

# Temperature Controller Plug-In

## Description / Documentation

LonWorks®



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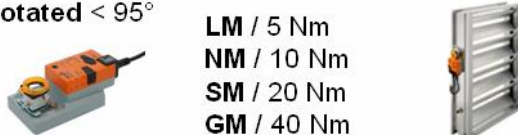



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## 1 General

The Belimo *Temperature Controller Plug-In* is an LNS-capable Plug-In, run-capable on a Standard LNS-Binding Tool (LonMaker, NL220, Alex etc.). It is used for configuring the Controller Object (LonMark Thermostat Object #8060) of the Belimo LON actuators.

## 2 Application

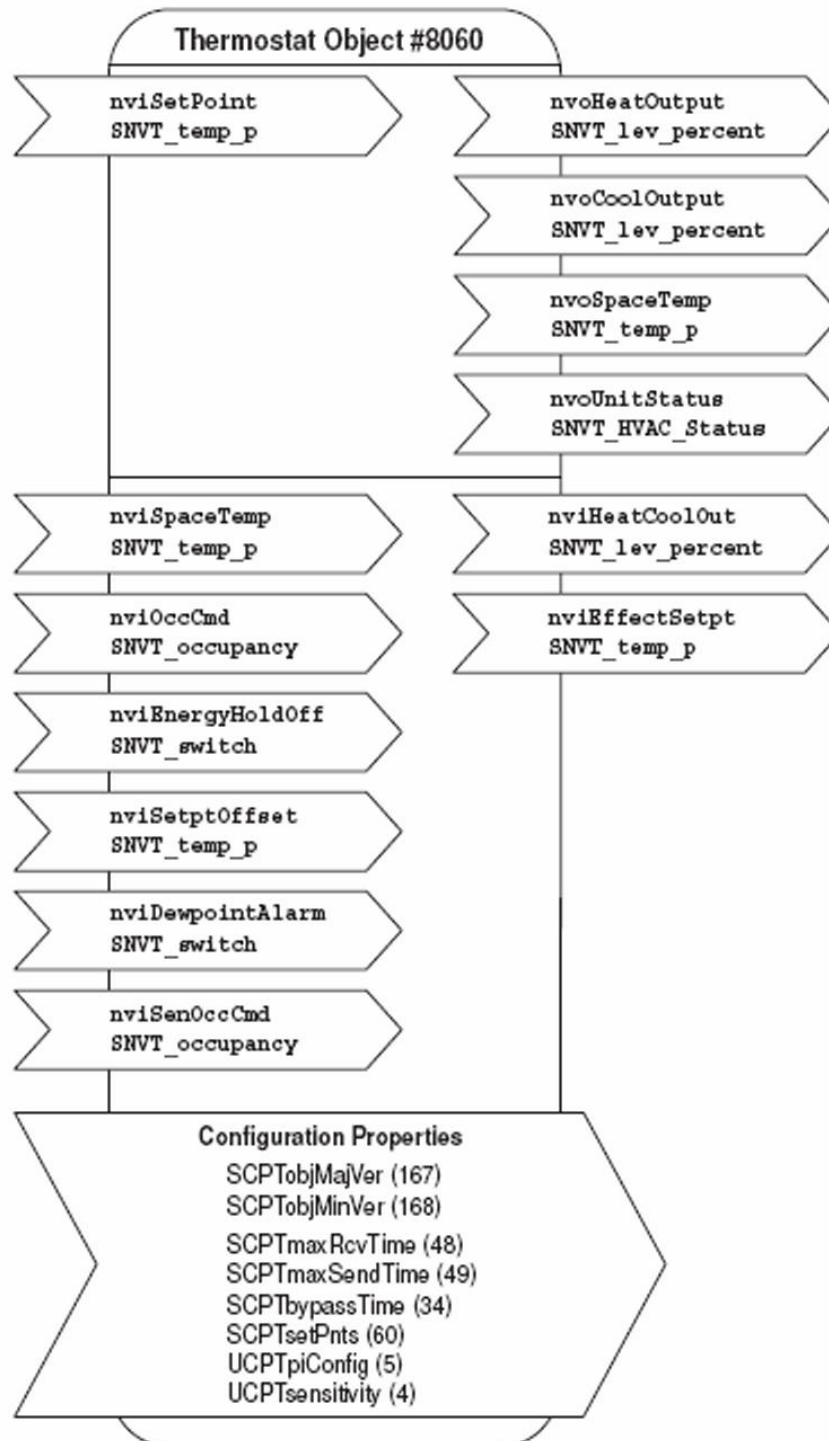
The *Temperature Controller Plug-In* is available with the following Belimo LON actuators:

<b>VAV Compact</b>	
<p>rotated &lt; 95°</p> <p><b>LMV / 5 Nm</b> <b>NMV / 10 Nm</b> <b>SMV / 20 Nm</b></p> 	
<b>Damper actuators with and without safety function</b>	<b>Actuators for 6-Way control ball valves</b>
<p>rotated &lt; 95°</p> <p><b>LM / 5 Nm</b> <b>NM / 10 Nm</b> <b>SM / 20 Nm</b> <b>GM / 40 Nm</b></p> 	<p><b>LR / 5 Nm</b></p> 
<b>Actuators for control ball valves</b>	<b>Actuators for butterfly valves</b>
<p><b>LR / 5 Nm</b> <b>SR / 15 Nm</b></p> <p>3 way 2 way</p> 	<p><b>SR / 20 Nm</b> <b>GR / 40 Nm</b></p> 

Please contact your local Belimo representative if you require other actuators in LON versions.  
Overview: [www.belimo.eu](http://www.belimo.eu)

### 3 Accessing Thermostat Object #8060

Das *Temperature Controller Plug-In* accesses the controller function via Thermostat Object #8060.



## 4 Installation

### 4.1 System requirements

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

### 4.2 Installation

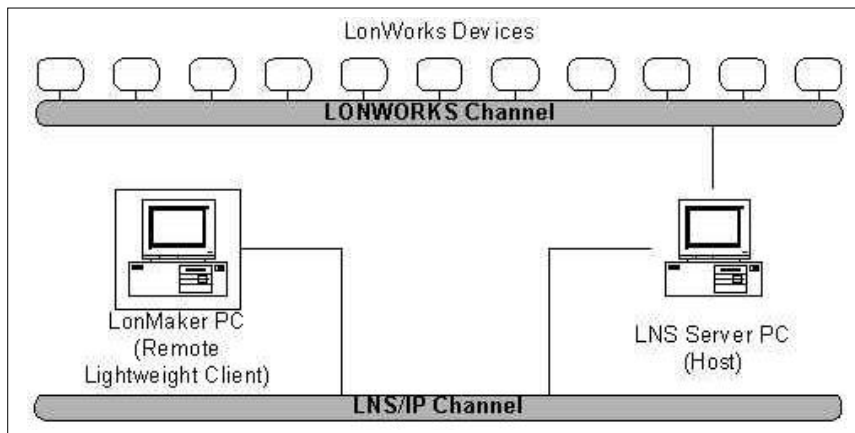
Belimo provides the *Temperature Controller Plug-In* as setup file. The setup file contains all Belimo Plug-In (Actuator, Sensor, Controller), that is why only one setup procedure is required.

Download address: : [www.belimo.eu](http://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 Plug-In is remote-capable. This means that remote-controlled access to the database of a project is possible at any time.



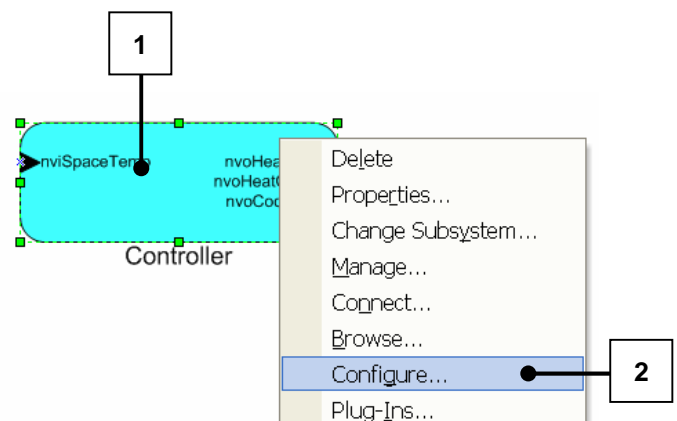
Picture:  
Remote Lightweight Client.

e.g.:  
Remote access via an IP connection to a LonWorks project.

## 6 Opening the Plug-In

Procedure: (Example: LonMaker Binding Tool)

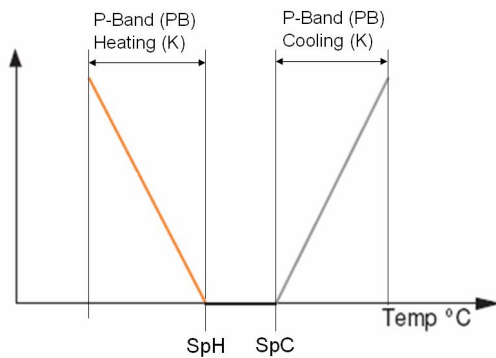
1. Selecting the Controller Object
2. Select "Configure" in the context menu



## 7 Functions

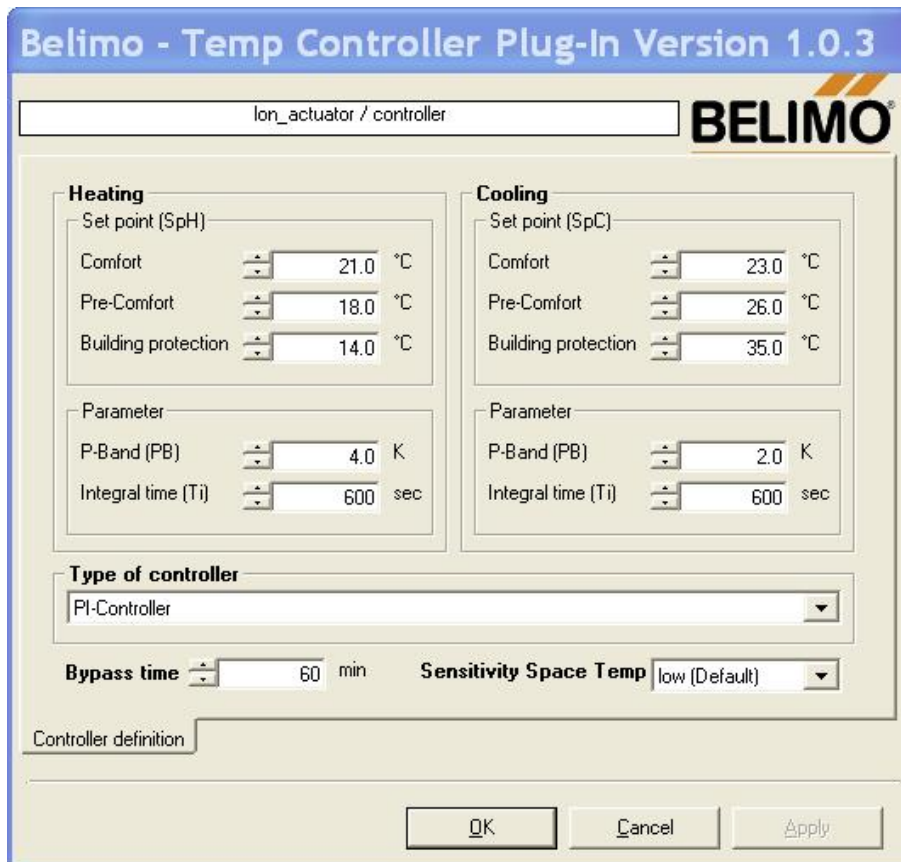
The controller settings can be adjusted through the Plug-In in accordance with the application.

### Initial sequences for heating, cooling



Two initial sequences are available for controlling the heating and/or cooling units. The two identically constructed sequences can be adjusted independently of one another. The setpoint values are tested for plausibility at the time of input in order to prevent unnecessary energy consumption. As a result, no overlapping of the heating and cooling setpoint values is possible, for example.

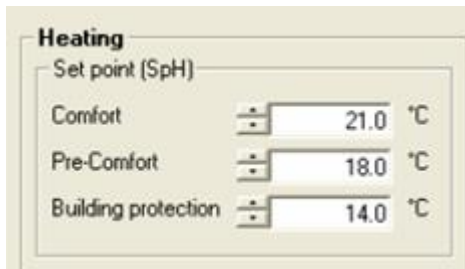
### Plug-In Dialog



## 7.1 Heating

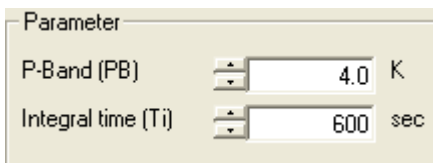
### 7.1.1 Set point (SpH)

The heating sequence is equipped with the following three *Set point* (SpH) adjustment parameters



Mode	Description	Range	Default
• Comfort	Room occupied	12...50°C	21°C
• Pre-comfort	Stand-by, lowering mode	11...49°C	18°C
• Building protection	Building protection - Window open -> Energy hold off	10...30°C	14°C

### 7.1.2 Parameters

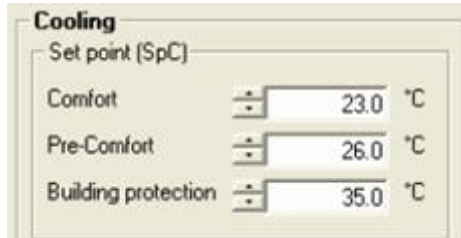


Function	Description	Range	Default
P-Band (PB)	Proportional band P-Controller (in Kelvin)	0.0...100.0 K	4.0 K
Integral time	Reset time PI Controllers (in seconds)	0...6000 sec	600 sec

## 7.2 Cooling

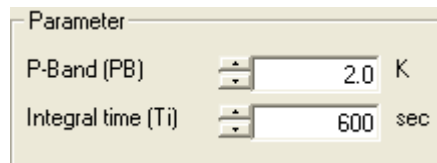
### 7.2.1 Set point (SpC)

The cooling sequence is equipped with the following three *Set point* (SpC) adjustment parameters



Mode	Description	Range	Default
• Comfort	Room occupied	11...49°C	23°C
• Pre-comfort	Stand-by, lowering mode	12...50°C	26°C
• Building protection	Building protection - Window open -> Energy hold off - Dew point not reached	30...50°C	35°C

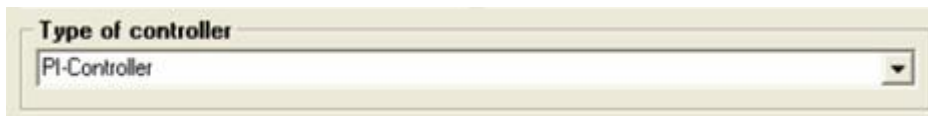
### 7.2.2 Parameters



Function	Description	Range	Default
P-Band (PB)	Proportional band P-Controller (in Kelvin)	0.0...100.0 K	2.0 K
Integral time	Reset time PI Controllers (in seconds)	0...6000 sec	600 sec



### 7.3 Setting the type of controller



The control mode can be specified by means of the *Type of controller* parameter as:

- P-Controller or
- PI-Controller (default).

### 7.4 Bypass Time (switch-back delay *Comfort* mode)

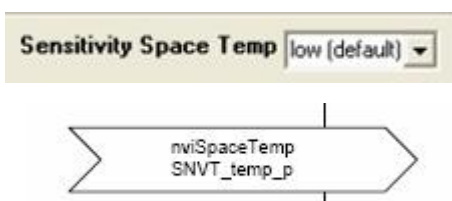


	Range	Default
Bypass Time	0...120 min	60 min

Switching back and forth between the *Comfort* and *Pre-Comfort* modes is accomplished by means of the local occupancy input (*nviSenOccCmd*). The *Bypass Time* (switch-back delay) parameter makes it possible to have a time delay when switching back from *Comfort* to *Pre-Comfort*.

Benefit: The *Comfort* mode stays active during short absence (e. g. breaks)

### 7.5 Sensitivity Space Temp (sensitivity of room temperature sensor)



The sensitivity of the variable *nviSpaceTemp* can be adjusted with the parameter *Sensitivity Space Temp*:

- *Low*: prevent or reduce short-term interferences which affect the sensor.
- *High*: Deactivate filter function, for system testing, etc.

	Range	Default
Sensitivity Space Temp	Low/high	low