

# 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.

Certain additional functions are available as WattmonOS include files. For a list of these see [library\\_functions](#).

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="#">aes_decrypt</a>	<a href="#">string</a> <a href="#">text</a> , <a href="#">int</a> <a href="#">length</a> , <a href="#">string</a> <a href="#">key</a> , <a href="#">string</a> <a href="#">iv</a>	string with data	Return an AES-decrypted string
<a href="#">aes_encrypt</a>	<a href="#">string</a> <a href="#">text</a> , <a href="#">int</a> <a href="#">length</a> , <a href="#">string</a> <a href="#">key</a> , <a href="#">string</a> <a href="#">iv</a>	string with data	Return an AES-encrypted string
<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> <a href="#">key</a>	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="#">array_resize</a>	<a href="#">array</a> indexed array, <a href="#">int</a> <a href="#">length</a>	none	Resize indexed <a href="#">array</a>
<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="#">clear_watchdog</a>			Clear the software watchdog timer
<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> <a href="#">drive</a>	<a href="#">int</a> KiloBytes	Return free space on drive
<a href="#">disk_status</a>	<a href="#">int</a> <a href="#">drive</a>	<a href="#">int</a> Status	Return mount status of drive
<a href="#">disk_total_space</a>	<a href="#">int</a> <a href="#">drive</a>	<a href="#">int</a> KiloBytes	Return total space on drive
<a href="#">download</a>	<a href="#">string</a> <a href="#">url</a>	<a href="#">int</a> res	Download a file in the background
<a href="#">download_info</a>		<a href="#">array</a> info	Get info about ongoing download
<a href="#">download_state</a>		<a href="#">int</a> status	Get state of download
<a href="#">error_reporting</a>	<a href="#">int</a> <a href="#">verbosity</a>		Set the debug output level
<a href="#">ereg</a>	<a href="#">string</a> <a href="#">pattern</a> , <a href="#">string</a> <a href="#">content</a> [, & <a href="#">array</a> <a href="#">matches</a> ]	<a href="#">int</a>	Perform a regex operation

FUNCTION NAME	PARAMETER(S)	RETURN	DESCRIPTION
<a href="#">exec</a>	<a href="#">string script</a> , <a href="#">int delay</a>		Run a <a href="#">script</a> with an optional <a href="#">delay</a>
<a href="#">exec_action</a>	<a href="#">mixed 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 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 baud</a> , <a href="#">int 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 handle</a>		Close a file, stream or socket
<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 findfirst)
<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="#">fread_unpack</a>	<a href="#">int handle</a> , <a href="#">string format</a> , <a href="#">int count</a> , <a href="#">int interval</a>	<a href="#">number</a>	Write contents of an indexed array to a file in binary
<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="#">ftp_command</a>	<a href="#">string result</a>	<a href="#">string</a> command]	Send an FTP command
<a href="#">ftp_close</a>	<a href="#">int result</a>		Close an active connection with FTP server

ftp_download	int result	string remote_file, string local_file, [int position]	Initiate a download of a remote file
ftp_error	int result		Get last FTP response code
ftp_is_busy	int result		Check if the FTP engine is busy
ftp_is_connected	int result		Check if the FTP connection is active
ftp_is_connecting	int result		Check if the FTP connection is in the process of connecting
ftp_list	int result	string folder, string output_file	Lists a folder on the FTP server and outputs the result to the specified file
ftp_open	int result	string host, int port, string username, string password, int keepalive, int ignore_reply	Open a connection to an FTP server
ftp_size	int size	string filename	Get the file size of a file on the FTP server
ftp_status	array status		
ftp_upload	int result	string remote_file, string local_file, [int position]	Initiate an upload of a file
function_exists	string function_name	int 1 or 0	Check if a function exists (custom or native)
fwrite	int handle, mixed data, int length	int bytes written or -1	Write data to a file, stream or socket
fwrite_pack	int handle, array data, int length	number	Write contents of an indexed array to a file in binary
get3gstat		array	Get cellular data connection status information
getcwd		string path	Get the current directory
getethstat		array	Get Ethernet connection status information
getmac		string MAC	Get the Wattmon's MAC address
gettype	any variable	string type	Get a variable type as a string
getusbstat		array	Get USB host status information
getwifistat		array	Get WIFI status information
header	string header_data		Add to HTTP header
hash_hmac	string algorithm, string data, string key	string converted	Generate a keyed hash value using the HMAC method
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

<a href="#">indexed_array</a>	<a href="#">int type</a> , <a href="#">int size</a>	<a href="#">array</a>	Create an <a href="#">array</a> of a specific <a href="#">type</a> and <a href="#">size</a>
<a href="#">ini_get</a>	<a href="#">string filename</a> , <a href="#">string section</a> , <a href="#">string key</a> , <a href="#">mixed default</a>	<a href="#">mixed value</a>	Get a value from an INI file
<a href="#">ini_get_array</a>	<a href="#">string filename</a> , <a href="#">string section</a>	<a href="#">array</a>	Get a group of parameters from an INI file as an <a href="#">array</a>
<a href="#">ini_put_array</a>	<a href="#">string filename</a> , <a href="#">array data</a> , <a href="#">string section</a>		Write a group of parameters to an INI file from an <a href="#">array</a>
<a href="#">ini_set</a>	<a href="#">string filename</a> , <a href="#">string section</a> , <a href="#">string key</a> , <a href="#">mixed value</a>	<a href="#">int 1=OK</a>	Set a <a href="#">value</a> in an INI file
<a href="#">init_watchdog</a>	<a href="#">int interval</a>		Initialize the software watchdog timer
<a href="#">inttoieee754</a>	<a href="#">int representation</a>	<a href="#">float value</a>	Convert an IEEE-754 encoded <a href="#">integer representation</a> (32 bit) to a <a href="#">float</a>
<a href="#">intval</a>	<a href="#">mixed value</a>	<a href="#">int value</a>	Return the <a href="#">integer</a> value of a <a href="#">number</a> or <a href="#">string</a>
<a href="#">is_array</a>	<a href="#">mixed variable</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">variable</a> is an <a href="#">array</a>
<a href="#">is_float</a>	<a href="#">mixed variable</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">variable</a> is a <a href="#">float</a>
<a href="#">is_int</a>	<a href="#">mixed variable</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">variable</a> is an <a href="#">integer</a>
<a href="#">is_numeric</a>	<a href="#">mixed value</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">value</a> is numeric ( <a href="#">int</a> , <a href="#">float</a> or numeric <a href="#">string</a> )
<a href="#">is_string</a>	<a href="#">mixed variable</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">variable</a> is a <a href="#">string</a>
<a href="#">isset</a>	<a href="#">mixed variable</a>	<a href="#">int 1 or 0</a>	Check if a <a href="#">variable</a> exists
<a href="#">json_encode</a>	<a href="#">array</a> , <a href="#">int method</a>	<a href="#">string</a>	JSON encode an <a href="#">array</a> into a <a href="#">string</a> , with optional <a href="#">method</a>
<a href="#">ln</a>	<a href="#">number number</a>	<a href="#">float log<sub>e</sub></a>	Return the natural logarithm of a <a href="#">number</a>
<a href="#">log</a>	<a href="#">string output</a> , <a href="#">string file</a>		Print to the System Log (or optional <a href="#">file</a> )
<a href="#">log10</a>	<a href="#">number number</a>	<a href="#">float log<sub>10</sub></a>	Return the base 10 logarithm of a <a href="#">number</a>
<a href="#">mail</a>	<a href="#">string recipient</a> , <a href="#">string subject</a> , <a href="#">string body</a>	<a href="#">int 0 or SMTP error code</a>	Send an email [deprecated]
<a href="#">max_execution_time</a>	<a href="#">int seconds</a>		Set the maximum execution time for the current script
<a href="#">mb_add_dev</a>	<a href="#">int id</a> , <a href="#">int type</a> , <a href="#">string name</a> , <a href="#">int poll_interval</a> , <a href="#">int status</a> , <a href="#">int bus</a>	<a href="#">int 0=OK</a>	Add a device to the list of polled devices
<a href="#">mb_delete_dev</a>	<a href="#">int id</a>	<a href="#">int 1=OK</a>	Delete a device from the list of active devices
<a href="#">mb_get_dev_by_id</a>	<a href="#">int 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 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 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> type	<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> role	<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> role	<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> values ...	<a href="#">array</a> of numbers	Queue a sequence of characters to the RS-485 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> values ...	<a href="#">array</a> of numbers	Send a sequence of characters to the RS-485 bus and get a reply
<a href="#">mb_set_dev_var</a>	<a href="#">string</a> name or <a href="#">int</a> id, <a href="#">string</a> variable, <a href="#">mixed</a> value	<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> role, <a href="#">number</a> value	<a href="#">int</a> 1=OK	Set a <a href="#">role</a> <a href="#">value</a> on a modbus device
<a href="#">mb_start_scan</a>	<a href="#">int</a> start, <a href="#">int</a> end		Initiate an automatic scan of the modbus
<a href="#">md5</a>	<a href="#">string</a> input	<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> filename	<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
<a href="#">mkdir</a>	<a href="#">string</a> pathname	<a href="#">int</a> 0 or error code	Make a directory
<a href="#">mktime</a>	<a href="#">int</a> hour, <a href="#">int</a> minute, <a href="#">int</a> second, <a href="#">int</a> month, <a href="#">int</a> day, <a href="#">int</a> year	<a href="#">int</a> seconds	Return the Linux Timestamp for a given date and time
<a href="#">mqtt_disconnect</a>			Disconnect MQTT connection
<a href="#">mqtt_publish</a>	<a href="#">string</a> channel, <a href="#">string</a> content	<a href="#">int</a> 1 for success or 0 for error	Publish a message to an MQTT server
<a href="#">mqtt_subscribe</a>	<a href="#">string</a> channel, <a href="#">string</a> callback	<a href="#">int</a> 1 for success or 0 for error	Subscribe to a channel on an MQTT server
<a href="#">mqttstat</a>		<a href="#">array</a> array with connection status	Get MQTT Connection status
<a href="#">net_disable3g</a>			Disable 3G support for the dongle
<a href="#">net_enable3g</a>			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
pack	string format, mixed value	string	Pack a value into a string
phpinfo		string	Return information about the system
pin_configure	int pin_index, int pin_type, int counter_type		Configure an I/O pin as a digital input, output, or analog input
pin_get	int pin_index, int pin_type	int value	Return the value of an I/O pin
pin_set	int pin_index, int value		Set a digital output to value 1 or 0
ping	string host	array	Send an ICMP ping and place the result in an array
power	number base, number exp	number base <sup>exp</sup>	Return base raised to the power of exp
print	string data		Print data to the current output stream such as a web page or terminal
print_r	array		Dump the contents of an array to the current output

printf	string format, mixed values ...		Print a formatted string to standard output
process_kill	int pid		Send a kill request to a process
process_list		array	Return an array of the currently running scripts
rand	int min, int max	int	Return a random integer between min and max
reboot			Reboot the processor
register_callback	string callback_type, string filename, string functionname	int 0 or error code	Register a callback function for system events
rename	string source, string destination	int 0 or error code	Rename or move a file or directory from source to destination
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, string message	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
native_set_cert_key	string key, string cert		Set a custom certificate encryption key
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 priority of the current script
settime	int timestamp, int calibration		Set the system time from a Linux Timestamp, with optional calibration
setusbpower	int state		Enable or disable USB power
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
snmp_trap_send	string message	int 0 or 1	Send an SNMP trap message with ASCII content of source
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
str_replace	string search, string replace, string subject,[int &count]	string result	Return the string with each occurrence of search replaced with replace
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
trim	string input	string trimmed	Return the trimmed string
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)
untar	string filename, int verbosity	int 1=OK	Expand a TAR file into the current folder, optionally verbose
unpack	string format, string value	number	Unpack a packed string value and return the original data
uptime		int ms	Return the uptime in milliseconds
urldecode	string str	string string to encode	URL-Decode a string
urlencode	string str	string encoded string	URL-Encode a string
wifi_disable			Disable Wifi module
wifi_enable			Enable Wifi module



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