

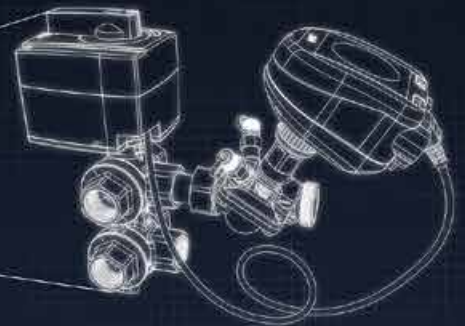
NovoCon® | Digital actuator for HVAC

# Smart'n up and **add value** to your buildings **while** **lowering your investment** **and annual costs**

Meet NovoCon®, the digital actuator that connects Building Management Systems with hydronic HVAC systems, enabling Internet of Things solutions.

**30%**

average energy  
savings potential by  
optimizing technical  
building systems



# A digital actuator that brings **brand new advantages and opportunities**

Heating and/or cooling your building mostly involves a Building Management System (BMS) and a hydronic balancing and control solution of the Terminal Units. Danfoss NovoCon® is the first digital HVAC actuator to connect these into a fully integrated, automated solution. It enables a wide range of smart Internet of Things (IoT) possibilities, simplifies the system, and saves cost.

NovoCon® communicates with the BMS system via a digital (BACnet or Modbus) bus communication protocol and exchanges technical HVAC data. This provides your technical consultant or system integrator with a brand-new level of flexibility and opportunities. By using NovoCon®, they can add value to your building, put your sustainability ambitions into practice, and achieve significant cost reductions for you.

Combined with the associated Pressure Independent Balancing and Control Valve (PIBCV) type AB-QM, the foundation for highly energy-efficient buildings is established. As a result, the hydronic aspects of HVAC control are fully integrated with the BMS system. This provides a completely automated and controlled process for controlling, monitoring, optimizing, and maintaining heating and/or cooling in your building.

**Best of all, this is all done remotely, via the bus communication. This allows you to save time and solve installation and operation errors quickly and effectively.**



## **Add value** throughout the life cycle of your building

NovoCon® continuously adds value to your building. Not only during the design, installation, and commissioning phases. But also during ongoing everyday use, monitoring, management, and maintenance once your building is occupied.

It might even be you can benefit from new features in future. Any new software release can be uploaded to all actuators at the same time via the bus communication, upgrading and expanding the possibilities in your system with the click of a mouse.

The result: an optimized, efficient, and easy to adapt indoor climate.

With NovoCon®, your building simply becomes smarter while lowering your Total Cost of Ownership (TCO).

# Six reasons to **choose NovoCon®**

1

## Establishes the foundation; an **energy-efficient** HVAC system

NovoCon® is specially designed for use with the pressure independent AB-QM valve. This automatically creates a dynamic hydronic balance in the system, an important prerequisite for energy-efficient buildings. Besides that these valves prevent the need for other, manual balancing valves and the costs for installing, commissioning and maintaining these often difficult to access HVAC components.



2

## **Cost savings** throughout the life cycle of the building

Cutting-edge features and BMS connectivity help you save money when purchasing BMS components, reduce your maintenance costs, and can optimize the energy efficiency.

3

## **Flexibility** when refurbishing the building

NovoCon® enables a flexible layout in your building. This increases the attractiveness for potential tenants or buyers. During refurbishment of areas, the HVAC system can easily be adapted accordingly without physical adjustments to the BMS components.

4

## **Time savings** during installation, commissioning, and daily use

NovoCon® uses plug-and-play connectors making it hassle-free and quick to install. The connections with the BMS enables remote control and continuous commissioning of the system. From any place, at any time.



Plug-and-play connectors

5

## **Advanced** temperature control

Via the BMS, the indoor climate can be controlled accurately and individually. Normally, the temperature is set per room. However, smart building functionality also allows the temperature control to follow every person no matter room or location e.g. via an App installed on their smartphone. This adds a whole new level of personal comfort, increases the productivity, and reduces health and motivation issues in the work environment.

6

## Targeted and **predictive** maintenance

Thanks to system data collected by NovoCon®, it is possible for the BMS to precisely locate an issue, or where an issue is likely to occur. This allows you to effectively solve issues and even schedule for preventive maintenance when building occupants are less affected by this.



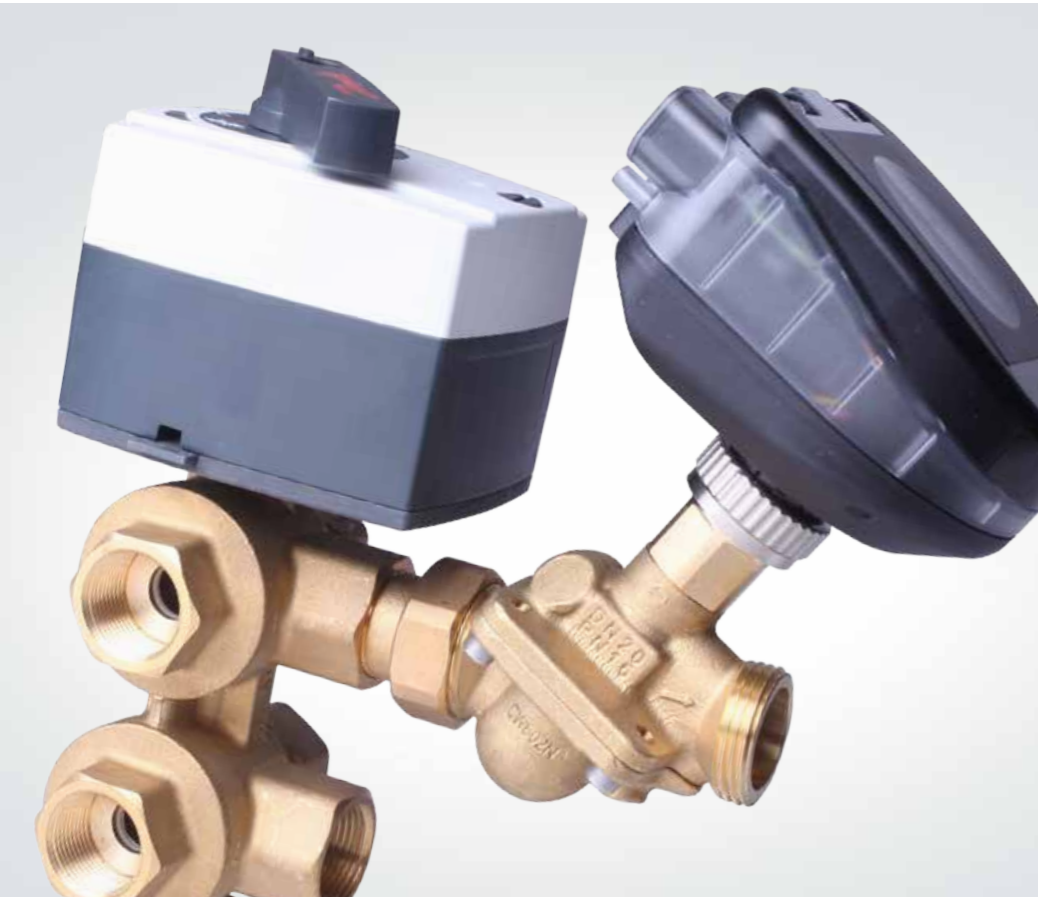
## Extra options for **even more flexibility**

In addition to the many smart digital advantages NovoCon® offers, the analog inputs and outputs on the actuator add great extension possibilities. Some of the possibilities are:



## Expand your options with **NovoCon® Remote I/O**

This solution is as simple as brilliant. A standardized cable enables access to all four available analog inputs and outputs on the NovoCon®. It offers system integrators a wide range of possibilities to engineer a building customized solution, for example by connecting temperature sensors, fans, presence detection or open window contacts. Utilizing Remote I/O reduces the number of required BMS components.



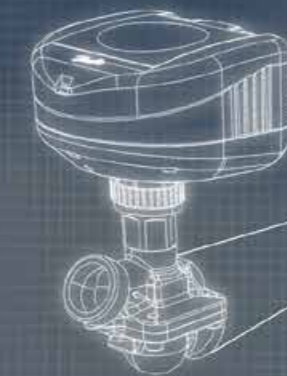
**Automatic switching**  
between heating and  
cooling in four-pipe  
change-over systems



## Data logging and analysis with **NovoCon® Energy**

During normal operation several technical parameters are periodically stored in the BMS via NovoCon®. This data provides highly valuable insights about the operation of the system. By analyzing the data and adapting certain settings, a further reduction of the energy consumption is often possible.

To further improve the analysis, NovoCon® Energy can be used. This is a set of two temperature sensors connected to the supply and return pipes of e.g. a Terminal Unit. By measuring these temperatures and using available data regarding the actual flow through the unit, an estimate of the actual energy consumption can be calculated and used for the analysis.



## Simple switching between heating and cooling **with ChangeOver<sup>6</sup>**

Experience an automatic switching solution with Danfoss' ChangeOver<sup>6</sup> combined with the NovoCon® / AB-QM. This means, you no longer need separate controls for heating and cooling operations.

The ChangeOver<sup>6</sup> is a motorized 6-way ball valve and 'slave' controlled by the NovoCon® which prevents additional BMS input and output modules (I/O's) normally used for this common HVAC function. The smart and compact solution can be used for your climate ceilings or induction units.



# Invest now in the future of **your smart buildings**

At Danfoss, we have the ambition to achieve the highest possible efficiency in every building. And we want to do that together with you, your technical consultant, system integrator, and the occupants of your building.

The possibilities NovoCon® offers are very innovative and highly distinctive. Despite this, we continue to work on expanding the potential of this digital HVAC actuator. With each new software release to come, there will be even more opportunities to make your building more comfortable and increase the rentability at lower costs.

Do you want to find out more about how NovoCon® can add value to you and your building? Contact your technical consultant or the system integrator of your BMS now. They are happy to advise you on how to get the most out of your building with NovoCon®.

For more information, contact your Danfoss Account Manager or visit [novocon.com](http://novocon.com)

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