Pentair Pool i-Link
Module Application Guide

Description

This module allows a Crestron processor to monitor and control a Pentair IntelliTouch pool controller via a Pentair i-Link Protocol Interface Adapter. Control of most functions and real time feedback is provided from the i-Link adapter. This is a separate part that hangs on the Pentair communication buss. This adapter can be placed at the Crestron com port and requires no configuration. The module supports control of most pool and spa functions with real time feedback regardless of whether changes are made to settings from the wall control or the module. Control of the waterfall, pumps, aux relays and aux dimmers is also provided.

Compatibility			Processor Requirements	
2-Series Compatible	CNMSX Compatible	NOT System Builder Compatible	Ethernet NOT NEEDED	Compact Flash NOT NEEDED

Serial Cable Pinout

DB9 FEMALE
CRESTRON

DB9 MALE
PENTAIR ILINK

SERIAL SETTINGS	
COMM STD	RS232
BAUD RATE	9600
DATA BITS	8
STOP BITS	1
PARITY	NONE
HW HANDSHAKING	NONE
SW HANDSHAKING	NONE

WWW.CONTROLWORKS.COM
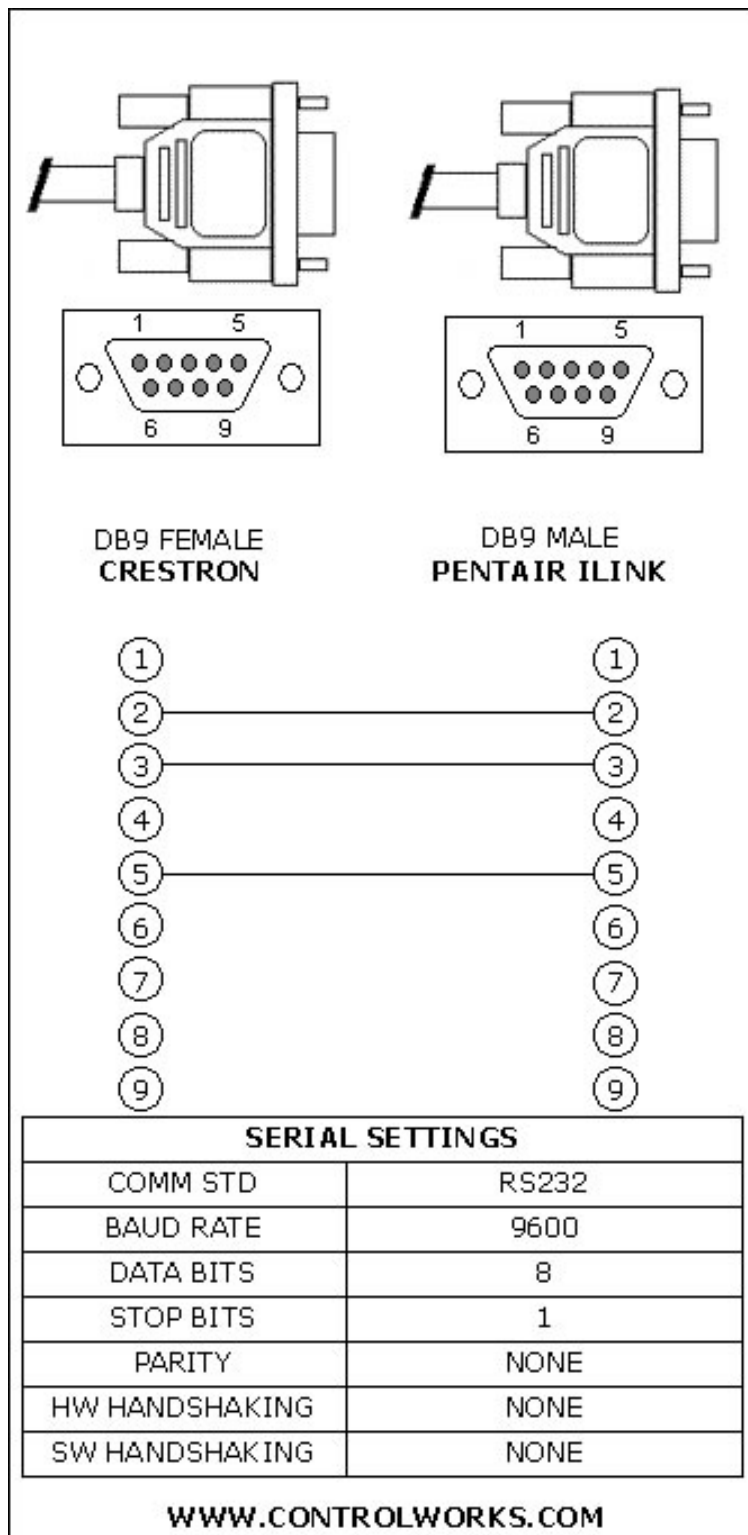
Module Application

The i-Link adapter requires no setup other than connecting it to the Pentair four wire buss according to the i-link manual. The adapter can be connected directly to your Crestron com port or connected via a serial cable made up per the above diagram that is no longer than 25' in length.

The controller must be set to report temperature is degrees Fahrenheit.

From the i-Link Manual: *"If there is an IntelliTouch MobileTouch wireless control panel installed, the MobileTouch transceiver screw terminal connector needs to be removed from the Transceiver circuit board before the IntelliTouch i-Link adapter initialization sequence. Refer to Start-up with MobileTouch Control Panel, see page 15 for details."*

Pentair Firmware Note: Your installation's iLink adapter, Indoor and Outdoor controls should have these firmware versions or higher. If you are having functional issues then please contact Pentair to get the most current versions for your products.

Pentair iLink adapter	Version 1.011
Pentair Indoor Control	Version 1.097
Pentair Outdoor Control	Version 1.098

The iLink will report its firmware version when it powers up. The outdoor and indoor control firmware versions can be check by following these instructions:

On the indoor IntelliTouch wall control

1. Press MENU
2. Press SETUP
3. Press ADVANCED
4. Press the 2nd and 4th soft key at the bottom of the display at the same time
5. Press SYSTEM VERSION INFO
6. The version numbers will now be displayed

Pentair North America Contact Information
East (8am to 5pm Eastern)
1620 Hawkins Ave
Sanford, NC 27330
800-831-7133

West (8am to 5pm Pacific)
10951 W. Los Angeles Ave
Moorpark, CA 93021
800-831-7133

www.pentairpool.com

Signal and Parameter Descriptions
Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS

pool_sp+	Pulse to raise the pools set point
pool_sp-	Pulse to lower the pools set point
[pool2_sp+]	Pulse to raise the second pools set point
[pool2_sp-]	Pulse to lower the second pools set point
[spa_sp+]	Pulse to raise the spa's set point
[spa_sp-]	Pulse to lower the spa's set point
[spa_toggle]	Pulse to toggle the spa on and off
[pump_toggle]	Pulse to toggle the pump on and off
[cleaner_toggle]	Pulse to toggle the cleaner on and off
[waterfall_toggle]	Pulse to toggle the waterfall on and off
[pool_heater_toggle]	Pulse to toggle the heater on and off
[pool_heather2_toggle]	Pulse to toggle the second pools heater on and off
[spa_heater_toggle]	Pulse to toggle the spa heater on and off
[solar_heater_toggle]	Pulse to toggle the pool solar heater on and off
[spa_solar_heater_toggle]	Pulse to toggle the spa solar heater on or off
[solar_perf_toggle]	Pulse to toggle the pool solar preferred option
[spa_solar_pref_toggle]	Pulse to toggle the spa solar preferred option
[aux1…20_relay_on]	Pulse to turn the relay on
[aux1…20_relay_off]	Pulse to turn the relay off
[aux1…20_relay_toggle]	Pulse to toggle the relay on and off
[aux1…8_dimmer+]	Pulse to raise the dimmer level in increments of 10 starting at 30%
[aux1…8_dimmer-]	Pulse to lower the dimmer level
[all_lights]	Pulse to activate all lights
[colorswim]	Pulse to activate the colorswim function
[colorset]	Pulse to activate the colorset function
[colorsync]	Pulse to activate the colorsync function

Note: The above four lighting functions have no real time feedback associated with them due to the nature of pool lighting and the lack of communication between the fixture and the pool controller.

startup	Pulse on startup to retrieve current i-Link settings and synchronize module feedback.

ANALOG INPUTS
This module does not utilize any analog inputs

SERIAL INPUTS

pentair_rx$	Route from the iLink com port RX line

DIGITAL OUTPUTS

spa_on .... High when spa mode is selected
spa_off .... High when spa mode is not selected (pool mode)
pump_on .... High when the pump is active
pump_off .... High when the pump is not active
pump_lowspeed_on .... High when the pump is in low speed mode
pump_hispeed_on .... High when the pump is in high speed mode
cleaner_on .... High when the cleaner function is on
cleaner_off .... High when the cleaner function is off
waterfall_on .... High when the waterfall is on
waterfall_off .... High when the waterfall is off
pool_heater_on .... High when the pool heater is enabled
pool_heater_off .... High when the pool heater is disabled
pool2_heater_on .... High when the second pool heater is enabled
pool2_heater_off .... High when the second pool heater is disabled
spa_heat_on .... High when the spa heater is enabled
spa_heat_off .... High when the spa heater is disabled
pool_solar_heat_on .... High when the pools solar heater is enabled
pool_solar_heat_off .... High when the pools solar heater is disabled
spa_solar_heat_on .... High when the spas solar heater is enabled
spa_solar_heat_off .... High when the spas solar heater is disabled
pool_solar_pref_on_fb .... High when the pool solar heat preference is enabled
pool_solar_pref_off_fb .... High when the pool solar heat preference is disabled
spa_solar_pref_on_fb .... High when the spa solar heat preference is enabled
spa_solar_pref_off_fb .... High when the spa solar heat preference is disabled
aux1…20_relay_on_fb .... High when the aux relay is on
aux1…20_relay_off_fb .... High when the aux relay is off
 [operation_mode_auto_fb] .... High when the controller is in the automatic mode of operation
[operation_mode_service/timeout_fb] .... High when the controller is in either the "service" or "timeout" mode of operation.
startup_busy .... High during startup sequence

ANALOG OUTPUTS

pool_setpoint .... Pool temperature set point in degrees Fahrenheit
pool_temperature .... Pool temperature in degrees Fahrenheit
pool_setpoint2 .... Second setpoint in degrees Fahrenheit
spa_setpoint .... Spa set point in degrees Fahrenheit
spa_temperature .... Spa temperature in degrees Fahrenheit
air_temperature .... Air temperature in degrees Fahrenheit

SERIAL OUTPUTS

pentair_tx$ .... Route from the iLink com port TX line
aux1…8_dimmer_level$ .... Displays the current dimmer level

PARAMETERS

This module does not utilize any parameters.

Support

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email support@controlworks.com or call us at 440-729-4640. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via Email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at http://www.thecontrolworks.com/customerlogin.aspx.

Distribution Package Contents

The distribution package for this module should include:

Pentair_iLink_v3.umc .... Crestron User Module
Pentair_iLink_Demo_XPANEL_v3.vtp .... Demo XPANEL file for eControl
Pentair_iLink_Demo_Program_v3.smw .... Demo program for PRO2 processor
Pentair_iLink_Help_v3.pdf... This help file

Revision History

V3 jim@controlworks.com 2008.05.23
  -Exposed all lights controls
  -Exposed all color functions

V2 lincoln@controlworks.com 2008.02.04
  -Exposed OPMODE feedback for new i-Link firmware revision

V1 jim@controlworks.com 2006.11.10
  -Initial release
  Note: This module does not support the following functions:
    -ALLIGHTS feedback & control
    -COLORSYNC feedback & control
    -COLORSET feedback & control
    -COLORSYNC feedback & control
    -OPMODE feedback

Development Environment

This module version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Pentair Hardware	Software Version
iLink	1.011
System I9+3 Outdoor Control	1.098
System I9+3 Indoor Control	1.097
Crestron Hardware	**Firmware Version**
Crestron PRO2 Processor	3.155.1243
Software	**Software Version**
Crestron SIMPL Windows	2.10.25
Crestron Vision Tools Pro-e	3.7.2.8
Crestron Database	19.04.010
Crestron Symbol Library	541
Crestron Device Library	541

Important Note: Your installation's iLink adapter, Indoor and Outdoor controls should have these firmware versions or higher. If you are having functional issues then please contact Pentair to get the most current versions for your products.

ControlWorks Consulting, LLC Module License Agreement

Definitions: *ControlWorks*, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 8001 Mayfield Rd, Chesterland, OH 44026. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. *Module* refers to files required to implement the functionality provided by the module and may include source files with extensions such as UMC, USP, SMW and VTP. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

Disclaimer of Warranties
ControlWorks Consulting, LLC software is licensed to You as is. You, the consumer, bear the entire risk relating to the quality and performance of the Software. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from any defect in the Software, even if ControlWorks Consulting, LLC had reason to know of the possibility of such damage. If the Software proves to have defects, You and not Us must assume the cost of any necessary service or repair resulting from such defects.

Provision Of Support
We provide limited levels of technical support only for the most recent version of the Module as determined by Us. We do not provide support for previous version of the module, modifications to the module not made by Us, to persons who have not purchased the module from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a module from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a module.

Modification of Software
You may not decrypt (if encrypted), reverse engineer, modify, translate, disassemble, or de-compile the Module in whole or part. You may modify the Demo Program. In no event will ControlWorks Consulting, LLC be liable for direct, indirect, incidental or consequential damages resulting from You modifying the Software in any manner.

Indemnification/Hold Harmless
ControlWorks, in its sole and absolute discretion may refuse to provide support for the application of the Module in such a manner that We feel has the potential for property damage, or physical injury to any person. Dealer shall indemnify and hold harmless ControlWorks Consulting LLC, its employees, agents, and owners from any and all liability, including direct, indirect, and consequential damages, including but not limited to personal injury, property damage, or lost profits which may result from the operation of a program containing a ControlWorks Consulting, LLC Module or any component thereof.

License Grant
Software authored by ControlWorks remains the property of ControlWorks. ControlWorks grants You the non-exclusive, non-transferable, perpetual license to use the Software authored by ControlWorks as a component of Systems programmed by You. This Software is the intellectual property of ControlWorks Consulting, LLC and is protected by law, including United States and International copyright laws. This Software and the accompanying license may not be transferred, resold, or assigned to other persons, organizations or other Crestron Dealers via any means.

The use of this software indicates acceptance of the terms of this agreement.