

Niagara 4 Driver for OtisCompass

User Guide

Copyright © 2020 SAFECONTROL s.r.o.

All rights reserved.

Copyright Notice

The software described herein is furnished under a license agreement and may be used only in accordance with the terms of the agreement.

This document may not, in whole or in part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior written consent from SAFECONTROL s.r.o.

The confidential information contained in this document is provided solely for use by SAFECONTROL employees, licensees, and system owners; and is not to be released to, or reproduced for, anyone else; neither is it to be used for reproduction of this Software or any of its components.

All rights to revise designs described herein are reserved. While every effort has been made to assure the accuracy of this document, SAFECONTROL shall not be held responsible for damages, including consequential damages, arising from the application of the information contained herein. Information and specifications published here are current as of the date of this publication and are subject to change without notice.

The release and technology contained herein may be protected by one or more patents, foreign patents, or pending applications.

Table of contents

Change log	3
Driver Overview	4
Prerequisites for integration	4
Installation	4
Licensing	5
Order codes.....	5
Basic config guide	5
Setup guide	6
Connection	6
OtisCompassNetwork properties description.....	6
OtisCompassNetwork actions description	7
Adding new DECs	7
OtisCompassDevice properties description.....	8
OtisCompassDevice actions description	9

Change log

4.8

- Build for 4.8.0.110

Driver Overview

The SAFECONTROL Driver for OtisCompass is written using Tridium's BFramework, for use in Niagara 4 or later.

The driver provides support for communication with OtisCompass using UDP/IP protocol through network. The driver's main purpose is to serve as gateway to OtisCompass for Tridium Supervisor 4 or JACE8000 stations (and OEM variations i.e. Centra Line, Trend, ...).

The driver allows you to set operation modes and allowed floors on DEC and to send authorized floors to DEC.

This help is also connected to the objects in Workbench / Coach NX and you can use the "Guide on target" function in the help or right menu to get more information.

Prerequisites for integration

1. Correctly installed modules with the driver, see chapter "Installation" for more details.
2. Active license and certificate for the driver on the target platform, see chapter "Licensing" for more details.
3. JACE 8000 or PC with Tridium Supervisor 4 must be connected to internet.

Installation

Source files are available for download from SAFECONTROL license web (<https://license.safecontrol.cz>). Extract the **otisCompass.zip** archive and copy all included *.jar files to your Niagara modules directory, which is typically **C:\Niagara\Niagara-4.x.xx.xx\modules**.

For correct behaviour it is necessary to install *.jar files on the client platform (Workbench PC) as well as on the target platform (JACE8000 or Supervisor).

Note: Close the Niagara Workbench after inserting all the modules in the folder. Next time you start the Niagara Workbench the driver will be loaded in Niagara Workbench and will be immediately available for use.

Licensing

Demo license is limited up to 90 days and purchased licenses are not time limited.

You can ask for license via SAFECONTROL license web (<https://license.safecontrol.cz>) or by sending e-mail to sales@safecontrol.cz. Purchased license will be generated via Niagara-Central license web where it will be available for download together with safecontrol.certificate file. You can also download license online in Niagara Workbench from license manager view, see picture below:

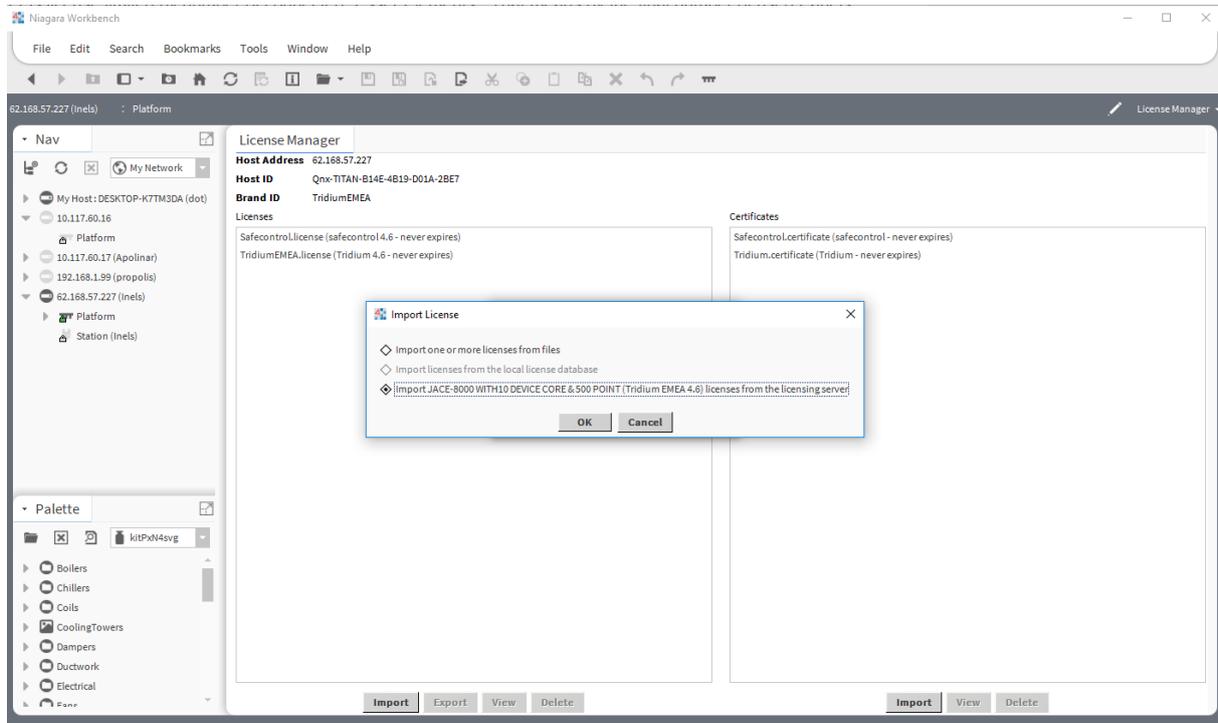


Figure 1: License import via License manager

Order codes

- DR-SC-OTIS – Driver for OtisCompass

Basic config guide

1. Connect JACE 8000 or PC with Tridium Supervisor 4 to the network.
2. Add new OtisCompassNetwork to your Drivers node.
3. Correctly configure newly added OtisCompassNetwork.
4. Add new OtisCompassDevice under OtisCompassNetwork.
5. Correctly configure newly added OtisCompassDevice.

For more in-depth help read following chapters.

Setup guide

Connection

Connect your JACE 8000 or PC with Tridium Supervisor 4 to the same network as OtisCompass DER/DES. Add new OtisCompassNetwork under Drivers. MulticastUdpConfig, DecUdpConfig and DesUdpConfig are preconfigured according to OtisCompass documentation.

OtisCompassNetwork properties description

OtisCompassNetwork (Otis Compass Network)	
Status	{ok}
Enabled	<input checked="" type="checkbox"/> true
Fault Cause	
Health	Ok [13-Jan-21 1:21 PM CET]
Alarm Source Info	Alarm Source Info
Monitor	Ping Monitor
Tuning Policies	Tuning Policy Map
Multicast Udp Config	local:47307 -> 234.46.30.7:48307
Dec Udp Config	local:46308
Des Udp Config	local:45303
Default Dec Operation Mode	Mode1
Default Dec Pin Code Enabled	<input type="checkbox"/> false
Default Dec Audit Record Enabled	<input type="checkbox"/> false
Send Default Dec Setup For All New Devices	<input checked="" type="checkbox"/> true
Component Version	3.1
Communication Version	3.1
Panel 19	Otis Compass Device
Panel 18	Otis Compass Device

Figure 2: OtisCompassNetwork under Drivers node

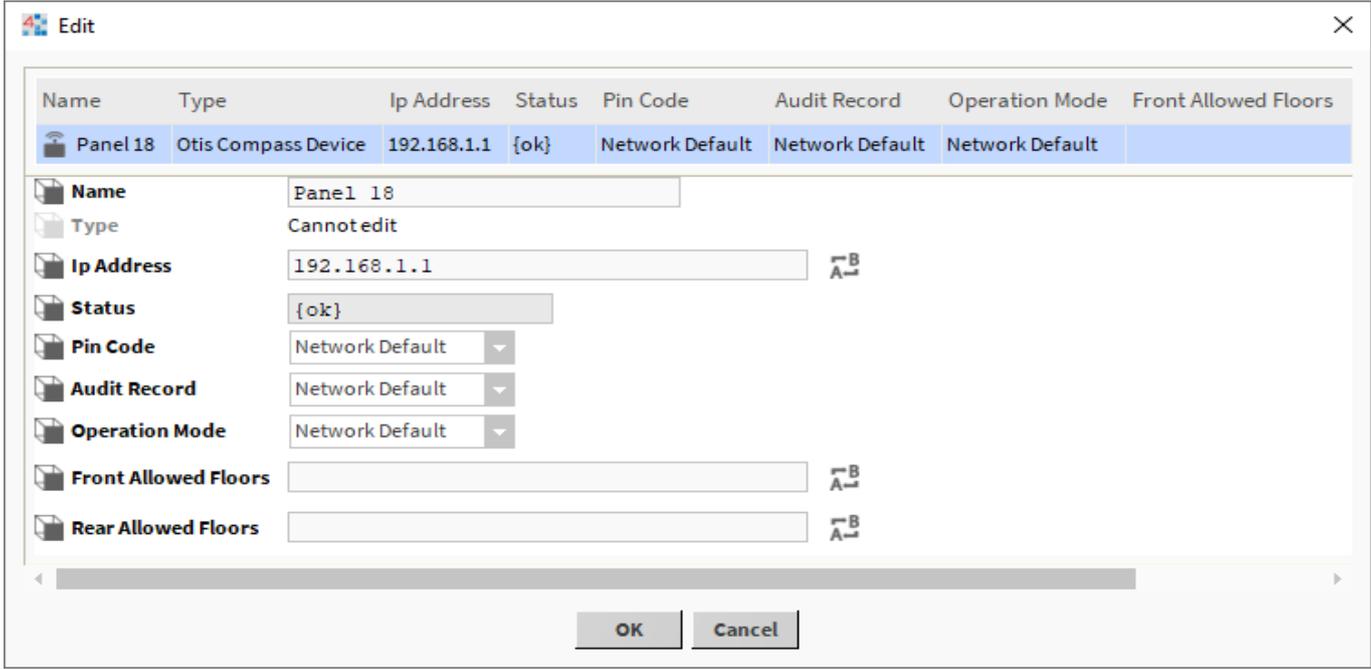
- **MulticastUdpConfig**
 - Address: configuration used to send heartbeat from (should not be changed)
 - MulticastAddress: multicast address to which is sent heartbeat every 1 second (should not be changed)
- **DecUdpConfig** – configuration to send messages to DEC from (should not be changed)
- **DesUdpConfig** – configuration used to communicate with DES (should not be changed)
- **DefaultDecOperationMode** – default setting of DEC operation mode to be sent to DEC
- **DefaultDecPinCodeEnabled** – default setting of DEC pin code enabled to be sent to DEC
- **SendDefaultDecSetupForAllNewDevices** – OtisCompassNetwork keeps track of all DEC IP addresses received from DES, even those which are not under OtisCompassNetwork. If this property is set to true, OtisCompassNetwork will send DECSecurityOperationModeV2 with default configuration to all new learned DEC devices, which are not under OtisCompassNetwork and OtisCompassNetwork does not keep track of them yet
- **ComponentVersion** – component version sent in heartbeat (should not be changed)
- **CommunicationVersion** – communication version sent in heartbeat (should not be changed)

OtisCompassNetwork actions description

- Ping – OtisCompassNetwork will send Heartbeat message to multicast address
- AddDiscoveryAddress – will add IP address to learned IP addresses, OtisCompassNetwork will not send DECSecurityOperationModeV2 to this new learned address

Adding new DECs

Open OtisCompassManager and click New button. New window appears, fill properties of new DEC, only IP address is needed to establish communication with DEC.



Name	Type	Ip Address	Status	Pin Code	Audit Record	Operation Mode	Front Allowed Floors
Panel 18	Otis Compass Device	192.168.1.1	{ok}	Network Default	Network Default	Network Default	

Name	Panel 18
Type	Cannot edit
Ip Address	192.168.1.1
Status	{ok}
Pin Code	Network Default
Audit Record	Network Default
Operation Mode	Network Default
Front Allowed Floors	
Rear Allowed Floors	

Figure 3: New DEC window

OtisCompassDevice properties description

- **Address** – address of DEC device, fill only IP, port is preset according to documentation
- **PinCode** – pin code setting to send in Send Operation Mode action, if Network Default option is selected value is taken from DefaultDecPinCodeEnabled property of OtisCompassNetwork
- **AuditRecord** – sets if DEC should send back Audit Record upon receiving Authorization message from station, if Network Default option is selected value is taken from DefaultDecPinCodeEnabled property of OtisCompassNetwork. Authorization records are saved to history database
- **OperationMode** – sets operation mode of DEC, if Network Default option is selected value is taken from DefaultDecPinCodeEnabled property of OtisCompassNetwork
 - **Mode 1** – the user will present their credential in the form of a card swipe or PIN code. If the credential is valid, the station will send a default floor to the DEC. Alternatively, a user may enter a destination first, and then present a credential to go to a non-default floor. The user does not have to present a credential if the destination is not secured
 - **Mode 2** – the user must present a valid credential to the Security System (card swipe or PIN code) and then select a destination floor. The DEC will receive, from the station, a message with the user's Authorized Floors or an indication that the credential was invalid
 - **Mode 3** – the user will select their desired floor. This may be done with or without the presentation of a credential (card swipe or PIN code). If the destination selected is allowed the DEC will forward the call request to the DES. If it is not, the user will be requested to present their credential
 - **Mode 4** – the user will present their credential (card swipe or PIN code) and if the credential is valid, a default floor will be sent to the DEC. Within a reasonable time period, the user may override the selection of the default floor and choose another destination floor
- **FrontAllowedFloors** – list of floor numbers separated by comma which are sent to DEC allowing access to floors with front door openings
- **RearAllowedFloors** – list of floor numbers separated by comma which are sent to DEC allowing access to floors with rear door openings
- **LastAuditRecord** – last received Security Audit Record from DEC, only received when AuditRecord property is set to Enabled

Properties PinCode, AuditRecord, OperationMode, FrontAllowedFloors and RearAllowedFloors are sent to DEC in DECSecurityOperationModeV2 message triggered upon receipt of online status of DEC from DES or by SendOperationMode action on OtisCompassDevice.

Panel 19 (Otis Compass Device)	
Status	{ok}
Enabled	<input checked="" type="checkbox"/> true
Fault Cause	
Health	Ok [15-Jan-21 9:16 AM CET]
Alarm Source Info	Alarm Source Info
Address	192.168.2.1:45308
Pin Code	Network Default
Audit Record	Network Default
Operation Mode	Network Default
Front Allowed Floors	
Rear Allowed Floors	
Last Audit Record	null

Figure 4: OtisCompassDevice properties

OtisCompassDevice actions description

- **Ping** – checks online status of DEC
- **SendOperationMode** – will send DECSecurityOperationModeV2 message to DEC
- **Authorize** – will send Authorize message to DEC with following options
 - **Valid** – indicates if athorization is valid
 - **Credentials** – hex string describing 16bytes of credential data, if hex string is shorter, it will be padded with zeroes from right to 16bytes
 - **DefaultFloor** – default floor of this user
 - **DefaultDoorSelection** – default front/rear door selection for the default floor (front = 0, rear = 1)
 - **FrontDoors** – authorized floors. Indicates which floors with front door openings this user is authorized to access. Format is floor numbers separated by comma (e.g., 0,2,5)
 - **RearDoors** – authorized floors. Indicates which floors with rear door openings this user is authorized to access. Format is floor numbers separated by comma (e.g., 0,2,5)

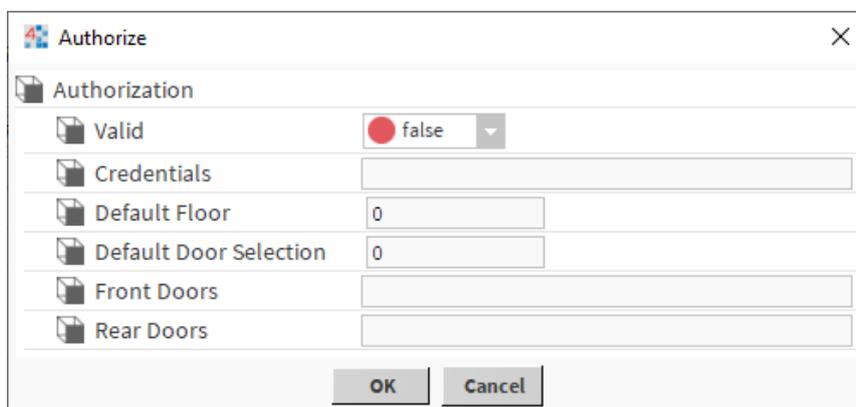


Figure 5: Authorize window