KNX

Smart home and building solutions.
Global. Secure. Connected.

KNX DEVELOPMENT SOLUTIONS 2021

Guide to certified KNX devices and validated ETS Apps
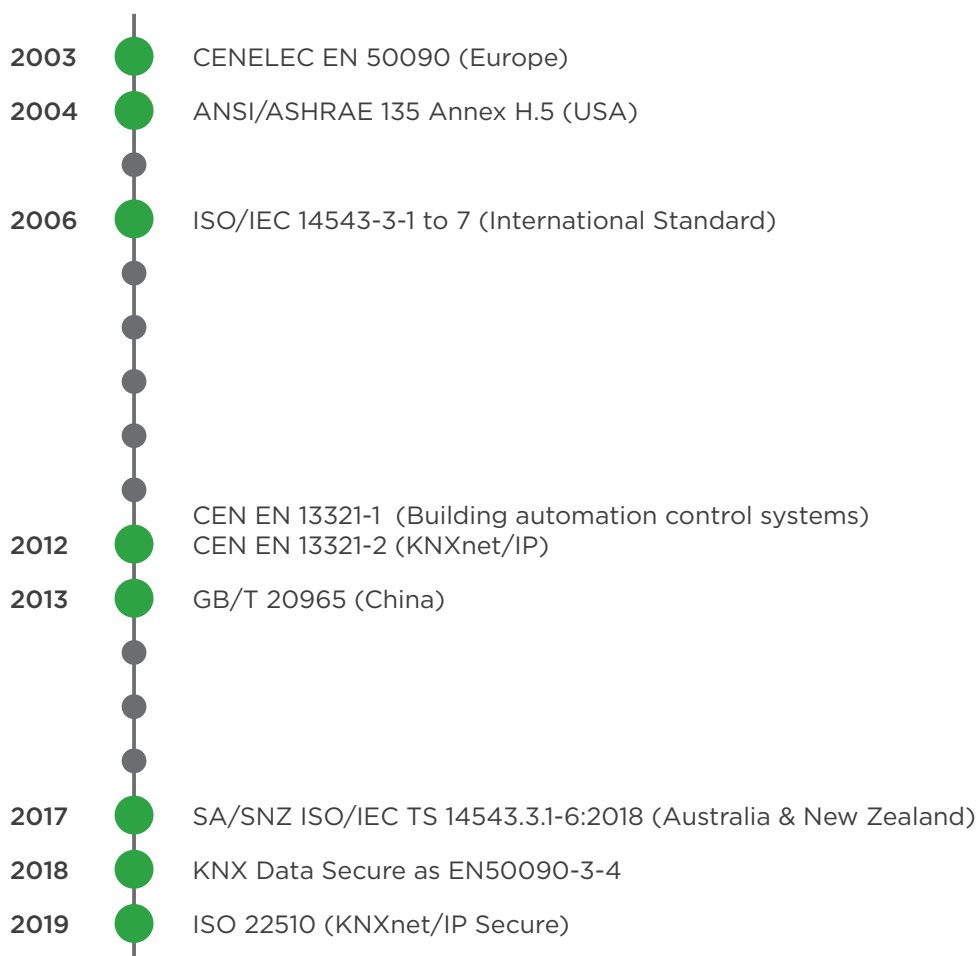
8,000+ certified KNX devices

500+ KNX manufacturers in 44 countries

1 International standard

16 Test Labs in 9 countries

1 Vendor independent configuration tool (ETS)

CONTENT

INTRODUCTION

Since 2006, KNX is a world standard and documented in the ISO/IEC 14543-3-1 to 7 standard. Hence, it is an openly described protocol for home and building control and can thus be used by anyone purchasing a copy of the relevant standard parts in his/her country. However, as time is of the essence, it may not always be a wise decision to start a KNX development from scratch, i.e. with just the international standard or the KNX specifications as a basis. This holds especially true, if one wishes to make use of the infrastructure that makes KNX unique in the world of home and building control, i. e. the manufacturer independent and multiapplication tool, ETS™. A large majority of all KNX devices is commissioned through ETS. These products are referred to as 'S-Mode' (System Mode) products.

The ETS is also one of the main topics during the standardized KNX basic courses organized in over 400 independent KNX training centers over the world. For this reason, this brochure first explains what steps are necessary to develop a KNX S-Mode product and the different approaches found in the KNX ecosystem. In a second part, it lists existing certified system components, KNX stacks and modules (Twisted Pair, Radio Frequency and IP) in the market. In a third part, the brochure gives some background information on what should be taken into account when wishing to start a development of an ETS APP or ETS DCA (Device Configuration App). Last but not list, the brochure ends with a list of existing OEM suppliers (sponsored content).

2003 CENELEC EN 50090 (Europe)

2004 ANSI/ASHRAE 135 Annex H.5 (USA)

2006 ISO/IEC 14543-3-1 to 7 (International Standard)

2012 CEN EN 13321-1 (Building automation control systems)
CEN EN 13321-2 (KNXnet/IP)

2013 GB/T 20965 (China)

2017 SA/SNZ ISO/IEC TS 14543.3.1-6:2018 (Australia & New Zealand)

2018 KNX Data Secure as EN50090-3-4

2019 ISO 22510 (KNXnet/IP Secure)

STEPS TO BRING A KNX S-MODE PRODUCT TO THE MARKET

The following steps shall be observed when wishing to develop a KNX S-Mode product:

1   **2**   **3**   **4**

KNX specifications

The KNX standard foresees a number of KNX system flavours, which amongst others determine the extent of run-time functionality as well as how the device is configured. These are called profiles and are described in Volume 6 of the KNX Specifications. So, depending on the desired functionality and how it shall be configured, the manufacturer has to make a selection of the adequate profile. The selected profile will in turn determine the type of microcontroller platform one is able to use for one's development of the communication stack.

HW & SW development

Once the profile is fixed, the development of the hardware of the device can start, as well as the software called 'application program'. One will need to find the necessary development tools corresponding to the chosen microcontroller platform (e. g. compiler). The developer will also have to decide on the type of KNX medium the device will use for communication, i. e. Twisted Pair, Radio Frequency or IP.

Manufacturer Tool

As the binary code of the application program resulting from the above development cannot be handled by an end user (typically a contractor), the code needs to be 'wrapped up' into a format that is readable by the end user and can be read by ETS. For this, the manufacturer needs to get hold of the KNX Manufacturer Tool through the KNX Online Shop (https://my.knx.org). As any device that is handled by the ETS shall be submitted to KNX certification, it is highly recommended that during the development stage appropriate input is prepared for the later certification test campaign. For this, KNX offers the KNX Interworking Test Tool, also available via MyKNX.

Certification

Once conformity has been sufficiently checked by the manufacturer himself, the application program can be submitted to KNX for registration. When registering the application program, it will be signed by KNX. Only signed files can be imported into the ETS end user tool and submitted to the KNX accredited test houses for formal KNX certification conformity testing. From registration onwards, the manufacturer is able to market the product branded with the KNX trademark.

DEVELOPMENT APPROACH

Thanks to the fact that KNX technology is independent from any hardware platform,
the KNX manufacturers can opt for a wide range of paths when approaching KNX development:

`<//>`	`</>`	`<->`

Full

The Manufacturer opts to develop entirely the KNX product on his own. This implies that the only basis for his development is the KNX specifications and that all parts of the product (Physical Layer, Communication Stack, Application Program as well as ETS product entry) need to be developed and certified. This is not an option if one wishes a quick time to market. This however has the advantage that one is totally independent from any supplier. This scenario is thus more suitable for larger companies with a big development capacity aiming at a larger product range.

Partial

The most ideal case for starting manufacturers developing new products is to take recourse to available KNX certified system components and/or stacks or even platforms including certified runtime application blocks. In this way, the development is limited to the design of an application program and the preparation of an ETS product entry. Also only these parts are subject of KNX certification.

OEM

The Manufacturer opts to relabel existing KNX end devices of another KNX member with his own brand name. The development effort in this particular case is reduced to nearly zero, as it is limited to the reregistration of existing ETS application programs in the name of the reselling manufacturer. This is an administrative procedure and does not require retesting of the products.

Option	Description	Development			Time/ Certification effort	Component costs
		Physical Layer	Stack	Application		
`<//>`	Just get the KNX Standard	Yes	Yes	Yes	🕐🕐🕐🕐🕐	€
`</>`	Buy TP PhL component and do not license certified stack	No	Yes	Yes	🕐🕐🕐🕐	€€
`</>`	Buy TP PhL component and license certified stack	No	No	Yes	🕐🕐🕐	€€
`</>`	Buy Bus Modules	No	No	Reduced effort	🕐🕐	€€€
`<->`	Buy KNX certified products via OEM and re-label	No	No	No	🕐	€€€€

Can you show us the picture we cant find this

KNX SPECIFICATIONS

The KNX Specifications cover all technical topics of the KNX Standard, from the first contact with the KNX technology, through the specification, certification rules and testing, and application descriptions. The different Volumes and Parts are clearly separated, and intended for the various responsibilities within a company (see table).
The KNX Specifications can be downloaded for free in MyKNX https://my.knx.org/en/shop/knx-specifications,in its latest released version (currently v2.1).
In addition, KNX Members have access to the latest intermediate version (currently v2.1.2), including the latest Approved Standard documents
and other working documents (i.e. Application Notes), which are necessary towards certification.

Volume	Name
Volume 2	Cookbook
Volume 3	System Specifications
Volume 4	Hardware Requirements
Volume 5	Certification Manual
Volume 6	Profiles
Volume 7	Application Descriptions
Volume 8	System Test Specifications
Volume 9	Basic and System Components
Volume 10	Specific

CERTIFIED SYSTEM COMPONENTS

The following certified system components are available in the market (most updated list on KNX Website):
https://www.knx.org/knx-en/for-manufacturers/development/system-components/

Analog Transceivers for Twisted Pair

Communication medium/ Model Number	Description	Company
TP/E981.03	KNX/EIB Bit Transceiver by Pin Configuration. Setting and Diagnostic through SPI. One DCDC for 3.3 or 5 V up to 70 mA. And a LDO for 20 V up to 20 mA.	ELMOS
TP/E981.23	KNX/EIB Bit Transceiver by Pin Configuration. With Pin configurable Current and Current Slope. One DCDC for 3.3 or 5 V up to 100 mA. And a LDO for 20 V up to 20 mA.	ELMOS
TP/E981.33	KNX/EIB Bit Transceiver with Pin configurable Current and Current Slope. One DCDC for 3.3 or 5 V up to 100 mA. And a LDO for 20 V up to 20 mA.	ELMOS
TP/NCN5110	NCN5110 performs the physical transmission over the KNX twisted pair but requires a separate MCU to cover the MAC layer. Includes two DC-DC converters and one LDO capable up to 5 to 40 mA bus current consumption.	ON Semiconductor
TP/FZE 1066	The FZE1066 transceiver offers a bit-interface between the KNX bus and the application microcontroller. It is designed according the KNX specification so that development using the FZE1066 can be easily certified. Package: SOP 20 Available current for bus powered devices: 30 mA @ 5 V & 5 mA @ 20 V	SIEMENS (Distributed by Opternus)
TP/STKNX	The smallest KNX Bit Transceiver in 4 x 4 mm QFN 24 pins. One selectable Linear regulator 3.3V/5V – 20 mA. One adjustable DC/DC 1 to 12 V – 150 mA. Adjustable Current Slope.	STMicroelectronics
TP/KAIphys	KAIphys is a license based schematic developed by TAPKO. KAIphys is the first available KNX interface based on standard components. For KNX members only. · No custom specific ASIC · Maximum performance · High flexibility · High energy for application from the bus. · Most cost effective KNX solutions. · Stream lining hardware design of products · KNX certified.	TAPKO Technologies / GIRA (Distributed by Opternus)

Digital Transceivers for Twisted Pair

Communication medium/ Model Number	Description	Company
TP/E981.03	KNX/EIB Transceiver by Hardware setting. Setting and diagnostic through SPI- or TP-UART compatible Interface. One DCDC for 3.3 or 5 V up to 100 mA. And a LDO for 20 V up to 20 mA.	ELMOS
TP/E981.23	KNX/EIB Transceiver with Pin configurable Current and Current Slope. Setting and diagnostic through TP-UART compatible Interface. One DCDC for 3.3 or 5 V up to 100 mA. And a LDO for 20 V up to 20 mA.	ELMOS
TP/NCN5121	NCN5121 is similar to the NCN5120 but includes a wider temperature range (-40 to 125°C), bus current limit and higher efficiency in the DC-DC converters. Total bus current is limited to 20 mA.	ON Semiconductor
TP/NCN5130	The NCN5130 is the top of the line KNX device from ON Semiconductor. It includes all the benefits of the NCN5121 but also extends the total bus current to 40 mA.	ON Semiconductor
TP/TP-UART2 (IC) TP-UART2+ (IC)	Next generation of KNX transceiver. Digitally compatible with its predecessor: communication stacks and drivers can be used without modification. Enhanced features including efficient stabilized 3.3 V and 5 V power supply with 30 mA max. current (50 mA when 20 V not used), switchable 20 V power supply with limiting function and a smaller QFN 36 package. TP-UART2+ Baud rate 115200 or 19200 baud: TPUART2+ >< Host – Controller. Package: QFN 36.Available current for bus powered devices: 50 mA @ 3.3 V or 5 V, 25 mA @ 20 V	SIEMENS (Distributed by Opternus)
TP/TP-UART2 (PCB)	The TP-UART 2 evaluation board offers an interface to the KNX bus together with a Bus Transceiver Interface (BTI) for quick development of your applications based on TP-UART 2.	SIEMENS (Distributed by Opternus)

Transceivers for Radio Frequency

Communication medium/ Model Number	Description	Company
RF/S2-LP	The RF S2-LP chip can be used without having to repeat the Tests in Volume 8/2/5 of the KNX Specifications, provided the supplier of the certified system stack used by you confirms that his system stack implemented on a certain µP platform was certified together with the RF S2-LP chip (in case of doubt, contact KNX). When using another µC in combination with the RF S2-LP chip or when you have designed your own system stack, the before mentioned tests have to be carried out and evaluated by KNX Association in the framework of a witness testing. KNX-RF S2-LP chip provides state-of the art power consumption figures (10mA @ +10dBm Tx & 7mA Rx currents) enabling battery powered applications.	STMicroelectronics

KNX Stack (for Analog/Digital Transceivers)

Communication medium/ Model Number	Description	Company
TPE-Stack	E-Stack ARM System Profile 2	Eelectron
TP/µPD78F053x BCU 2.5	The Renesas 78F microcontrollers already containing the BCU 2.5 system software compliant and certified to the KNX specification. In combination with the TP-UART, it is the ideal chipset for fast development of KNX applications. Package: 64-PIN-TQFP (fine pitch) 7x7mm	RENESAS (Distributed by Opternus)
TP/KAIlink-BIT	KAIlink-BIT is a driver for analog transceivers. KAIlink-BIT in combination with KAIphys represents a highly-efficient discrete solution for connecting to KNX TP that can easily be adapted to requirements. Usage of KAIlink-BIT allows low-cost KNX devices and opens a way to features like "More Energy from the Bus". With both link layer and upper physical layer located in the application's controller KAIlink-BIT utilizes 100% bandwidth for sending and achieves up to 100% bus load.	TAPKO Technologies
TP/KAIlink-UART	KAIlink-UART is a reliable driver for digital transceivers in digital mode that runs on almost every MCU. It is fully implemented in ANSI-C and independent of the target platform, with or without RTOS. KAIlink-UART is able to run in several instances. Two or more transceivers can be connected even in different modes. All hardware-dependent parts are isolated in a hardware abstraction layer. KAIlink-UART is fully interrupt-driven and supports the standard frame format as well as the extended frame format. KAIlink-UART also features functions like Link Layer mode, Bus Monitor mode and an adaptable address check.	TAPKO Technologies
RF/KAIlink-RF	KAIlink-RF is fully compatible with KAIstack. Providing KNX RF to KAIstack replaces KAIlink-BIT, KAIlink-UART and KAIlink-IP. KAIlink-RF supports two modes, KNX RF Ready for single frequency communication as well as KNX RF Multi for multi frequency communication. With use of the slow channels from RF Multi a bi-directional mode for battery powered devices is available. The Listen before Talk function suppresses collisions. KAIlink-RF runs on almost every microcontroller, is fully implemented in ANSI-C and independent of any target platform with or without RTOS.	TAPKO Technologies
RF/S2-LP Blue NRG-2	The combination of the ST BlueNRG-2 connected via SPI to ST S2-LP SubGHz transceiver has been certified by the manufacturer alongside. It is the ideal chipset to provide a certiofied KNX-RF solution together with BLE 5.0 2.4GHz Standard. This allows configuration and communication from a Mobile Phone with Bluetooth Low Energy to a KNX-RF infrastructure. An evaluation package to combine KNX-RF with BLE5.0 is availableat ST Microelectronics.	TAPKO Technologies
RF/S2-LP + Blue NRG-M2SA/ BlueNRG-M2SP	The combination of the ST BlueNRG-M2SA/BlueNRG-M2SA/BlueNRG-M2SP modules and the ST S2-LP SubGHz transceiverhas been certified by the manufacturer alongside. Also this is a certified KNX-RF solutiontogether with BLE 5.02.4GHz Standard. This allows configuration and communication from a Mobile Phone with Bluetooth Low Energy to a KNX-RF infrastructure. An evaluation package to combine KNX-RF with BLE5.0 is availableat ST Microelectronics.	TAPKO Technologies
RF/S2-LP + STM32	The combination of the STM32 in combination with the ST S2-LP SubGHz transceiver has been certified by the manufacturer alongside.	TAPKO Technologies

KNX Stack (for Analog/Digital Transceivers)

Communication medium/ Model Number	Description	Company
IP/KAIlink-IP	KAIlink-IP handles KNX devices over KNXnet/IP by medium Ethernet. It integrates the KNX protocol on top of the IP layer as an extension of KAIstack. With KAIlink-IP KNX devices of different KNX subnetworks may use the KNX IP network for Remote configuration, Remote operation and as Fast backbone for KNX installations. KAIlink-IP is implemented in portable ANSI-C. Therefore, it is easy to combine the KNXnet/IP core and the abstraction layer with a C++ environment for convenient use. KAIlink-IP on top of an IP stack provides platform specific interfaces for platform independent use.	TAPKO Technologies

Full KNX Stack for Twisted Pair, Radio Frequency and IP

Communication medium/ Model Number	Description	Company
TP / 0705	The KNX stack produced by the experience and knowledge of Bosmer. It has flexible structure, integration is simple and easy, based on system 0705 also allows access to TP physical media. Our KNX Stack offers suitable and comfortable use for KNX device manufacturers. And, also our KNX Stuck is economical and the best option for the new KNX developers. Our Stack is Certified by KNX, and we support all your needs with documentation and workshop.	Bosmer
TP, RF, System B	The KNX Stack solution from ise offers a certified System B Stack with modular design, allowing access to different physical media, like TP or RF. It is designed to work with 8 bit Microcontrollers with small footprint. It supports encrypted firmware update via ETS or stand-alone tools.	ISE
TP	MKFC System B KNX stack bases on latest KNX standard and supports all the functionality needed for KNX devices. It is designed on powerful 32-bit Microcontroller and with low cost STKNX chipset, which is a perfect balance among functionality, performance and cost. They are designed as KNX devices platform, not just a stack, but also drivers, RTOS, architecture. As the API is very simple and easy to use for application developers, it's incredible fast for new developers to develop KNX firmware for different devices, like switch actuators, dimmer, curtain actuators, cloud gateways etc. Most of the details are handled in the platform to save a lot of effort and time for developers, and they don't need to build the wheel again.	MKFC Ltd
TP/0705	The KNX stack from Nanjing Shufan Information Technology Co.,Ltd. is based on KNX Mask 0705. It can be used to develop KNX application devices, such as switch, dimmer, presence detector, etc. Because of the low cost, it's chipset suits for large scale production. On the other hand, based on the modularization programming method, this stack can be easily migrated to other MCU platforms. It can support the customer's special demands based on this property.	Nanjing Shufan Information Technology Co.,Ltd.

Full KNX Stack for Twisted Pair, Radio Frequency and IP

Communication medium/ Model Number	Description	Company
TP/BIM M13x	The bus interface modules are printed circuit boards consisting of the chipsets (TP-UART + KNX microcontroller) mounted with all necessary components. The BIM M13x series of bus interface modules provides state of the art flash technology; this enables the application designer to utilize modern tools leading to shorter development times. The application interface includes the PEI, Reset, two PWMs and one processor port. The BIM M13x modules contain the BCU 2.5 system software compliant to the KNX specification.	SIEMENS (Distributed by Opternus)
TP, RF, IP KAIstack	KAIstack KNX stack offers all the functionality needed for KNX devices. Due to modularity KAIstack can be configured according to individual needs. Its modular structure and high flexibility delivers the TAPKO stack an unique HW/SW-adaptability. KAIstack supports all KNX configuration modes as well as all KNX device models, can run independently or as a part of an operating system (RTOS, Linux, and PC) and the API enables easy KNX application development with all essential functionalities included. As KAIstack configuration changes do not affect an application or its development process configuration can be changed during application development without restrictions.	TAPKO Technologies
TP, RF, IP KAIstack EVA	KAIstack EVA board is realized in different versions and each is equipped with one of more than 100 MCUs available. For a few of these versions TAPKO offers free downloadable KAIstack demo software. KAIstack´s internal structure separates application-relevant parts, stack-internal parts, media-dependent parts and target/MCU-related parts. For every valid combination of MCU, device model, way of commissioning, and media driver the stack´s core stays the same. Porting to custom hardware platforms can easily be done. In a Microsoft Windows environment KAIstack´s flexibility even allows developers to generate the code for a desired target MCU at any time.	TAPKO Technologies
TP KNX Stack Classic (System 7)	KNX Stack Classic Development Solution System 7 - System software for KNX devices - Medium: Twisted Pair (TP) - Device model: 0705 - Up to 254 group objects - Up to 30kByte loadable memory – Optional: Loadable application code via ETS - Bus access: KNX UART Transceiver, Bit transceiver on request - API in 'C' language - ETS support - Certified by KNX Association - Development Hardware - Documentation & Training	WEINZIERL
TP, RF, IP KNX Stack NGS (System B)	KNX Stack NGS Development Solution System B - Designed for 32-bit micros - Core Pack KNX Stack for all media - Medium Access Packs for TP/RF/IP - Device model System B (e.g. 07B0 for TP) - Up to 65535 group objects (theoretical value) - Up to 1MByte loadable memory - Optional: Loadable application code via ETS - Bus access: KNX UART Transceiver, Bit transceiver on request - API in 'C' language - Software tools Net'n Node / TraceMon - Including kScript Tool to generate application framework and ETS entry (XML configuration for KNX MT) - Certified by KNX Association - Development Hardware - Documentation & Training	WEINZIERL

Modules for Twisted Pair, Radio Frequency and IP

Communication medium/ Model Number	Description	Company
TP/KNX to SERIAL	Serial interface	Eelectron
TP/RPI – KNX Interface	Raspberry Pi interface	Eelectron
TP/KNX Programmable	Programming the application in C# and VB.Net. Up to 64 KNX communication objects. IP and USB connection with third-party devices. For the latest version of ETS4 or ETS5.	ISE
RF/RF Module	System B stack supporting many different I/O features.	ISE
TP/SIM-KNX	The SIM-KNX is an easy-to-use interface to the KNX. The access to the KNX is realized as a serial ASCII protocol. The SIM-KNX consists of a micro controller with galvanic isolation. It contains the complete certified KNX communication system and conversion to the data formats used on KNX. This module is designed to connect a controller or other devices to the KNX. Due to its design it is also applicable for small and mid-range quantities.	TAPKO Technologies (Distributed by Opternus)
TP/KIMaip	KIMaip is an easy-to-use Interface Module for connecting to the KNX. Access to the KIMaip module from your application controller is achieved via I2C bus. KIMaip consists of a microcontroller running the certified KNX communication stack KAIstack and the high performance KNX interface to the KNX bus – KAIphys. This design enables direct usage of the high power supply from the bus.	TAPKO Technologies (Distributed by Opternus)
TP/USB-Module	TAPKO's USB Interface Module enables a galvanic isolated bi-directional connection between KNX TP bus system and PC without requirement for an extra application program or a specific USB driver. Any software based on FALCON (ETS, EITT) can communicate with the KNX bus devices connected via flexible common EMI protocol (cEMI). The bus device access can be used for commissioning, addressing, setting of parameters, visualization, protocolling and diagnostic functions. The USB Interface Module supports long telegrams as well as Raw Frames.	TAPKO Technologies
RF/RF-Module	TAPKO's KNX RF Module containing KAIstack was first standard RF module in KNX history with the ability to configure KNX RF devices by ETS. Without any adaptation applications realized for KNX TP can be used also on the KNX RF medium. Even battery powered RF solutions are possible this way. So, with KAIstack providing all necessary features for support of low-power modes energy sensitive applications (battery powered, energy harvesting) can easily be developed for the RF medium.	TAPKO Technologies
TP/KNX BAOS Module 830	The KNX BAOS Module 830 serves as a serial interface to KNX. BAOS stands for "Bus Access and Object Server". The module allows the access to the KNX bus on telegram level (KNX Link Layer) as well as on data point level (KNX Application Layer). The connection between application and KNX BAOS Module is established via a UART connection (FT1.2 framing). The module can be used to easily develop KNX devices (e. g. sensor, actuator or gateway) with low investment. It Is also an option to add KNX connectivity to existing devices with limited development effort. For a quick start a generic ETS entry with 1000 group objects is available. Individual ETS entries can be created as well. The KNX BAOS Module 830 is powered via the bus and provides galvanic isolation.	WEINZIERL
TP/KNX BAOS Module 832	As KNX BAOS Module 830 but without galvanic isolation. The Module provides a power output for the application.	WEINZIERL

Modules for Twisted Pair, Radio Frequency and IP

Communication medium/ Model Number	Description	Company
TP/KNX BAOS Module 838 kBerry	The KNX BAOS Module 838 kBerry is an extension board for the Raspberry PI® single-board computer. It can be plugged directly on the Raspberry board and is fully compatible with the KNX BAOS Module 830. A free SDK (Software development kit) for Raspian is available at www.weinzierl.de	WEINZIERL
RF/KNX BAOS Module 840	As KNX BAOS Module 840 provides the proven BAOS architecture now for KNX RF. As the TP version the KNX BAOS Module 840 supports up to 1000 group objects and can be configured using ETS. The BAOS protocol is unchanged. So applications for BAOS TP can be used very easy wireless.	WEINZIERL
TP, RF/KNX BAOS Starter Kit	The new Weinzierl KNX BAOS Starter Kit allows a quick start into KNX development. The development board provides a socket for the BAOS Modules and contains a user programmable micro (Cortex M0+) for the application as well as some connectors, LED and buttons for development purpose.The KNX BAOS Starter Kit for TP contains: one development board, one KNX BAOS 830 module, one KNX BAOS 832 module, one USB cable A/B (micro) and Development software (via download).	WEINZIERL

DEVELOPMENT OF AN ETS APP OR DCA

An ETS APP is a project design or diagnostic extension to the ETS tool, where an ETS DCA (Device Configuration App) is a product specific configuration extension to ETS. In both cases, only KNX members are able to start a development. Once an appropriate agreement has been signed, the KNX member gets access to the ETS APP development documentation and an administrator account in MyKNX. When the development of the ETS APP is finalized and has been checked via the ETS APP Validation Tool, the APP needs to be validated by KNX Association before it can be sold on the market, however at least via MyKNX. The documentation for ETS DCA development is contained in the KNX Manufacturer Tool. Developed ETS DCAs need to go through the same validation process as normal ETS Apps.

OEM SUPPLIERS

Known as "derived" in the KNX industry, OEM is an excellent approach to speed up the process to the market. OEM providers in KNX offer fully certified KNX devices that can be rebranded with another KNX Member brand, whilst maintaining the KNX certified status. Download OEM brochure "https://www.knx.org/wAssets/docs/downloads/ Marketing/Flyers/KNX-Development-OEM-Devices/KNX-Development-OEM-Devices_en.pdf"
KNX Members that opt for this solution must have Licensee or Shareholder membership type so that they can request the Manufacturer Code. Below, a sponsored list of OEM providers in the market:

Company	Link
Tapko Technologies GmbH	www.tapko.de/products
Guangzhou Video-Star Intelligent Corp., Ltd	http://www.gvssmart.com/index.php?c=article&a=type&tid=33
An updated list and the specific OEM brochure can be found here: www.knx.org/knx-en/for-manufacturers/development/oem-devices	

KNX

Smart home and building solutions.
Global. Secure. Connected.

Join **us**
www.knx.org