

Partner: Middle Atlantic Products
Model: RackLink™
Device Type: AC Power Controller



GENERAL INFORMATION

SIMPLWINDOWS NAME:	MiddleAtlantic RackLink IP v1.2
CATEGORY:	AC Power Controller
VERSION:	1.2
SUMMARY:	IP Module to communicate with the Middle Atlantic RackLink power controller series.
GENERAL NOTES:	This module controls the Middle Atlantic RackLink power controller via TCP/IP port 60000.
CRESTRON HARDWARE REQUIRED:	Any Series 2 & 3 Controllers, C2NENET-1, C2NENET-2
SETUP OF CRESTRON HARDWARE:	IP Port 60000
VENDOR FIRMWARE:	V1.05
VENDOR SETUP:	The module uses a default password for both RS232 and TCP/IP communication. Browse to the website of the RackLink device and make sure the password is set to whatever was set on the parameter for the module. default
CABLE DIAGRAM:	N/A

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CONTROL:

Outlet_*_Power_On	D	Pulse high to turn on the outlet if the outlet is controllable and present.
Outlet_*_Power_Off	D	Pulse high to turn off outlet if the outlet is controllable and present.
Outlet_*_Power_Cycle	D	Pulse high to turn off the outlet for a period of time set by the Power_Cycle_Time signal. The outlet will automatically turn on after the period has expired. The outlet must be on in order for this to work.
Set_Outlet_*_Name	S	Set name as string value, 50 characters max.
Set_Outlet_*_EMS	D	Set decimal value from 0d – 4d to indicate powered device’s energy management state. (Optional) 0d: Unknown 1d: Off 2d: On 3d: Standby 4d: Disconnected
Contact_*_Power_On	D	Pulse high to close the dry contact if the contact is controllable and present.
Contact_*_Power_Off	D	Pulse high to open the dry contact if the contact is controllable and present.
Contact_*_Power_Cycle	D	Pulse high to change state of the contact for the period set by the Power_Cycle_Time signal. The contact will automatically revert to the original state after the period time has expired.
Set_Contact_*_Name	S	Set name as string value, 50 characters max.
Power_Cycle_Time	A	Set decimal value from 1 – 3600 (seconds). Default is 1 (second).
Power_Sequence_Up	D	Pulse high to start the Power Sequence Up routine.
Power_Sequence_Down	D	Pulse high to start the Power Sequence Down routine.
Power_Sequence_Time	A	Set decimal value from 1-999 (seconds). Default is 1 (second). Interval delay between outlets during sequencing.
EPO_Initiate	D	Pulse high to enter Emergency Power Off mode.
EPO_Recover	D	Pulse high to return to normal operatios.
Set_Low_Voltage_Theshold	S	Set value as ASCII encoded decimal value. Range: “105” – “110”
Set_High_Voltage_Threshold	S	Set value as ASCII encoded decimal value.

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		Range: "123" – "128"
Set_Maximum_Current_Threshold	S	Set value as ASCII encoded float value. Range: "0.0" – "15.0"
Set_Minimum_Current_Threshold	S	Set value as ASCII encoded float value. Range: "0.0" – "15.0"
Set_Minimum_Temperature_Threshold	S	Set value as ASCII encoded decimal value. Range : "0" – "250"
Set_Maximum_Temperature_Threshold	S	Set value as ASCII encoded decimal value. Range: "0" – "250"
Register_Log_Alert_Normal	D	Pulse high to toggle to receive normal log alerts.
Register_Log_Alert_OverVoltage	D	Pulse high to toggle to receive Over Voltage log alerts.
Register_Log_Alert_UnderVoltage	D	Pulse high to toggle to receive Under Voltage log alerts.
Register_Log_Alert_OverTemperature	D	Pulse high to toggle to receive Over Temperature log alerts.
Register_Log_Alert_UnderTemperature	D	Pulse high to toggle to receive Under Temperature log alerts.
Register_Log_Alert_OverCurrent	D	Pulse high to toggle to receive Over Current log alerts.
Register_Log_Alert_UnderCurrent	D	Pulse high to toggle to receive Under Current log alerts.
Register_Log_Alert_SurgeFault	D	Pulse high to toggle to receive Surge Fault log alerts.
Register_Log_Alert_AutoPingTimeout	D	Pulse high to toggle to receive Auto Ping log alerts.
Register_Log_Alert_CommTimeout	D	Pulse high to toggle to receive Communication Timeout log alerts.
Register_Log_Alert_EPO	D	Pulse high to toggle to receive Emergency Power Off log alerts.
Log_Clear	D	Pulse to clear the log.
Log_Query_1	S	Set value as string, response received from Feedback Signal Log_Query_Response_1. Format: "start count". Format Description: start (1-2000) count (1-99). Example: "45 10". Example Description: (Request 10 entries starting at entry 45).
Log_Query_2	S	Set value as string, response received from Feedback Signal

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		Log_Query_Response_2. Format: "start count". Format Description: start (1-2000) count (1-99). Example: "45 10". Example Description: (Request 10 entries starting at entry 45).
Log_Query_3	S	Set value as string, response received from Feedback Signal Log_Query_Response_3. Format: "start count". Format Description: start (1-2000) count (1-99). Example: "45 10". Example Description: (Request 10 entries starting at entry 45).
Log_Query_4	S	Set value as string, response received from Feedback Signal Log_Query_Response_4. Format: "start count". Format Description: start (1-2000) count (1-99). Example: "45 10". Example Description: (Request 10 entries starting at entry 45).
Set_Room_Occupied	D	Pulse to set room status to occupied.
Set_Room_Unoccupied	D	Pulse to set room status to unoccupied.
{{TCP/IP_Client_>>_Connect-F}}	D	Connect to "Connect-F" output from the TCP/IP client definition that will be communicating with the Middle Atlantic RackLink unit.
{{TCP/IP_Client_>>_status}}	A	Connect to "status" output from the TCP/IP client definition that will be communicating with the Middle Atlantic RackLink unit.
{{TCP/IP_Client_>>_RX\$}}	S	Connect to "RX\$" output from the TCP/IP client definition that will be communicating with the Middle Atlantic RackLink unit.

Parameters:

Login_User_Name_Text	Login user name, correct value "admin".
Login_User_Password_Text	Login user password, default value from factory should be "password". Set the value via the webpage on the RackLink controller under "admin".
Port Number	TCPIP Port Number, Set to 60000.

FEEDBACK:

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Product_Part_Number_Text	S	Part Number of the RackLink controller.
Product_Rating_Text	S	Product Rating of the RackLink controller.
Assigned_IP_Address_Text	S	IP Address of the RackLink controller.
Product_Mac_Address_Text	S	Mac Address of the RackLink controller.
Kilowatt_Hours_Text	S	The current Kilowatt Hours of the RackLink controller. String encoded Float value, max 12 bytes. Example: "1011110200.1"
Peak_Voltage_Text	S	The current Peak Voltage of the RackLink controller. ASCII encoded decimal value, max 3 bytes. Example: "123"
RMS_Voltage_Text	S	The current RMS Voltage of the RackLink controller. ASCII encoded decimal value, max 3 bytes. Example: "118"
Peak_Current_Text	S	The current Peak Load of the RackLink controller. ASCII encoded float value, max 4 bytes. Example: "13.1"
RMS_Current_Text	S	The current RMS Load of the RackLink controller. ASCII encoded float value, max 4 bytes. Example: "10.1"
Temperature_Text	S	The current Temperature (Fahrenheit) of the RackLink controller. ASCII encoded decimal value, max 3 bytes. Example: "101"
Watts_Text	S	The current Wattage of the RackLink controller. ASCII encoded decimal value, max 4 bytes. Example: "1234"
Power_Factor_Text	S	The current Power Factor of the RackLink controller. ASCII encoded float value, max 3 bytes. Example: "9.1"
Thermal_Load_Text	S	The current Thermal Load of the RackLink controller. ASCII encoded float value, max 6 bytes. Example: "1000.1"
Surge_Protection_Text	S	The current Surge Protection status of the RackLink controller. "Not Supported" "Protected"

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		"Compromised"
Power_Sequence_Text	S	The current Power Sequence status of the RackLink controller. "None" "Up.Running" "Up.Completed" "Down.Running" "Down.Completed"
EPO_Text	S	The current Emergency Power Off (EPO) status of the RackLink controller. "Normal" "Active"
Outlet_*_Power_Is_On	D	Indicates the Outlet is on.
Outlet_*_Power_Is_Off	D	Indicates the Outlet is off.
Outlet_*_Name_Text	S	Current name of outlet.
Outlet_*_Is_Controllable	D	Indicates the Outlet can be controlled.
Outlet_*_Is_Present	D	Indicates the Outlet is actually installed on the RackLink unit.
Outlet_*_Is_Controllable	D	Indicates the Outlet can be controlled.
Outlet_*_Is_Present	D	Indicates the Outlet is actually installed on the RackLink unit.
Outlet_*_EMS_Status	A	The current reported Energy Management State of the power device. 0d: Unknown 1d: Off 2d: On 3d: Standby 4d: Disconnected
Outlet_*_EMS_Status_Text	D	The current reported Energy Management State of the power device. Valid Values: "Unknown" "Off" "On" "Standby" "Disconnected"
Contact_*_Power_Is_On	D	Indicates the Contact is closed.

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Contact_*_Power_Is_Off	D	Indicates the Contact is open.
Contact_*_Name_Text	S	Current name of contact.
Contact_*_Is_Controllable	D	Indicates the contact can be controlled.
Contact_*_Is_Present	D	Indicates the contact is actually installed on the RackLink unit.
Power_Is_Sequencing_Up	D	Indicates the RackLink controller is currently sequencing the power on.
Power_Is_Sequencing_Down	D	Indicates the RackLink controller is currently sequencing the power down.
EPO_Is_Active	D	Indicates the RackLink controller is currently in Emergency Power Off Mode.
EPO_Is_Normal	D	Indicates the RackLink controller is in normal mode.
Low_Voltage_Threshold_Text	S	Current Low Voltage Threshold Value. ASCII encoded decimal value. Range: "105" – "110"
High_Voltage_Threshold_Text	S	Current High Voltage Threshold Value. ASCII encoded decimal value. Range: "123" – "128"
Minimum_Current_Threshold_Text	S	Current Minimum Current Threshold. ASCII encoded float value. Range: "0.0" – "20.0"
Maximum_Current_Threshold_Text	S	Current Maximum Current Threshold. ASCII encoded float value. Range: "0.0" – "20.0"
Minimum_Temperature_Threshold_Text	S	Current Minimum Temperature Threshold. ASCII encoded float value. Range: "0" – "250"
Maximum_Temperature_Threshold_Text	S	Current Maximum Temperature Threshold. ASCII encoded float value. Range: "0" – "250"
Log_Alert_Normal_Is_Registered	D	Indicates that you are registered to receive Normal Log Alerts.
Log_Alert_OverVoltage_Is_Registered	D	Indicates that you are registered to receive Over Voltage Log Alerts.
Log_Alert_UnderVoltage_Is_Registered	D	Indicates that you are registered to receive Under Voltage Log Alerts.
Log_Alert_OverTemperature_Is_Registered	D	Indicates that you are registered to receive Over Temperature Log Alerts.
Log_Alert_UnderTemperature_Is_Registered	D	Indicates that you are registered to receive Under Temperature Log Alerts.
Log_Alert_OverCurrent_Is_Registered	D	Indicates that you are registered to receive Over Current Log Alerts.

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Log_Alert_UnderCurrent_Is_Registered	D	Indicates that you are registered to receive Under Current Log Alerts.
Log_Alert_SurgeFault_Is_Registered	D	Indicates that you are registered to receive Surge Fault Log Alerts.
Log_Alert_AutoPingTimeout_Is_Registered	D	Indicates that you are registered to receive Auto-Ping Timeout Log Alerts.
Log_Alert_CommunicationTimeout_Is_Registered	D	Indicates that you are registered to receive Communication Timeout Log Alerts.
Log_Alert_EPO_Is_Registered	D	Indicates that you are registered to receive Emergency Power Off Log Alerts.
Log_Count	A	Quantity of Log Entries Range: 0-2000
Log_Alert	S	<p>You can use the "MiddleAtlantic_RackLink_LogDisplayManager" SIMPL+ module to manage this signal or manage it yourself by following below.</p> <p>Log alert data delimited by the PIPE symbol.</p> <p>Format: "EEEE CAT MM/DD/YYYY HH:MM:SS TTT WWWW F.F VVR CC.R LLLL.L"</p> <p>Data: EEEE = Log Entry (1-2000) CAT = Category (NORMAL, OVER_VOLT, UNDER_VOLT, OVER_CURRENT, UNDER_CURRENT, OVER_TEMP, UNDER_TEMP, SURGE_FAULT, AUTO_PING, COMM_FAIL,EPO_INIT,EPO_RECOVER) MM/DD/YYYY = DATE HH:MM:SS = TIME TTT = Temperature (000-250) WWWW = Watts (0000-9999) F.F = Power Factor (0.0 – 9.9) VVR = RMS Voltage (000-130) CC.R = RMS Current (00.0-15.0) LLLL.L = Thermal Load (0000.0-9999.9)</p> <p>Example: "0001 NORMAL 12/12/2011 12:23:00 098 0029 1.1 118 09.9 0100.1"</p>
Log_Query_Response_1	S	<p>Log response from the Log_Query_1 Input Signal.</p> <p>You can use the "MiddleAtlantic_RackLink_LogDisplayManager" SIMPL+ module to manage this signal or manage it yourself by following below.</p> <p>This signal is multiplexed with the complete response. Use a Serial Demultiplexor in order to decode the response. Tie this signal to the Serial Input of the Serial Demultiplexor. Set the "form" signal on the Serial Demultiplexor to 1. Serial Outputs 1-99 of the Serial Demultiplexor will be used to display the requested information, depending on the quantity you requested.</p> <p>Each Serial Output of the Serial Demultiplexor will have string data formatted in the following manor.</p> <p>Format:</p>

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	<p>EEEE CAT MM/DD/YYYY HH:MM:SS TTT WWWW F.F VVR CC.R LLLL.L”</p> <p>Data:</p> <p>EEEE = Log Entry (1-2000)</p> <p>CAT = Category (NORMAL, OVER_VOLT, UNDER_VOLT, OVER_CURRENT, UNDER_CURRENT, OVER_TEMP, UNDER_TEMP, SURGE_FAULT, AUTO_PING, COMM_FAIL, EPO_INIT,EPO_RECOVER)</p> <p>MM/DD/YYYY = DATE</p> <p>HH:MM:SS = TIME</p> <p>TTT = Temperature (000-250)</p> <p>WWWW = Watts (0000-9999)</p> <p>F.F = Power Factor (0.0 – 9.9)</p> <p>VVR = RMS Voltage (000-130)</p> <p>CC.R = RMS Current (00.0-15.0)</p> <p>LLLL.L = Thermal Load (0000.0-9999.9)</p> <p>Example:</p> <p>“0001 NORMAL 12/12/2011 12:23:00 098 0029 1.1 118 09.9 0100.1”</p>
<p>Log_Query_Response_2</p>	<p>Log response from the Log_Query_2 Input Signal.</p> <p>You can use the “MiddleAtlantic_RackLink_LogDisplayManager” SIMPL+ module to manage this signal or manage it yourself by following below.</p> <p>This signal is multiplexed with the complete response. Use a Serial Demultiplexor in order to decode the response. Tie this signal to the Serial Input of the Serial Demultiplexor. Set the “form” signal on the Serial Demultiplexor to 1. Serial Outputs 1-99 of the Serial Demultiplexor will be used to display the requested information, depending on the quantity you requested.</p> <p>Each Serial Output of the Serial Demultiplexor will have string data formatted in the following manor.</p> <p>Format:</p> <p>EEEE CAT MM/DD/YYYY HH:MM:SS TTT WWWW F.F VVR CC.R LLLL.L”</p> <p>Data:</p> <p>S EEEE = Log Entry (1-2000)</p> <p>CAT = Category (NORMAL, OVER_VOLT, UNDER_VOLT, OVER_CURRENT, UNDER_CURRENT, OVER_TEMP, UNDER_TEMP, SURGE_FAULT, AUTO_PING, COMM_FAIL, EPO_INIT,EPO_RECOVER)</p> <p>MM/DD/YYYY = DATE</p> <p>HH:MM:SS = TIME</p> <p>TTT = Temperature (000-250)</p> <p>WWWW = Watts (0000-9999)</p> <p>F.F = Power Factor (0.0 – 9.9)</p> <p>VVR = RMS Voltage (000-130)</p> <p>CC.R = RMS Current (00.0-15.0)</p> <p>LLLL.L = Thermal Load (0000.0-9999.9)</p> <p>Example:</p>

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	<p>"0001 NORMAL 12/12/2011 12:23:00 098 0029 1.1 118 09.9 0100.1"</p>
<p>Log_Query_Response_3</p>	<p>Log response from the Log_Query_3 Input Signal.</p> <p>You can use the "MiddleAtlantic_RackLink_LogDisplayManager" SIMPL+ module to manage this signal or manage it yourself by following below.</p> <p>This signal is multiplexed with the complete response. Use a Serial Demultiplexor in order to decode the response. Tie this signal to the Serial Input of the Serial Demultiplexor. Set the "form" signal on the Serial Demultiplexor to 1. Serial Outputs 1-99 of the Serial Demultiplexor will be used to display the requested information, depending on the quantity you requested.</p> <p>Each Serial Output of the Serial Demultiplexor will have string data formatted in the following manor.</p> <p>Format: EEEE CAT MM/DD/YYYY HH:MM:SS TTT WWWWW F.F VVR CC.R LLLL.L"</p> <p>Data: EEEE = Log Entry (1-2000)</p> <p>S CAT = Category (NORMAL, OVER_VOLT, UNDER_VOLT, OVER_CURRENT, UNDER_CURRENT, OVER_TEMP, UNDER_TEMP, SURGE_FAULT, AUTO_PING, COMM_FAIL, EPO_INIT,EPO_RECOVER)</p> <p>MM/DD/YYYY = DATE HH:MM:SS = TIME TTT = Temperature (000-250) WWWWW = Watts (0000-9999) F.F = Power Factor (0.0 – 9.9) VVR = RMS Voltage (000-130) CC.R = RMS Current (00.0-15.0) LLLLL = Thermal Load (0000.0-9999.9)</p> <p>Example: "0001 NORMAL 12/12/2011 12:23:00 098 0029 1.1 118 09.9 0100.1"</p>
<p>Log_Query_Response_4</p>	<p>Log response from the Log_Query_4 Input Signal.</p> <p>You can use the "MiddleAtlantic_RackLink_LogDisplayManager" SIMPL+ module to manage this signal or manage it yourself by following below.</p> <p>This signal is multiplexed with the complete response. Use a Serial Demultiplexor in order to decode the response. Tie this signal to the Serial Input of the Serial Demultiplexor. Set the "form" signal on the Serial Demultiplexor to 1. Serial Outputs 1-99 of the Serial Demultiplexor will be used to display the requested information, depending on the quantity you requested.</p> <p>S Each Serial Output of the Serial Demultiplexor will have string data formatted in the following manor.</p> <p>Format: EEEE CAT MM/DD/YYYY HH:MM:SS TTT WWWWW F.F VVR CC.R LLLL.L"</p> <p>Data: EEEE = Log Entry (1-2000)</p> <p>CAT = Category (NORMAL, OVER_VOLT, UNDER_VOLT, OVER_CURRENT, UNDER_CURRENT, OVER_TEMP, UNDER_TEMP, SURGE_FAULT,</p>

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		<p>AUTO_PING, COMM_FAIL, EPO_INIT,EPO_RECOVER) MM/DD/YYYY = DATE HH:MM:SS = TIME TTT = Temperature (000-250) WWWW = Watts (0000-9999) F.F = Power Factor (0.0 – 9.9) VVR = RMS Voltage (000-130) C.R = RMS Current (00.0-15.0) LLLL.L = Thermal Load (0000.0-9999.9) Example: "0001 NORMAL 12/12/2011 12:23:00 098 0029 1.1 118 09.9 0100.1"</p>
Room_Is_Occupied	D	Indicates Room has been reported as Occupied
Room_Is_Unoccupied	D	Indicates Room has been reported as Unoccupied.
Connect-F	D	Indicates TCP/IP connection status with the Middle Atlantic RackLink unit. Goes high if connection is present.
status	A	<p>Indicates details of TCP/IP status with regards to connection with the Middle Atlantic RackLink unit:</p> <p>0d = Not connected 1d = Waiting for connection 2d = Connected 3d = Connection failed 4d = Connection broken remotely 5d = Connection broken locally</p>
{{Connect_>>_TCP/IP_Client}}	D	To be connected to the "Connect" input of the TCP/IP client definition that will be communicating with the Middle Atlantic RackLink device.
{{TX\$_>>_TCP/IP_Client}}	S	To be connected to the "TX\$" input of the TCP/IP client definition that will be communicating with the Middle Atlantic RackLink device.

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**TESTING:**

OPS USED FOR TESTING:	PRO2: 4.007.0004 MC3: 1.005.0015
SIMPL WINDOWS USED FOR TESTING:	3.11.15
CRES DB USED FOR TESTING:	33.00.001.00
DEVICE DATABASE:	44.05.002.00
SYMBOL LIBRARY USED FOR TESTING:	821
SAMPLE PROGRAM:	MiddleAtlantic RackLink IP v1.2 Demo PRO2 MiddleAtlantic RackLink IP v1.2 Demo MC3
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Feature Additions including Power Sequencing and Emergency Power Off mode (EPO). V1.2 – Feature Additions including Energy Management State and Occupancy Status to meet with Infocomm Energy Management Standards.