

# Creating Device Connections with Ignition scripting

Device connection configurations for the Cirrus Link drivers can be created through scripting using the standard Ignition function

`system.device.addDevice()`



The Description and Enabled properties may not be configured with this function. By default, the Enabled property is set to true and can be disabled with a call to `system.device.setDeviceEnabled()` after creating the connection.

The device driver types for the Cirrus Link EFM Modules are listed in the table below:

| Driver Name                     | Device Type   |
|---------------------------------|---------------|
| Emerson ROC                     | EmersonRoc    |
| ABB Totalflow                   | AbbTotalflow  |
| Opto 22 groov EPIC and SNAP PAC | SnapPacDriver |

Below are the table of properties callable by `system.device.addDevice`.



Device properties in bold are mandatory properties that must be included in the addDevice call

## Emerson ROC Keys

| Device Property         | Key                    | Datatype |
|-------------------------|------------------------|----------|
| <b>Protocol Type</b>    | ProtocolType           | String   |
| <b>Hostname</b>         | Hostname               | String   |
| <b>TCP Port</b>         | Port                   | Integer  |
| Socket Timeout          | SocketTimeout          | Integer  |
| <b>ROC Unit Code</b>    | RocUnitCode            | Integer  |
| <b>ROC Group Code</b>   | RocGroupCode           | Integer  |
| <b>Host Unit Code</b>   | HostUnitCode           | Integer  |
| <b>Host Group Code</b>  | HostGroupCode          | Integer  |
| Periodic Mapping        | PeriodicMappingId      | Long     |
| Configuration Mapping   | ConfigurationMappingId | Long     |
| Add All TLP Definitions | AddAllTLPDefinitions   | Boolean  |
| Security Enabled        | SecurityEnabled        | Boolean  |
| Operator ID             | OperatorId             | String   |
| Password                | Password               | String   |
| Access Level Enabled    | AccessLevelEnabled     | Boolean  |
| Access Level            | AccessLevel            | Integer  |
| Date Time Offset        | DateTimeOffset         | Integer  |
| Sync ROC RTC            | SyncDateTime           | Boolean  |
| Sync Expression         | SyncDateTimeExpression | String   |

|                                |                          |         |
|--------------------------------|--------------------------|---------|
| Alarm Scan Rate                | AlarmScanRate            | Integer |
| Event Scan Rate                | EventScanRate            | Integer |
| Minute History Scan Rate       | HistoryMinuteScanRate    | Integer |
| Periodic History Scan Rate     | HistoryPeriodicScanRate  | Integer |
| Daily History Scan Rate        | HistoryDailyScanRate     | Integer |
| Enable Signature               | EnableSignature          | Boolean |
| Algorithm                      | HashingAlgorithm         | String  |
| Password                       | SignaturePassword        | String  |
| Group ID                       | GroupId                  | String  |
| Edge ID                        | EdgeId                   | String  |
| Device ID                      | DeviceId                 | String  |
| Serial Number                  | SerialNumber             | String  |
| History Time Stamp             | HistoryTimestamp         | Boolean |
| Read Delay                     | ReadDelay                | Long    |
| Poll Watchdog Rate             | PollerWatchdogRate       | Integer |
| Enable CFX                     | EnableCfx                | Boolean |
| Flow Computer Brand            | CfxFlowComputerBrand     | String  |
| Flow Computer Model            | CfxFlowComputerModel     | String  |
| Flow Computer Software Version | CfxFlowComputerSwVerison | String  |
| CFX Publish Time               | CfxPublishTimeExpression | String  |
| CFX Cutoff Time                | CfxCutoffTimeExpression  | String  |
| CFX File Transfer              | CfxFileTransferId        | Long    |



Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a particular need.

#### Emerson ROC Sample Script

```
# Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any
particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a
particular need.
#new device connection using default settings
newProps = {}
newProps["ProtocolType"] = "ROC"
newProps["Hostname"] = "10.1.2.3"
newProps["Port"] = 2000
newProps["RocUnitCode"] = 10
newProps["RocGroupCode"] = 100
newProps["HostUnitCode"] = 20
newProps["HostGroupCode"] = 200
newProps["HashingAlgororithm"] = "SHA_1"
system.device.addDevice(deviceType = "EmersonRoc",deviceName = "MyROC",deviceProps = newProps)
```

## ABB Totalflow Keys

| Device Property | Key | Datatype |
|-----------------|-----|----------|
|-----------------|-----|----------|

|                                           |                                          |         |
|-------------------------------------------|------------------------------------------|---------|
| <b>Board Type</b>                         | BoardType                                | String  |
| <b>Hostname</b>                           | Hostname                                 | String  |
| <b>TCP Port</b>                           | Port                                     | Integer |
| Socket Timeout                            | SocketTimeout                            | Integer |
| Connection Type                           | ConnectionType                           | String  |
| Enable Auto-discovery                     | EnableAutoDiscovery                      | Boolean |
| Add All Totalflow Application Definitions | AddAllTotalflowApplicationDefinitions    | Boolean |
| Add All Array-Register Definitions        | AddAllArrayRegisterDefinitions           | Boolean |
| Auto-generate Templates and Poll Group    | AutoGenerateDefaultTemplatesAndPollGroup | Boolean |
| Array-Register Template Import Policy     | ArrayRegisterTemplateImportPolicy        | String  |
| Poll Group Import Policy                  | PollGroupImportPolicy                    | String  |
| Station ID                                | StationId                                | String  |
| Keep Alive                                | ConnectionKeepAlive                      | Integer |
| Host Timeout                              | HostTimeout                              | Long    |
| Number Retries                            | NumberRetries                            | Integer |
| Supervisory Frames                        | SupervisoryFrames                        | Integer |
| Password                                  | SecurityCode                             | String  |
| RBAC Enabled                              | RbacEnabled                              | Boolean |
| Operator ID                               | OperatorId                               | String  |
| Password                                  | OperatorPassword                         | String  |
| Date Time Offset                          | DateTimeOffset                           | Integer |
| Alarm Source                              | AlarmSourceSelector                      | String  |
| Alarm Scan Rate                           | AlarmScanRate                            | Integer |
| Event Scan Rate                           | EventScanRate                            | Integer |
| Periodic History Scan Rate                | HistoryPeriodicScanRate                  | Integer |
| Daily History Scan Rate                   | HistoryDailyScanRate                     | Integer |
| Record Info Scan Rate                     | RecordInfoScanRate                       | Integer |
| Max Records To Read                       | MaxRecordsToRead                         | Integer |
| Periodic Mapping                          | PeriodicMappingId                        | Long    |
| Enable Signature                          | EnableSignature                          | Boolean |
| Hashing Algorithm                         | HashingAlgorithm                         | String  |
| Password                                  | SignaturePassword                        | String  |
| Group ID                                  | GroupId                                  | String  |
| Edge ID                                   | EdgeId                                   | String  |
| Device ID                                 | DeviceId                                 | String  |
| Use INI Categories                        | UseIniCategories                         | Boolean |
| Poller Watchdog Rate                      | PollerWatchdogRate                       | Integer |
| Enable CFX                                | EnableCfx                                | Boolean |
| Flow Computer Brand                       | CfxFlowComputerBrand                     | String  |
| Flow Computer Model                       | CfxFlowComputerModel                     | String  |

|                                |                          |        |
|--------------------------------|--------------------------|--------|
| Flow Computer Software Version | CfxFlowComputerSwVerison | String |
| CFX Publish Time               | CfxPublishTimeExpression | String |
| CFX Cutoff Time                | CfxCutoffTimeExpression  | String |
| CFX File Transfer              | CfxFileTransferId        | Long   |



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#### ABB Totalflow Sample Script

```
# Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any
particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a
particular need.
#new device connection using default settings
newProps = {}
newProps["BoardType"] = "G4"
newProps["Hostname"] = "10.1.2.3"
newProps["Port"] = 2000
system.device.addDevice(deviceType = "AbbTotalflow",deviceName = "MyABB",deviceProps = newProps)
```

## Opto 22 groov EPIC and SNAP PAC

| Device Property | Key          | Datatype |
|-----------------|--------------|----------|
| Address         | Address      | String   |
| TCP/IP Port     | Port         | Integer  |
| Timeout         | Timeout      | Long     |
| Data Scan Rate  | DataScanRate | Long     |



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#### Opto22 Sample Script

```
# Cirrus Link provides these scripts as examples only, they are not supported or guaranteed to meet any
particular functionality. Cirrus Link cannot provide any assistance to modify these scripts to meet a
particular need.
#new device connection using default settings
newProps = {}
system.device.addDevice(deviceType = "SnapPacDriver",deviceName = "MyOpto22",deviceProps = newProps)

#new device connection
newProps = {}
newProps["Address"] = "156.23.25.42"
newProps["Port"] = 22001
newProps["Timeout"] = 3500
newProps["DataScanRate"] = 1500
system.device.addDevice(deviceType = "SnapPacDriver",deviceName = "MyOpto22",deviceProps = newProps)
```

