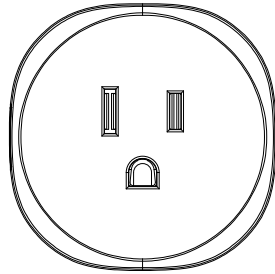
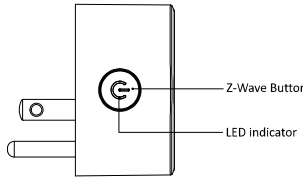


<div></div> <div>Smart Plug User Manual</div> <div>HKZW-SO09</div>	<div><div>Product overview</div><p>Smart Plug is a Z-Wave Switch plugin module specifically used to enable Z-Wave command and control (on/off) of any plug-in tool. It can report wattage consumption or kWh energy usage. This device is a security enabled Z-Wave Plus product that is able to use encrypted Z-Wave Plus messages to communicate to other security enabled Z-Wave Plus products. Smart Plug is also a security Z-Wave device and supports the Over The Air (OTA) feature for the product's firmware upgrade. This device must be used in conjunction with a Security Enabled Z-Wave Controller in order to fully utilize all implemented functions.</p><div><div>Package Contents</div><ul style="list-style-type: none">• 1x Smart Plug• 1x User Manual</div><div><div>Product features:</div><ol style="list-style-type: none">1) AC output switch on/off by manual or Z-Wave command;2) RGB LED indicates the Z-WAVE network range and load power;3) Support S0 and S2 security network;4) Supporting power meter;5) Supporting repeater role;6) Supporting firmware OTA;7) Supporting Smart Start;8) Supports over-current protection.</div></div>	<div><div>1. Familiarize yourself with your Smart Plug</div><div>1.1 Smart Plug Layout</div><div></div><div><div>2. Technical specifications</div><table><tr><td>Power supply:</td><td>AC 90-135V,60Hz</td></tr><tr><td>Power loss:</td><td>≤1W</td></tr><tr><td>Nominal input voltage:</td><td>120V</td></tr><tr><td>Rated current:</td><td>10A</td></tr><tr><td>Storage temperature:</td><td>-20℃~60℃</td></tr><tr><td>Operational temperature:</td><td>-10℃~40℃</td></tr><tr><td>Radio protocol:</td><td>Z-Wave</td></tr><tr><td>Radio frequency:</td><td>908.42MHz</td></tr><tr><td>Range:</td><td>More than 100m outdoors, About 30m indoors(depend on building materials)</td></tr><tr><td>Dimensions:</td><td>52mm(L)*52mm(W)*50.5mm(H)</td></tr></table></div></div>	Power supply:	AC 90-135V,60Hz	Power loss:	≤1W	Nominal input voltage:	120V	Rated current:	10A	Storage temperature:	-20℃~60℃	Operational temperature:	-10℃~40℃	Radio protocol:	Z-Wave	Radio frequency:	908.42MHz	Range:	More than 100m outdoors, About 30m indoors(depend on building materials)	Dimensions:	52mm(L)*52mm(W)*50.5mm(H)	<div><div>3. Functions of each trigger</div><div>Function of Action Button:</div><div>Smart Plug is not in the Z-Wave network:</div><table><tr><th>Trigger</th><th>Description</th></tr><tr><td>Power on</td><td>LED will indicate load status.</td></tr><tr><td>Short press once</td><td>Changing the status of Smart Plug's load.</td></tr><tr><td>Short press thrice (within 1.5 second)</td><td>LED will blink in blue for 3 times, Smart Plug sends node info frame. Remove for exclusion: 1.Set the Z-Wave network main controller into removing mode. 2.Short press Z-button thrice (within 1.5 seconds). 3.LED will blink in blue for 3 times, and then start slow flashing to indicate that the remove for exclusion is successful. 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All non-battery operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.</p><p>The way to add for inclusion and node info frame of Smart Plug as a security and non-security device is different.</p></div></div>	Trigger	Description	Power on	LED will indicate load status.	Short press once	Changing the status of Smart Plug's load.	Short press thrice (within 1.5 second)	LED will blink in blue for 3 times, Smart Plug sends node info frame. Remove for exclusion: 1.Set the Z-Wave network main controller into removing mode. 2.Short press Z-button thrice (within 1.5 seconds). 3.LED will blink in blue for 3 times, and then start slow flashing to indicate that the remove for exclusion is successful. LED will indicate network status after it is removed from Z-Wave network.	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If add Smart Plug for inclusion is successful, the LED will be off. Then Z-Wave PC Controller interface will display the corresponding device information.</div><div><div>4.2 Node info frame is different</div><div>4.2.1 Non-security device</div><p>The node info frame supports:</p><p>COMMAND_CLASS_ZWAVEPLUS_INFO V2 COMMAND_CLASS_SWITCH_BINARY V1 COMMAND_CLASS_METER V3 COMMAND_CLASS_TRANSPORT_SERVICE V2 COMMAND_CLASS_SUPERVISION V1 COMMAND_CLASS_SCENE_ACTUATOR_CONF V1 COMMAND_CLASS_SCENE_ACTIVATION V1 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2 COMMAND_CLASS_VERSION V2 COMMAND_CLASS_FIRMWARE_UPDATE_MD V3 COMMAND_CLASS_POWERLEVEL V1 COMMAND_CLASS_SECURITY V1 COMMAND_CLASS_SECURITY_2 V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1</p></div></div>
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<div><div>4.2.2 Security device</div><p>The node info frame supports (S0):</p><p>COMMAND_CLASS_ZWAVEPLUS_INFO V2 COMMAND_CLASS_TRANSPORT_SERVICE V2 COMMAND_CLASS_SUPERVISION V1 COMMAND_CLASS_SECURITY V1 COMMAND_CLASS_SECURITY_2 V1 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2</p><p>Security S0 Command Supported Report Frame:</p><p>COMMAND_CLASS_VERSION V2 COMMAND_CLASS_SWITCH_BINARY V1 COMMAND_CLASS_METER V3 COMMAND_CLASS_SCENE_ACTUATOR_CONF V1 COMMAND_CLASS_SCENE_ACTIVATION V1 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_POWERLEVEL V1 COMMAND_CLASS_FIRMWARE_UPDATE_MDV3</p><p>Security S0 Command Supported Report Frame:</p><p>COMMAND_CLASS_VERSION V2 COMMAND_CLASS_SWITCH_BINARY V1 COMMAND_CLASS_METER V3 COMMAND_CLASS_SCENE_ACTUATOR_CONF V1 COMMAND_CLASS_SCENE_ACTIVATION V1 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_POWERLEVEL V1 COMMAND_CLASS_FIRMWARE_UPDATE_MDV3</p></div>	<div><div>Security S2 Command Supported Report Frame:</div><p>COMMAND_CLASS_VERSION V2 COMMAND_CLASS_SWITCH_BINARY V1 COMMAND_CLASS_METER V3 COMMAND_CLASS_SCENE_ACTUATOR_CONF V1 COMMAND_CLASS_SCENE_ACTIVATION V1 COMMAND_CLASS_CONFIGURATION V1 COMMAND_CLASS_ASSOCIATION V2 COMMAND_CLASS_ASSOCIATION_GRP_INFO V1 COMMAND_CLASS_DEVICE_RESET_LOCALLY V1 COMMAND_CLASS_POWERLEVEL V1 COMMAND_CLASS_FIRMWARE_UPDATE_MDV3 COMMAND_CLASS_MANUFACTURER_SPECIFIC V2</p><div><div>4.3 Z-Wave network exclusion</div><ol style="list-style-type: none">1) Insert the Plug into a socket.2) Set the Z-Wave network controller into the exclusion mode.3) Triple click the Z button.4) LED will blink in blue for 3 times, and then start slow flashing to indicate that the remove for exclusion is successful. LED will indicate network status after it is removed from Z-Wave network.</div><div><div>4.4 Reset Smart Plug to factory default</div><p>Long press the button for 20 seconds and the blue LED will speed up the flash and then LED will keep on for 3 seconds in blue and Smart Plug will send "Device Reset Locally Notification" to the main controller and exclude from the Z-Wave network, this procedure will reset Smart Plug to factory default.</p><p>NOTE:</p><p>If you want your Smart Plug to be a security device that use secure/encrypted message to communicate in a Z-Wave network, then a security enabled Z-Wave controller is needed.</p></div></div>	<div><div>5. Note for special command</div><div>5.1 Association Command</div><p>The Smart Plug supports only one association group.</p><table><tr><th>Grouping Identifier</th><th>Max Nodes</th><th>Send Commands</th></tr><tr><td>Group 1</td><td>0x05</td><td>1. Basic Report 2. Meter Report 3. Device Reset Locally Notification</td></tr></table><div><div>5.2 Basic Command</div><p>Smart Plug can send basic report to association device (Group Lifeline) when state of Smart Plug's load change.</p><div><div>5.3 Configuration Command</div><p>Smart Plug offers a wide variety of advanced configuration settings. Below parameters can be accessed from main controllers configuration interface.</p><div><div>Parameter No. 20 Overload protection</div><p>Smart Plug keep detecting the load power, once the AC current exceeds 11.5A for more than 5s, smart plug's relay will turn off.</p><p>0 - The function is disabled. 1 - The function is enabled.</p><p>Default setting: 1 Parameter size: 1 [byte]</p><div><div>Parameter No. 21 Setting device status after power failure</div><p>Define how the Plug reacts after the power supply is back on.</p><p>0 - Smart Plug memorizes its state after a power failure. 1 - Smart Plug does not memorize its state after a power failure. Connected device will be on after the power supply is reconnected. 2 - Smart Plug does not memorize its state after a power failure. Connected device will be off after the power supply is reconnected.</p><p>Default setting: 0 Parameter size: 1 [byte]</p><div><div>Parameter No. 24 Notification when Load status change</div><p>Smart Plug can send notifications to association device (Group Lifeline) when state of smart plug's load change.</p></div></div></div></div></div></div>	Grouping Identifier	Max Nodes	Send Commands	Group 1	0x05	1. Basic Report 2. Meter Report 3. Device Reset Locally Notification	<div><p>0 - The function is disabled. 1 - Send Basic report. 2 - Send Basic report only when Load condition is not changed by Z-WAVE Command.</p><p>Default setting: 1 Parameter size: 1 [byte]</p><div><div>Parameter No. 27 Indicator modes</div><p>After smart plug being included into a Z-Wave network, the RGB LED indicator will indicator the situation of load.</p><p>0 - The indicator light remains the same as the load on/off status. When the load is on, the light is on, and the off is off. 1 - Within 5 seconds after the operation load, the indicator light is consistent with the load on/off status, and then the indicator is off.</p><p>Default setting: 0 Parameter size: 1 [byte]</p><div><div>Power and energy reports settings :</div><div><div>Parameter No. 151 Threshold of power report</div><p>Power threshold to be interpreted, when the change value of load power exceeds the setting threshold, the smart plug will send meter report to association device (Group Lifeline).</p><p>Available settings: 0 - 200 (0 - 200W) 0 - The function is disabled.</p><p>Default setting: 50 (50W) Parameter size: 2 [byte]</p><div><div>Parameter No. 152 Percentage threshold of power report</div><p>Power percentage threshold to be interpreted, when change value of the load power exceeds the setting threshold, the smart plug will send meter report to association device (Group Lifeline).</p><p>Available settings: 0 - 100 (0 - 100%) 0 - The function is disabled.</p><p>Default setting: 10 (10%) Parameter size: 1 [byte]</p><div><div>Parameter No. 171 Power report frequency</div><p>The interval of sending power report to association device (Group Lifeline).</p><p>Available settings: 3600- 2678400 (3600 - 2678400s) 0 - The function is disabled.</p></div></div></div></div></div></div>	<div><p>Default setting: 3600 (3600s) Parameter size: 4 [byte]</p><div><div>Parameter No. 172 Energy report frequency</div><p>The interval of sending energy report to association device (Group Lifeline).</p><p>Available settings: 3600- 2678400 (3600 - 2678400s) 0 - The function is disabled. Default setting: 7200 (7200s) Parameter size: 4 [byte]</p><div><div>Parameter No. 173 Voltage report frequency</div><p>The interval of sending voltage report to association device (Group Lifeline).</p><p>Available settings: 3600- 2678400 (3600 - 2678400s) 0 - The function is disabled.</p><p>Default setting: 0 (disabled) Parameter size: 4 [byte]</p><div><div>Parameter No. 174 Electricity report frequency</div><p>The interval of sending electricity report to association device (Group Lifeline).</p><p>Available settings: 3600- 2678400 (3600 - 2678400s) 0 - The function is disabled.</p><p>Default setting: 0 (disabled) Parameter size: 4 [byte]</p><div><div>Parameter No.254 Enable/disable the configuration command</div><p>Lock/unlock all configuration parameters.</p><p>0 - Unlock. 1 - Lock. Default setting: 0 Parameter size: 1[byte]</p></div></div></div></div></div>	<div><div>FCC NOTICE (for USA)</div><p>This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:</p><ol style="list-style-type: none">(1) This device may not cause harmful interference.(2) This device must accept any interference received, including interference that may cause undesired operation.<p>The manufacturer is not responsible for any radio or tv interference caused by unauthorized modifications or change to this equipment. Such modifications or change could void the user's authority to operate the equipment.</p><p>This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:</p><ul style="list-style-type: none">- Reorient or relocate the receiving antenna.- Increase the separation between the equipment and receiver.- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.- Consult the dealer or an experienced radio/TV technician for help.</div>																																		
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