout</a>         | <a href="#">int</a> 0 or 1  |   | Enable or disable debug messages  |
| <a href="#">die</a>              |   |   | Kill the script   |
| <a href="#">disk_free_space</a>  |   | <a href="#">int</a> KiloBytes                           | Return free space on microSD card   |
| <a href="#">disk_total_space</a> |   | <a href="#">int</a> KiloBytes                           | Return total space on microSD card  |
| <a href="#">error_reporting</a>  | <a href="#">int</a> <a href="#">verbosity</a>   |   | Set the debug output level  |
| <a href="#">exec</a>             | <a href="#">string</a> <a href="#">script</a> , <a href="#">int</a> <a href="#">delay</a>                   |   | Run a <a href="#">script</a> with an optional <a href="#">delay</a>                           |
| <a href="#">exec_action</a>      | <a href="#">mixed</a> <a href="#">action</a>  | <a href="#">int</a> 1=OK                                | Triggers a manually executable <a href="#">action</a> by id or name                           |
| <a href="#">explode</a>          | <a href="#">string</a> , <a href="#">string</a> <a href="#">delimiter</a>                                   | <a href="#">array</a>                                   | Turn a <a href="#">string</a> into an <a href="#">array</a>                                   |
| <a href="#">f485open</a>         | <a href="#">int</a> <a href="#">baud</a> , <a href="#">int</a> <a href="#">parity</a>                       | <a href="#">int</a> handle or 0                         | Open the RS-485 port at the specified <a href="#">baud</a> rate and <a href="#">parity</a>    |
| <a href="#">fclose</a>           | <a href="#">int</a> <a href="#">handle</a>  |   | Close a file, stream or socket  |

| FUNCTION NAME                   | PARAMETER(S)  | RETURN   | DESCRIPTION  |
|---------------------------------|---|--|--|
| <a href="#">feof</a>            | <a href="#">int handle</a>  | <a href="#">int</a> 1 or 0                             | Test if no more data is available in a file, stream or socket  |
| <a href="#">fgets</a>           | <a href="#">int handle</a> , <a href="#">int size</a>   | <a href="#">string</a> or <a href="#">int</a> -1       | Return a single line from a file, stream or socket, with optional <a href="#">size</a> limit                   |
| <a href="#">file_exists</a>     | <a href="#">string filename</a>   | <a href="#">int</a> 1 or 0                             | Check if a file exists   |
| <a href="#">filesize</a>        | <a href="#">string filename</a> or <a href="#">int handle</a>   | <a href="#">int</a> bytes                              | Return the size of a file, or the number of unread bytes in a stream or socket                                 |
| <a href="#">findfirst</a>       | <a href="#">string pattern</a> , <a href="#">int attributes</a>   | <a href="#">array</a> first file found                 | Start searching the current folder for files matching a <a href="#">pattern</a> and <a href="#">attributes</a> |
| <a href="#">findnext</a>        |   | <a href="#">array</a> next file found                  | Return next matching file information (after a <a href="#">findfirst</a> )                                     |
| <a href="#">firmwareupdate</a>  |   |  | Initiate a firmware update sequence and reboot the device  |
| <a href="#">floatval</a>        | <a href="#">mixed value</a>   | <a href="#">float</a> value or <a href="#">int</a> 0/1 | Return the <a href="#">float</a> value of a <a href="#">number</a> or <a href="#">string</a>                   |
| <a href="#">flush</a>           | <a href="#">socket</a> socket to flush  |  | Flush current output or socket to the browser  |
| <a href="#">fopen</a>           | <a href="#">string filename</a> , <a href="#">string mode</a>   | <a href="#">int</a> handle or 0                        | Open a file for reading or writing   |
| <a href="#">fread</a>           | <a href="#">int handle</a> , <a href="#">int bytes</a>  | <a href="#">string</a> or <a href="#">int</a> 0        | Read <a href="#">bytes</a> from a file, stream or socket   |
| <a href="#">freemem</a>         |   | <a href="#">int</a> bytes                              | Return free memory space   |
| <a href="#">freestack</a>       |   | <a href="#">int</a> bytes                              | Return free stack space  |
| <a href="#">fseek</a>           | <a href="#">int handle</a> , <a href="#">int offset</a> , <a href="#">int whence</a>                              |  | Position the file pointer in an open file  |
| <a href="#">fseropen</a>        | <a href="#">int baud</a> , <a href="#">int blocking</a> , <a href="#">int invert</a> , <a href="#">int parity</a> | <a href="#">int</a> handle or 0                        | Open the serial port at the specified <a href="#">baud</a> rate with optional parameters                       |
| <a href="#">fsockopen</a>       | <a href="#">string host</a> , <a href="#">int port</a> , <a href="#">int timeout</a>                              | <a href="#">int</a> handle or 0                        | Open an internet socket connection with optional <a href="#">timeout</a>                                       |
| <a href="#">ftell</a>           | <a href="#">int handle</a>  | <a href="#">int</a> position                           | Return the current position of a file read/write pointer   |
| <a href="#">function_exists</a> | <a href="#">string function_name</a>  | <a href="#">int</a> 1 or 0                             | Check if a function exists (custom or native)  |
| <a href="#">fwrite</a>          | <a href="#">int handle</a> , <a href="#">mixed data</a> , <a href="#">int length</a>                              | <a href="#">int</a> bytes written or -1                | Write <a href="#">data</a> to a file, stream or socket   |
| <a href="#">get3gstat</a>       |   | <a href="#">array</a>                                  | Get cellular data connection status information  |
| <a href="#">getcwd</a>          |   | <a href="#">string</a> path                            | Get the current directory  |
| <a href="#">getethstat</a>      |   | <a href="#">array</a>                                  | Get Ethernet connection status information   |

| FUNCTION NAME    | PARAMETER(S)   | RETURN                   | DESCRIPTION  |
|------------------|--|--------------------------|--|
| getmac           |  | string MAC               | Get the Wattmon's MAC address  |
| getusbstat       |  | array                    | Get USB host status information  |
| header           | string header_data   |                          | Add to HTTP header   |
| htmlspecialchars | string data  | string converted         | Convert special characters for display in HTML                         |
| ieee754toint     | float value  | int representation       | Convert a float value to an IEEE-754 encoded integer (32 bit)          |
| implode          | array, string delimiter                                    | string                   | Turn an array into a string  |
| include          | string filename  |                          | Include a file within the current script at the current location       |
| indexed_array    | int type, int size   | array                    | Create an array of a specific type and size                            |
| ini_get          | string filename, string section, string key, mixed default | mixed value              | Get a value from an INI file   |
| ini_get_array    | string filename, string section                            | array                    | Get a group of parameters from an INI file as an array                 |
| ini_put_array    | string filename, array data, string section                |                          | Write a group of parameters to an INI file from an array               |
| ini_set          | string filename, string section, string key, mixed value   | int 1=OK                 | Set a value in an INI file   |
| inttoieee754     | int representation   | float value              | Convert an IEEE-754 encoded integer representation (32 bit) to a float |
| intval           | mixed value  | int value                | Return the integer value of a number or string                         |
| is_array         | mixed variable   | int 1 or 0               | Check if a variable is an array  |
| is_float         | mixed variable   | int 1 or 0               | Check if a variable is a float   |
| is_int           | mixed variable   | int 1 or 0               | Check if a variable is an integer                                      |
| is_numeric       | mixed value  | int 1 or 0               | Check if a value is numeric (int, float or numeric string)             |
| is_string        | mixed variable   | int 1 or 0               | Check if a variable is a string  |
| isset            | mixed variable   | int 1 or 0               | Check if a variable exists   |
| json_encode      | array, int method  | string                   | JSON encode an array into a string, with optional method               |
| ln               | number number  | float log <sub>e</sub>   | Return the natural logarithm of a number                               |
| log              | string output, string file                                 |                          | Print to the System Log (or optional file)                             |
| log10            | number number  | float log <sub>10</sub>  | Return the base 10 logarithm of a number                               |
| mail             | string recipient, string subject, string body              | int 0 or SMTP error code | Send an email  |

| FUNCTION NAME                         | PARAMETER(S)   | RETURN                                    | DESCRIPTION  |
|---------------------------------------|--|---|--|
| <a href="#">max_execution_time</a>    | <a href="#">int</a> <a href="#">seconds</a>  |   | Set the maximum execution time for the current script                        |
| <a href="#">mb_add_dev</a>            | <a href="#">int</a> <a href="#">id</a> , <a href="#">int</a> <a href="#">type</a> , <a href="#">string</a> <a href="#">name</a> , <a href="#">int</a> <a href="#">poll_interval</a> , <a href="#">int</a> <a href="#">status</a> | <a href="#">int</a> 0=OK                  | Add a device to the list of polled devices                                   |
| <a href="#">mb_delete_device</a>      | <a href="#">int</a> <a href="#">id</a>   | <a href="#">int</a> 1=OK                  | Delete a device from the list of active devices                              |
| <a href="#">mb_get_dev_by_id</a>      | <a href="#">int</a> <a href="#">id</a>   | <a href="#">array</a>                     | Return modbus device details by <a href="#">id</a>                           |
| <a href="#">mb_get_dev_by_index</a>   | <a href="#">int</a> <a href="#">index</a>  | <a href="#">array</a>                     | Return modbus device details by <a href="#">index</a>                        |
| <a href="#">mb_get_dev_by_name</a>    | <a href="#">string</a> <a href="#">name</a>  | <a href="#">array</a>                     | Return modbus device details by <a href="#">name</a>                         |
| <a href="#">mb_get_dev_info</a>       | <a href="#">int</a> <a href="#">type</a>   | <a href="#">array</a>                     | Return modbus device details by <a href="#">type</a>                         |
| <a href="#">mb_get_role_array</a>     |  | <a href="#">array</a>                     | Return an <a href="#">array</a> of all roles and their values                |
| <a href="#">mb_get_status_by_role</a> | <a href="#">int</a> <a href="#">role</a>   | <a href="#">int</a> 1=OK                  | Return status of the device attached to the <a href="#">role</a>             |
| <a href="#">mb_get_val_by_role</a>    | <a href="#">int</a> <a href="#">role</a>   | <a href="#">number</a>                    | Return value of the <a href="#">role</a>                                     |
| <a href="#">mb_num_devices</a>        |  | <a href="#">int</a>                       | Return number of devices on the modbus                                       |
| <a href="#">mb_queue_command</a>      | <a href="#">mixed</a> <a href="#">values</a> ...   | <a href="#">array</a> of numbers          | Queue a sequence of characters to the rs485 bus and get but ignore the reply |
| <a href="#">mb_scan_complete</a>      |  | <a href="#">int</a> 1=complete, 0=ongoing | Check to see if a modbus scan has completed                                  |
| <a href="#">mb_scan_percent</a>       |  | <a href="#">number</a> percent completed  | Return scan percentage completed   |
| <a href="#">mb_send_command</a>       | <a href="#">mixed</a> <a href="#">values</a> ...   | <a href="#">array</a> of numbers          | Send a sequence of characters to the rs485 bus and get a reply               |
| <a href="#">mb_set_dev_var</a>        | <a href="#">string</a> <a href="#">name</a> or <a href="#">int</a> <a href="#">id</a> , <a href="#">string</a> <a href="#">variable</a> , <a href="#">mixed</a> <a href="#">value</a>  | <a href="#">int</a> 1=OK                  | Set a <a href="#">variable</a> on a modbus device                            |
| <a href="#">mb_set_val_by_role</a>    | <a href="#">int</a> <a href="#">role</a> , <a href="#">number</a> <a href="#">value</a>  | <a href="#">int</a> 1=OK                  | Set a <a href="#">role value</a> on a modbus device                          |
| <a href="#">mb_start_scan</a>         | <a href="#">int</a> <a href="#">start</a> , <a href="#">int</a> <a href="#">end</a>  |   | Initiate an automatic scan of the modbus                                     |
| <a href="#">md5</a>                   | <a href="#">string</a> <a href="#">input</a>   | <a href="#">string</a> 32 characters      | Calculate the MD5 hash of a <a href="#">string</a>                           |
| <a href="#">md5_file</a>              | <a href="#">string</a> <a href="#">filename</a>  | <a href="#">string</a> 32 characters      | Calculate the MD5 hash of a file   |
| <a href="#">mem_dump</a>              |  |   | Write the current memory map to /dump.txt                                    |
| <a href="#">mem_usage</a>             |  |   | Write memory usage to standard output  |
| <a href="#">microtime</a>             |  | <a href="#">int</a> ms                    | Return the number of milliseconds since boot                                 |

| FUNCTION NAME  | PARAMETER(S)   | RETURN                           | DESCRIPTION  |
|----------------|--|----------------------------------|--|
| mkdir          | string pathname  | int 0 or error code              | Make a directory   |
| mktime         | int hour, int minute, int second, int month, int day, int year | int seconds                      | Return the Linux Timestamp for a given date and time                         |
| mqtt_publish   | string channel, string content                                 | int 1 for success or 0 for error | Publish a message to an MQTT server  |
| mqtt_subscribe | string channel, string callback                                | int 1 for success or 0 for error | Subscribe to a channel on an MQTT server                                     |
| net_disable3g  |  |                                  | Disable 3G support for the dongle  |
| net_enable3g   |  |                                  | Enable 3G support for the dongle   |
| netstat        |  | array                            | Get Ethernet information   |
| number_format  | mixed number, int digits                                       | string formatted                 | Return the string value of a number formatted to a particular precision      |
| nvrn_backup    | string filename  | int bytes written or 0=error     | Backup the contents of NVRAM to a file on the SD Card                        |
| nvrn_defrag    |  |                                  | Defragment NVRAM to optimise it  |
| nvrn_dump      |  |                                  | Dump the contents of NVRAM to standard output                                |
| nvrn_free      |  | int bytes                        | Return the number of bytes available in NVRAM                                |
| nvrn_get       | string key   | mixed value                      | Get a value from NVRAM   |
| nvrn_restore   | string filename  |                                  | Restore the contents of NVRAM from a file                                    |
| nvrn_set       | string key, string value                                       | int 1=OK                         | Set a key and value in NVRAM   |
| nvrn_unset     | string key   | int 1=OK                         | Clear a key from NVRAM   |
| ord            | string character   | int ASCII code                   | Return the ASCII code for a character  |
| ow_first       |  | array or int 0                   | Initiate a OneWire bus scan and return the address of the first device found |
| ow_next        |  | array or int 0                   | Return the address of the next OneWire device found (after an ow_first)      |
| ow_read        |  | int value or 0                   | Read a byte from the OneWire bus   |
| ow_read_temp   | array device_id  | float degrees Celsius            | Read a temperature from a device on the OneWire bus                          |
| ow_reset       |  |                                  | Reset the OneWire bus  |
| ow_write       | int value  |                                  | Write a byte to the OneWire bus  |
| phpinfo        |  | string                           | Return information about the system  |
| pin_configure  | int pin_index, int pin_type, int counter_type                  |                                  | Configure an IO pin as a digital input, output, or analog input              |
| pin_get        | int pin_index, int pin_type                                    | int value                        | Return the value of an IO pin  |

| FUNCTION NAME   | PARAMETER(S)  | RETURN                     | DESCRIPTION  |
|-----------------|---|----------------------------|--|
| pin_set         | int pin_index, int value  |                            | Set a digital output to <b>value</b> 1 or 0  |
| ping            | string host   | array                      | Send an ICMP ping and place the result in an <b>array</b>                            |
| power           | number base, number exp   | number base <sup>exp</sup> | Return <b>base</b> raised to the power of <b>exp</b>                                 |
| print           | string data   |                            | Print <b>data</b> to the current output stream such as a web page or terminal        |
| print_r         | array   |                            | Dump the contents of an <b>array</b> to the current output                           |
| printf          | string format, mixed values ...   |                            | Print a formatted <b>string</b> to standard output                                   |
| process_kill    | int pid   |                            | Send a kill request to a process   |
| process_list    |   | array                      | Return an <b>array</b> of the currently running scripts                              |
| rand            | int min, int max  | int                        | Return a random <b>integer</b> between <b>min</b> and <b>max</b>                     |
| reboot          |   |                            | Reboot the processor   |
| rename          | string source, string destination   | int 0 or error code        | Rename or move a file or directory from <b>source</b> to <b>destination</b>          |
| reset           |   |                            | Reset the processor  |
| rmdir           | string pathname, int delete_contents  | int 0=OK                   | Remove a directory, with optional deletion of contents                               |
| send_sms        | string phone_number, <span style="color:green">&lt;span style="color:green"&gt;string&lt;span style="color:blue"&gt;message&lt;/html&gt;</span> | int result                 | sends an sms through a cellular dongle   |
| session_destroy |   |                            | Clear the current session's data   |
| session_is_new  |   | int                        | Check if a session was just initiated  |
| session_start   |   |                            | Initiate a new session and send the cookie data for it                               |
| set_search_path | string pathname   |                            | Set the search path for the telnet client  |
| setethpower     | int state   |                            | Enable or disable the ethernet controller  |
| setpriority     | int priority  |                            | Set the <b>priority</b> of the current script  |
| settime         | int timestamp, int calibration  |                            | Set the system time from a Linux <b>Timestamp</b> , with optional <b>calibration</b> |
| setusbpower     | int state   |                            | Enable or disable USB power  |

| FUNCTION NAME | PARAMETER(S)   | RETURN                 | DESCRIPTION   |
|---------------|--|------------------------|---|
| sha1          | string input   | string 40 characters   | Calculate the SHA1 hash of a string                                   |
| sin           | number radian_angle                                  | float sine             | Return sine of a radian_angle   |
| sizeof        | array  | int number of elements | Return the number of elements in an array                             |
| sleep         | int ms   |                        | Sleep for specified milliseconds                                      |
| spi_clearcs   |  |                        | Clear the CS output of the SPI bus                                    |
| spi_read      |  | int byte               | Read a byte from the SPI bus  |
| spi_setcs     |  |                        | Set the CS output of the SPI bus                                      |
| spi_write     | int byte   |                        | Write a byte to the SPI bus   |
| sprintf       | string format, mixed values ...                      | string formatted       | Return a formatted string   |
| sqr           | number number  | number squared         | Return the square of a number   |
| sqrt          | number number  | number square root     | Return the square root of a number                                    |
| stats         |  | array                  | Return system statistics  |
| strftime      | string format, int timestamp                         | string formatted       | Format a Linux Timestamp using a format string                        |
| strlen        | string input   | int length             | Return the length of a string   |
| strpos        | string haystack, string needle                       | int position or -1     | Return the position of the first occurrence of a needle in a haystack |
| strrpos       | string haystack, string needle                       | int position or -1     | Return the position of the last occurrence of a needle in a haystack  |
| strtolower    | string input   | string lowercase       | Return the lowercase version of a string                              |
| strtoupper    | string input   | string UPPERCASE       | Return the UPPERCASE version of a string                              |
| strval        | mixed value  | string                 | Return the string equivalent of a number                              |
| substr        | string input, int start, int length                  | string substring       | Return part of a string   |
| tar_finish    | int handle   | int 1=OK               | Add the ending header to a TAR file                                   |
| tar_put       | int handle, string src_pathname, string tar_pathname | int 1=OK               | Add a file to an open file in TAR format                              |
| time          |  | int seconds            | Return the current system timestamp                                   |
| timefromfat   | int filetime   | int seconds            | Convert a FAT filetime to a Linux Timestamp                           |
| ucfirst       | string input   | string Lowercase       | Convert a string to Lowercase except for the first character          |
| unlink        | string filename                                      | int 0 or error code    | Remove a file (delete it)   |

| FUNCTION NAME | PARAMETER(S)                   | RETURN   | DESCRIPTION   |
|---------------|--------------------------------|----------|---|
| untar         | string filename, int verbosity | int 1=OK | Expand a TAR file into the current folder, optionally verbose |
| uptime        |                                | int ms   | Return the uptime in milliseconds                             |

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