IoT Controller

Connecting the world of digital objects and services with KNX

IoT

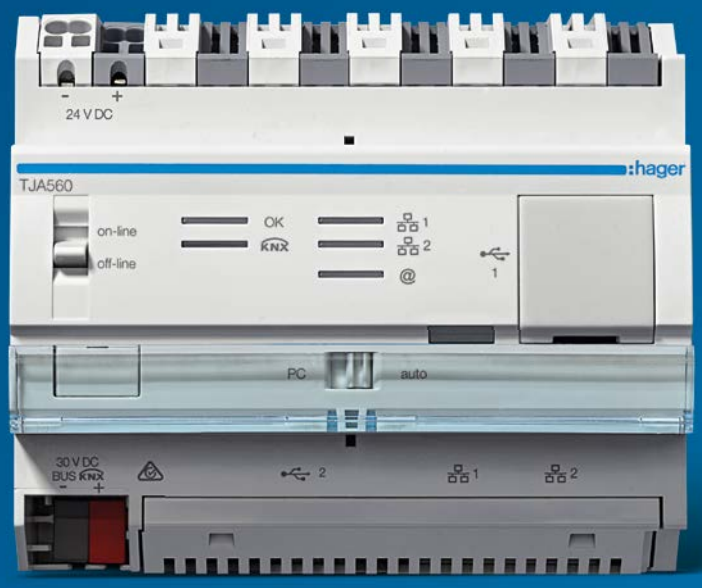
amazon echo

SONOS

hue PHILIPS

netatmo

IFTTT



KNX

:hager

Limitless connections to the Internet of Things

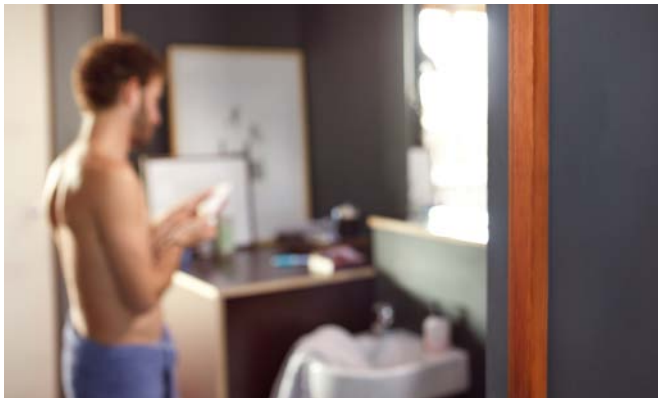
Simply shut the front door and activate the away mode with a voice command – the smart home will take care of the rest. It will turn down the heating, turn off the lights and switch on the alarm all by itself – the Internet of Things can do it all.

What was considered a dream of the future ten years ago has now become reality: intelligent devices, so-called smart objects, are being used in more and more areas of our lives. At the same time, both well-known manufacturers and innovative newcomers are offering attractive and advanced IoT products that are intended to make everyday life easier. However, these products are often restricted to closed systems and individual apps. This has meant that these devices, which are supposed to make everyday life easier, can actually make it more complicated. How great would it be if all of these different systems could be united under one roof; what if you could even connect them to each other? This would require an interface that could bring together all of the components of the smart home.

Smart
all day long

Imagine going about your day without having to worry about everyday occurrences. This is possible in the smart home of the future. Wouldn't it be nice if your customers were able to relax, feel looked after, and save money throughout the day – and you were able to become a smart home pioneer in the process?

A smarter start to the day
The home sound system starts to play their favourite song, gently increasing the volume while the automatic blinds gradually open to let in the rising sun. In a smart home, your customers can wake up relaxed without the need for a noisy alarm clock. If it is not sunny outside, the integrated weather station will give the smart lighting system the command to gradually turn up the lights.



Perfectly prepared – thanks to smart information
The next stop is the bathroom, set at just the right temperature. Time for a refreshing shower. On the way, a quick glance at the touch panel in the corridor and the weather system will decide whether to turn on the heating in the car. While in the bathroom, they can listen to the news or their favourite music with the touch of a button.

Always in control – wherever you are
Feeling fresh and well-informed, your customers are now on their way to work. When leaving home, one press of a button is all it takes to activate the away mode. The heating is turned down, the lights are turned off and the alarm is switched on. A push notification is sent to their Apple Watch for confirmation.

Feel at home – even before you arrive
The workday is over and it's time to come home. With another touch of a button, the welcome mode is activated, sending a message to loved ones and warming up the coffee machine. Right before they arrive, the garage door opens and the lights turn on – all thanks to geo-location.

The comfort and relaxation programme
Home, at last! Now it's time to wind down. Perhaps a film for two? A simple voice command activates the cinema scenario. The lights dim and the blinds close – all that is left to do is for your customer to select the film they would like to enjoy.

The easy way to access the Internet of things – for you and your customers

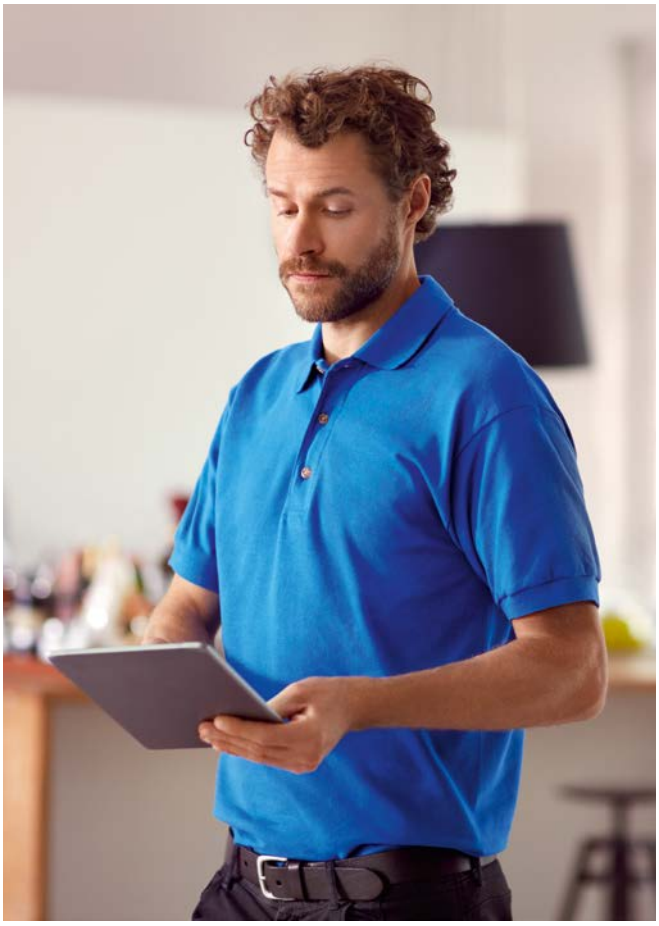
With the new IoT Controller from Hager, you can offer your customers a quick and easy solution for adding innovative features to their KNX building control system – and all of this without any construction work. In doing so, you will create both added value for your customers and new business opportunities for yourself.

Easy to integrate

With the IoT Controller, your customers' homes will control regular processes automatically. Interconnected devices communicate with one another and adapt to everyday situations. The IoT Controller acts as a "translator" and brings all of the smart home devices onto the same wavelength, allowing them to be seamlessly integrated into and controlled by the KNX system. Even smart home solutions or products that your customers purchase down the road can be integrated quickly and safely using the IoT Controller.

Easy to install

In all likelihood, many of your customers already own at least one smart home-compatible device that is not yet integrated into their KNX control system. With the IoT Controller, these devices can be integrated quickly and safely into the existing system: applications such as Sonos, Philips, Netatmo and Amazon are already integrated into the IoT Controller and are just waiting to be configured. You will have exactly what your customers are looking for.



It’s music to everyone’s ears

Connecting WLAN-based sound systems

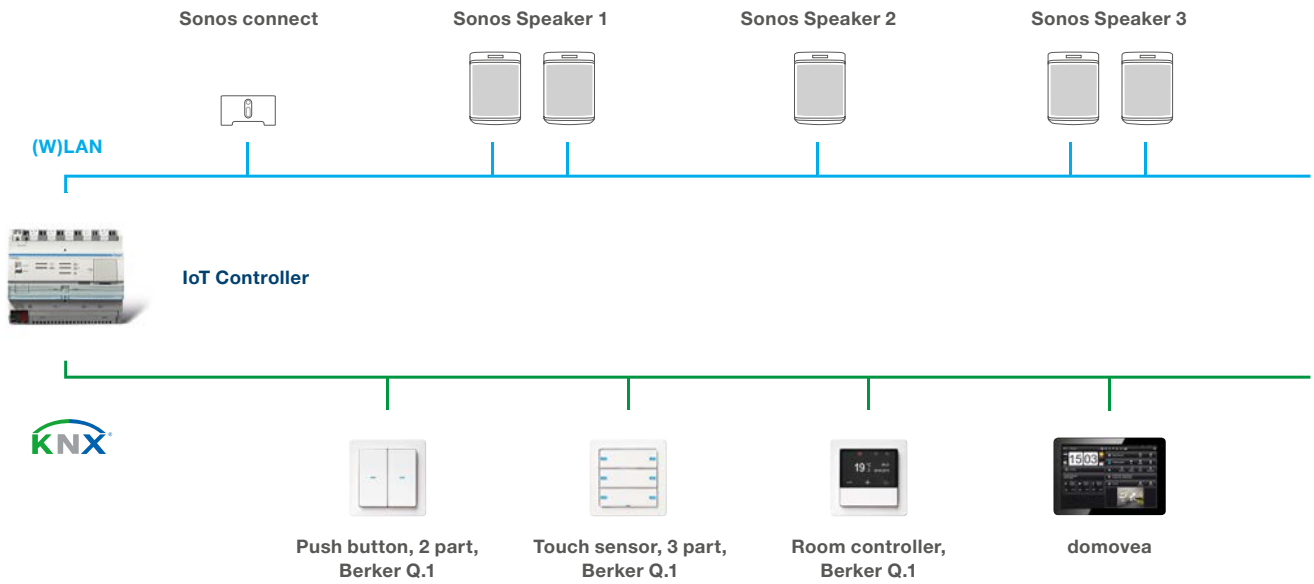
Multi-room sound systems allow music, radio dramas, audio books and films to be played with perfect sound in any room.

Imagine being able to hear your favourite songs playing in two rooms at once, or even better, in every room in your home. Whether played via streaming, hard drive or stereo system, the options are almost limitless. Last but not least, incorporate your favourite music into personalised comfort modes instantly via the new IOT Controller, push button or domovea building control.

SONOS

With a wireless home sound system, fill the entire home with magnificent sound. Different songs can be streamed seamlessly via Sonos speakers in different rooms – or one song can be played simultaneously throughout the entire home.

Service diagram



hue
PHILIPS

With this innovative ambient lighting system, everyday lighting becomes an extraordinary experience.

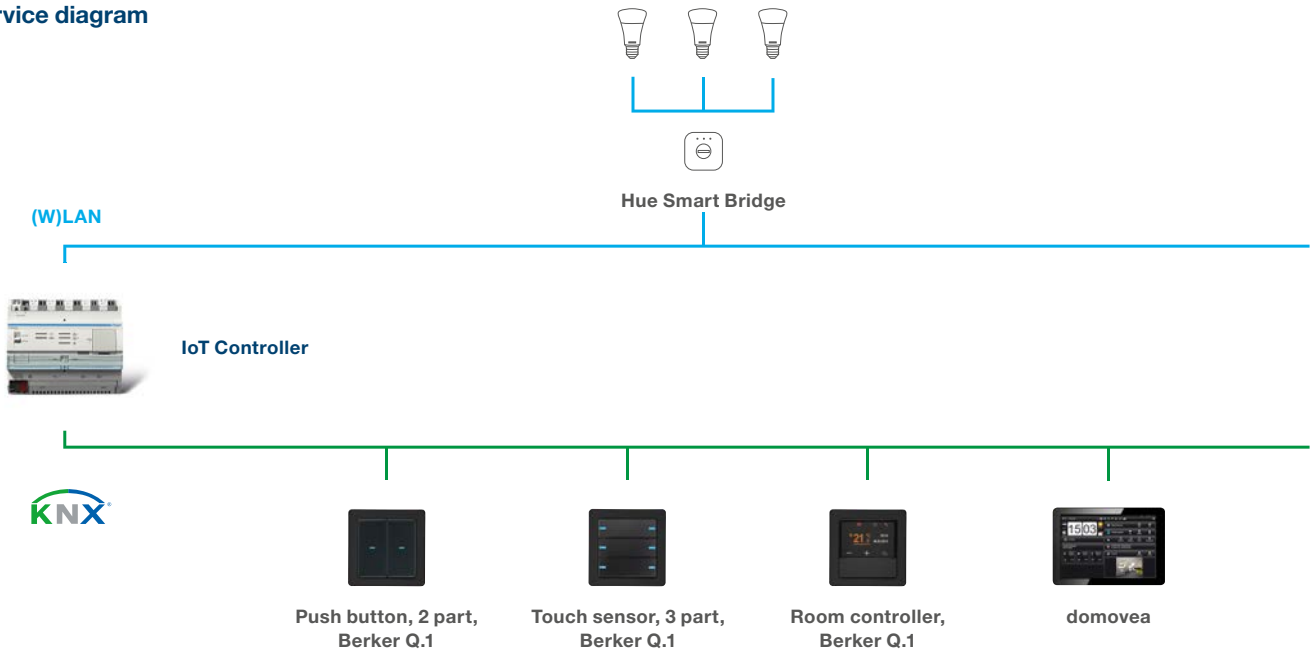
Guaranteed to shine

Smart lighting – well integrated

What is the perfect lighting mood?
Now your customers can decide for themselves. Whether classically white or refreshingly colourful – with a smart home lighting system, the possibilities are endless. Simply integrate the bridge (connection between the lights and the network) into the smart home system and control up to 50 lights, as well as other useful functions such as alarm clocks and warning signals.

With the IoT Controller by Hager, you can seamlessly integrate your home's ambient lighting into the KNX building control system, as well as connect it to other smart functions. A press of a KNX button is all it takes to activate a desired scenario. In the event of a network failure, you can rely on the KNX basic lighting function as usual.

Service diagram



For a comfortable indoor climate: connect the Netatmo Weather Station

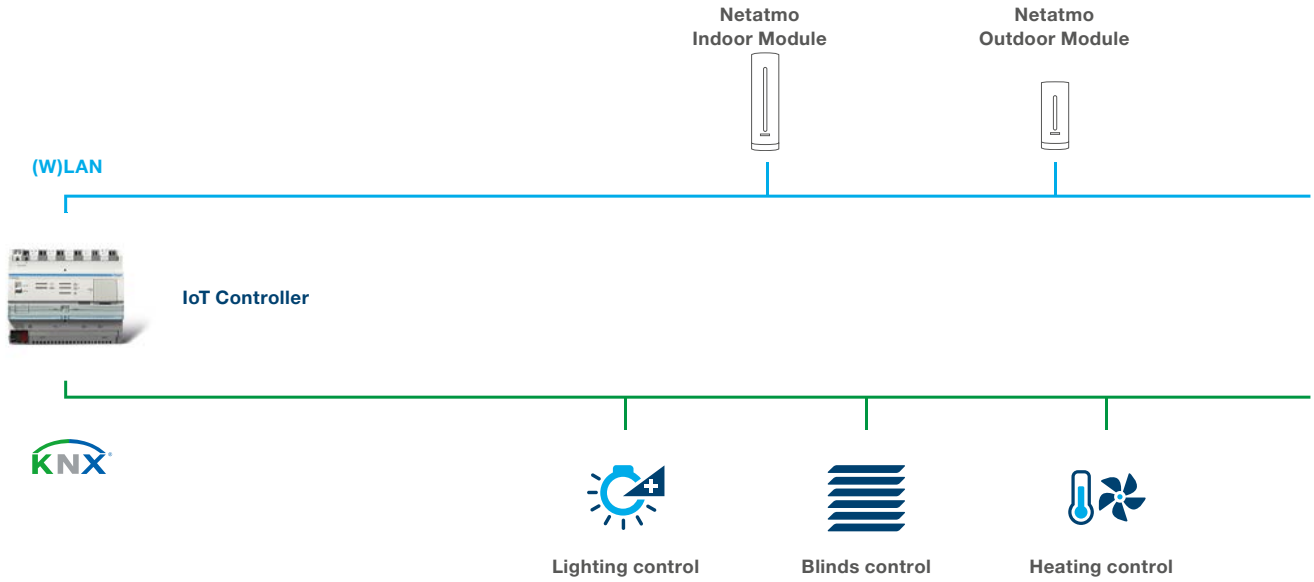
netatmo

This versatile weather station helps users to determine climate and weather information, both indoors and out.

Everyone loves to talk about the weather – admittedly, we do too. With a Netatmo Weather Station, your customers can receive the latest weather information. Sound boring? It's not. The Netatmo Weather Station can do much more than tell you the weather forecast.

Its internal sensor can measure CO_2 levels in the air. Thanks to the IoT Controller, the weather station can send a command to the connected KNX functions, e.g. the ventilation, if the CO_2 level exceeds a predetermined limit. Other KNX functions such as air conditioning or heating thermostats can also be activated to improve the indoor climate.

Service diagram



Everything is listening for your command

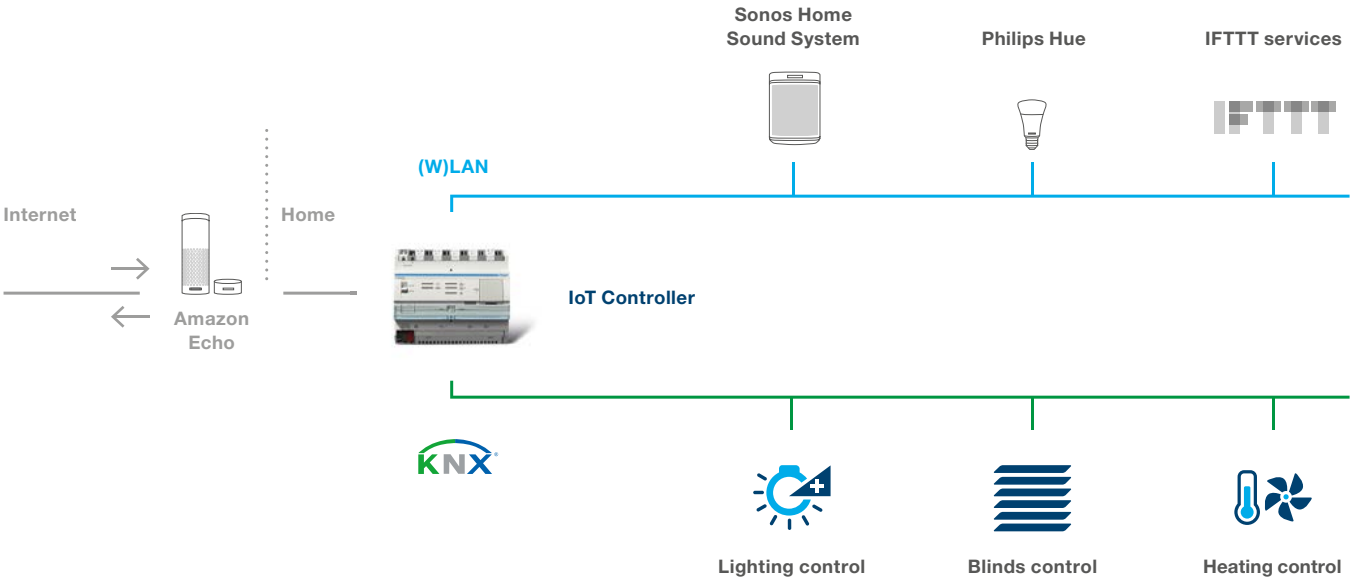
KNX can be controlled using voice commands. With the virtual assistant from Amazon Echo, life at home can be made even easier. Your customers can control their homes without having to lift a finger. This is because the virtual assistant, Alexa, uses voice recognition to perform tasks on demand. By using voice commands, it can play music, regulate the heating, adjust the lighting and even share the latest stock market updates.

amazon echo

With voice commands alone, Echo can connect to the Alexa Voice Service to play music, turn on the news, give sports results, report the weather forecast, and much more.

With the IoT Controller, voice control now works on all connected devices, expanding Alexa's command radius. To enhance control via push button or smart watch, Alexa adds a completely contactless variant that is capable of learning and can enable non-KNX devices to be controlled by voice. The voice control functions are always evolving and continue to offer more and more possibilities for integration, for both you and your customers. This not only appeals to lovers of comfort and technology fans, it is also a great advantage for the elderly and people with disabilities.

Service diagram



IFTTT – a service that lets you walk on clouds

In addition to various smart objects, the IoT Controller allows users to seamlessly integrate and pair numerous cloud services with KNX functions, e.g. a web-based weather forecast that adjusts the heating as desired, as well as other KNX components. This means that your customers can experience the full benefits of a smart home without owning any smart objects. And you can create new business opportunities in the process.

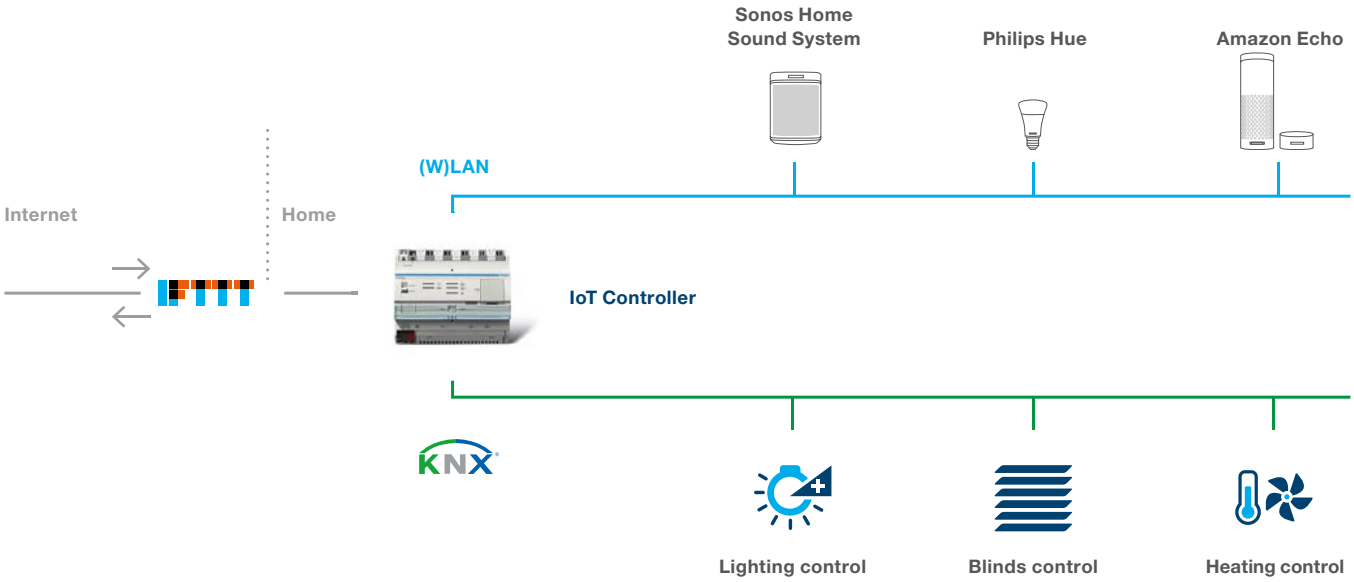
This is a service that allows you to take advantage of a number of smart solutions without even owning any smart home products.

IFTTT – If this then that
The name perfectly describes how the programme works: the automated service, “If this then that” (IFTTT), connects a trigger (“this”) to an action (“that”) in the form of a recipe (“applet”).

If this or that happens, a predetermined action will occur. In this way, the KNX lighting system can easily be synced with a person’s current position. For example, if this person leaves their house or flat, the lights will turn off automatically.

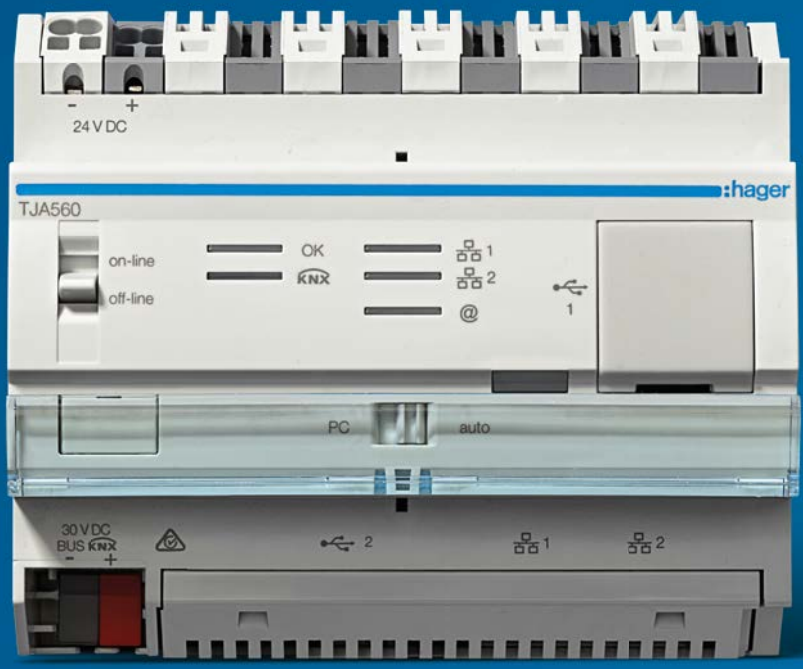
Similarly, smart home appliances (e.g. fridges, ovens, coffee machines, etc.), connected cars (e.g. BMW ConnectedDrive) or smartphones and smartwatches can be connected to other devices and services, as well as specific KNX functions, via IFTTT in the smart home. With more than 250 different web services, the possibilities are truly endless.

Service diagram



The IoT Controller – connections with future potential

The smart home of the future will be even more connected than we can imagine. How great is it that with the new IoT Controller by Hager, your customers will be prepared today?



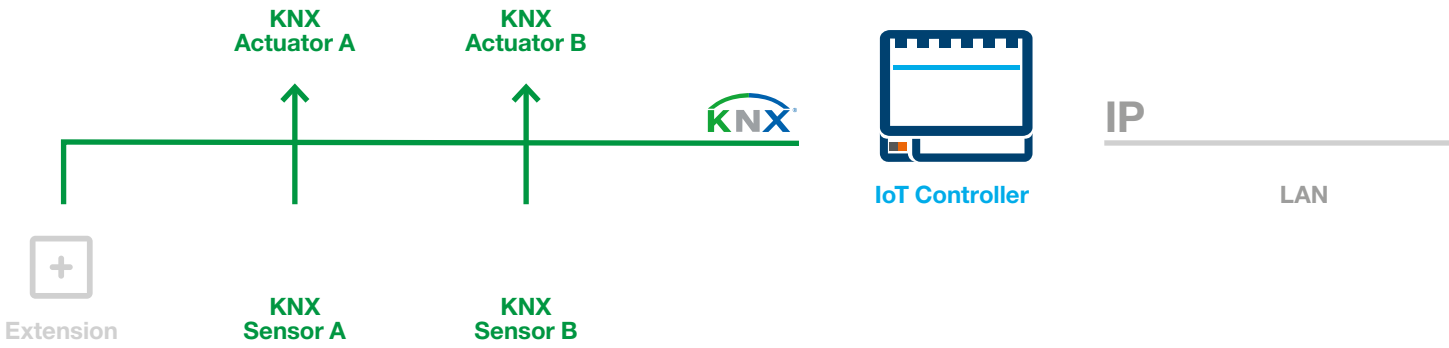
The IoT Controller TJA560 allows up to 1,000 functions.

The number of devices connected to the Internet is expected to quadruple by 2020 – from six billion at present to over 25 billion. As a result, smart objects will soon make up the largest part of the consumer sector. Even now, innovative ways to connect and integrate smart objects are being developed each day, e.g. for Amazon Echo, and new possibilities are continuously emerging thanks to IFTTT. In addition, there are more and more smart objects with new functions waiting to be introduced into your customers' smart homes.

With its capacity to integrate up to 1,000 functions, the IoT Controller, combined with KNX, is prepared for this connected future. And even today, the IoT Controller comes with a wide range of pre-installed product interfaces, which are constantly being extended. Therefore, the IoT Controller is opening up new perspectives and paving the way for the sector's bright and promising future.

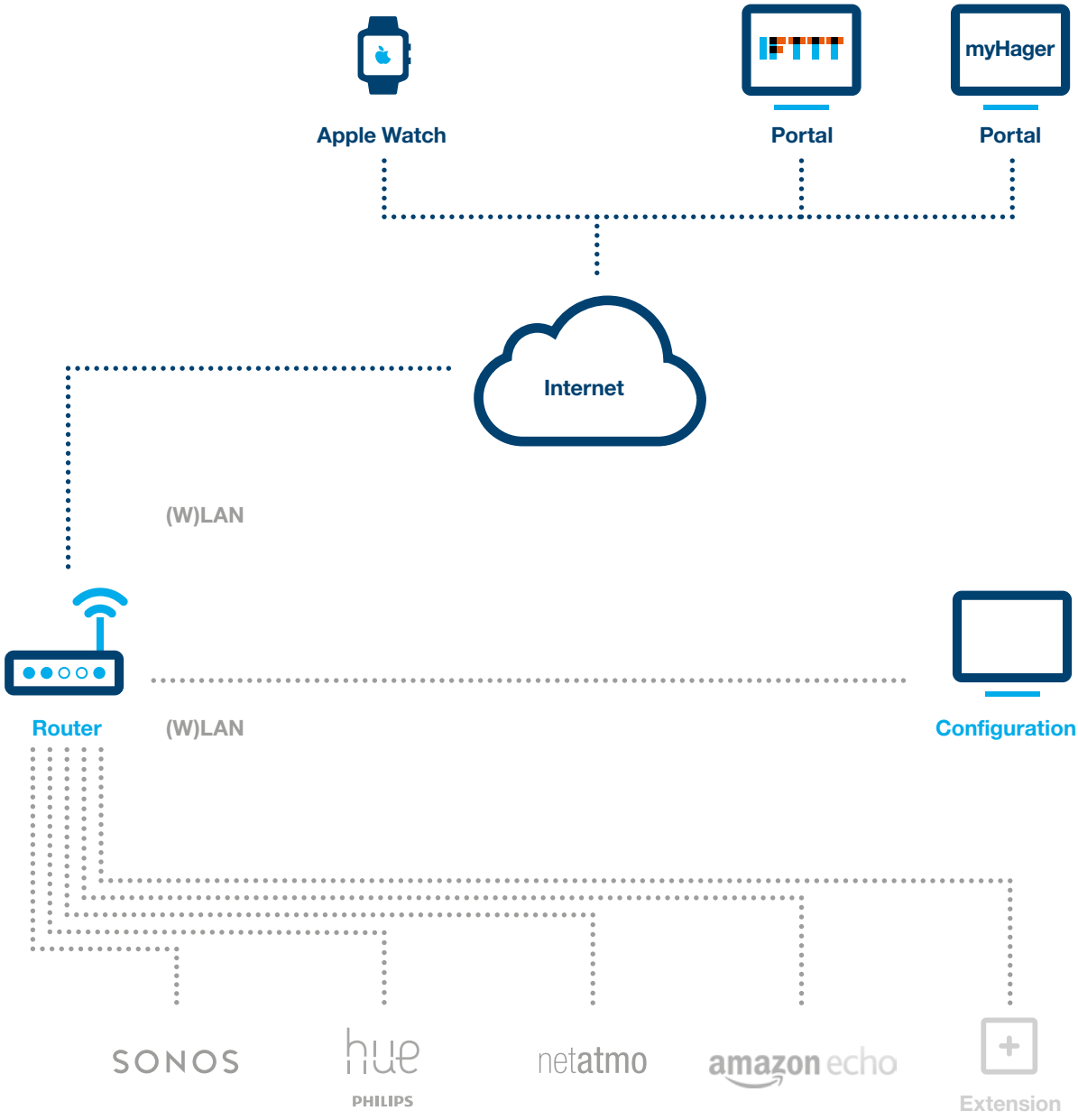
The IoT Controller – your gateway to a promising sector

The new IoT Controller is the communication link between KNX and the Internet. Situated in the home's utility room, it is where all of the information converges and is then supplied to the KNX building control system. However, the IoT Controller is no one-way street; it enables communication between the individual components. As a basis, we ensure that all our smart home solutions use the established KNX standard.



KNX components
KNX components can be connected to the Internet of Things via the IoT Controller and can be continuously extended.

Add-on services
With My Hager and IFTTT you can expand the variety and potential of your smart home.



Smart Objects
A variety of smart solutions can be integrated into the KNX building control system via the IoT Controller.

Connecting the IoT Controller to KNX systems

The new IoT Controller is easy to install and the server can be quickly integrated and configured. KNX technicians and systems integrators are able to connect numerous functions to one KNX installation, without having to learn a new “language”. Our IoT webinar is all you need to position yourself perfectly in an expanding market.

JETZT BEI Google Play

Laden im App Store

01

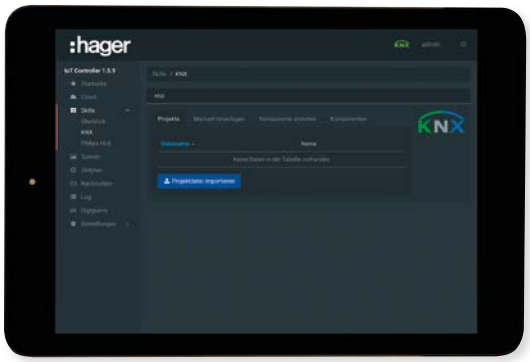
Configure and connect the IoT Controller

Remarkable things come in small packages: the new IoT Controller TJA560 only takes up six places on the DIN rail. It simply attaches next to the KNX actuators in the utility room. The connection to the local IP network can be established via an RJ45 connection, which communicates with the KNX infrastructure via the bus.

02

Search for a server and open the configuration tool

Search for the IoT Controller in the local IP network using either the IP address or the Hager IoT app, which is available for iOS and Android. Then open the configuration tool in the respective web browser. Now the configuration process can begin!



03

Import the KNX project file

The “Skills” category can be found under the “KNX” menu. Upload your ETS project* to the IoT Controller using the import function. The KNX group addresses will be uploaded to the Controller and can be connected to the IoT services.

* ETS 3 – 5: .esf-file;
ETS 4 – 5: .knxproj-file.

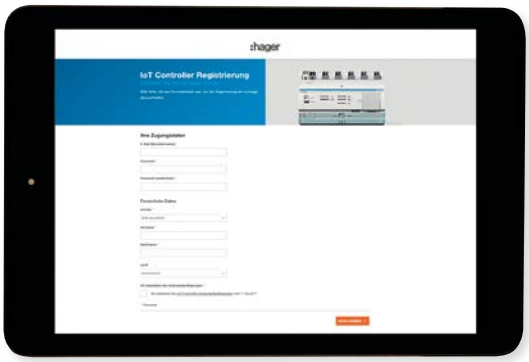
04

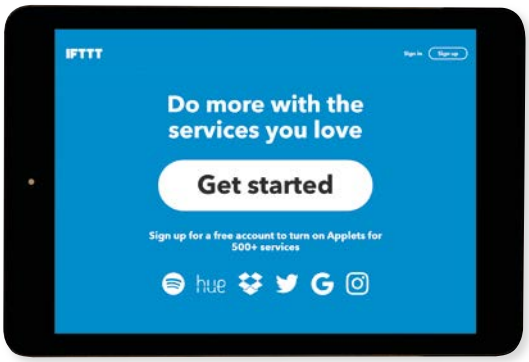
Activate the IoT applications

All of the pre-installed applications on the IoT Controller can be found under the “Skills” menu. For example, once the Sonos skill has been activated, all of the speakers are displayed and separated according to name and room. In “Quick Config” mode, you can select your desired control function – e.g. volume up/down, play/stop – and connect it to the available KNX addresses. Then click “Save” – that’s it!

Connect to IFTTT services

Cloud-based services take smart homes to a whole new level. They can create numerous opportunities for both you and your customers. Expand your portfolio and become an IoT pro!





01

Create a myHager account

First, you will have to register the IoT Controller by entering your customer's user data on myHager.

myHager

02

Create and connect an IFTTT account

Step two consists of registering your customer on the IFTTT portal. Search for the Hager service and connect it to the myHager profile by providing the required user data.

IFTTT

Become an IoT Pro!
Discover the Internet of Things and its advantages for you and your company. Our IoT webinar is a fantastic way to prepare for the future market. Register now at hager.xx/xx.

03

Define IFTTT events

Then connect the predetermined if/then functions to a scenario or KNX component from the IoT Controller.

04

You're ready to go

The complex scenarios can now be activated anywhere in the home via the KNX control elements.

Extend as desired with KNX

Some providers of smart home solutions offer proprietary, i.e. closed, systems. Hager, on the other hand, uses the established KNX standard. This means our systems speak the same “language”, and by allowing the IoT Controller to include other devices from the Internet of Things, you can guarantee your customers a system that will work well into the future.

quicklink
The renovation solution. Our wireless alternative for smart building control systems. There is no need to lay costly control lines, and system launch is easy because no programming tools are required.

easy
For new construction work and extensive renovation. With easy, a KNX system can be configured simply, quickly and intuitively. An easy configuration server, a tablet and the easy app are all you need. Each configuration can be expanded with quicklink wireless solutions.

ETS
ETS is the standardised software that is perfectly suited to large building automation systems. With ETS, users can install numerous expanded functions that are ideal for high-end solutions for residential, commercial and administrative buildings.

Hager offers a compatible range of **KNX systems** for a variety of applications.

IoT (Internet of Things)

KNX® Standard

coviva*

Retrofit smart wireless technology. The ideal smart home solution for refurbishing and renovations.

domovea

Smart visualisation, intuitive control – now simpler than ever. domovea is the smart home solution for connected building control systems.

* coviva Smartbox is only compatible with quicklink installations.

Security that pays off

Customers have many questions when it comes to smart home solutions; especially regarding security. As a result, a smart home combined with an IoT Controller provides added comfort and security.

KNX and IoT – a secure connection

Security is the greatest concern of this day and age – naturally, it's important to us too. As a result, we look at security from several perspectives. Firstly, there is operational reliability. Thanks to the closed building control system, your customers will always be able to access the building functions – even without an internet connection. Data protection is very important to us, which is why we use local and secure connections. In terms of building security, we offer a variety of solutions and connection possibilities. And finally, there is the issue of forward compatibility. You and your customers can rest assured that you are in good hands with the IoT Controller.

Operational reliability – full functionality, even without a network

With a KNX installation from Hager, you are able to take advantage of the full potential of the Cloud without having to depend on it. The smart KNX building infrastructure remains fully intact, even without the IoT Controller, and can continue to be controlled independently. This gives your customers considerable independence compared to purely app-based smart home systems and allows them to take full advantage of the benefits of their smart home, even without an internet connection.

Data security: global processes, stored locally

As a result of extensive networking, data protection and the security of technical data are major concerns. This applies to all network devices and servers that are installed in a smart home.

To protect KNX installations from unauthorised access, we store the data locally on the IoT Controller. This means that no information is sent from the KNX system to an external source without the prior consent of your customers.

Building security, with a system

The smart home acts as an intelligent and tireless guardian, providing 24-hour security to your customers – even when they aren't there. With the integration of numerous "external" solutions through the IoT Controller, smart home security can be more efficiently and accurately configured. This allows each device to protect the smart home and, most importantly, your customers, in its own way.

Forward compatibility: the best prospects for today and tomorrow

Thanks to the established KNX standard, combined with the IoT Controller, you can provide your customers with an established system that is open to new ideas. With up to 1,000 interfaces, the IoT Controller is already prepared for a networked future and, in combination with KNX, is geared to bring together many more services.

Still have questions? Here are the answers.

With up to 1,000 functions, the IoT Controller offers a wide range of connection possibilities. We have provided the following technical support to ensure that you can start using the IoT Controller straight away.

KNX

No connection to the KNX bus?

- Make sure that the skill is activated.
- Make sure that the physical address has been defined and entered. If so, the KNX LED on the front of the device should be green.

  ! The factory-provided physical address is only given as an example.

Can’t import the KNX project?

- Check the format of the ETS file:
  - ETS 3–5: “.esf”
  - ETS 4–5: “.knxproj”
- Make sure that the filename does not contain any spaces or special characters.

Cloud

Can’t activate the cloud service via the IoT Controller?

- This requires an active myHager end user account.
- Check the user data on myHager (hager.xx/xx).
- Check the network connection and network settings.

  ! The switch on the IoT Controller must be in the “Online” position.

Can’t see the KNX group addresses?

- For data protection and operational reliability reasons, the KNX group addresses are only provided locally. Scenarios and manually created KNX functions can be accessed via the cloud service.

Can’t activate a third-party service (IFTTT/Amazon/Netatmo)?

- Please check the user data of the respective cloud service. If you are unable to log in, please contact the respective provider.

Can’t access scenarios or KNX components?

- Please check the connection to the myHager service.

  ! If the user data on myHager has changed, the cloud service must be reactivated.
- Restart the IoT Controller after activating the myHager service.

Still have questions? Here are the answers.

Skills

Is an IoT skill not working?

- Make sure the skill is activated.
- Has the skill been activated and operated previously (start-up tool or manufacturer's app)?
  If "no" – please contact the respective manufacturer.
  If "yes" – please contact us.
- Check the availability of the product on the network and/or network settings.

Do you want to change the settings, labels or sequences of an IoT skill?

- Please configure the settings for the product of the respective manufacturer.

  ! The IoT Controller loads all information directly from the devices of the respective manufacturer.

Searching for a device (e.g. Sonos speaker or Philips Hue lamp)

- Check the availability of the device on the network and/or network settings.
- Please bear in mind that the automatic search can take up to 60 seconds.

How many devices can be connected?

- Philips Hue: up to 50 Hue lamps per bridge.
- Sonos: up to 32 devices.
- Amazon Echo: up to 12 devices.

General

Can’t find the IoT Controller via the app?

- Check the network connection or network settings. Please make sure that the switch is in the “PC Auto” position and check the LEDs on the front of the device.
- Make sure that the IoT Controller is switched to “Online” (the switch is on the front of the device).
- Alternatively, it is possible to enter the IP address manually in the browser.

Forgot your username or password?

- Switch the IoT Controller to “Offline” (the switch is on the front of the device) and refresh the configuration page in the browser.

  ! Password protection is deactivated in “Offline Mode”. The password can be reset under “Settings”.

Is there a default admin password?

- The default password is empty.

Not receiving push notifications?

- Make sure that your smart device can be found in the IoT Controller settings.

  ! The smart device must have the IoT app in order for it to pair automatically with the IoT Controller.

Want to use your Apple Watch?

- Make sure that the IoT app is installed by checking the Apple Watch app on your iPhone.

For more information, please visit **hager.xx**

IoT Controller

Operating voltage via bus	21 V to 32 V
Bit rate (Ethernet)	2 x 100/1,000 Mbit/s
Operating temperature	0°C to +45°C
Conductor cross section (flexible)	0.75 mm² to 2.5 mm²
Conductor cross section (rigid)	0.75 mm² to 2.5 mm²
Width of DIN rail	6 HP

- Power supply via PoE or 24 V DC
- 2 x RJ45 ports for LAN connection
- 2 x USB Type-B ports, USB 2.0 compatible
- Large labelling area
- Integrated bus coupling unit
- Bus connection via terminal
- quickconnect terminal blocks

- Configuration tool for connecting the IoT devices (smart objects) to the KNX installations
- Selector switch for online / offline operation
- Green and red status LED for LAN status, operational readiness, KNX status and gateway connection
- Initial operation and programming without ETS via web browser

Knowledge of network technology is required for initial operation.
System requirements: Windows 8.1, Android 4.4, iOS 8. Compatible with web browsers Internet Explorer 11, Chrome 32, Firefox 27 and Edge 20 or later.

TJA560

Description	Packaging unit	Price group	Price		Order number
IoT Controller	1	H56	€680.00/unit	★	**TJA560**

Power supply 24 V DC 1A

Operating voltage	230 V~
Frequency	50/60 Hz
Output voltage	24 V=
Output current	max. 1 A
Current consumption	< 150 mA
Power consumption	36 W
Operating temperature	0°C to +45°C
Conductor cross section (flexible)	0.75 mm² to 2.5 mm²
Conductor cross section (rigid)	0.75 mm² to 2.5 mm²
Width of DIN rail	4 HP

- Green and red status LED for short circuit and overload
- Large labelling area
- quickconnect terminal blocks

Suitable for:	**Order number**
Touch Panel	WDIxxx
easy configuration server	TJA665
domovea server	TJA450
IoT Controller	TJA560
easy KNX weather station	TXE530
KNX weather station	TG053A
KNX room controller	8066 01 00
KNX thermostat	8044 01 00

TGA200

Description	Packaging unit	Price group	Price	Order number
Power supply 24 V DC 1A	1	H50	€149.86/unit	**TGA200**

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