This document provides additional assistance with wiring your Extron IP Link Pro Control Processor to your device. Different components may require a different wiring scheme than those listed below.

For complete operating instructions, refer to the user's manual for the specific IP Link Pro Control Processor or the documentation supplied by the manufacturer of the controlled device.

For more information on using Global Scripter Modules, refer to the "Guide to Using Scripter Modules" document.

Device Specifications

Device Type: Video Projector
Manufacturer: Barco
Firmware Version: N/A
Model(s):   UDM-4K22, UDM-W22

Tested on the Following Software and Firmware Versions

IP Link Pro Control Processor Firmware	Global Scripter Version
3.18.0001-b002	2.23.0.13

Version History

Module Version	Date	Notes
1_0_2_0	2/5/2025	Initial Version

Module Notes

- Unidirectional variable must be set to 'True' if status is not required. Default value is 'False'.
  ```
  Example: InterfaceName.Unidirectional = 'True'
  ```

- connectionCounter variable must be set to the number of queries that will be sent to the device before displaying 'Disconnected' if no response is received. Default value is 15.
  ```
  Example: InterfaceName.connectionCounter = 5
  ```

Supported Classes and Examples

SerialClass
`InterfaceName = ModuleName.SerialClass(ProcessorName, 'COM1', Model='UDM-4K22')`
SerialOverEthernetClass
`InterfaceName = ModuleName.SerialOverEthernetClass('192.168.254.254', 2001, Model='UDM-4K22')`
EthernetClass
`InterfaceName = ModuleName.EthernetClass('192.168.254.254', 9090, Model='UDM-4K22')`

Global Scripter Module Communication Sheet

Control Commands

Format with Qualifier:
```
InterfaceName.Set(Command, Value, {'Qualifier Key': 'Qualifier Value'})
```

Format without Qualifier:
```
InterfaceName.Set(Command, Value)
```

Command	Value	Value	Value
DesiredDisplayMode	'Mono'	'Auto Stereo'	'Active Stereo'
	'Night Vision'	'IG Pixel Shift'	'IG Pixel Shift NV'
	'IG Pixel Shift Full NV'		

# DesiredDisplayMode example 	
InterfaceName.Set('DesiredDisplayMode', 'Mono')			

Command	Value	Value	
Focus	'In'	'Out'	

# Focus example 	
InterfaceName.Set('Focus', 'In')			

Command	Value		
Illumination	0 to 100 in steps of 1		

# Illumination example 	
InterfaceName.Set('Illumination', 100)			

Command	Value	Value	Value
Input [1]	'L1 DisplayPort'	'L1 Quad SDI'	'L1 HDMI'
	'L1 HDBaseT 1'	'L1 HDBaseT 2'	'L1 SDI A'
	'L1 SDI B'	'L1 SDI C'	'L1 SDI D'
	'L2 DisplayPort A'	'L2 DisplayPort B'	'L2 DisplayPort C'
	'L2 DisplayPort D'	'L2 Dual DP - AB'	'L2 Quad column DP'
	'L2 Quad DP'	'L2 Dual Head Dual DP - AB|CD'	'L2 Dual Head DP - B|D'
	'L2 Dual Head DP - A|C'	'L2 Dual DP - CD'	'L2 Dual DP - BD'
	'L2 Dual DP - AC'		

# Input example 	
InterfaceName.Set('Input', 'L1 DisplayPort')			

Command	Value	Value	
InvertImageStereoGlassSync	'On'	'Off'	

# InvertImageStereoGlassSync example 	
InterfaceName.Set('InvertImageStereoGlassSync', 'On')			

Command	Value	Value	
Power	'On'	'Off'	

# Power example 	
InterfaceName.Set('Power', 'On')			

[1] All L2 Input values are present only when the optional Quad DP1.2 input slot is installed.

Status Available

For all commands, call Update to receive the latest status. ConnectionStatus does not support the Update function and is triggered by the device providing a successful response to other Update function calls.

Format with Qualifier:
```
InterfaceName.Update(Command, {'Qualifier Key': 'Qualifier Value'})
Value = InterfaceName.ReadStatus(Command, {'Qualifier Key': 'Qualifier Value'})
InterfaceName.SubscribeStatus(Command, {'Qualifier Key': 'Qualifier Value'},
FeedbackHandler)
FeedbackHandler will be called only when the specified qualifier gets a new status.
```

Format without Qualifier:
```
InterfaceName.Update(Command)
Value = InterfaceName.ReadStatus(Command)
InterfaceName.SubscribeStatus(Command, None, FeedbackHandler)
FeedbackHandler will be called when any qualifier gets a new status.
```

Command	Value	Value	
ConnectionStatus	'Connected'	'Disconnected'	

# ConnectionStatus example 	
Value = InterfaceName.ReadStatus('ConnectionStatus')
InterfaceName.SubscribeStatus('ConnectionStatus', None, FeedbackHandler)			

Illumination	Value 0 to 100 in steps of 1		

# Illumination example 	
InterfaceName.Update('Illumination')
Value = InterfaceName.ReadStatus('Illumination')
InterfaceName.SubscribeStatus('Illumination', None, FeedbackHandler)			

Input [2]	Value	Value	Value
	'L1 DisplayPort'	'L1 Quad SDI'	'L1 HDMI'
	'L1 HDBaseT 1'	'L1 HDBaseT 2'	'L1 SDI A'
	'L1 SDI B'	'L1 SDI C'	'L1 SDI D'
	'L2 DisplayPort A'	'L2 DisplayPort B'	'L2 DisplayPort C'
	'L2 DisplayPort D'	'L2 Dual DP - AB'	'L2 Quad column DP'
	'L2 Quad DP'	'L2 Dual Head Dual DP - AB|CD'	'L2 Dual Head DP - B|D'
	'L2 Dual Head DP - A|C' 'L2 Dual DP - AC'	'L2 Dual DP - CD'	'L2 Dual DP - BD'

# Input example 	
InterfaceName.Update('Input')
Value = InterfaceName.ReadStatus('Input')
InterfaceName.SubscribeStatus('Input', None, FeedbackHandler)			

InvertImageStereoGlassSync	Value 'On'	Value 'Off'	

# InvertImageStereoGlassSync example 	
InterfaceName.Update('InvertImageStereoGlassSync')
Value = InterfaceName.ReadStatus('InvertImageStereoGlassSync')
InterfaceName.SubscribeStatus('InvertImageStereoGlassSync', None, FeedbackHandler)			

LaserHours	Value Hours		

# LaserHours example 	
InterfaceName.Update('LaserHours')
Value = InterfaceName.ReadStatus('LaserHours')
InterfaceName.SubscribeStatus('LaserHours', None, FeedbackHandler)			

Command	Value		
OperationHours	Hours		

# OperationHours example 	
InterfaceName.Update('OperationHours')
Value = InterfaceName.ReadStatus('OperationHours')
InterfaceName.SubscribeStatus('OperationHours', None, FeedbackHandler)			

Command	Value	Value	Value
Power	'On'	'Off'	'Warming Up'
	'Cooling Down'	'Booting Up'	'Eco / Power Save Mode'
	'Service'	'Error'	

# Power example 	
InterfaceName.Update('Power')
Value = InterfaceName.ReadStatus('Power')
InterfaceName.SubscribeStatus('Power', None, FeedbackHandler)			

[1] All L2 Input values are present only when the optional Quad DP1.2 input slot is installed.

Cable and Adapter Requirements

Captive Screw to Male DB9 RS-232 Serial Cable

Notes for the Device

Serial communication

Port Type:	RS-232		**Parity:**	None
Baud Rate:	19200		**Stop Bits:**	One
Data Bits:	8		**Flow Control:**	None

Pin Assignments Diagram
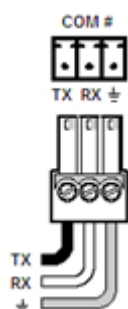
Signal	Main Cable	Pin	Signal
TxD	⟶	2	RxD
RxD	⟵	3	TxD
GND	⟶	5	GND

RS232 DB9, Female
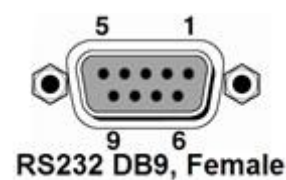
Network Communication

When configuring the Ethernet module, be sure device settings match those of the Global Scripter ethernet interface.

Port Type:	Ethernet (TCP)
Default Port:	9090
Logon Credentials Supported:	No
Multi-Connection Capabilities:	Undetermined
Port Changeability:	No

Ethernet Module Configuration Description

Please refer to user manual for settings and changes to the network communication

Notes for the Device

Appendix A. Set Commands

Desired Display Mode Active Stereo	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "ActiveStereo"}, "id": 270}\x0D\x0A`
Desired Display Mode Auto Stereo	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "AutoStereo"}, "id": 270}\x0D\x0A`
Desired Display Mode IG Pixel Shift	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "IGPixelShift"}, "id": 270}\x0D\x0A`
Desired Display Mode IG Pixel Shift Full NV	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "IGPixelShiftFullNV"}, "id": 270}\x0D\x0A`
Desired Display Mode IG Pixel Shift NV	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "IGPixelShiftNV"}, "id": 270}\x0D\x0A`
Desired Display Mode Mono	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "Mono"}, "id": 270}\x0D\x0A`
Desired Display Mode Night Vision	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.display.desireddisplaymode", "value": "NightVision"}, "id": 270}\x0D\x0A`
Focus In	`{"jsonrpc": "2.0", "method": "optics.focus.stepforward", "params": {"steps": 1}, "id": 260}\x0D\x0A`
Focus Out	`{"jsonrpc": "2.0", "method": "optics.focus.stepreverse", "params": {"steps": 1}, "id": 260}\x0D\x0A`
Illumination 0	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "illumination.sources.laser.power", "value": 0.0}, "id": 230}\x0D\x0A`
Illumination 100	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "illumination.sources.laser.power", "value": 100.0}, "id": 230}\x0D\x0A`
Input L1 DisplayPort	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 DisplayPort"}, "id": 150}\x0D\x0A`
Input L1 HDBaseT 1	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 HDBaseT 1"}, "id": 150}\x0D\x0A`
Input L1 HDBaseT 2	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 HDBaseT 2"}, "id": 150}\x0D\x0A`
Input L1 HDMI	`{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 HDMI"}, "id": 150}\x0D\x0A`

**Global Scripter Module
Communication Sheet**

Input L1 Quad SDI	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 Quad SDI"}, "id": 150}\x0D\x0A
Input L1 SDI A	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 SDI A"}, "id": 150}\x0D\x0A
Input L1 SDI B	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 SDI B"}, "id": 150}\x0D\x0A
Input L1 SDI C	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 SDI C"}, "id": 150}\x0D\x0A
Input L1 SDI D	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L1 SDI D"}, "id": 150}\x0D\x0A
Input L2 DisplayPort A	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 DisplayPort A"}, "id": 150}\x0D\x0A
Input L2 DisplayPort B	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 DisplayPort B"}, "id": 150}\x0D\x0A
Input L2 DisplayPort C	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 DisplayPort C"}, "id": 150}\x0D\x0A
Input L2 DisplayPort D	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 DisplayPort D"}, "id": 150}\x0D\x0A
Input L2 Dual DP - AB	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual DP - AB"}, "id": 150}\x0D\x0A
Input L2 Dual DP - AC	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual DP - AC"}, "id": 150}\x0D\x0A
Input L2 Dual DP - BD	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual DP - BD"}, "id": 150}\x0D\x0A
Input L2 Dual DP - CD	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual DP - CD"}, "id": 150}\x0D\x0A
Input L2 Dual Head DP - A|C	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual Head DP - A|C"}, "id": 150}\x0D\x0A
Input L2 Dual Head DP - B|D	{"jsonrpc": "2.0", "method": "property.set", "params": {"property": "image.window.main.source", "value": "L2 Dual Head DP - B|D"}, "id": 150}\x0D\x0A
Input L2 Dual Head Dual DP - AB|CD	{"jsonrpc": "2.0", "method": "property.set",

**Global Scripter Module
Communication Sheet**

	`"params": {"property":`
	`"image.window.main.source", "value": "L2 Dual`
	`Head Dual DP - AB|CD"}, "id": 150}\x0D\x0A`

Input L2 Quad column DP	`{"jsonrpc": "2.0", "method": "property.set",`
	`"params": {"property":`
	`"image.window.main.source", "value": "L2 Quad`
	`column DP"}, "id": 150}\x0D\x0A`

Input L2 Quad DP	`{"jsonrpc": "2.0", "method": "property.set",`
	`"params": {"property":`
	`"image.window.main.source", "value": "L2 Quad`
	`DP"}, "id": 150}\x0D\x0A`

Invert Image Stereo Glass Sync Off	`{"jsonrpc": "2.0", "method": "property.set",`
	`"params": {"property":`
	`"image.stereo.glassync.invert", "value": false},`
	`"id": 170}\x0D\x0A`

Invert Image Stereo Glass Sync On	`{"jsonrpc": "2.0", "method": "property.set",`
	`"params": {"property":`
	`"image.stereo.glassync.invert", "value": true},`
	`"id": 170}\x0D\x0A`

Power Off	`{"jsonrpc": "2.0","method":`
	`"system.poweroff","params": {},"id":`
	`130}\x0D\x0A`

Power On	`{"jsonrpc": "2.0","method":` `"system.poweron","params": {},"id": 130}\x0D\x0A`

Appendix B. Update Commands

Illumination	`{"jsonrpc": "2.0", "method": "property.get", "params": {"property": "illumination.sources.laser.power"}, "id": 230}\x0D\x0A`
Input	`{"jsonrpc": "2.0", "method": "property.get", "params": {"property": "image.window.main.source"}, "id": 150}\x0D\x0A`
Invert Image Stereo Glass Sync	`{"jsonrpc": "2.0", "method": "property.get", "params": {"property": "image.stereo.glassync.invert"}, "id": 170}\x0D\x0A`
Laser Hours	`{"jsonrpc": "2.0", "method": "property.get", "params": {"property": "statistics.laserruntime.value"}, "id": 2}\x0D\x0A`
Operation Hours	`{"jsonrpc": "2.0", "method": "property.get", "params": {"property": "statistics.projectorruntime.value"}, "id": 1}\x0D\x0A`
Power	`{"jsonrpc": "2.0","method": "property.get","params": {"property": "system.state"},"id": 130}\x0D\x0A`