



ibsysAddOns

Documentation for the ibsysAddOns module

Version: V2.0

12th January 2026

IBSYS GmbH
Lagerplatz 6, 8400 Winterthur
Author: Levi Jetzer

General

The ibsysAddOns module contains add-ons that extend existing Niagara building blocks and modules. These can expand and improve the functionality of the existing modules.

Starting with version 4.2.1.2, license credits were introduced as a license unit. The number of license credits required for each component is shown in chapter License Credits.

Compatibility

The ibsysAddOns module can be used from Niagara version N4.10.

Version

This documentation applies from module version 4.2.1.2.

Contact

If you have any questions, comments, suggestions or error messages, please contact our technical support:

info@ibsys.ch

www.ibsys.ch

Version index

Version	Date	Comment	Author
V1.0	10/03/2025	Created	Levi Jetzer
V2.0	12/01.2026	Edited to include the added SMS components, license credits	Levi Jetzer

Table of contents

1. SNMP Recipient	3
1.1. Alarm Data	4
1.1.1. Existing fields.....	4
1.1.2. Additional fields	5
2. SMS	7
2.1. Sms Service	7
2.2. Sms Modem	7
2.2.1. Slots.....	7
2.2.2. Teltonika Modem.....	8
2.3. Sms Recipient.....	9
2.3.1. Sms Modem	9
2.3.2. Recipients.....	9
2.3.3. Message	9
2.4. Sms Alarm Acknowledger	10
2.4.1. Content of the incoming message	10
2.4.2. Default User	10
2.4.3. Check User Permissions	10
2.5. Compatible Modems (Hardware)	11
2.5.1. Teltonika	11
3. License Credits	12

1. SNMP Recipient

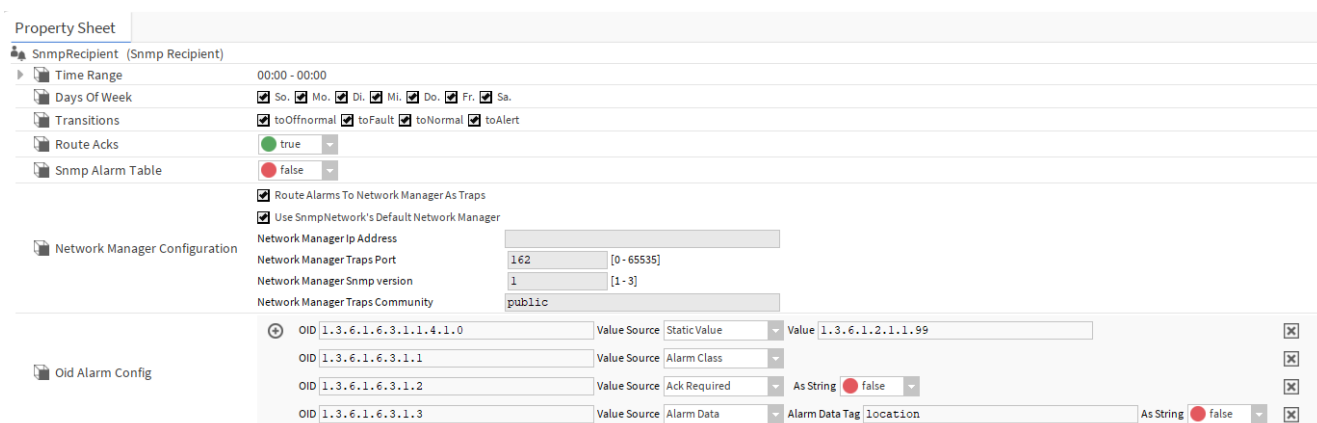
The SNMP Recipient is a component for sending alarms via SNMP. Alarms sent via SNMP are called traps.

A special feature of the SNMP recipient in this module is that you can configure the mapping between OID and alarm property yourself. This is usually specified by the manufacturer.

Under the “Oid Alarm Config” slot, you can create your own configuration between OID and alarm property . Any number of configuration entries can be added for configuration. This is done using the “+” in the upper left corner.

Such a configuration is based on the following properties:

- OID:** The OIDs are standardized or specified by the recipient. However, the following OID must be sent as well, as this is the main ID:
1.3.6.1.6.3.1.1.4.1.0
- Value Source:** Selection of the value source from static value or alarm properties.
- Value:** If “Static Value” or “Alarm Data” was selected as the value source, a static value or an alarm data tag can be entered here. For more information, see the chapter on alarm data.
- As String:** Since SNMP only accepts string or integer values, certain values can be transmitted either as the string “true” or as the integer “false.” If the value is not an integer, it is automatically sent as a string.



OID	Value Source	Value	As String
1.3.6.1.6.3.1.1.4.1.0	StaticValue	1.3.6.1.2.1.1.99	false
1.3.6.1.6.3.1.1	Alarm Class		false
1.3.6.1.6.3.1.2	Ack Required		false
1.3.6.1.6.3.1.3	Alarm Data	Alarm Data Tag: location	false

Detailed information on OIDs can be found at the following links:

<https://www.alvestrand.no/objectid/top.html>

<https://www.rfc-editor.org/rfc/rfc1213.txt>

A description of frequently requested OIDs can be found here:

<https://www.alvestrand.no/objectid/1.3.6.1.2.1.1.html>

1.1. Alarm Data

1.1.1. Existing fields

The existing fields under “Alarm Data” can be acquired with the following tags. To do this, simply enter the tag in the “Alarm Data Tag” field. Please note that the spelling must be exact! The following tags are available and attract the corresponding value:

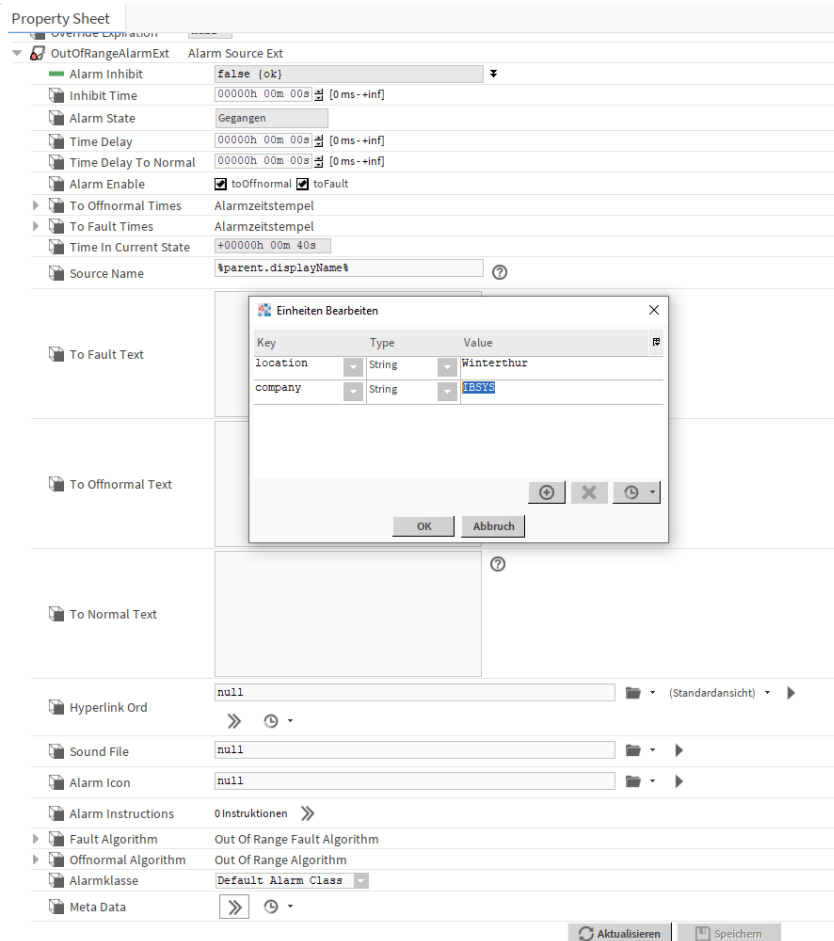
Not every alarm contains all tags in Alarm Data. If a tag does not exist for an alarm, it is not added to the SNMP trap.

Alarm Data Value	Alarm Data Tag
Present Value	presentValue
High Limit	highLimit
Low Limit	lowLimit
Message Text	msgText
Alarm Value	alarmValue
Escalated	escalated
Error Limit	errorLimit
Hyperlink Ord	hyperlinkOrd
Instructions	instructions
Controlled Value	controlledValue
New Value	newValue
Notes	notes
Notify Type	notifyType
Numeric Value	numericValue
Feedback Numeric	feedbackNumeric
Feedback Value	feedbackValue
Setpoint Value	setptValue
Status	status
Deadband	deadband
Alarm Value	alarmValue
Offnormal Value	offnormalValue
Fault Value	faultValue
Counter	Count
Time Zone	TimeZone
Source Name	sourceName
From State	fromState
To State	toState

1.1.2. Additional fields

Additional metadata can also be added to the alarm, which can then be sent. This is done in the alarm extension in the “Meta Data” slot. Whatever is added there as a “key” is included with the alarm under “Alarm Data.” The value after the “key” can be retrieved from the alarm as an “Alarm Data Tag.”

Here's an example in an “OutOfRangeAlarmExt” on a NumericWritable:



Property Sheet

OutOfRangeAlarmExt Alarm Source Ext

Alarm Inhibit	false (ok)
Inhibit Time	00000h 00m 00s [0 ms-+inf]
Alarm State	Gegangen
Time Delay	00000h 00m 00s [0 ms-+inf]
Time Delay To Normal	00000h 00m 00s [0 ms-+inf]
Alarm Enable	☒ toOffnormal ☒ toFault
To Offnormal Times	Alarmzeitstempel
To Fault Times	Alarmzeitstempel
Time In Current State	+00000h 00m 40s
Source Name	%parent.displayName%
To Fault Text	
To Offnormal Text	
To Normal Text	
Hyperlink Ord	null
Sound File	null
Alarm Icon	null
Alarm Instructions	0 Instruktionen
Fault Algorithm	Out Of Range Fault Algorithm
Offnormal Algorithm	Out Of Range Algorithm
Alarmklasse	Default Alarm Class
Meta Data	

Einheiten Bearbeiten

Key	Type	Value
location	String	Winterthur
company	String	IBSYS

OK Abbruch

Aktualisieren Speichern

The alarm configured above then appears as follows in the console:

Alarm Record

Fenster ausschneiden

Zeitstempel

19.Mrz 2025 18:44:35 MEZ

Uuid

7d0b1745-cb32-48b6-97f2-f0a3343b5c4f

Quellzustand

Gekommen

Quittierungszustand

Unquittiert

Quittierung erforderlich

true

Quelle

NumericWritable
local:|station:|slot:/Services/AlarmService/NumericWritable/OutOfRangeAlarmExt

Alarmklasse

Default Alarm Class

Priorität

255

Zeit Gegangen

null

Zeit Quittiert

null

Benutzer

Unknown User

Alarmdaten

Wert Alarm

50,00

Company

IBSYS

Zähler

1

Totband

0.0

Eskaliert

Zu Status

normal

Alarmgrenze hoch

20.0

Location

Winterthur

Alarmtext

"High Limit Text"

Notizen

»

Wert Gekommen

50.0

Wert

50.0

Quellenname

NumericWritable

Status

{overridden} @ 1

Time Delay

0 ms

Time Delay To Normal

0 ms

Zeitzone

Europe/Berlin (+1/+2)

Zum Zustand

highLimit

Alarmzustand

Gekommen

Letzte Aktualisierung

19.Mrz 2025 18:44:35 MEZ

◀

🔔 Quittieren

🔗 Hyperlink

📄 Notizen

✖ Schließen

▶

To reacquire the Mata Data Tags in SNMP Recipient, the following Alarm Data Tags must therefore be added:

Alarm Data Tag: location Returns value: Winterthur

Alarm Data Tag: company Returns value: IBSYS

2. SMS

2.1. Sms Service

The SMS service serves as the basic component for SMS components. This component is responsible for pinging the underlying Sms Modems.

Property Sheet

 **SmsService (Sms Service)**

 Status

{ok}

 Fault Cause

 Enabled

☒ true

 **Monitor**

Ping Monitor

 Ping Enabled

☒ true

 Ping Frequency

+00000h 01m 00s

 Alarm On Failure

☒ true

 Startup Alarm Delay

+00000h 01m 00s

 Num Retries Until Ping Fail

3 [0 - max]

 **TeltonikaModem**

Teltonika Modem

2.2. Sms Modem

The Sms Modem component serves as the basis for integrating various modem types. This serves as preparation for later implementations.

2.2.1. Slots

Name	Description	Format
Allow Disabled Queuing	Allows queuing when switched off	Boolean
Max Queue Size	Maximum size of the queue	Integer
Queue Size	Actual size of the queue	Integer
Max Send Attempts	Maximum number of send attempts	Integer
Max Sendable Per Day	Maximum number of SMS messages per day	Integer
Number Sent Today	Number of SMS messages sent today	Integer
Last Sent	Time of last sent	AbsTime
Ping	Ping	Action
Send	Sending an SMS manually	Action
Clear Queue	Clear Queue	Action
Process Queue	Manual processing of the queue	Action
Reset Number Sent Today	Reset the number of SMS messages sent today	Action
Read Messages	Manual reading of SMS messages	Action

2.2.2. Teltonika Modem

The Teltonika Modem represents a modem from Teltonika that can be used for handling SMS messages. This type of modem enables the sending and receiving of SMS messages.

1.1.1.1. Slots

Name	Description	Format
Address	IP address or host name of the modem	Ord
Credentials	Modem username and password	UsernameAndPassword
Timeout	Timeout for requests	RelTime
Enable Message Reader	Turning the SMS reader on/off	Boolean
Read Messages Interval	Interval for reading SMS messages	RelTime
Device Model	Device Model	String
Firmware Version	Firmware Version	String
Active Mobile Modem	Internal modem used for sending and receiving	String
Mobile Modems	Available internal modems	TeltonikaMobileModems

Property Sheet

 TeltonikaModem (Teltonika Modem)

 Status

{ok}

 Enabled

☒ true

 Fault Cause

 Health

Ok [9.Jan 2026 13:28 MEZ]

 Alarm Source Info

Alarm Source Info

 Allow Disabled Queuing

☐ false

 Max Queue Size

100 [1-max]

 Queue Size

0

 Max Send Attempts

1 [0-max]

 Max Sendable Per Day

100 [1-max]

 Number Sent Today

2

 Last Sent

09.Jan 2026 13:26 MEZ

 Enable Message Reader

☐ false

 Read Messages Interval

+00000h 00m 30s

 Address

IP 192.168.0.130

 Credentials

Benutzername ibsys
Passwort ••••••••

 Timeout

+00000h 00m 05s

 Device Model

RUT200

 Firmware Version

RUT2M_R_00.07.18.3

 Active Mobile Modem

Internal Modem

 Mobile Modems

Teltonika Mobile Modems

 Internal Modem

Teltonika Mobile Modem

 Modem Name

Internal Modem

 Modem Id

1-1

 Sim State

Inserted

 Data Connection State

Connected

 Operator

Swisscom

 Signal

-59.0 dBm

 Active Band

LTE B28

2.3. Sms Recipient

The SMS Recipient component can be used to send texts from alarms. The message can use the BFormat properties of an alarm in the text.

Name	Description	Format
Sms Modem	Modem used to send	String
Recipients	Recipients of SMS messages	SmsRecipientStructure
Message	Message content	BFormat

2.3.1. Sms Modem

Selection from the Sms Service available modems.

2.3.2. Recipients

Select from “No User” and all users available in User Service. If a number is entered in the user, it is updated at runtime and used for sending. If you want to send to a number that is not assigned to a user, you can use “No User” and enter any number.

2.3.3. Message

The message can be entered freely and include alarm properties. These can be referenced from the alarm via BFormat. The available BFormats are described in section **Fehler! Verweisquelle konnte nicht gefunden werden.**, among other places.

Property Sheet

SmsRecipient (Sms Recipient)

Time Range 00:00 - 00:00

Days Of Week ☒ So. ☒ Mo. ☒ Di. ☒ Mi. ☒ Do. ☒ Fr. ☒ Sa.

Transitions ☒ toOffnormal ☒ toFault ☒ toNormal ☒ toAlert

Route Acks ☐ false

Status {ok}

Enabled ☒ true

Fault Cause

Sms Modem TeltonikaModem

Recipients

+
User No User Name First Name Last Name

Phone Number +41XXnnnnnnnn

Message

Source: %alarmData.sourceName%

UUID: [%uuid%]

Timestamp: %timestamp%

State: %sourceState% / %ackStat

Priority: %priority%

Alarm Class: %alarmClass%

Text: %alarmData.msgText%

Reply with: UUID between [] and not

2.4. Sms Alarm Acknowledger

The SMS Alarm Acknowledger module can only be inserted under an Sms Modem. To ensure that the alarm acknowledgment function works properly, the message reader must be switched on.

Name	Description	Format
Default User	For acknowledging users used if no user was found based on the number	String
Check User Permissions	Enabling/disabling user permissions check	Boolean

2.4.1. Content of the incoming message

To acknowledge an alarm via SMS, the alarm UUID must be enclosed in square brackets. Optionally, a note can be added to the acknowledgment. This must be enclosed in curly brackets.

An incoming message could look like this, for example:

[UUID], {note for alarm acknowledgment}

The outgoing alarm texts are already preconfigured so that they can be copied and used as a response to the alarm. If an alarm message is copied and sent back, the corresponding alarm will be acknowledged if necessary.

2.4.2. Default User

The system attempts to find a user in the User Service based on the number of the incoming message. If no user is found for the number, the selected default user is used for acknowledgment.

If "No User" is selected as the default user, acknowledgment is performed with the user name "System Default User".

2.4.3. Check User Permissions

If this flag is set to true, the user's authorization is checked before acknowledgment. If the user does not have authorization to acknowledge, the message is discarded. If the user has the necessary rights, the alarm is acknowledged accordingly.

If the default user is used, as described in section 2.4.2, the authorization check is not performed.

Property Sheet

SmsAlarmAcknowledger (Sms Alarm Acknowledger)

Status	{ok}
Enabled	☒ true
Ack Alarms From Same Source	☒ true
Last Alarm Aced	fea9ef79-edb3-4eaa-a49b-44aca94578be
Last Alarm Aced Time	09.Jan 2026 12:03 MEZ
Last Alarm Aced Failure Time	null
Last Alarm Aced Failure Cause	
Total Alarms Aced Today	5
Total Alarm Aced Failures	0
Total Messages Received Today	1
Fault Cause	
Default User	No User
Check User Permissions	☒ true

2.5. Compatible Modems (Hardware)

The driver has been tested by IBSYS with the following modems.

Manufacturer	Type	Firmware Version
Teltonika	RUT200	7.18.3

2.5.1. Teltonika

You can check which Teltonika modems are compatible on their website:

<https://developers.teltonika-networks.com>

If in doubt, IBSYS will be happy to provide information about compatibility.

3. License Credits

Component	Required License Credits (per instance)
SNMP Recipient	5,000
Sms Modem	5,000
Sms Alarm Acknowledger	5,000