Kasa Integration Installation, Reference, and Troubleshooting

Hubitat Installation Instructions	
Note	These instructions are based on a manual installation from the GitHub Site. A pdf copy of these instructions are contained at the GitHub location: "https://github.com/DaveGut/Hubitat-TP-Link-Integration"
Note	You must first install the device using the TP-Link Kasa Application. That is the only way to connect the device to the local LAN.
Caution	For the HS300 6-outlet multi-plug, the Kasa names for the outlets must not exceed 96 characters (about 16 characters per outlet). This is due to Hubitat comms limitation of a single return packet from the device. This limitation does not exist if you choose a cloud implementation.
1	Load the Application and Data Files onto your Hubitat System.
	a. Hubitat Package Manager: * Search By Keyword: "Kasa". * Package: Kasa Device Integration (the other package is deprecated and available for updates)
	b. Go to GitHub Site and manually download files (see below) Link: https://github.com/DaveGut/HubitatActive/tree/master/KasaDevices
	* Integration Application: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/Application/KasaIntegrationApp.groovy
	* Plug Switch Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/Plug-Switch.groovy
	* Energy Monitor Plug Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/EM-Plug.groovy
	* Dimming Switch Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/DimmingSwitch.groovy
	* Multi Plug Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/Multi-Plug.groovy
	* Energy Monitor Multi Plug Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/EM-Multi-Plug.groovy
	* Color Bulb Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/ColorBulb.groovy
	* Color Temperature Bulb Driver: https://raw.githubusercontent.com/DaveGut/HubitatActive/master/KasaDevices/DeviceDrivers/CTBulb.groovy
	* Mono Bulb Driver: https://github.com/DaveGut/HubitatActive/blob/master/KasaDevices/DeviceDrivers/WhiteBulb.groovy

Hubitat Driver File Nomenclature				
TP-Link Model Examples			**Command Group**	**Driver File**
HS100	HS103	HS105	**1**	TP-LinkPlug-Switch(Hubitat).groovy
HS200	HS210	KP100		
HS107	KP400	KP200	**1**	TP-LinkMulti-Plug(Hubitat).groovy
KP303				
HS220			**2**	TP-LinkDimmingSwitch(Hubitat).groovy
HS110	KP115		**3**	TP-LinkEM-Plug(Hubitat).groovy
HS300			**3**	TP-LinkEM-Multi-Plug(Hubitat).groovy
KB100	LB100	LB110	**4**	TP-LinkWhiteBulb(Hubitat).groovy
KL110	LB200	KL50		
KL60				
LB120	KL120		**5**	TP-LinkCTBulb(Hubitat).groovy
KB130	LB130	KL130	**6**	TP-LinkColorBulb(Hubitat).groovy
LB230	KL125	kl430		

2	"Select Add User App" and select the app "Kasa Integration" from the list.
	a. Use Alternate Lan segments. This is for when your LAN is set up where the Hubitat is on one LAN segment and the devices on another. NOT NORMALLY USED.
	b. Interface to Kasa Cloud. DO NOT USE unless you want to use the slower, less private Kasa Cloud communications. This is for some users who have updated Kasa firmware that eliminated the LAN communications capability.
	c. Install Kasa Devices / Update Kasa Devices. Normal selection. * The next page will take several seconds to load while the search is completed. * The search process can miss devices. If some are missing, try again. * Note the Note on drivers to insure are installed. If you do not have a driver, the install fails. * In the drop-down, select the devices to install, then select "Next" * After selecting Next, the devices will be installed and the app will return to the main page. * **CRITICAL: Select DONE on the main page or the installation will be messed up.**
	d. Go to the Hubitat Device's page and check that each device installed and is working per your expectations.

Command Reference		
With reference to the device table above and the column Command Group, the functionality of each device described below.		
Commands	**Input**	**Note**
On/Off		Groups: All.
setPollInterval	5 s to 30 min	Groups: All. Polling gets current system status, including energy monitor data (if available)
Set Level	Level (percent)	Groups: 2, 4, 5, 6.
Start Level Change	up / down	Groups 4, 5, 6. Change level by 2% every 1/2 second.
Stop Level Change		Groups 4, 5, 6.
Set Circadian		Groups 5, 6. Starts bulb-internal Circadian Program which sets the Color Temperature to match natural daylight (sort of).
Set Color Temperature	Color Temp	Groups 5, 6. Sets the color temperature. Group 5 range: (2700 to 6500) Group 6 range: (2500 to 9000)
Set Color	hue, saturation, level (percent)	Group 6.
Set Hue	hue (percent)	Group 6. Changes hue while maintaining current level and saturation
Set Saturation	saturation (percent)	Group 6. Changes saturation will maintaining current level and hue
Attributes		
Attribute	**Value**	**Note**
switch	on/off/OFFLINE	Groups: All. OFFLINE, if persistent, indicates a device or device IP problem that should be resolved.
level	percent	Groups 2, 4, 5, 6
commsError	true/false	All groups. If true, there is a communicactions error active.
communications	LAN / CLOUD	All Groups. If not present, will cause comms to fail.
circadian State	normal / circadian	Groups 5, 6
colorTemperature	Range of command	Group 5, 6
color	hue, saturation, level	Group 6
colorMode	CT / RGB	Group 6.
colorName		Group 6. Programmed color or color temperature name.
power	Watts	Group 3, 4 ,5, 6.
energy	Kilo-watt Hours	Group 3, 4 ,5, 6. Energy used today.
currMonthTotal	Kilo-watt Hours	Group 3, 4 ,5, 6. Total as of end of previous day.
currMonthAvg	Kilo-watt Hours	Group 3, 4 ,5, 6. Total divided by days in month minus 1
LastMonthTotal	Kilo-watt Hours	Group 3, 4 ,5, 6.. Last month total hours.
LastMonthAvg	Kilo-watt Hours	Group 3, 4 ,5, 6. Last month total/days. Will be low for incomplete months.

Preferences	
Enable Energy Monitor	Groups 3, 4, 5, 6. If true (blue) the energy monitor functions are active. Default is false (white)
30 minutes of debug logging	Groups: all. 30 timed minutes of debug logging.
Enable Information Logging	Groups: all. Enable information text logging.
Default Transition time (seconds)	Groups 4, 5, 6. Period of time for a bulb to fade on or off.
High Resolution Hue Scale	Group 6. Used to define if a controlling application uses high resolution hue, vice the bulb low resolution.
Kasa Cloud Binding	Groups: All. If LAN connected, allows you to disconnect your device from the Kasa Cloud. To connect your device to the Kasa Cloud requires that "Interface to Kasa Cloud" is selected in the APP. You can also connect a disconnected device using the Kasa phone app.
Use Kasa cloud for device control	Groups: All. Only appears if Kasa Cloud Binding is true (blue). If true, changes communications to use the Kasa Cloud.
Led Status	Groups: 1,2,3. Allows changing the devices Led display to on or off.
Reboot Device	Groups: All. Reboots the device. For multiplugs it reboots the entire power strip.

Troubleshooting and Problem Reporting Guide

Installation Issues

1	Application generates an error message on the Application display	
	a	Open logging in a separate page
	b	Open / Install the app from the apps page.
	c	Select "Enable debug logging for 30 minutes.
	d	After error, go to logging page and select Kasa Integration .
	e	Provide log data and description of the error per instructions at bottom of this guide.
2	Device(s) not on Devices to add list (Add Kasa Devices to Hibutat page)	
	a	Press next and then Install Kasa Devices * If device(s) present, continue installation.
	b	Verify that the device(s) is working using the Kasa Phone App
		Compare device(s) IP to that of LAN to assure on the same segment. Example: * Hub IP: **192.168.50**.121 (segment in bold) * Device IP: 192.168.50.122 is OK. 192.168.0.122 is on different segment
		If on different segment, the App Main page includes "Use Alternate Lan Segment" option.
	c.	Verify your device is not installed on a protected WiFi Network (i.e., different SSID on same router).
3	You select a device, but it does not install.	
	a	Close logs (if open). Open the log page and go to Past logs.
	b	Select Kasa Integration
	c	Look for an entry for an ERRO entry similar to the below
	d	[KasaInt/6.3.0]: Failed to install device. Device: D84732FC5479={feature=null, ip=192.168.50.119, alias=Couch Left, model=KL130, type=Kasa Color Bulb, deviceId=8012003F8FA029BC7B7FB2C17EAEA4831D0EAD25, dni=D84732FC5479} Driver: Dev Kasa Color Bulb
	e	If this message appears, the named Driver was not detected.
	f.	Install driver "driver" and try again.
	g.	If failure persists, rovide log data and description of the error per instructions at bottom of this guide.

Operations Issue

1	A Function does not operate or operates with errors.	
	a	Open a new Hubitat Logs page
	b.	Om the device's Edit Page, go to the preferences and assure the following: * 30 minutes of debug logging is NOT selected (is white). * Enable description text logging is selected (is blue).
	c	Save preferences and wait 1 minute.
	d	While observing the device, complete and On / Off / Refresh sequence with 5 seconds between presses.
	e	If error was with a specific function (other than On/Off/Refresh) execute that function.
	f	Copy log page data (as text) and send in accordance with information at the bottom of the page.
2	You get error or warning message while running a specific function.	
	a	Capture the error message and a description of the function causing error for inclusion in report.
	b	On the device's Edit Page, go to preferences. * Select "30 minutes of debug logging" Save Prefernces

	c	Close any logs page that is open then open a NEW logs page
	d	Execute the function that causes the error
	e	If the error appears, copy the log and include in error report.
Reporting Errors		
1	Report a BRIEF summary of the error in the Hubitat Community Forum "[RELEASE] TP-Link/Kasa Plug, Switch, and Bulb integration"	
	Link:	https://community.hubitat.com/t/release-tp-link-kasa-plug-switch-and-bulb-integration/1675
2	Provide a detailed report to @davegut via Private Message. Include:	
	a	A short text description of the problem.
	b	Data collected in accordance with this troubleshooting guide.
	Note	Data provided should be in text format. This is easier to analyze than screen shots.