

Damper Actuator Plug-In

Description / Documentation

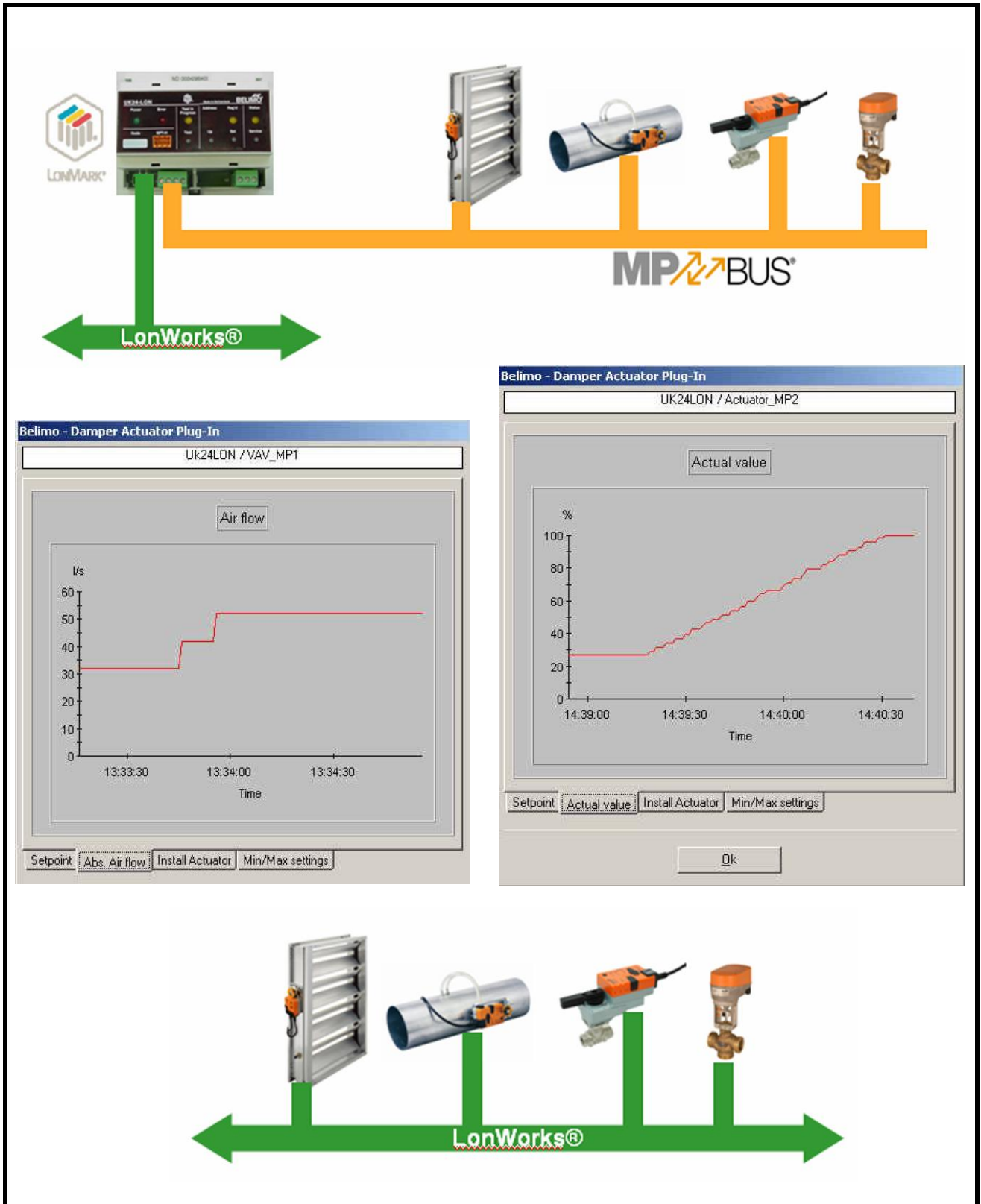




Table of Content

1	General.....	3
2	Application.....	3
3	Accessing the Damper Actuator Object #8110.....	3
3.1	Plug-In access with LON actuators.....	3
3.2	Plug-In access with Gateway UK24LON.....	4
4	Installation.....	5
4.1	System requirements.....	5
4.2	Installation.....	5
5	Remote capability.....	5
6	Starting the Plug-In.....	5
7	Functions.....	6
7.1	Register Overview.....	6
7.2	Function page: Install Actuator.....	6
7.2.1	Button: "Read Serial Number".....	6
7.2.2	Button: "Add / Replace Actuator".....	6
7.2.3	Button: "Remove Actuator".....	7
7.3	Function page: <i>Setpoint</i>	8
7.4	Function page: Min / Max Setpoints.....	9
7.5	Function page: <i>Abs. Air flow</i> (for VAV devices only).....	10
7.6	Function page: <i>Actual value</i>	11

1 General

Das Belimo *Damper Actuator Plug-In* is a plug-in device with a LNS capability and it is executable with a LNS based binding tool (e.g. LonMaker, NL220, Alex). Its purpose is to make the commissioning of Belimo busable actuators much easier. In addition, the Plug-In can also be very helpful for monitoring the operation of existing systems.

2 Application

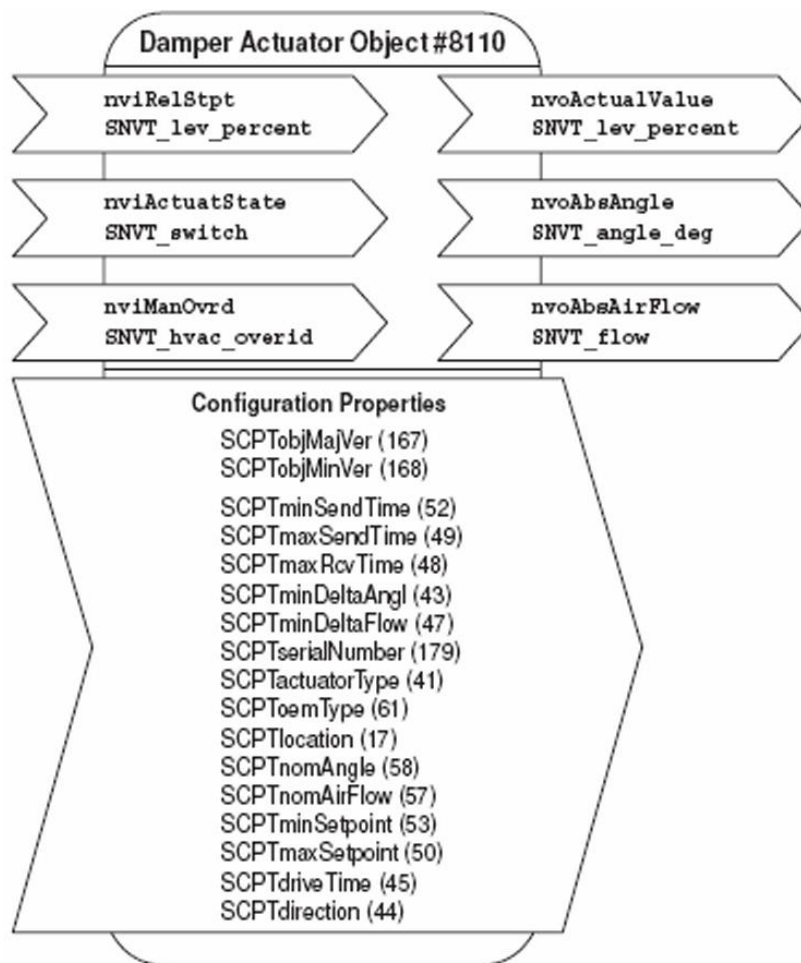
The *Damper Actuator Plug-In* can be used with the following Belimo actuators:

- Actuators with integrated LON interface
- MP/MFT(2) actuators on the MP-Bus, which are mapped via gateway UK24LON to the LON network

3 Accessing the Damper Actuator Object #8110

3.1 Plug-In access with LON actuators

The function profile Damper Actuator Object #8110 is implemented in the LON actuator node. The Plug-In accesses the actuator functions through this function object.



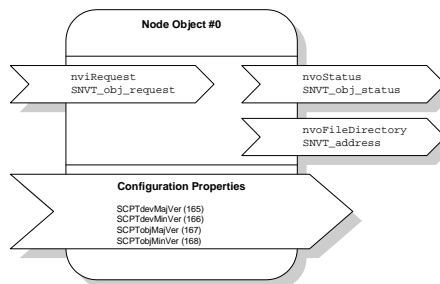
3.2 Plug-In access with Gateway UK24LON

The Node Object #0 is implemented once in a UK24LON unit and the Damper Actuator Object #8110 eight times (once for each of the actuators that can be connected to a UK24LON unit). In addition, the Open Loop Sensor Object #1 is also implemented eight times. This object allows sensor values to be transferred to a LonWorks network.

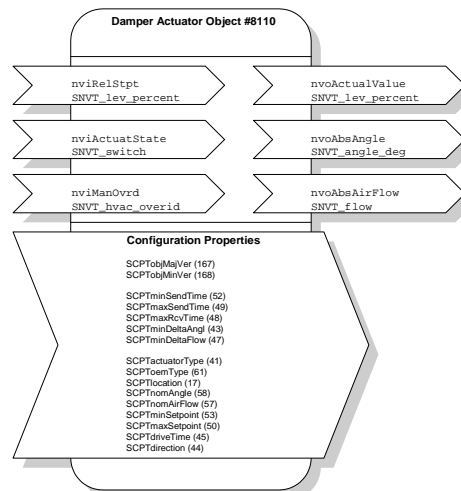
The **Damper Actuator Plug-In** accesses actuators 1...8 through the function object of the corresponding Damper Actuator Object #8110.

The **Sensor Plug-In** accesses sensors 1...8 through the function object of the corresponding Open Loop Sensor Object #1.

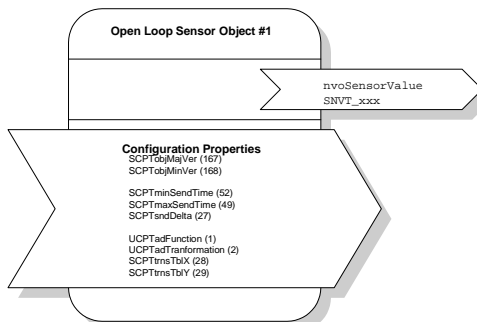
Node Object #0
1 x implementiert



Damper Actuator Object #8110
8 x implementiert



Open Loop Sensor Object #1
8 x implementiert



4 Installation

4.1 System requirements

- Minimum requirement LNS 3.x
- Remote capability (with LNS Turbo Edition)

4.2 Installation

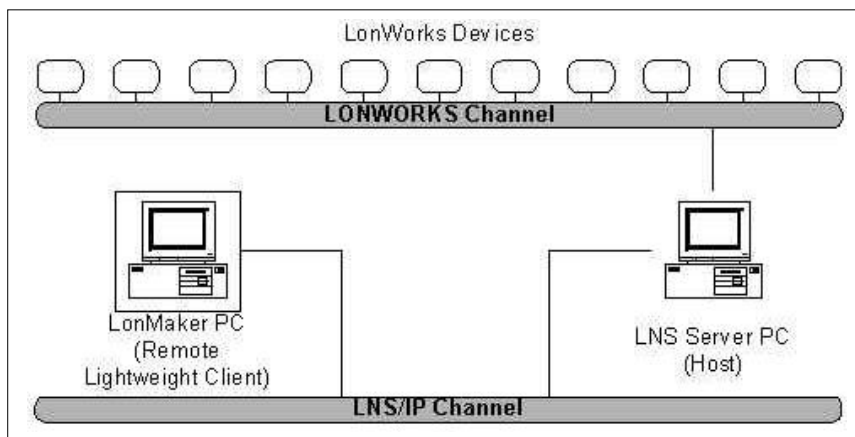
Belimo provides the *Temperature Controller Plug-In* as setup file. The setup file contains all Belimo Plug-In (Actuator, Sensor, Controller), that is why only one setup procedure is required.

Download address: : www.belimo.eu Bus- & System-Integration | LonWorks | Download Section

1. Download the Plug-In and save to a temporary directory
2. Start installation by double-clicking on the file **BelimoPlugIn - xxxx.exe**.
3. Follow the instructions in the Setup program

5 Remote capability

The damper actuator Plug-in has a remote capability. That means a remotely controlled accesses on databases of LonWorks projects are possible.



Picture:
Remote Lightweight Client.

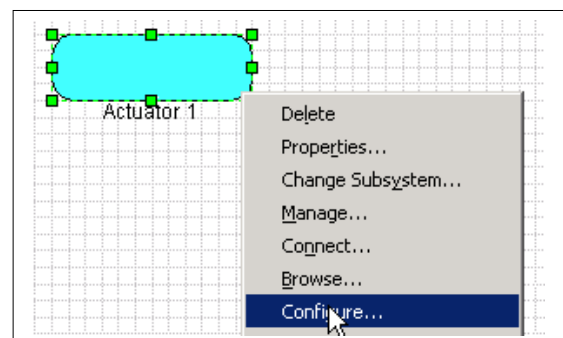
Example remotely controlled access via an IP connection on a LonWorks project

6 Starting the Plug-In

Procedure:

(Example with LonMaker binding tool)

1. Select the required actuator object
2. Open the context menu and select "Configure"



7 Functions

7.1 Register Overview

In the case of Standard actuators, there are four function pages available:

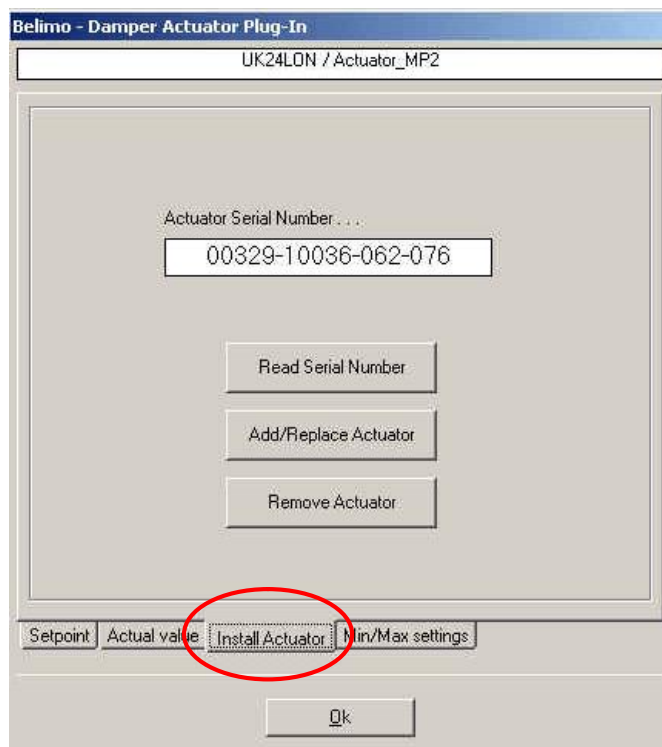


In the case of VAV-actuators, there are four function pages available. Instead of the Actual Value the Absolute air flow is displayed.

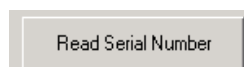


7.2 Function page: Install Actuator

This page allows actuators to be integrated into a Belimo MP-network, removed from an MP-network or identified. With LON actuators (actuators for direct connection to a LonWorks network) the page can also be used for simply reading out the Serial No. of the actuator. The buttons "Read Serial Number", "Add / Replace Actuator" and "Remove Actuator" are inoperative in the case of LON actuators.

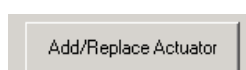


7.2.1 Button: "Read Serial Number"

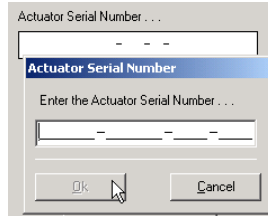


Pressing this button asks the actuator to give you its Serial No. The number appears in the Serial No. field.

7.2.2 Button: "Add / Replace Actuator"



Pressing this button brings up a field for entering the Serial No. of an MP/MFT(2) actuator. There are two options for using this field:

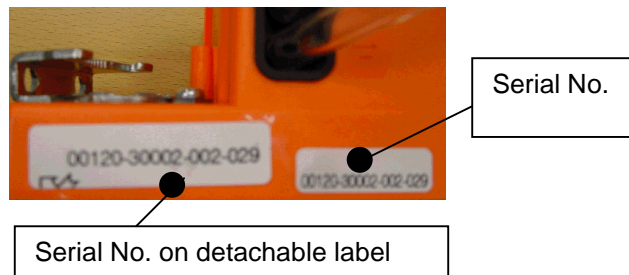


- a) **Add** - A new, non MP-addressed actuator can be assigned to a specific function block of the UK24LON unit. When the appropriate Serial No. of the required actuator is entered here and the OK button is pressed the actuator will automatically receive the appropriate MP address through the assignment of the function block. For example, if the *Damper Actuator Plug-In* has previously been started on function block 3 the actuator will automatically receive MP address 4. (Function block 0 = Actuator MP1, Function block 1 = Actuator MP2, Function block 2 = Actuator MP3, etc.)
- b) **Replace** - An existing, possibly defective, actuator can be replaced by a new one. Enter the Serial No. of the new actuator in the field and press the OK button. The existing MP address will then be automatically replaced by the address of the new actuator.

When the Serial No. of an actuator that already exists in the network is entered it will automatically be assigned to the function block in which the *Plug-In* is active. At the same time the actuator receives the MP address corresponding to the function block.

Serial Nos. on actuators

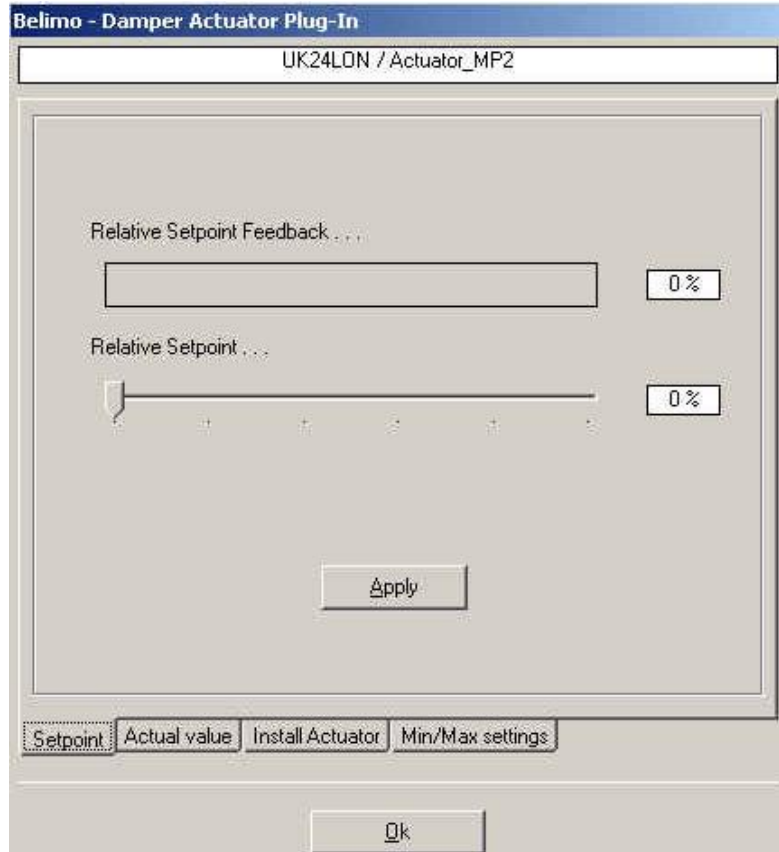
When MP/MFT(2) actuators are delivered they carry a label bearing their individual Serial Nos. By means of this Serial No. an actuator can be assigned either a PP address or an MP1...MP8 address. An additional detachable label bearing the identical Serial No. is also attached to the actuator. When an actuator has been installed in a specific position in a system this additional label can be stuck on to the plan of the system in the same corresponding position. This provides a record of where the actuator with the corresponding Serial No. is installed in the building.



7.2.3 Button: "Remove Actuator"

Pressing this button de-addresses the actuator whose Serial No. is shown in the white field. In effect it isolates the actuator function block in LonMaker from the actuator.

7.3 Function page: *Setpoint*



A typical use of this page is for issuing, for test purposes when commissioning, an actuator with a specific setpoint (0...100%). The setpoint issued with the slide pointer acts on SNVT nviRelStpt (SNVT_lev_percent) of the function block.

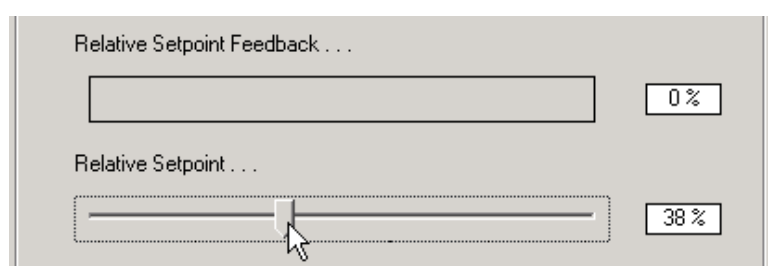
The effect of entering a 0...100% setpoint:

Type	Effect
VAV devices	0...100% nominal flow rate
Damper actuators	0...100% angle of rotation
Valve actuators	0...100% lift

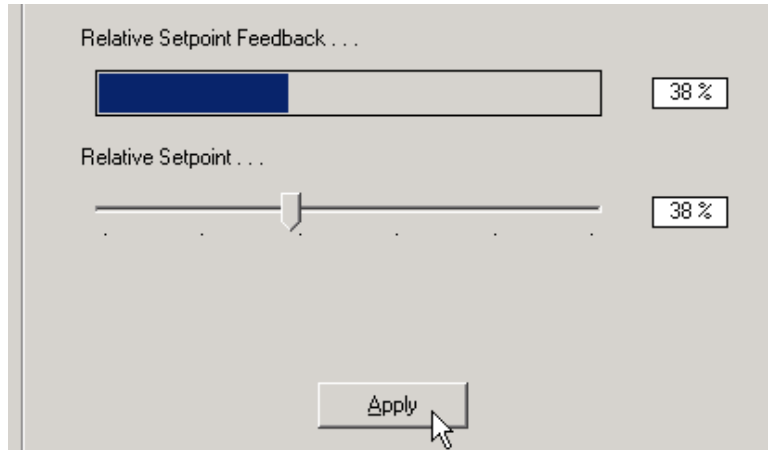
Note: When SNVT nviRelStpt is connected the set point that has been preset in the *Plug-In* only remains effective until the SNVT receives another set point from a different LON node.

The procedure is explained by means of the following example:

Move the slide pointer to the required position (38% in the example)

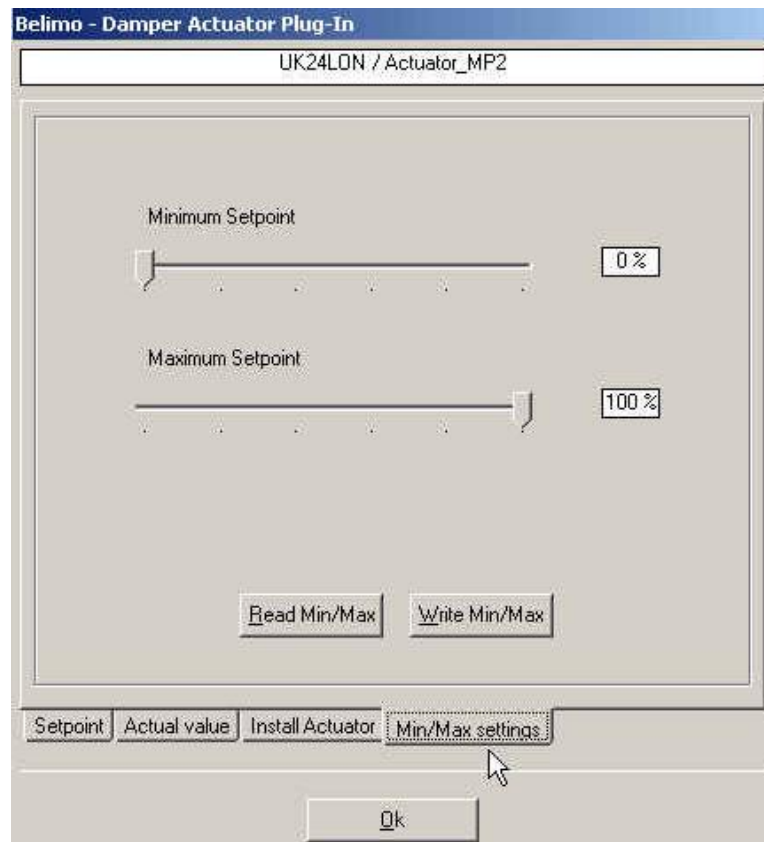


The “Feedback” bar shows the appropriate value as soon as the "Apply" button is pressed.



The actuator now receives the preset setpoint of 38%. When SNVT nviRelStpt is connected the set point will only remain valid until the SNVT receives another set point from a different LON node.

7.4 Function page: Min / Max Setpoints



Depending on the type of actuator involved this page can be used for limiting the angle of rotation, the lift or the volumetric flow to a minimum or maximum. A minimum or maximum value can be defined using the slide pointers. Pressing the "Read Min/Max" button causes the values preset in the actuator to be read out from the actuator, while pressing the "Write Min/Max" button causes them to be written into the actuator.

The effect of entering 'Maximum Setpoint':

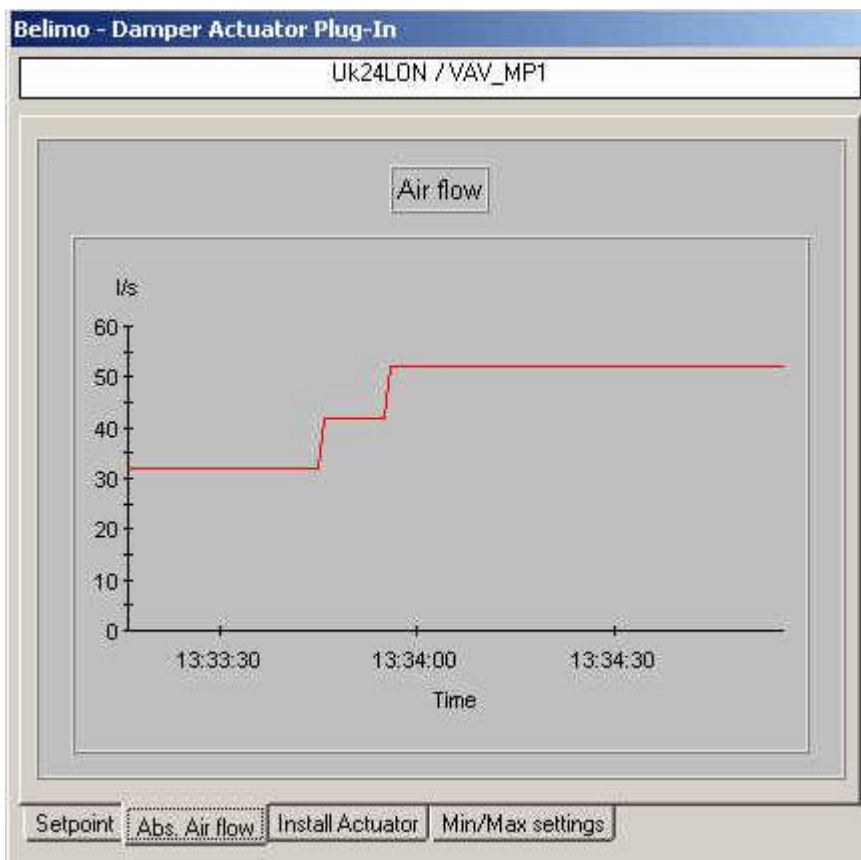
Type	Max. limit to.....
VAV devices	0...100% nominal flow rate
Damper actuators	0...100% angle of rotation
Valve actuators	0...100% lift

The effect of entering 'Minimum Setpoint':

Type	Min. limit to.....
VAV devices	0...100% specified maximum setpoint
Damper actuators	
Valve actuators	

7.5 Function page: *Abs. Air flow* (for VAV devices only)

This page shows the actual volumetric flow rate in l/s as a function of time that is currently effective. The indicated value of volumetric flow corresponds to that output at SNVT_flow. The scaling of volumetric flow and time is carried out automatically by the *Plug-In*. This page is ideal for monitoring air volume control units.



7.6 Function page: *Actual value*

This page shows the actual percentage value of the actual position of the actuator as a function of time that is currently effective. The indicated value of the actual value corresponds to that at output nvoActualValue (SNVT_lev_percent). The scaling of the *Actual value* and time is carried out automatically by the *Plug-In*. This page is ideal for actuator position monitoring.

