

# alvasys Adap-Kool Serial Driver

Installation and administration

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## 2 Document History

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1.2.0.0	26-OCT-2015	I.Z.Toth	First draft.
1.2.0.0	23.8.2022	M.Meriano	Update to N4.8+N4.9+N4.10+

## 3

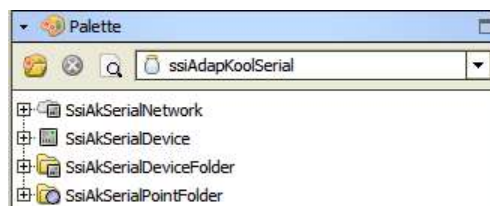
## 4 Definitions and abbreviations

controller	A physical controller on the Danbuss network. The driver communicates with controllers through the gateway. A controller is represented in the Niagara system as a device.
device	A Niagara component added to the Jace database under an SsiAkSerialNetwork. Every device represents one controller.
driver	The ssiAdapKoolSerial driver installed on the Jace, communicating with the gateway over a serial port.
gateway	An ADAP-KOOL gateway that is connected to the serial port of the Jace and performs the actual communication to the controllers.
network	A Niagara component added to the Jace database under drivers. Every network represents a physical Danbuss network.

## 5 Installation

Steps of driver installation:

1. Install the ssiAdapKoolSerial module.
2. License the unit for the alvasys automation ag vendor and ssiAdapKoolSerial feature.
3. Add the SsiAkSerialNetwork from the ssiAdapKoolSerial palette.
4. Set parameters of the network.
5. Add a gateway to the network.
6. Discover and add devices.



### Setting network parameters

The following parameters of the network should be set properly before the first gateway is added:

Serial Port Config	Serial Helper
<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Port Name	COM1
<input type="checkbox"/> Baud Rate	Baud9600
<input type="checkbox"/> Data Bits	Data Bits8
<input type="checkbox"/> Stop Bits	Stop Bit1
<input type="checkbox"/> Parity	Even
<input type="checkbox"/> Flow Control Mode	<input type="checkbox"/> RtsCtsOnInput <input type="checkbox"/> RtsCtsOnOutput <input type="checkbox"/> XonXoffOnInput
<input type="checkbox"/> Network Address	1
<input type="checkbox"/> Device Address	124

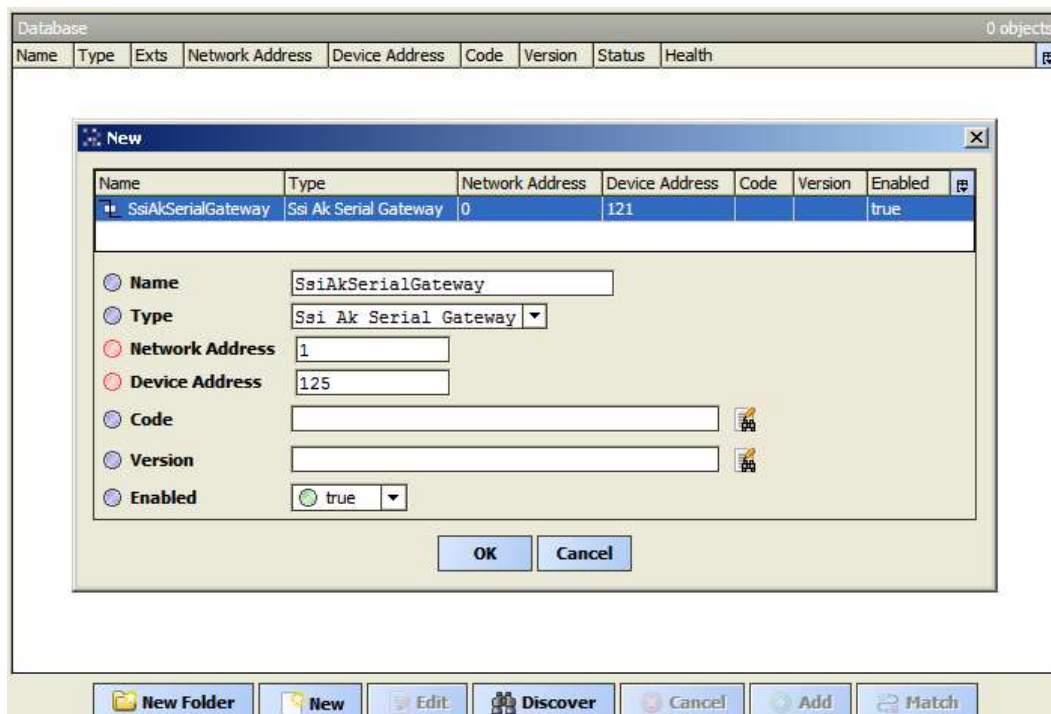
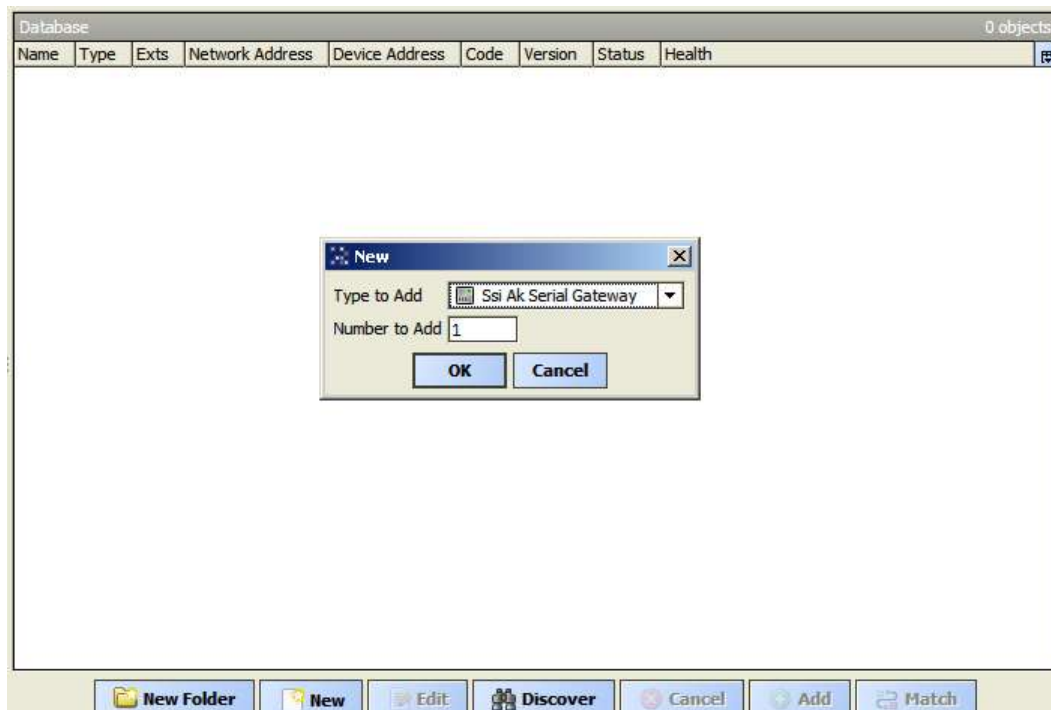
The network and device address is the address of the gateway this network is connected to with the serial connection. The values shown above are the defaults; the actual configuration might use different addresses.



### Adding the gateway

After the network parameters are set the first gateway has to be added to the network. To add the gateway:






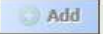

1. Open the device manager. (Double click on the network in the navigation tree, or choose the device manager view).
2. Click on the “New” button, leave the type on default and click on OK.

3. Edit the address and the name of the gateway, leave code and version empty, click on OK.
4. If everything is set up properly the code and version of the gateway will be shown when the driver established communication.



Database									1 objects
Name	Type	Exts	Network Ad	Device Address	Code	Version	Status	Health	
SsiAkSerialGateway	Ssi Ak Serial Gateway	 	1	125	084B2268	6.20	{ok}	Ok [26-Oct-15 8:50 AM]	

If these columns get a value the driver is able to communicate with the gateway.

## Device discovery

To execute the device discovery use the “Discovery” button of the device manager. The discovery tries to reach all available addresses on the network and if an address answers the device will be shown in the discovery window.

## 6 Network parameters

SsiAkSerialNetwork (Ssi Ak Serial Network)	
<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Enabled	<input checked="" type="radio"/> true
<input type="checkbox"/> Fault Cause	
<input checked="" type="checkbox"/> Health	Ok [26-Oct-15 8:38 AM CET]
<input checked="" type="checkbox"/> Alarm Source Info	Alarm Source Info
<input checked="" type="checkbox"/> Monitor	Ping Monitor
<input type="checkbox"/> Ping Enabled	<input type="radio"/> false
<input type="checkbox"/> Ping Frequency	+00000h 05m 00s
<input type="checkbox"/> Alarm On Failure	<input checked="" type="radio"/> true
<input type="checkbox"/> Startup Alarm Delay	+00000h 05m 00s
<input checked="" type="checkbox"/> Tuning Policies	Tuning Policy Map
<input checked="" type="checkbox"/> Poll Scheduler	Basic Poll Scheduler
<input type="checkbox"/> Retry Count	2
<input type="checkbox"/> Response Timeout	+00000h 00m 02.000s
<input type="checkbox"/> Inter Message Delay	00000h 00m 00.100s [0ms - 1sec]
<input checked="" type="checkbox"/> Serial Port Config	Serial Helper
<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Port Name	COM1
<input type="checkbox"/> Baud Rate	Baud9600
<input type="checkbox"/> Data Bits	Data Bits8
<input type="checkbox"/> Stop Bits	Stop Bit1
<input type="checkbox"/> Parity	Even
<input type="checkbox"/> Flow Control Mode	<input type="checkbox"/> RtsCtsOnInput <input type="checkbox"/> RtsCtsOnOutput <input type="checkbox"/> XonXoffOnInput <input type="checkbox"/> XonXoffOnOutput
<input type="checkbox"/> Network Address	1
<input type="checkbox"/> Device Address	124
<input checked="" type="checkbox"/> Unsolicited Receive Handler	Ssi Ak Serial Unsolicited Receive
<input type="checkbox"/> Device Offline Delay	+00000h 05m 00s
<input type="checkbox"/> Network Offline Delay	+00000h 05m 00s
<input checked="" type="checkbox"/> Alarm Processor	Ssi Ak Serial Alarm Processor
<input type="checkbox"/> Add Device On Alarm	<input checked="" type="radio"/> true
<input type="checkbox"/> Ignore Ping Fail	<input type="radio"/> false
<input type="checkbox"/> Poll Group Size	104
<input type="checkbox"/> Maximum On Demand	2
<input type="checkbox"/> Hide Alarm Enabled Alarm	<input checked="" type="radio"/> true
<input type="checkbox"/> Trace	

### Enabled

When true the driver communicates with the gateway.

## **Monitor / Ping Enabled**

This parameter has to be false. The standard ping mechanism sends a very high number of messages when the device is offline and this has to be avoided to prevent unnecessary wireless traffic.

The driver relies on alarms sent by the gateway when setting the status of the device.

## **Retry Count**

The number of times the driver tries to re-send a message if there is no reply from the gateway.

## **Response Timeout**

The time duration the driver waits before considering a send failed.

## **Inter Message Delay**

The minimum amount of time the driver waits between two message send. Increasing this time lowers the load on the gateway but slows the communication down.

## **Serial Port Config**

Configuration of the serial port. The only parameter to change is the name of the port which should be the name of the COM port to which the gateway is connected. All other values are standard Danfoss communication settings.

## **Network Address**

Network address of the gateway.

## **Device Address**

Device address of the gateway.

## **Device Offline Delay**

Not used.

## **Network Offline Delay**

The driver records the time of last successful communication with the gateway. When the difference between the recorded time and the current time reaches the value of the Network Offline Delay parameter the driver pings the gateway. If the ping is unsuccessful the network will down to {down} status.



## **Add Device On Alarm**

When the gateway sends an alarm to the driver, the driver first looks up the device the alarm is about between the devices. If the device cannot be found it uses this parameter to decide what to do. When the parameter value is "True" the driver will add a new device (without points) and then instructs the device to process the alarm. When the parameter value is "False" the driver ignores the alarm. In both cases the driver tells the gateway that the alarm is accepted.

## **Ignore Ping Fail**

When this parameter is "False" the driver will generate a ping fail and thus set the device status to {down} when there is a timeout during communication. When the value of the parameter is "True" the driver relies solely on the communication alarms received from the gateway.

## **Poll Group Size**

When the driver reads data it makes groups of points to optimize communication. This parameter sets the maximum size of these groups (in bytes). Lowering this parameter may counter network instability and lower the load on the gateway.

## **Maximum On Demand**

On demand polls happen when someone opens a page in the workbench or in a web browser to see points of a device. This parameter sets how many on demand requests may be sent to the gateway simultaneously.

## **Hide Alarm Enabled Alarm**

If "True" the driver skips the "Alarms Enabled" alarms coming from the gateway.

## 7 Device parameters

The parameters of the devices are set during device discovery and add.

SsiAkSerialGateway1 (Ssi Ak Serial Device)	
<input type="checkbox"/> Status	{ok}
<input type="checkbox"/> Enabled	<input checked="" type="radio"/> true
<input type="checkbox"/> Fault Cause	
<input checked="" type="checkbox"/> Health	Fail [null]
<input checked="" type="checkbox"/> Alarm Source Info	Alarm Source Info
<input type="checkbox"/> Code	084B8520
<input type="checkbox"/> Code Override	
<input type="checkbox"/> Version	2.112
<input type="checkbox"/> Version Override	
<input type="checkbox"/> Network Address	1
<input type="checkbox"/> Device Address	5
<input checked="" type="checkbox"/> Points	Ssi Ak Serial Point Device Ext
<input checked="" type="checkbox"/> Alarms	Ssi Ak Serial Alarm Device Ext

### Code

Danfoss product ID of the controller. Set automatically by discovery and ping.

### Code Override

A manual code override for point discovery. When not empty, the driver will use this instead of the "Code" parameter.

### Version

Software version of the controller. Set automatically by discovery and ping.

### Version Override

A manual version override for point discovery. When not empty, the driver will use this instead of the "Version" parameter.

### Network Address

The Danbuss network address of the controller.

## Device Address

The Danbuss node address of the controller.

## 8 Point discovery

Discovery of data points is performed by clicking the “Discovery” button of the point manager. The point discovery uses two sources to get the list of data points:

1. The palettes under the <station\_home>/ssiAkSerial folder.
2. The controllers own list of points.

When there is a palette for the given product code and software version the driver will load the list of the points from that palette.

When no such a palette exists the driver will load the list of points from the controller.

## 9 Change list

### 1.2.0.0

1. The driver is now able to upload the list of points from the devices.