





## Interface Definitions

Interface	Properties
outside_to_sytem_acpwr	<ul> <li>Vnominal: 120VAC via a NEMA 5-15R connector</li> <li>Ipeak: 15A</li> <li>Inominal: 500mA</li> </ul>
fused_acpwr	<ul> <li>Vnominal: 120VAC via a NEMA 5-15R connector</li> <li>Ipeak: 5A</li> <li>Inominal: 500mA</li> <li>Disconnects system from input when 5A draw is exceeded</li> </ul>
mcu_dcpwr	<ul> <li>Vnominal: 5VDC</li> <li>Inominal: 500mA</li> <li>Powers ESP32 Microcontroller</li> </ul>
node_dcpwr_(n)*	<ul> <li>Vnominal: 5VDC</li> <li>Inominal: 500mA</li> <li>Powers Realys</li> </ul>
sensor_to_mcu_dsig_(n)*	<ul> <li>Vnominal: &lt;1VDC</li> <li>Reports current on output channels</li> <li>Inominal: &lt;5A</li> </ul>
mcu_to_node_dsig_(n)*	<ul> <li>Disables output after a time of upto 1 hour ± 1 minute when enabled</li> <li>Operate output channels independently</li> <li>Imax: 1.2A</li> </ul>
user_bluetooth_in	<ul> <li>Enable/disable each channel</li> <li>Set delay on each output</li> <li>Interface must be via a mobile phone (Android)</li> </ul>
user_bluetooth_out	<ul> <li>Display status of outputs</li> <li>Able to update output statuses from 20 feet away</li> </ul>
user_wifi_in	<ul> <li>User interacts with system via Smartphone App</li> <li>Enable/disable each channel</li> <li>Set timer on each output</li> </ul>
user_wifi_out	<ul> <li>Display status of outputs</li> <li>Able to update output statuses from 20 feet away</li> <li>Confirms length of timers</li> </ul>
system_to_outside_usrout	<ul> <li>Display status of outputs</li> <li>Able to update output statuses from 20 feet away</li> <li>Confirms timers if set</li> </ul>

outside _to_system_usrin	<ul> <li>User interacts with system via Smartphone App</li> <li>9/10 users able to operate switches in &lt;10 seconds without any previous training or knowledge of the interface</li> </ul>
	<ul> <li>Enable/Disable each channel</li> <li>Set delay on each output</li> </ul>
	<ul> <li>Accepts inputs from 20 feet away</li> <li>Disables output after a time of upto 1 hour ± 1 minute when enabled</li> </ul>
system_to_outside_acpwr_(n)*	<ul> <li>Turn off and on at least 2 independent household lamps with up to 100W incandescent bulbs and report current watts delivered by each channel</li> <li>Vnominal: 120VAC via a NEMA 5-15R connector</li> <li>Ipeak: 5A</li> <li>Inominal: 500mA</li> <li>Outputs will turn off after times of up to 60 minutes when selected</li> </ul>

<sup>\*</sup>note: n represents the nth redundant node