



Kentrox Modules

Version 2.4.4

Release Notes

July 2015



RELEASE NOTES



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Part # 030-300689 Rev. A

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Table 1 Affected Types

Vendor	Models	Configured Types	Issues
Andrew Commscope	ION	AndrewIONDAS	75440
APC	Galaxy 5000 *new*	APCGalaxyUPS	74930
BatteryDAQ	M6 *new*	BatteryDAQBatteryMonitor	75321, 74343
DeepSea	5210 5220 7320	DeepSea5210Generator DeepSea5220Generator DeepSea7320Generator	75377
Dialight	Medium Intensity, High Intensity, Red Only	DialightMediumIntensityTowerLight , DialightMediumIntensityDiscreteTowerLight , DialightHighIntensityTowerLight , DialightHighIntensityDiscreteTowerLight , DialightRedOnlyTowerLight , DialightRedOnlySmallTowerLight , DialightRedOnlyDiscreteTowerLight , DialightRedOnlySmallDiscreteTowerLight ,	75145
Elkor	WattsOn	ElkorSplitPhasePowerMeter ElkorThreePhasePowerMeter	75377
Flash	Eagle, LED	FlashEagle11TowerLight , FlashEagle11DiscreteTowerLight , FlashEagle11EthernetTowerLight , FlashEagle11EthernetDiscreteTowerLight , FlashLEDTowerLight , FlashLEDDiscreteTowerLight	75145, 75436
	Vanguard	FlashVanguardSerialTowerLight , FlashVanguardSerialDiscreteTowerLight , FlashVanguardEthernetTowerLight , FlashVanguardEthernetDiscreteTowerLight ,	75210, 75145

Table 1 Affected Types

Vendor	Models	Configured Types	Issues
Mobile Access	SC450	MobileAccessSC450DAS, MobileAccessSC450DiscreteDAS	75193
Westell	Generic Discrete Monitoring	KentroxDiscreteMonitor	75482
Westell	Propane Hall Effect *new*	FuelGaugeHallEffectSensor	73154
Westell	Pressure based fuel monitoring	RectangularFuelTankPressureSensor, HorizontalCylinderFuelTankPressureSensor, VerticalCylinderFuelTankPressureSensor	75192

Report Changes

Rectifier reports have been renamed `Power Supply` to encapsulate both `UPS` and `Rectifier` information.

Major Features

75229 -- Monitor Wireless Modem Signal Strength

If a `Remote` has a wireless modem and the `moduleMonitor` has been configured, the signal strength will be monitored and provided to Optima. The application will create the following information:

Table 2 Wireless Modem Signal Strength

Type	Name	Values	Description
measurement	SignalStrength	0.0 - 5.5	Signal strength of the wireless interface
status-point	SignalQuality	VeryPoor, Poor, Fair, Good, VeryGood	Signal quality of the wireless interface

Optima NE Tree

In Optima, if the modem exists and the `moduleMonitor` is configured, a component called `modemMonitor` also will be created. See Figure 1:

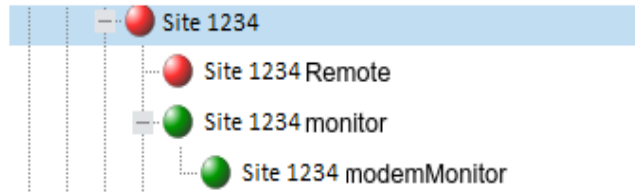


Figure 1-1 A `modemMonitor` child network element displays in the NE Tree beneath Site 1234 Monitor

Optima Live View

— Wireless Signal —			
Quality:	Very Good	Strength:	4.1

75210 -- Vanguard TowerLight IR alarm control and alarming enhancement (v3.1 support)

Table 3 Issue 75210 Parameters

Name	Type	Default Value	Options	Description
<code>irAlarmIsNightAlarm</code>	enumeration	<code>enable</code>	<code>disable, enable</code>	Whether IR alarms are bound to night mode
<code>irEnabled</code>	enumeration	<code>enable</code>	<code>disable, enable</code>	Whether or not to enable IR output of capable beacons

New Behavior

```

if irEnabled == "disable":
    ignore IR alarms
if irEnabled == "enable" and irAlarmIsNightAlarm == "enable":
    TowerCritical (IR ALARM, IR N/A)
if irEnabled == "enable" and irAlarmIsNightAlarm == "disable":
    TowerWarning (IR ALARM, IR N/A)
    
```

Configuration

```

config site network-element towerLight
...
param irAlarmIsNightAlarm [ enable | disable ]
param irEnabled [ enable | disable ]
...
    
```

75193 -- Support MobileAccess 7.0 active alarm table

MobileAccess firmware version 7.0 provided a new pollable SNMP table, the active alarm table. This table provides a similar mechanism to other DAS devices that allows accurate sync of all active alarms on the system. Instead of attempting to walk the events table (that could contain thousands of entries and still not provide the correct data), the application will use this table.

As with other DAS types, the **MobileAccess** will now fully sync (inventory and active alarms) at startup, periodically (as configured), and on demand (via control).

The application support will only function on a device with a firmware version of 7.0 or greater. We no longer support anything earlier than 7.0. Having an incompatible version will trigger the **IncompatibleVersion** alarm.

No configuration changes are necessary to enable this functionality.

New Alarm

Alarm	Severity	Description
IncompatibleVersion	Critical	Device was polled and an incompatible version was found. Intelligent monitoring is disabled.

75145 - Show tower type as status point (A0, E2, etc)

The FAA identifies different tower types (height, beacon count, etc) with specific style names. The application will "calculate" this style based on its configuration and present the style as a status point. See [Table 4](#) below.

Table 4 Tower Types

Tower Type	AOL?	Beacons	FAA Style
White	No	6	B2
		9	B3
		12	B4
		15	B5
		18	B6
		1	D1
		2	D1 + 1
		3	D2
	Yes	4	D2 + 1
		6	C2
		9	C3
		12	C4
		15	C5
		18	C6

Table 4 Tower Types

Tower Type	AOL?	Beacons	FAA Style
Red	No	0	A0
		1	A1
		2	A1 + 1
		3	A2
		4	A2 + 1
		5	A3
		6	A3 + 1
		7	A4
		8	A4 + 1
		9	A5
		10	A5 + 1
		11	A6
12	A6 + 1		
Dual	No	1	E1
		2	E1 + 1
		3	E2
		4	E2 + 1
	Yes	6	F2
		9	F3
		12	F4
		15	F5
		18	F6

74930 -- APC Galaxy 5000 UPS Support

Elements

Element	Type	Description
ups	APCGalaxyUPS	Main UPS Controller. Monitors overall UPS information.
upsBattery	APCBatteryString	Monitors battery string information from UPS
upsInputPower	APCPowerMeter	Monitors input power (utility power).
upsOutputPower	APCPowerMeter	Monitors output power (load side)

New Behavior

Added `sync` control action for UPS. UPS syncs automatically on startup. Manual sync will clear additional alarms that cannot be synchronized.

Parameters

Name	Type	Default Value	Options	Description
autoSyncDelay	integer	1440	0 to 1440	Delay between auto sync (in minutes)
cutThroughHlp	string	0.0.0.0		The IP address on which to allow cut-through connections
cutThroughPort	integer	10200	1025 to 65536	The port on which to allow cut-through connections
description	string	<i>empty string</i>		Extra description about this NE
deviceHttpPort	integer	80	1 to 65535	The http port of the device
deviceIp	string			The IP address of the device
deviceSnmpAutoTimeout	enumeration	enable	disable, enable	Whether to automatically adjust the SNMP timeout
deviceSnmpCommunity	string	public		SNMP community string used to poll the device
deviceSnmpGetBulk	enumeration	enable	disable, enable	Whether to use SNMP Get Bulk requests in device walks
deviceSnmpPort	integer	161		SNMP Port of the device
deviceSnmpRetries	integer	2		Number of times to retry SNMP requests
deviceSnmpTimeout	integer	2		Number of seconds to wait for SNMP responses
deviceSnmpTrapCommunity	string	public		SNMP community string in traps received from the device
deviceSnmpVersion	enumeration	V2C	V1, V2C, V3	SNMP Version of the device
model	string	<i>empty string</i>		Extra model information about this NE
snmpManagerIp	string	0.0.0.0		SNMP manager interface IP
snmpManagerPort	integer	1162	1024 to 65535	Unique port for receiving SNMP traps (e.g. 1162)

Example Configuration

Below is an example of simple configuration for the **APC** UPS.

```
config site network-element ups
    type APCGalaxyUPS
    param deviceIp <ipaddress>
```

Supported Reports

AC Line Current

AC Phase Voltage

Battery Charge Level

Battery Current

Battery Temperature

Battery Time Remaining

Battery Voltage

Power Supply Efficiency

Power Supply Output Power

Power Supply Utilization

Ranking: Battery Charge Level

Ranking: UPS Power Failures

Note: Rectifier reports renamed to Power Supply so that they would encapsulate both UPS and Rectifier

75192 - Sensor Offset adjustment for fuel monitoring (pressure sensors)

When monitoring fuel tanks with a pressure sensor, there are varying reasons the sensor may not be able to be installed on the bottom of the tank. This could be to avoid sludge, the way the mounting works, etc. Also, the sensor itself may not be calibrated perfectly to the location of the tank (due to altitude and differences in atmospheric pressure, for example). Therefore, there are new calibration parameters added to compensate for the sensor readings and installation location.

Configuration

Parameter	Options	Default Value	Description
<code>sensorInstallHeight</code>	n/a	0.013	The height of the sensor in the tank (in units as defined by <code>distanceUnits</code> param)
<code>calibrationUnits</code>	PSI, volume	volume	Calibration in PSI or volume (in units as defined by <code>volumeUnits</code> param)
<code>sensorCalibration</code>	n/a	0	The value the sensor reads when the tank is empty (in psi or <code>volumeUnits</code>)

Example Configuration

For example, to configure a sensor in a rectangular fuel tank, but is installed 3 inches from the bottom and is reading 10 gallons when empty, use the following:

```
# in case volume units are not set already
config site param volumeUnits gal

# in case distance units are not set already
config site param distanceUnits in

config site network-element fuelTank
    type RectangularFuelTankPressureSensor
    param capacity 200
    param width 200
    param length 100
    param sensorInstallHeight 3
    param calibrationUnits volume
    param sensorCalibration -10
```

73154 - Support propane tanks for fuel monitoring

To monitor propane fuel tanks, Westell has integrated a Hall effect propane gauge sensor. This sensor provides a 0-100% reading from the actual gauge and then, given a configured tank capacity, calculates current fuel level. From there, fuel monitoring is handled exactly as the pressure based fuel monitoring application.

Configuration

An example configuration for a 500 gallon propane tank using a Hall effect sensor:

```
config site network-element fuelTank
  type FuelGaugeHallEffectSensor
  param capacity 500
  param discrete 'analog 1/1'
```

74343 - Name battery string cell NEs so they maintain cell order

When battery cells were added to the dynamicCLI file, they were named Cell1, Cell2, ... Cell10. In Optima, standard alphanumeric ordering would create the list as follows:

```
Cell11
Cell110
Cell111
...
Cell12
Cell13
...
```

Now that battery cells are components and auto created, they are named (and ordered) appropriately as

```
batteryString_Cell_01
batteryString_Cell_02
batteryString_Cell_03
batteryString_Cell_04
....
batteryString_Cell_09
batteryString_Cell_10
batteryString_Cell_11
batteryString_Cell_12
...
```

75482 - Add informational alarm capabilities to generic discrete monitoring

There is an NE type that can be configured for generic discrete monitoring. The NE type will allow for an arbitrary number of **critical** alarms, **major** alarms, and **informational** alarms. In this release, the ability to have **informational** alarms was added.

Below are the configurable attributes for the `KentroxDiscreteMonitor`.

Name	Type	Default Value	Options	Description
alarmSource	enumeration	parent	both, components, parent	The network-element(s) that will report the alarms
criticalInputs	integer		0 to 128	The number of critical inputs to monitor
description	string	<i>empty string</i>		Extra description about this NE
informationalInputs	integer		0 to 128	The number of informational inputs to monitor
warningInputs	integer		0 to 128	The number of warning inputs to monitor

Configuration

The following example shows monitoring 3 dry contacts, one **critical**, one **major**, and one **informational**. The **informational** dry contact is set up as a **mode** and monitoring both states independently.

```

config site network-element-set Discrete
    instance E_23DBDiscrete
        exit

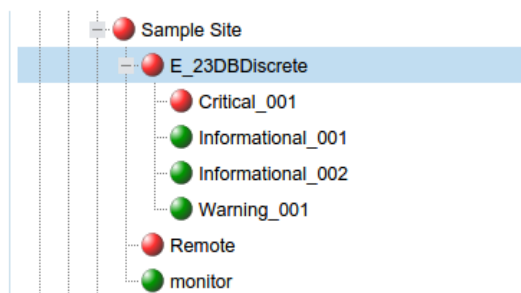
config site network-element E_23DBDiscrete
    type KentroxDiscreteMonitor
    param warningInputs 1
    param criticalInputs 1
    
```

```

param alarmSource components
param informationalInputs 2
component E_23DBDiscreteCritical_001
    param normalState close
    param description 'Strobe #1'
    param discrete 'input 1/1'
    exit
component E_23DBDiscreteWarning_001
    param normalState close
    param description 'Marker'
    param discrete 'input 1/2'
    exit
component E_23DBDiscreteInformational_001
    param normalState close
    param description 'Day Mode'
    param discrete 'input 1/3'
    exit
component E_23DBDiscreteInformational_002
    param normalState open
    param description 'Night Mode'
    param discrete 'input 1/3'
    exit
    
```

Optima

Optima will create a **network element** with **components** for each monitoring dry contact. Here's an example with several configured alarm components.



Optima will show alarms in a normal fashion. Below is an example of alarms for the above mentioned configuration.

Sample Site E_23DBDiscrete (Including events for dependent NEs) - Severity: Warning, Minor, Major, Critical, Information; Status: Pending, Acknowledge... ?						
Actions <input type="checkbox"/> Most Recent <input type="checkbox"/> Include Cleared						
<input type="checkbox"/>	Severity	Created	Status	Description	Source	Event type
<input type="checkbox"/>	Information	22/05/15 14:34:20 -0400	Pending	Night Mode (D1/3)	Sample Site E_23DBDiscret...	Alarm
<input type="checkbox"/>	Critical	22/05/15 14:33:05 -0400	Pending	Strobe #1 (D1/1)	Sample Site E_23DBDiscret...	Alarm

75377 -- Ability to configure multiple RS485 devices on the same serial port in the module

Previously, multiple power meters could be configured to be used on a single RS485 bus. However, the DeepSea required its own port for proper communication. This application package will allow configuring Elkor power meters and a DeepSea generator controller on the same bus. In addition, both devices have a configurable baudRate parameter to allow for matching communication speeds across devices.

NE Type	New Parameter	Description
ElkorSplitPhasePowerMeter	baudRate	Baud rate for serial communication
ElkorThreePhasePowerMeter	baudRate	Baud rate for serial communication
DeepSea5210Generator	baudRate	Baud rate for serial communication
DeepSea5220Generator	baudRate	Baud rate for serial communication
DeepSea7320Generator	baudRate	Baud rate for serial communication

Discrete Controlled ATS Support

- 75476 -- Support Basler with discrete controlled ATS for starting generator
- 75078 -- Support Generac H panel with discrete controlled ATS for starting generator
- 75540 -- Update discrete generator to work with discrete controlled ATS

The purpose of this feature is to allow for a certain kind of generator configurations as found at Verizon Wireless sites. At certain sites they are monitoring the Basler via Modbus (or the Generac). However, they do not wish to test the generator via modbus commands. Specifically because it will not cause the generator to test on load. So, in

order to solve this issue there is a discrete that can be flipped on the ATS at a site causing a loaded generator test to occur.

Configuration

Basler + DiscreteControlledATS

```
config site control generator
  param testingDuration 15
config site network-element mainsPowerDetection
  type DiscretePowerDetection
  param discrete 'input 1/1'
  param normalState open
config site network-element generator
  type BaslerDGC2020Generator
  param controller 'serial 3'
  param modbusAddress 125
  param testOnLoad enable
config site network-element powerDistribution
  type DiscreteControlledATS
  param discrete 'input 1/2'
  param normalState open
  param generatorTestControl 'output 1/4'
```

Generac + DiscreteControlledATS

```
config site control generator
  param testingDuration 15
config site network-element mainsPowerDetection
  type DiscretePowerDetection
  param discrete 'input 1/1'
  param normalState open
config site network-element generator
  type GeneracH100Generator
  param controller 'serial 1'
  param modbusAddress 100
  param testOnLoad enable
config site network-element powerDistribution
  type DiscreteControlledATS
```

```
param discrete 'input 1/2'  
param normalState open  
param generatorTestControl 'output 1/4'
```

DiscreteGenerator + DiscreteControlledATS

```
config site control generator  
  param testingDuration 15  
config site network-element mainsPowerDetection  
  type DiscretePowerDetection  
  param discrete 'input 1/1'  
  param normalState open  
config site network-element generator  
  type DiscreteGenerator  
  param discrete 'input 1/3'  
  param normalState open  
  param testOnLoad enable  
config site network-element powerDistribution  
  type DiscreteControlledATS  
  param discrete 'input 1/2'  
  param normalState open  
  param generatorTestControl 'output 1/4'
```

Fixes

75436 - Flash Eagle stops communicating, cannot reconnect

Flash Eagle can lose communication and not be able to reconnect. **Resolved**

75440 -- Issues with monitoring Andrew ION DAS systems using Intelligent (SNMP) Interface

ION-M systems identify the components of the DAS slightly differently than the ION-B systems. However, there are some hardware components that use even a more unique identity that has different rules for parsing. This update will handle the IPOI case and correctly map alarms to the appropriate device.

Remove Types

There used to be a need for certain generic NE types. These types, for example **GeneratorControllerPowerMeter**, would work with several different generator types. However, these have been deprecated and now removed in favor of specific NE types, for example **GeneracHTSPowerMeter**. The following types were removed for this reason.

Deprecated Generic Types
GeneratorControllerSplitPhasePowerMeter <i>*removed*</i>
GeneratorControllerThreePhasePowerMeter <i>*removed*</i>
RectifierSplitPhasePowerMeter <i>*removed*</i>
RectifierThreePhasePowerMeter <i>*removed*</i>
RectifierDCPowerMeter <i>*removed*</i>

In addition, there were some "aggregate" types that were never customer implemented. The following types have been removed to avoid confusion.

Deprecated Unused Types
AggregateDoor <i>*removed*</i>
AggregateTemperature <i>*removed*</i>
AggregateUPS <i>*removed*</i>

Issue List

<u>Issue ID</u>	<u>Version</u>	<u>Description</u>
75321	2.4.0	SupportBatteryDAQ M6
75229	2.4.0	Only monitor signal strength if modem exists - create as component
75210	2.4.0	<u>75210 -- Vanguard TowerLight IR alarm control and alarming enhancement (v3.1 support)</u>
75193	2.4.0	<u>75193 -- Support MobileAccess 7.0 active alarm table</u>
75192	2.4.0	<u>75192 - Sensor Offset adjustment for fuel monitoring (pressure sensors)</u>
75145	2.4.0	<u>75145 - Show tower type as status point (A0, E2, etc)</u>
74944	2.4.0	Migrate BatteryDAQ to use component NEs
74930	2.4.0	<u>74930 -- APC Galaxy 5000 UPS Support</u>
74343	2.4.0	<u>74343 - Name battery string cell NEs so they maintain cell order</u>
73154	2.4.0	<u>73154 - Support propane tanks for fuel monitoring</u>
75357	2.4.0	Module Monitor induces Interrupted System Call in FlashEagle11
75259	2.4.0	Andrew ION-M traps are not creating alarms in Optima
75199	2.4.0	Flash Vanguard not Alarming on ALI/QLI Failure
75144	2.4.0	ZTE Rectifier Alarm OIDs not translating in Event View
75079	2.4.0	WorkerSwampedException on FlashVanguardEthernetDiscreteTowerLight
75414	2.4.0	Dialight Small Red controllers do not tell us how many beacons are present
75412	2.4.0	XMLFileCollection alarm needs to clear if an SNMP inventory poll is successful
75326	2.4.0	BatteryDAQ different scale for internal resistance of 12V cells
75290	2.4.0	WorkerQueue alarm never happens
75225	2.4.0	Flash Vanguard not updating mode status point
75188	2.4.0	Debounce writeRegister the same as readRegister for Generac H-Panel Communications Errors
75432	2.4.1	More interrupted system call errors at ATC
75416	2.4.1	Flash Vanguard does not reference device for AOL status

<u>Issue ID</u>	<u>Version</u>	<u>Description</u>
75436	2.4.2	75436 - Flash Eagle stops communicating, cannot reconnect
75482	2.4.3	75482 - Add informational alarm capabilities to generic discrete monitoring
75476	2.4.3	Support Basler with discrete controlled ATS for starting generator
75078	2.4.3	Support Generac H panel with discrete controlled ATS for starting generator
75494	2.4.3	Optima does not support "Default" elements unless the Param def is on the NECategory
75440	2.4.3	75440 -- Issues with monitoring Andrew ION DAS systems using Intelligent (SNMP) Interface
75377	2.4.3	75377 -- Ability to configure multiple RS485 devices on the same serial port in the module
75540	2.4.4	Update discrete generator to work with discrete controlled ATS

