

# 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="#">aes_decrypt</a>      | <a href="#">string</a> text, <a href="#">int</a> length, <a href="#">string</a> key, <a href="#">string</a> iv | string with data  | Return an AES-decrypted string  |
| <a href="#">aes_encrypt</a>      | <a href="#">string</a> text, <a href="#">int</a> length, <a href="#">string</a> key, <a href="#">string</a> iv | string with data  | Return an AES-encrypted string  |
| <a href="#">array</a>            | <a href="#">mixed</a> values ...   | <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> index  | <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> base64  | <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> function_name, <a href="#">mixed</a> parameters ...                                     | <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> index   | <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> directory   | <a href="#">int</a> 0=OK                                | Change the current directory  |
| <a href="#">chr</a>              | <a href="#">int</a> code   | <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> output  |   | 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> drive  | <a href="#">int</a> KiloBytes                           | Return free space on drive  |
| <a href="#">disk_status</a>      | <a href="#">int</a> drive  | <a href="#">int</a> Status                              | Return mount status of drive  |
| <a href="#">disk_total_space</a> | <a href="#">int</a> drive  | <a href="#">int</a> KiloBytes                           | Return total space on drive   |
| <a href="#">error_reporting</a>  | <a href="#">int</a> verbosity  |   | Set the debug output level  |
| <a href="#">exec</a>             | <a href="#">string</a> script, <a href="#">int</a> delay   |   | Run a <a href="#">script</a> with an optional <a href="#">delay</a>                           |
| <a href="#">exec_action</a>      | <a href="#">mixed</a> action   | <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> delimiter  | <a href="#">array</a>                                   | Turn a <a href="#">string</a> into an <a href="#">array</a>                                   |
| <a href="#">f485open</a>         | <a href="#">int</a> baud, <a href="#">int</a> parity   | <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>    |

| FUNCTION NAME                     | PARAMETER(S)  | RETURN  | DESCRIPTION  |
|-----------------------------------|---|---|--|
| <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 <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="#">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   |
| <a href="#">ftp_download</a>      | <a href="#">int result</a>  | <a href="#">string</a> remote_file, <a href="#">string</a> local_file,[ <a href="#">int</a> position] | Initiate a download of a remote file   |
| <a href="#">ftp_error</a>         | <a href="#">int result</a>  |   | Get last FTP response code   |
| <a href="#">ftp_is_busy</a>       | <a href="#">int result</a>  |   | Check if the FTP engine is busy  |
| <a href="#">ftp_is_connected</a>  | <a href="#">int result</a>  |   | Check if the FTP connection is active  |
| <a href="#">ftp_is_connecting</a> | <a href="#">int result</a>  |   | Check if the FTP connection is in the process of connecting  |

| FUNCTION NAME                    | PARAMETER(S)  | RETURN  | DESCRIPTION   |
|----------------------------------|---|---|---|
| <a href="#">ftp_list</a>         | <a href="#">int result</a>  | <a href="#">string</a> folder, <a href="#">string</a> output_file   | Lists a folder on the FTP server and outputs the result to the specified file                 |
| <a href="#">ftp_open</a>         | <a href="#">int result</a>  | <a href="#">string</a> host, <a href="#">int</a> port, <a href="#">string</a> username, <a href="#">string</a> password | Open a connection to an FTP server  |
| <a href="#">ftp_size</a>         | <a href="#">int size</a>  | <a href="#">string</a> filename   | Get the file size of a file on the FTP server   |
| <a href="#">ftp_status</a>       | <a href="#">array status</a>  |   |   |
| <a href="#">ftp_upload</a>       | <a href="#">int result</a>  | <a href="#">string</a> remote_file, <a href="#">string</a> local_file, [ <a href="#">int</a> position]                  | Initiate an upload of a file  |
| <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  |
| <a href="#">getmac</a>           |   | <a href="#">string</a> MAC  | Get the Wattmon's MAC address   |
| <a href="#">getusbstat</a>       |   | <a href="#">array</a>   | Get USB host status information   |
| <a href="#">getwifistat</a>      |   | <a href="#">array</a>   | Get WIFI status information   |
| <a href="#">header</a>           | <a href="#">string header_data</a>  |   | Add to HTTP header  |
| <a href="#">hash_hmac</a>        | <a href="#">string algorithm</a> , <a href="#">string data</a> , <a href="#">string key</a>                                   | <a href="#">string</a> converted  | Generate a keyed hash value using the HMAC method   |
| <a href="#">htmlspecialchars</a> | <a href="#">string data</a>   | <a href="#">string</a> converted  | Convert special characters for display in HTML  |
| <a href="#">ieee754toint</a>     | <a href="#">float value</a>   | <a href="#">int</a> representation  | Convert a <a href="#">float value</a> to an IEEE-754 encoded <a href="#">integer</a> (32 bit) |
| <a href="#">implode</a>          | <a href="#">array</a> , <a href="#">string delimiter</a>  | <a href="#">string</a>  | Turn an <a href="#">array</a> into a <a href="#">string</a>                                   |
| <a href="#">include</a>          | <a href="#">string filename</a>   |   | 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</a> value   | 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</a> 1=OK  | 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  |

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|---------------------------------------|---|--|---|
| <a href="#">inttoieee754</a>          | <a href="#">int</a> representation  | <a href="#">float</a> value              | 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</a> value   | <a href="#">int</a> value                | 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</a> variable  | <a href="#">int</a> 1 or 0               | Check if a <a href="#">variable</a> is an <a href="#">array</a>   |
| <a href="#">is_float</a>              | <a href="#">mixed</a> variable  | <a href="#">int</a> 1 or 0               | Check if a <a href="#">variable</a> is a <a href="#">float</a>  |
| <a href="#">is_int</a>                | <a href="#">mixed</a> variable  | <a href="#">int</a> 1 or 0               | Check if a <a href="#">variable</a> is an <a href="#">integer</a>   |
| <a href="#">is_numeric</a>            | <a href="#">mixed</a> value   | <a href="#">int</a> 1 or 0               | 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</a> variable  | <a href="#">int</a> 1 or 0               | Check if a <a href="#">variable</a> is a <a href="#">string</a>   |
| <a href="#">isset</a>                 | <a href="#">mixed</a> variable  | <a href="#">int</a> 1 or 0               | Check if a <a href="#">variable</a> exists  |
| <a href="#">json_encode</a>           | <a href="#">array</a> , <a href="#">int</a> method  | <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</a> <a href="#">number</a>   | <a href="#">float</a> log <sub>e</sub>   | Return the natural logarithm of a <a href="#">number</a>  |
| <a href="#">log</a>                   | <a href="#">string</a> output, <a href="#">string</a> file  |  | Print to the System Log (or optional <a href="#">file</a> )   |
| <a href="#">log10</a>                 | <a href="#">number</a> <a href="#">number</a>   | <a href="#">float</a> log <sub>10</sub>  | Return the base 10 logarithm of a <a href="#">number</a>  |
| <a href="#">mail</a>                  | <a href="#">string</a> recipient, <a href="#">string</a> subject, <a href="#">string</a> body   | <a href="#">int</a> 0 or SMTP error code | Send an email [deprecated]  |
| <a href="#">max_execution_time</a>    | <a href="#">int</a> seconds   |  | Set the maximum execution time for the current script   |
| <a href="#">mb_add_dev</a>            | <a href="#">int</a> id, <a href="#">int</a> type, <a href="#">string</a> name, <a href="#">int</a> poll_interval, <a href="#">int</a> status, <a href="#">int</a> bus | <a href="#">int</a> 0=OK                 | Add a device to the list of polled devices  |
| <a href="#">mb_delete_dev</a>         | <a href="#">int</a> id  | <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> id  | <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> index   | <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> name   | <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   |

| FUNCTION NAME                      | PARAMETER(S)   | RETURN   | DESCRIPTION   |
|------------------------------------|--|--|---|
| <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 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  |
| <a href="#">netstat</a>            |  | <a href="#">array</a>                              | Get Ethernet information  |
| <a href="#">number_format</a>      | <a href="#">mixed</a> number, <a href="#">int</a> digits   | <a href="#">string</a> formatted                   | Return the <a href="#">string</a> value of a <a href="#">number</a> formatted to a particular precision |
| <a href="#">nvram_backup</a>       | <a href="#">string</a> filename  | <a href="#">int</a> bytes written or 0=error       | Backup the contents of <u>NVRAM</u> to a file on the SD Card  |
| <a href="#">nvram_defrag</a>       |  |  | Defragment <u>NVRAM</u> to optimise it  |
| <a href="#">nvram_dump</a>         |  |  | Dump the contents of <u>NVRAM</u> to standard output  |
| <a href="#">nvram_free</a>         |  | <a href="#">int</a> bytes                          | Return the number of bytes available in <u>NVRAM</u>  |

| FUNCTION NAME                 | PARAMETER(S)  | RETURN   | DESCRIPTION   |
|-------------------------------|---|--|---|
| <a href="#">nvram_get</a>     | <a href="#">string</a> <a href="#">key</a>  | <a href="#">mixed</a> value                                | Get a value from <a href="#">NVRAM</a>  |
| <a href="#">nvram_restore</a> | <a href="#">string</a> <a href="#">filename</a>   |  | Restore the contents of <a href="#">NVRAM</a> from a file                                   |
| <a href="#">nvram_set</a>     | <a href="#">string</a> <a href="#">key</a> , <a href="#">string</a> <a href="#">value</a>   | <a href="#">int</a> 1=OK                                   | Set a <a href="#">key</a> and <a href="#">value</a> in <a href="#">NVRAM</a>                |
| <a href="#">nvram_unset</a>   | <a href="#">string</a> <a href="#">key</a>  | <a href="#">int</a> 1=OK                                   | Clear a <a href="#">key</a> from <a href="#">NVRAM</a>                                      |
| <a href="#">ord</a>           | <a href="#">string</a> <a href="#">character</a>  | <a href="#">int</a> ASCII code                             | Return the ASCII code for a <a href="#">character</a>                                       |
| <a href="#">ow_first</a>      |   | <a href="#">array</a> or <a href="#">int</a> 0             | Initiate a OneWire bus scan and return the address of the first device found                |
| <a href="#">ow_next</a>       |   | <a href="#">array</a> or <a href="#">int</a> 0             | Return the address of the next OneWire device found (after an <a href="#">ow_first</a> )    |
| <a href="#">ow_read</a>       |   | <a href="#">int</a> value or 0                             | Read a byte from the OneWire bus  |
| <a href="#">ow_read_temp</a>  | <a href="#">array</a> <a href="#">device_id</a>   | <a href="#">float</a> degrees Celsius                      | Read a temperature from a device on the OneWire bus   |
| <a href="#">ow_reset</a>      |   |  | Reset the OneWire bus   |
| <a href="#">ow_write</a>      | <a href="#">int</a> <a href="#">value</a>   |  | Write a byte to the OneWire bus   |
| <a href="#">pack</a>          | <a href="#">string</a> <a href="#">format</a> , <a href="#">mixed</a> <a href="#">value</a>   | <a href="#">string</a>                                     | Pack a value into a <a href="#">string</a>  |
| <a href="#">phpinfo</a>       |   | <a href="#">string</a>                                     | Return information about the system   |
| <a href="#">pin_configure</a> | <a href="#">int</a> <a href="#">pin_index</a> , <a href="#">int</a> <a href="#">pin_type</a> , <a href="#">int</a> <a href="#">counter_type</a> |  | Configure an <a href="#">I/O</a> pin as a digital input, output, or analog input            |
| <a href="#">pin_get</a>       | <a href="#">int</a> <a href="#">pin_index</a> , <a href="#">int</a> <a href="#">pin_type</a>  | <a href="#">int</a> value                                  | Return the value of an <a href="#">I/O</a> pin  |
| <a href="#">pin_set</a>       | <a href="#">int</a> <a href="#">pin_index</a> , <a href="#">int</a> <a href="#">value</a>   |  | Set a digital output to <a href="#">value</a> 1 or 0  |
| <a href="#">ping</a>          | <a href="#">string</a> <a href="#">host</a>   | <a href="#">array</a>                                      | Send an ICMP ping and place the result in an <a href="#">array</a>                          |
| <a href="#">power</a>         | <a href="#">number</a> <a href="#">base</a> , <a href="#">number</a> <a href="#">exp</a>  | <a href="#">number</a> <a href="#">base</a> <sup>exp</sup> | Return <a href="#">base</a> raised to the power of <a href="#">exp</a>                      |
| <a href="#">print</a>         | <a href="#">string</a> <a href="#">data</a>   |  | Print <a href="#">data</a> to the current output stream such as a web page or terminal      |
| <a href="#">print_r</a>       | <a href="#">array</a>   |  | Dump the contents of an <a href="#">array</a> to the current output                         |
| <a href="#">printf</a>        | <a href="#">string</a> <a href="#">format</a> , <a href="#">mixed</a> <a href="#">values</a> ...  |  | Print a formatted <a href="#">string</a> to standard output                                 |
| <a href="#">process_kill</a>  | <a href="#">int</a> <a href="#">pid</a>   |  | Send a kill request to a process  |
| <a href="#">process_list</a>  |   | <a href="#">array</a>                                      | Return an <a href="#">array</a> of the currently running scripts                            |
| <a href="#">rand</a>          | <a href="#">int</a> <a href="#">min</a> , <a href="#">int</a> <a href="#">max</a>   | <a href="#">int</a>  | Return a random <a href="#">integer</a> between <a href="#">min</a> and <a href="#">max</a> |
| <a href="#">reboot</a>        |   |  | Reboot the processor  |

| FUNCTION NAME     | PARAMETER(S)   | RETURN                 | DESCRIPTION  |
|-------------------|--|------------------------|--|
| 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 <a href="#">source</a> to <a href="#">destination</a>          |
| 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   |
| 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 <a href="#">priority</a> of the current script   |
| settime           | int timestamp, int calibration                             |                        | Set the system time from a Linux <a href="#">Timestamp</a> , with optional <a href="#">calibration</a> |
| setusbpower       | int state  |                        | Enable or disable USB power  |
| sha1              | string input   | string 40 characters   | Calculate the SHA1 hash of a <a href="#">string</a>  |
| sin               | number radian_angle  | float sine             | Return sine of a <a href="#">radian_angle</a>  |
| sizeof            | array  | int number of elements | Return the number of elements in an <a href="#">array</a>  |
| 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 <a href="#">source</a>                                 |
| spi_clearcs       |  |                        | Clear the CS output of the <a href="#">SPI</a> bus   |
| spi_read          |  | int byte               | Read a byte from the <a href="#">SPI</a> bus   |
| spi_setcs         |  |                        | Set the CS output of the <a href="#">SPI</a> bus   |
| spi_write         | int byte   |                        | Write a <a href="#">byte</a> to the <a href="#">SPI</a> bus  |
| sprintf           | string format, mixed values ...                            | string formatted       | Return a formatted <a href="#">string</a>  |
| sqr               | number number  | number squared         | Return the square of a <a href="#">number</a>  |
| sqrt              | number number  | number square root     | Return the square root of a <a href="#">number</a>   |
| stats             |  | array                  | Return system statistics   |
| strftime          | string format, int timestamp                               | string formatted       | Format a Linux <a href="#">Timestamp</a> using a <a href="#">format string</a>                         |
| strlen            | string input   | int length             | Return the length of a <a href="#">string</a>  |
| strpos            | string haystack, string needle                             | int position or -1     | Return the position of the first occurrence of a <a href="#">needle</a> in a <a href="#">haystack</a>  |
| strrpos           | string haystack, string needle                             | int position or -1     | Return the position of the last occurrence of a <a href="#">needle</a> in a <a href="#">haystack</a>   |



|                              |  |   |  |
|------------------------------|--|---|--|
| <a href="#">strtolower</a>   | <a href="#">string</a> <a href="#">input</a>   | <a href="#">string</a> lowercase        | Return the lowercase version of a <a href="#">string</a>                     |
| <a href="#">strtoupper</a>   | <a href="#">string</a> <a href="#">input</a>   | <a href="#">string</a> UPPERCASE        | Return the UPPERCASE version of a <a href="#">string</a>                     |
| <a href="#">strval</a>       | <a href="#">mixed</a> <a href="#">value</a>  | <a href="#">string</a>                  | Return the <a href="#">string</a> equivalent of a <a href="#">number</a>     |
| <a href="#">substr</a>       | <a href="#">string</a> <a href="#">input</a> , <a href="#">int</a> <a href="#">start</a> , <a href="#">int</a> <a href="#">length</a>                  | <a href="#">string</a> substring        | Return part of a <a href="#">string</a>                                      |
| <a href="#">tar_finish</a>   | <a href="#">int</a> <a href="#">handle</a>   | <a href="#">int</a> 1=OK                | Add the ending header to a TAR file  |
| <a href="#">tar_put</a>      | <a href="#">int</a> <a href="#">handle</a> , <a href="#">string</a> <a href="#">src_pathname</a> , <a href="#">string</a> <a href="#">tar_pathname</a> | <a href="#">int</a> 1=OK                | Add a file to an open file in TAR format                                     |
| <a href="#">time</a>         |  | <a href="#">int</a> seconds             | Return the current system timestamp  |
| <a href="#">timefromfat</a>  | <a href="#">int</a> <a href="#">filetime</a>   | <a href="#">int</a> seconds             | Convert a FAT <a href="#">filetime</a> to a Linux Timestamp                  |
| <a href="#">trim</a>         | <a href="#">string</a> <a href="#">input</a>   | <a href="#">string</a> trimmed          | Return the trimmed <a href="#">string</a>                                    |
| <a href="#">ucfirst</a>      | <a href="#">string</a> <a href="#">input</a>   | <a href="#">string</a> Lowercase        | Convert a <a href="#">string</a> to Lowercase except for the first character |
| <a href="#">unlink</a>       | <a href="#">string</a> <a href="#">filename</a>  | <a href="#">int</a> 0 or error code     | Remove a file (delete it)  |
| <a href="#">untar</a>        | <a href="#">string</a> <a href="#">filename</a> , <a href="#">int</a> <a href="#">verbosity</a>  | <a href="#">int</a> 1=OK                | Expand a TAR file into the current folder, optionally verbose                |
| <a href="#">unpack</a>       | <a href="#">string</a> <a href="#">format</a> , <a href="#">string</a> <a href="#">value</a>   | <a href="#">number</a>                  | Unpack a packed string value and return the original data                    |
| <a href="#">uptime</a>       |  | <a href="#">int</a> ms                  | Return the uptime in milliseconds  |
| <a href="#">urldecode</a>    | <a href="#">string</a> <a href="#">str</a>   | <a href="#">string</a> string to encode | URL-Decode a string  |
| <a href="#">urlencode</a>    | <a href="#">string</a> <a href="#">str</a>   | <a href="#">string</a> encoded string   | URL-Encode a string  |
| <a href="#">wifi_disable</a> |  |   | Disable Wifi module  |
| <a href="#">wifi_enable</a>  |  |   | Enable Wifi module   |

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