Partner: Ametek
Models: SurgeX Squid SX-DC-8-12-120
Device Type: Power Management System

## GENERAL INFORMATION

| | |
|---|---|
| **SIMPLWINDOWS NAME:** | SurgeXSquid v1.0 Comm |
| **CATEGORY:** | Misc. |
| **VERSION:** | 1.0.0 |
| **SUMMARY:** | This module controls IP communication with a SurgeX Squid power management system. |
| **GENERAL NOTES:** | This module acts as the primary communication interface to a single SurgeX Squid power management system. If the control program needs to control multiple devices, a separate module is required for each device. Each device has six controllable outlets. Component Group and Sequence modules can be added to the program to control groups and sequences created on the device through the device web interface.  See additional help files included in the demo program for more information.<br><br>Module developer contact:<br>Control Concepts, Inc.<br>(201) 797-7900<br>support@controlconcepts.net |
| **CRESTRON HARDWARE REQUIRED:** | Crestron 3-Series or 4-Series processor. |
| **SETUP OF CRESTRON HARDWARE:** | N/A |
| **VENDOR FIRMWARE:** | N/A |
| **VENDOR SETUP:** | N/A |

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## PARAMETERS:

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| **Command_Processor_ID** | The unique identifier of this module that component modules use to register with this module. |
| **IP_Address** | The network address of the device to control. |
| **IP_Port** | The network port for standard HTTP device communication.  The default port is 80. |
| **Secure_IP_Port** | The network port for secure HTTPS device communication.  The default port is 443. |
| **Username** | The username required for HTTP Basic Authentication to the device. |
| **Password** | The password required for HTTP Basic Authentication to the device. |

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## CONTROL:

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| **Connect** | D | Pulse to establish communication with the device and start the module "heartbeat" which is used to maintain communication with the device by periodically sending a simple request to confirm the device is still communicating with the control system. |
| **Disconnect** | D | Pulse to terminate communication with the device and stop the module "heartbeat". |
| **Reconnect** | D | Pulse to re-establish communication with the device. This signal is provided as a convenience should it be desired to reinitialize at any point. Initialization will automatically occur when the program starts. |
| **Enable_Debug** | D | Pulse to toggle the internal trace messages printed in SIMPL Debugger. These messages may be useful while debugging to see what processes are occurring within the module. Note it is highly recommended to leave debugging disabled unless actively debugging as it causes much additional signal traffic in Debugger. |
| **Enable_SSL** | D | Pulse to switch between standard HTTP communication and secure HTTPS communication. While enabled, the module uses secure HTTPS over the secure port to communicate to the device. Switching between standard and secure communication modes causes the module to clear its current state and reconnect to the device. The default communication when the module starts is HTTP. |
| **Set_Poll_Timer_Interval** | D | Pulse to set the module polling interval for requesting device status. When set, the previous timer is canceled, and a new timer is started with the interval specified by the **Poll_Timer_Interval** analog input. |
| **Poll_Timer_Interval** | A | Integer value indicates the polling interval to set in minutes. Minimum value is 1 minute. Pulse the **Set_Poll_Timer_Interval** digital input to push the interval to the module. If the program is restarted, this value must be set again. The default poll interval is 5 minutes. |
| **Enter_Shutdown_State** | D | Pulse to cause the device to enter shutdown state. While in shutdown state, the device won't let any outlets turn on by manual control before the device goes back into a running state. |
| **Clear_Shutdown_State** | D | Pulse to cause the device exit shutdown state and return to running state. |
| **Reset_Energy_Usage** | D | Pulse to cause the device to clear the total energy usage counter and reset the date since last reset to the current device time. |
| **Outlet1_Off..**<br>**Outlet6_Off** | D | Pulse to turn off the specified outlet. |
| **Outlet1_On..**<br>**Outlet6_On** | D | Pulse to turn on the specified outlet. |
| **Outlet1_Toggle..**<br>**Outlet6_Toggle** | D | Pulse to toggle the power state of the specified outlet. |
| **Outlet1_Reboot..**<br>**Outlet6_Reboot** | D | Pulse to reboot the specified outlet. |

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## FEEDBACK:

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| **Is_Communicating** | D | Digital high indicates that the module is successfully communicating with the device and has received at least one heartbeat response, or not communicating with the device when the signal is low. |
| **Is_Initialized** | D | Digital high indicates the device status is synchronized with the module, or not synchronized when the signal is low. |
| **Debug_Enabled** | D | Digital high indicates the module is in debug mode, or not in debug mode when the signal is low. While in debug mode, the module will print verbose debug information to SIMPL Debugger. |
| **SSL_Enabled** | D | Digital high indicates the module is using secure HTTPS to communicate with the device, or using standard HTTP when the signal is low. The SSL option must be enabled in the device configuration settings for the module to be able to communicate in secure mode. Device configuration settings are accessed by browsing to the IP address of the device and logging into the web interface. |
| **Model_Number** | S | Text value indicates the model number reported by the device. |
| **Serial_Number** | S | Text value indicates the serial number reported by the device. |
| **MAC_Address** | S | Text value indicates the MAC address reported by the device. |
| **Firmware_Version** | S | Text value indicates the firmware version reported by the device. |
| **Temperature_Units** | S | Text value indicates the units of temperature reported by the device. This setting can be changed in the device configuration settings. |
| **Active_State** | S | Text value indicates the state of the device, possible values include: "Start Up", Running", or "Shutdown". |
| **Device_Name** | S | Text value indicates the device name reported by the device. |
| **Device_Type** | S | Text value indicates the device type reported by the device. |
| **Device_Connected** | D | Digital High indicates the device connection status is ok, or not ok when the signal is low. |
| **Surge_Protection** | D | Digital High indicates the device surge protection fuse status is ok, or not ok when the signal is low. |
| **Outlet_Count** | A | Integer value indicates the number of outlets reported by the device. |
| **Voltage_Rating** | A | Integer value indicates what electrical service is supposed to be connected. |
| **Energy_Usage** | A | Integer value indicates the energy usage since last reset reported by serial output **Energy_Usage_Time_Formatted**, in Watt hours (Wh). |

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| **Energy_Usage_Formatted** | S | Text value indicates the energy usage reported by the device, formatted as text with units in kilowatt-hours (kWh). |
| **Energy_Usage_Time_Formatted** | S | Text value indicates the timestamp of the last reset of the energy usage. |
| **Device_Temperature** | A | Analog value indicates the device temperature reported by the device, either in degrees Fahrenheit or degrees Celsius depending on the temperature units specified in the device configuration settings. |
| **Device_Temperature_Formatted** | S | Text value indicates the device temperature reported by the device formatted with units (°F, or °C). |
| **Voltage** | A | Analog value indicates the voltage reported by the device in volts. |
| **Voltage_Formatted** | S | Text value indicates the voltage reported by the device formatted with units. |
| **Current** | A | Analog value indicates the current reported by the device in amps. |
| **Current_Formatted** | S | Text value indicates the current reported by the device formatted with units. |
| **Power** | A | Analog value indicates the average power reported by the device in watts. |
| **Power_Formatted** | S | Text value indicates the device power reported by the device formatted with units. |
| **Outlet1_Name..**<br>**Outlet6_Name** | S | Text value indicates the friendly name of the specified outlet reported by the device. The friendly name can be changed in the device configuration settings. |
| **Outlet1_Physical_Name..**<br>**Outlet6_Physical_Name** | S | Text value indicates the physical name of the specified outlet reported by the device. The physical name is fixed and cannot be changed. |
| **Outlet1_Device_Type..**<br>**Outlet6_Device_Type** | S | Text value indicates the device type of the specified outlet reported by the device. |
| **Outlet1_Plug_Type..**<br>**Outlet6_Plug_Type** | S | Text value indicates the type of connector used for the specified outlet reported by the device. |
| **Outlet1_Output_Voltage_Type..**<br>**Outlet6_Output_Voltage_Type** | S | Text value indicates the type of voltage that is being controlled for the specified outlet reported by the device. |
| **Outlet1_Connected..**<br>**Outlet6_Connected** | D | Digital high indicates the connection status of the specified outlet is ok, or not ok when the signal is low. |
| **Outlet1_Is_Off..**<br>**Outlet6_Is_Off** | D | Digital high indicates the specified outlet is off, or not off when the signal is low. |
| **Outlet1_Is_On..**<br>**Outlet6_Is_On** | D | Digital high indicates the specified outlet is on, or not on when the signal is low. |
| **Outlet1_Rebooting..**<br>**Outlet6_Rebooting** | D | Digital high indicates the specified outlet is rebooting, or not rebooting when the signal is low. |
| **Outlet1_Status..**<br>**Outlet6_Status** | A | Integer value indicates the state of the specified outlet, possible values include "Off" = 0, "On" = 1, "Rebooting" = 2. |

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| **Outlet1_Reboot_Time..**<br>**Outlet6_Reboot_Time** | A | Integer value indicates the time delay between turning the specified outlet off and back on during a reboot command in seconds. |

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## TESTING:

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| **OPS USED FOR TESTING:** | CP3 v1.8000.4522.24170<br>MC4 v2.6000.00020 |
| **SIMPL WINDOWS USED FOR TESTING:** | 4.1700.03 |
| **CRES DB USED FOR TESTING:** | 206.05.004.00 |
| **DEVICE DATABASE:** | 200.95.001.00 |
| **SYMBOL LIBRARY USED FOR TESTING:** | 1114 |
| **SAMPLE PROGRAM:** | SurgeX Squid v1.0 Demo IP CP3.smw |
| **REVISION HISTORY:** | v1.0 – Initial Release |