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Summary

This document provides a general glossary to the KNX Specifications.

Version 01.04.00 is a KNX Approved Standard.

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Document updates

Version	Date	Modifications
1.0	2001.03.28	Approved Standard.
1.1	2008.12.12	Editorial update.
1.1.01	2009.11.06	- Update with "Differential download" - AN118 "cEMI Transport Layer" : added "cEMI Transport Layer" and "cEMI Transport Layer Services"
	2010.07.15	- Included "HMI" of AN112.
1.1.02	2010.07.22	- AN117 "KNX Communication Medium" integrated.
1.1.03	2010.10.19	- AN127 "Master Reset" integrated.
1.1.04	2011.09.15	- AN134 "Flexible E-Mode Channels" integrated.
		- Included "TP-UART".
1.1.05	2011.09.28	- Added and clarified MSB, msb, LSB and lsb.
01.03.00	2012.09.10	- Revision of the integration of AN127 "Master Reset" according the updated AN127 "Master Reset" v05.
01.04.00	2013.10.23	- AN153 "Mask 0912h Property based configuration" integrated.
		- Editorial review in view of publication in the KNX Specifications v2.1.

References

- [01] Volume 6 "Profiles"
- [02] Volume 4: "KNX Hardware Requirements and Tests"
- [03] Volume 9 "Basic and System Components/Devices – Minimum Requirements – Standardised solutions - Tests KNX System Conformance Testing"
- [04] Part 9/4 "BCUs and BIMs"

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1 Glossary

Term	Definition
ack_request	Service parameter informing the Data Link Layer on the required L2-service acknowledgement when transmitting a <i>Frame</i> .
Address	Number or name used for identifying entities in a KNX installation (devices, group of devices, <i>Shared Variable</i> , <i>Interface Object</i>). See also: <i>Group Address</i> , <i>Individual Address</i>
Adjusted E-Mode Channel	This opposes to a Fixed E-Mode Channel. The definition of the available Group Objects and Parameters depends on the value of the <i>Adjustable Parameter</i> . See also: <i>Adjusted E-Mode Channel</i> , <i>Basic E-Mode Channel</i> , <i>Ctrl FEC</i> , <i>Ctrl SEC</i> , <i>E-Mode Channel</i> , <i>Extended E-Mode Channel</i> , <i>Fixed E-Mode Channel</i> , <i>Flexible E-Mode Channel</i> , <i>PB FEC</i> , <i>PB SEC</i>
Application	An Application uses a set of functions to satisfy one user need. An application is modelled as of one or more <i>Functional Blocks</i> and covers one task within an <i>Application Domain</i> . EXAMPLE In the HVAC Application Domain : direct electrical heating, electrical heating with accumulators, warm water heating, fan coil air-conditioning ...
Application Domain	Set of applications characterised by a common know-how, market regulation, expertise... EXAMPLE HVAC, lighting, security of goods, security of people, domestic hot water, white goods ...
Application Interface Object	An <i>Interface Object</i> related to a user set of functions of a device. EXAMPLE For storing and accessing the Parameters of a sensor application. See also: <i>System Interface Object</i>
Application Model	Specification of the agreed solution for an <i>Application</i> in terms of <i>Functional Blocks</i> , <i>Datapoints</i> and the links between them.
Application Modelling	The process of analysing an <i>Application</i> , deciding on the common solution and specifying and agreeing on the model in terms of <i>Functional Blocks</i> , <i>Datapoints</i> and <i>Datapoint Types</i> .
Application Module (AM)	That part of a modular KNX device that can be separated from the <i>Bus Coupling Unit</i> . The Application Module typically determines the function of the KNX device, i.e. whether it is a sensor (application module is e.g. a push button) or actuator (application module is e.g. a relay).
Application Process	An element within an installation (this is, in a device) that performs information processing for a particular application. The Application Process ensures the operations needed to execute the application.

Term	Definition
Application Product	Is the combination of an <i>Application Module</i> , a <i>Bus Access Unit</i> and an Application Program. In some cases two or more of these parts constitute one unit, which can not be divided in the above mentioned components (e.g. preloaded Application Programs in a KNX product, of which the Application Module can not be separated from the BAU).
Application Profile	Grouping and distribution of functions over several devices: defines Functional Blocks grouping, and their external interfaces.
Application Program	Functionality (software) in a KNX device that realises its <i>Application</i> functions. It typically bases on API-functions for controlling hardware inputs and outputs, to use <i>Group Objects</i> and <i>Interface Objects</i> to interface to the KNX communication system. In S-Mode, the Application Program is typically downloaded by means of ETS.
Application Reference	Local reference for the <i>Application Process</i> , e.g. identification of a Group Object.
Application Specification	A complementary volume for a given application. Its objective is to ensure KNX Interworking on basic functions subject to agreement, keeping the possibility for inventive enhancements on internal or complementary issues.
Area	A <i>Main Line</i> and all connected <i>Lines</i> .
Backbone Coupler	<i>Router</i> for connecting a <i>Main Line</i> to a <i>Backbone Line</i> of the same Physical Layer Type.
Backbone Line	The Backbone Line is the <i>Subnetwork</i> of the first level. In the three-level topology the Backbone Line shall be the <i>Subnetwork</i> connecting the <i>Primary Sides</i> of the <i>Backbone Couplers</i> .
Basic E-Mode Channel	Specification of the minimal, mandatory Functional Blocks and Datapoints thereof that compose an E-Mode Channel. NOTE 1 The Basic E-Mode Channel gives the Channel Code to the Extended E-Mode Channel. See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
Basic Restart	The feature of the KNX device to be able to receive an A_Restart-PDU and restart the communication stack of the device or the entire device. NOTE 2 In more complex devices, the microprocessor is not reset if an A_Restart is handled. See also: <i>Master Reset</i>
BiBat device	A BiBat device shall be either <ul style="list-style-type: none"> - a <i>BiBat Master</i>, a <i>BiBat Slave</i> or a <i>BiBat Retransmitters</i>, or - a <i>BiBat device with long header</i> (Bidirectional RF alarm sensor), or - a <i>BiBat device expecting feedback to own action</i>.

Term	Definition
BiBat device with long header	<p>A BiBat device with long header shall emit its (rare) alarm telegrams with a 3,5 s header, thus allowing not only mains powered BiBat Masters but also battery driven receivers with a wake-up period of $< 3,4$ s. A BiBat device with long header shall implement such a wake-up period of $\leq 3,4$ s. In addition they may optionally use synchronized communication with a BiBat Master according to the methods of synchronous BiBat Slaves.</p> <p>SYNONYM Bidirectional RF alarm sensors</p>
BiBat Master	<p>The BiBat Master shall be part of in a <i>Synchronous BiBat System</i>. It shall be is a bidirectional RF device with permanent reception capability that shall be able to transmit synchronous RF frames for the communication with the BiBat devices of its domain. In addition it shall support all asynchronous communication of the standard KNX RF.</p>
BiBat Slave	<p>A BiBat Slave shall be a device that shall support bidirectional RF communication. It shall be able to receive <i>synchronous RF frames</i> in receive windows from a <i>BiBat Master</i> and shall be able to resynchronise its internal clock and hence the position of its receive windows.</p>
BiBat Slave expecting feedback to own action	<p>A <i>BiBat Slave expecting feedback to own action</i> asynchronously (not periodically but rarely i.e. activated by human interaction or an alarm) sends a telegram to a mains powered BiBat Master. It expects a fast (typically < 100 ms) asynchronous Data Link Layer acknowledge from its BiBat Master. In addition status information may be transmitted to the initiating BiBat Slave and to other components of the application using the standard principles of synchronous BiBat Slaves.</p>
Bridge	<p><i>System Device</i> interconnecting two (physical) Segments. A Bridge will forward any frame from one Segment to another, respecting the rules of the Data Link Layer.</p> <p>SYNONYM TP1 Bridge</p>
Broadcast Address	<p>Group Address 0000h used for the Broadcast <i>Communication Service</i>.</p>
Bus Access Unit (BAU)	<p>A Bus Access Unit is a part of a KNX device containing electronics and stack for its KNX communication and complying with at least the minimum requirements as laid down in [01] as regards implemented KNX protocol stack and agreed Physical Layer.</p>
Bus Coupling Unit (BCU)	<p>A Bus Coupling Unit is a standardised <i>Bus Access Unit</i>.</p> <p>See also: <i>Bus Access Unit</i></p>
Bus Device Under Test (BDUT)	<p>The combination of hardware (in standardisation normally referred to as DUT or EUT) and software (in standardisation normally called SUT or IUT).</p>
Bus Interface Module (BIM)	<p>A Bus Interface Module is a standardised <i>Bus Access Unit</i>.</p>
cEMI Transport Layer	<p>Transport Layer instance provided by a cEMI Server and accessible via cEMI Transport Layer services.</p>

Term	Definition
cEMI Transport Layer services	Transport Layer services provided by the cEMI Transport Layer.
Certifiable Product	Product for which requirements and tests have been laid down in the KNX Specifications.
Certified KNX Product	<p>A product that conforms to the KNX Specifications minimum requirements and has successfully passed the KNX Association Conformance Assessment. As a consequence it may bear the KNX logo. Such a product may either be an <i>Application Product</i>, a Basic - or System Component or a software (tool or similar).</p> <p>A certified Basic - and or System Component or Device may or may not comply with the KNX standardised features as laid down in the KNX Specifications [03]. These standardised features are optional for certification: if implemented, the features however have to follow the regulations of the KNX Specifications. Both the standardised as well as the non-standardised solution may bear the KNX logo, provided in both cases at least the minimum are fulfilled (for more information see [03]).</p>
Channel Code	<p>Globally defined identifier for a given type of E-Mode Channel.</p> <p>EXAMPLE Dimmer</p>
Chapter	<p>Subdivision of a Part</p> <p>EXAMPLE Chapter 3/2/2 specifies the KNX Twisted Pair 1 Communication Medium.</p>
Client	Application Process using application-specific services offered by a <i>Server</i> .
Client/Server Model	<p>Messaging Model using <i>Interface Objects</i>.</p> <p>In this model each object belongs to the relevant application process of one given device and is accessed by / provided to remote processes.</p>
Coexistence	Absence of unwanted interference of a device with other devices
Communication Mode	<p>Kind of object on which the communication relies.</p> <p>See also: <i>Group Objects, Application Interface Objects, System Interface Objects</i></p>
Communication Process	A process providing reliable communication facilities between the devices.
Communication Profile	<p>A consistent set of communication features supported by devices. Intended for runtime Interworking in a given Profile.</p> <p>See also: <i>Configuration Profile; Device Profile</i></p>
Communication Service	<p>A global service provided by the <i>Communication Process</i> to transfer <i>Messages</i>. There are services for:</p> <ul style="list-style-type: none"> - group communication - broadcast communication - point-to-point connectless- and connection-oriented communication - TP1 Fast Polling

Term	Definition
Compatibility	This word is ambiguous, it may be applied to any of the words Coexistence, Exchangeability, Interworking, Interoperability, Compatibility. It therefore should not be used
Complex Network	Network where the hierarchical addressing is possible, under full control of a professional installer. See also: <i>Simple Network</i>
Configuration	Operation : Establish links and set some functional parameters between channels of devices that co-operate to provide a given system function.
Configuration Controller	Controller that configures the links between Devices, Channels, Functional Blocks or Datapoints.
Configuration Interworking	Ability to set up links and parameters on two or more devices so that they achieve afterwards Runtime Interworking. See also: <i>Runtime Interworking</i>
Configuration Mode	A way to configure a system.A specification describes, for each Configuration Mode: <ul style="list-style-type: none"> – the specific ways to use the standard communication features – the process and usage of relevant network management services.
Configuration Profile	List of requirements for devices concerning configuration. See also: <i>Communication Profile, Device Profile</i>
Configurator	Configuration function whose role is to establish the link between device's channels, according to the inputs of the installer. The function is hosted in a <i>Configuration Controller</i> .
Connection Code	Globally defined identifier assigned to Datapoints in E-Mode that can be linked together. EXAMPLE Blinds_Move
Coupler	A Coupler can be a <i>Router</i> or a <i>Bridge</i> .
Ctrl FEC	The name of the Profile for the Controller Mode with Flexible E-Mode Channels. See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
Ctrl SEC	The name of the Profile for the Controller Mode with Static E-Mode Channels.  <i>This term replaces the indication "Ctrl-Mode".</i> See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
Datagram	Full sequence of elements (physical symbols) transmitted by a device as such transporting a frame on the medium.

Term	Definition
Datapoint	<p>A Datapoint is any interface over which data in the <i>Functional Block</i> can be set or received and/or transmitted (for its run-time operation).</p> <p>A Datapoint can be</p> <ul style="list-style-type: none"> - an Input, - an Output, - a Parameter - a Status of Diagnostic Value <p>and can be implemented as</p> <ul style="list-style-type: none"> - <i>Group Object</i> - <i>Interface Object</i> - memory mapped value or - TP1 Fast Polling Value.
Datapoint Type	The specification of format, encoding, range and unit for Datapoints.
Derived Certificate	<p>Certificate granted to a KNX Association member company or licensee, who markets a product under his own brand name for which a main certificate already exists.</p> <p>See also: <i>Main Certificate</i></p>
Descriptor Type	The value of the field <code>descriptor_type</code> in the <code>A_DeviceDescriptor_Read-PDU</code> and the <code>A_DeviceDescriptor_Response-PDU</code> .
Destination Address	The field in the KNX telegram that contains the Group Address or Individual Address indicating to which device(s) the frame is sent.
Device	The physical element which will be attached to the network. It is a physical, concrete object that a customer can buy. Devices provide different functions to the system for each distributed application. So it contains one or more Functional Blocks.
Device Address	Part of the <i>Individual Address</i> identifying a device in one <i>Subnetwork</i> . Depending on the <i>Configuration Mode</i> , the Device Address shall be unique within a <i>Subnetwork</i> . It is a one octet value.
Device Descriptor	The value of the field <code>device_descriptor</code> in the <code>A_DeviceDescriptor_Response-PDU</code> .
device localisation action	<p>This shall be an action performed by the device and that should be observable by a human and is further implementation dependent. It may be</p> <ul style="list-style-type: none"> - a single short action, or <p>EXAMPLE 1 A relay may close and open again.</p> <ul style="list-style-type: none"> - a continuous state, or <p>EXAMPLE 2 An LED may flash.</p> <ul style="list-style-type: none"> - a repeated action, or <p>EXAMPLE 3 A signal tone may be given periodically.</p> <ul style="list-style-type: none"> - any implementation specific action.

Term	Definition
Device Profile	Standardised set of features of a device required for configuration and runtime interworking. It consists of <ul style="list-style-type: none"> - a <i>Communication Profile</i>, and - a <i>Configuration Profile</i>.
Differential Download	Optimisation of the Configuration Procedure in S-Mode, in which only the data is downloaded that is assumed to differ between the current contents and the intended contents after download. NOTE 3 To this purpose, the Management Client may for instance hold a memory image of a preceding download, which it compares with a new memory image (new parameters, links...) to decide on which data to write in the device.
Domain	Logical Network on open media.(in a network with several media, part of the network on one given open medium).
Domain Address	Address of a Domain on open media. Identifies one Logical Network, so insulated from neighbouring networks.
Easy Configuration Mode (= Easy Mode- (= E-Mode)	This is a <i>Configuration Mode</i> requiring only a limited number of simple manual operations, possibly using a (electronic) "screwdriver", and with limited cost. Higher complexity is reached by switching to the <i>Configuration Mode</i> "System Mode" (= S-Mode). See also: <i>System Configuration Mode</i>
E-Mode Channel	An independent functional part of device containing a standardised combination of one or more <i>Functional Blocks</i> . EXAMPLE A 4 fold binary input has 4 channels. See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
Engineering Tool Environment Components (EteC)	A standard set of components and Application Programmer's interfaces for KNX PC software engineering.
Engineering Tool Software (ETS)	Removable tool used for planning and commissioning KNX installations, supporting all KNX approved media. It contains a standard database of device description files and application programs SYNONYM System Tool
eteC Repository	Collection of templates of KNX products and applications, which may be used in ETS projects, currently stored in a database.
ETS Catalog Entry	A catalogue entry in the ETS Window 'Product Sets' groups the commercial data of a product defined in the ETeC repository and is symbolised by a booklet. A catalogue entry is linked to a product: the latter does not contain any commercial information. A product is symbolised by an agreed product symbol. Many catalogue entries, i.e. many commercial variations may be attributed to one product if all these variations belong to a same product group.


Term	Definition
Exchangeability	<p>Possibility for one product to fully replace another product (which may be from another manufacturer) and to provide all the same functionality. Full exchangeability is difficult to achieve, because it requires an exhaustive definitions of the products and does not enable the manufacturers to distinguish their products from the other's. Exchangeability is not the target of KNX.</p>
Extended E-Mode Channel	<p>Specification of a Basic E-Mode Channel extended with possible (allowed) additional, optional extensions that are implemented.</p> <p>NOTE 4 An Extended E-Mode Channel does not have an own unique Channel Code. It has the Channel Code of its Basic E-Mode Channel. Two or more implementations of the same Extended E-Mode Channels, differing in their implemented set of optional features will still have the same E-Mode Channel Code.</p> <p>See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i></p>
External Message Interface (EMI)	<p>The External Message Interface provides a generic message interface to each KNX OSI stack protocol layer. This optional interface is defined to enable generic solutions for configuration tools or modular devices.</p>
Fixed E-Mode Channel	<p>This opposed to an Adjusted E-Mode Channel. The definition of the available Group Objects and Parameters is fixed.</p> <p>See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i></p>
Flexible E-Mode Channel	<p>The possibility to specify and implement optional functionality (Group Objects, Parameters) in E-Mode Channels.</p> <p>See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i></p>
Frame	<p>Sequence of octets exchanged between Data Link Layer instances over the medium or media. It contains all information needed to ensure the exchange.</p> <p>SYNONYM LPDU.</p>
Function	<p>A self-contained part that describes part of the behaviour of a <i>Functional Block</i> and that is not standardized.</p> <p>EXAMPLE logical and arithmetic functionals, morning boost, read outside temperature</p>
Functional Block	<p>Consists of one or more <i>Functions</i> that belong together and that can not be separated across two devices but big enough that a device with only one such Functional Block could be marketed. A Functional Block has a well-defined black-box behaviour.</p> <p>EXAMPLE boiler controller, room demand manager, demand transformer.</p>
Functional Safety	<p>Those issues, specific to an Application Domain, and which come in addition to, or as a precision to the general HBES functional safety requirements (see CLC TC205 documents) and the normal product functional safety requirements (see the relevant product standards).</p>

Term	Definition
Gateway	Device interconnecting a KNX network with an external network, on top of Application Interface Layer.
Group Address	The Group Address identifies one or several entities in the network (one <i>Shared Variable</i> or several devices). It is a two octet value. A device may have/know more than one Group Address. Group Addresses are defined globally for the whole network. However the specification allows local and global Group Addresses by defining in each frame the maximum number of <i>Routers</i> to be crossed.
Group Address Table	This table contains each <i>Group Address</i> known by a Device. It enables to a <i>Group Address</i> to be converted into a local <i>Group Index</i> and vice versa.
Group Association Table (GrAT)	This table enables a <i>Group Index</i> to be converted into a local <i>Application Reference</i> and vice versa.
Group Index	Abstract internal reference of a communication relationship. Enables to build indirection's between <i>Group Addresses</i> or <i>Individual Addresses</i> and <i>Application References</i> .
Group Object	Local image in the device of a <i>Shared Variable</i> available in the installation. EXAMPLE light_level in room x
Group Object Handle	A handle for accessing <i>Group Objects</i> in point-to-point communication via the Property PID_OBJECT_VALUE.
Hop Count	Service Parameter indicating to the Network Layer how many <i>Subnetworks</i> the message is allowed to pass. Its use is to prevent endless circulation of messages in case of incorrectly configured installations.
Identifier (Id)	Global identification in the KNX System of a given feature. EXAMPLE Every standard Interface Object is assigned a unique Identifier, the Object Type. Object Type 320 for instance uniquely identifies the Functional Block modelling the Outside Temperature Sensor.
Index (Idx)	Local identification in a device of a feature in an ordered list. EXAMPLES an element in an array, Interface Object index in the list of Interface Objects of a device
Individual Address	Address of a given Device in an installation. The Individual Address is a two octet value that consists of an eight bit <i>Subnetwork Address</i> and an eight bit <i>Device Address</i> . If the <i>Device Address</i> is unique, then also the Individual Address will be unique in the installation.
Installed system	A set of distributed applications and the underlying communication infrastructure. It is made of several devices linked by a medium (with or without cabling).

Term	Definition
Interface Object	<p>An implementation of a standard model for accessing data in a device, using dedicated Application Layer services and independently of the device specific storage. Interface Objects are handled by the Interface Object Server in the Application Interface Layer. An Interface Object contains one or more Properties.</p> <p>See also: <i>Application Interface Object, System Interface Object, Property</i></p>
Interoperability (of communication)	<p>Capability of a device, in conformance with a set of standards, to communicate with other devices.</p> <p>See also: <i>Interworking, Exchangeability</i></p>
KNX	KNX provides one consistent system for applications in the home and buildings, from residential home to tertiary buildings.
KNX Basic and System Components/Devices	<p>These are products of which the features are explicitly laid down in the KNX Specifications.</p> <p>Some of these features are standardised (see [03]), of which compliance is optional for certification.</p> <p>As basic and system components/devices constitute the core of the KNX system, they shall comply with the hardware requirements as laid down in [02].</p>
KNX Basic Components/Devices	<p>A KNX product without communication relevant part.</p> <p>The following basic components are defined:</p> <p>TP Cable, several connector types (DIN rail contact block, bus interface connection block (for BCU), PEI, data rail to wire connector, ...), TP data rail (cover), TP overvoltage protector, TP power supply unit, TP choke, PL filter, PL phase coupler.</p>
KNX IP	Usage of the Internet Protocol as a KNX communication medium.
KNX IP device	<p>A KNX device using the Internet Protocol as the only KNX Communication Medium.</p> <p>NOTE 5 A KNXnet/IP Tunnelling Server and a KNXnet/IP Router are no KNX IP devices.</p>
KNX Serial Number	<p>The KNX Serial Number (or Unique Code), is a globally unique identifier, programmed at manufacture, used to distinguish devices. The <i>KNX Serial Number</i> is exactly 6 octets. First two octets are the Manufacturer's Code.</p>
KNX Specification	Specification of the KNX System.
KNX System	The KNX System provides a generic means for the exchange of messages between distributed functions of one or more applications.
KNX System Components	<p>A KNX product with a communication relevant part enabling connection of an application part (as specified in) is considered a KNX system component.</p> <p>EXAMPLE BCU UP TP/PL, BCU AP/GE TP/PL, BCU N TP/PL, standardised Bus Interface Modules</p>

Term	Definition
KNX Tools	Software packages such as visualisation and control software, planning and configuration tools and test tools.
KNXnet/IP Client	An application that implements the KNXnet/IP Client protocol to get access to a KNX Subnetwork over an IP network channel.
KNXnet/IP Router	A dedicated type of KNXnet/IP device that routes KNX protocol packets between KNX Subnetworks.
KNXnet/IP Server	A KNX device that has physical access to a KNX network and implements the KNXnet/IP Server protocol to communicate with KNXnet/IP Client or other KNXnet/IP Servers (in case of KNXnet/IP Routing) on an IP network channel. A KNXnet/IP Server is by design always also a KNX node.
Layer	Subdivision of the OSI Architecture, that hierarchically structures a communication system into several layers.
Line (Logical)	The Line is the Subnetwork of third level. The Line shall serve to connect the <i>Secondary Side</i> of one <i>Line Couplers</i> . One or more <i>Bridges</i> may be present on a Line. See also: <i>Main Line</i> ; <i>Backbone Line</i>
Line (Physical)	The physical medium carrying the data exchange and power feed services. A Line may be physically subdivided into several (physical) <i>Segments</i> , interconnected by <i>Bridges</i> or <i>Repeaters</i> .
Line Coupler	<i>Router</i> for connecting a <i>Line</i> to a <i>Main Line</i> of the same Physical Layer Type.
Logical Tag	Logical number given to one or more devices. Depending on the value, it corresponds to a zone number (which may be functional, geographical...) or to an <i>Individual Address</i> . Correspondence rules are standardized.
Main Certificate	Certificate granted to a KNX Association member company or licensee, who was responsible for the development of a KNX compatible product and applied to have it certified by the KNX Association. See also: <i>Derived Certificate</i>
Main Line	The Main Line is the Subnetwork of the second level. In the three-level topology the Main Line shall serve to connect to the <i>Primary Sides</i> of one or more <i>Line Couplers</i> and to the <i>Secondary Side</i> of one <i>Backbone Coupler</i> . See also: <i>Line</i> , <i>Backbone Line</i>
Mains	The low voltage electricity distribution network of 230 V/50 Hz.
Manufacturer's code	Global identifier assigned to a manufacturer. Manufacturer's codes are administered by the KNX Association. The Manufacturer's code is made of 2 octets.

Term	Definition
Mask Version	<p>Identification of an implementation, for operation like download, memory_write ... (dedicated operations themselves are out of the scope of the specification).</p> <p>In particular, the Mask Version is read through a dedicated Application Layer service by the S-Mode Management Client (<i>ETS</i>) to conclude on the <i>Configuration Profile</i> of the device and on possible further discovery and configuration steps.</p> <p>SYNONYM: Device Descriptor Type 0</p>
Master Product	<p>The Master Product is a product selected by the manufacturer out of a product group. Only this product is submitted to the required conformance tests. However, the results of these tests are applicable for all the other members of the group.</p>
Master Reset	<p>The feature of the KNX device that assumes the support of the Basic Restart and additionally at least one of the following features.</p> <ul style="list-style-type: none"> - Reset of the device to its ex-factory state. - Reset of the IA to the default, medium dependent IA. - Reset of all GO-links (Group Addresses, Associations), possibly per application channel. - Reset of the application to the default application. - Reset of the Application Parameters to their default value, possibly per application channel. <p>See also: <i>Basic Restart</i></p>
Media Coupler	<p>Router for connecting two <i>Subnetworks</i> of different Physical Layer types.</p> <p>See also: <i>Router, Transparant Media Coupler</i></p>
Member of Product Group	<p>All products of a product group including the master product.</p>
Message	<p>Data exchanged between two adjacent layers - say (N+1)-layer and (N)-layer in the OSI communication model.</p>
Messaging Model	<p>A way to define the distribution of information in the system for one given application, and corresponding types of communication exchanges.</p> <p>Used messaging models are:</p> <ul style="list-style-type: none"> - <i>Shared Variable</i> - <i>Client/Server</i>
Network	<p>The Network is made of 1 or several logical <i>Subnetworks</i>, interconnected through <i>Routers</i>.</p>
Non-certifiable Product	<p>A product for which requirements and tests are <u>not</u> defined in the KNX Specifications (e.g. peripheral devices such as infrared remote transmitter) at the time of application for certification. As a consequence, they may not be branded with the KNX logo.</p>

Term	Definition
Non-selective Data Link Layer acknowledge	Acknowledge by the Data Link Layer upon reception of <ul style="list-style-type: none"> – an L_Data-PDU in multicast communication mode irrespective of whether the destination Standard Mode <i>Group Address</i> is contained in the <i>Group Address Table</i> of the receiver, or – an L_Data_Extended-PDU in multicast communication mode irrespective of whether the destination standard mode <i>Group Address</i> is contained in the <i>Group Address Table</i> of the receiver or is an LTE-HEE Group Address that addresses a zone assigned to the receiving device.
Octet Count	Service parameter defining number of significant octets in a APDU.
OSI model	Open Systems Interconnection Reference Model (OSI Model or OSI Reference Model for short) is a layered abstract description for communications and network protocol design. Standardized by the International Standards Organization ISO.
Part	Subdivision of a Volume of the KNX Specifications. EXAMPLE Part 3/2 contains several Chapters specifying the KNX Communication Media.
PB FEC	The name of the Profile for the Push Button Mode with Flexible E-Mode Channels. See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
PB SEC	The name of the Profile for the Push Button Mode with Static E-Mode Channels.  This term replaces the indication PB-Mode. See also: <i>Adjusted E-Mode Channel, Basic E-Mode Channel, Ctrl FEC, Ctrl SEC, E-Mode Channel, Extended E-Mode Channel, Fixed E-Mode Channel, Flexible E-Mode Channel, PB FEC, PB SEC</i>
Physical External Interface (PEI)	Optional standardised interface between a <i>Bus Access Unit</i> and an <i>Application Module</i> .
Primary side of a Coupler	In the TP1 three-level topology, if the <i>Coupler</i> is configured as a <i>Line Coupler</i> , this is the <i>Main Line</i> . In case the <i>Coupler</i> is configured as a <i>Backbone Coupler</i> , this is the <i>Backbone Line</i> . In case the <i>Coupler</i> is configured as a <i>Bridge</i> , this is the part of the <i>Line</i> containing other <i>Couplers</i> and possibly other devices. See also: <i>Coupler, Router, Secondary side of a Coupler</i>
Priority	Service Parameter defining different priority levels for transmitting a <i>frame</i> . The priority level is encoded in the <i>frame</i> , and attained (or not) in a specific way for each medium.
Product	Any device, component or tool that is connected to the KNX network (whether or not with communication relevant parts). A way to define the distribution of information in the system for one given application, and corresponding types of communication exchanges.

Term	Definition
Product Group	The collection of all products for which the KNX Association requirements apply in the same way and give the same result during conformance assessment.
Property (of an Interface Object)	<p>Addressable object representing one aspect of an internal object. The Property is an addressable part of an <i>Interface Object</i>.</p> <p>The Property consists of the Property Description and the actual Property Value.</p> <p>EXAMPLE A Property containing the Object Type, a Property containing a setpoint value of some control</p>
Protocol Data Unit (PDU)	<p>Sequence of an integral number, N, of octets numbered O_0 through O_{N-1}. Each octet may be viewed in turn as a sequence of eight bits numbered b_7 through b_0. Throughout this document O_i is shown to the left of O_{i+1} and b_j to the left of b_{j-1}. In one octet, b_7 is the most significant bit (MSB), b_0 the least significant one (LSB).</p> <p>On the physical medium, the bit order in each octet is medium dependent.</p>
Quality Of Service	Set of service parameters specifying the quality level to be reached when transmitting a frame. Includes the <i>Priority</i> parameter.
Re-assessment	Procedure that is applied when modifications are carried out to an already certified product (be it main or derived).
Repeater	<p>System Device interconnecting two <i>Segments</i>. A Repeater will forward every physical symbol from one segment to another.</p> <p>See also: <i>TP1 Repeater</i></p>
RF chip	A chip tick shall be the basic time unit of the RF synchronous system. Its duration is 1/32 768 s (approx. 30,5 µs). This shall also be the basic RF chip rate of any KNX RF system.
Router	<p>System Device interconnecting two <i>Subnetworks</i>. A Router will forward a <i>Frame</i> from one <i>Subnetwork</i> to another depending on the <i>Destination Address</i> and position of devices in the network.</p> <p>A Router can be either a Line Coupler or a Backbone Coupler</p> <p>See also: <i>Transparent Media Coupler</i></p>
Runtime Interworking	<p>Capability of a product, in conformance with a set of standards, to communicate with other products and to properly operate their intended functions or properly respond to their stimuli according to the application specifications.</p> <p>See also: <i>Configuration Interworking</i></p>
Secondary side of a Coupler	<p>In the TP1 three-level topology, if the <i>Coupler</i> is configured as a <i>Line Coupler</i>, this is the <i>Line</i>. In case the <i>Coupler</i> is configured as a <i>Backbone Coupler</i>, this is the <i>Main Line</i>. In case the <i>Coupler</i> is configured as a <i>Bridge</i>, this is the part of the <i>Line</i> possibly containing other devices but no Couplers.</p> <p>See also: <i>Coupler, Router, Primary side of a Coupler</i></p>

Term	Definition
Segment	Physical elementary subdivision of a <i>Physical Line</i> .
Selector	Any kind of selector enabling to set a logical tag: coding wheel, jumper, dip switches, electronic screwdriver+EEPROM, ...
Server	Application Process providing application-specific services. See also: <i>Client</i>
Service	Function provided by an (N)-Layer to an (N+1)-Layer.
Service Access Point	The point at which Service Primitives are exchanged between adjacent layers.
Service Element	An Active Element within a Layer embodying a set of functions.
Service parameters	Parameters delivered by the (N+1)-layer to the (N)-layer in a service primitive and needed by the (N)-layer to produce the protocol control information ((N)-PCI) of the (N)-layer PDU.
Service primitive	A primitive exchanged between adjacent Layers, related to a given Service. It transports a <i>Message</i> and <i>Service Parameters</i> .
Shared Variable	An object in the Shared Memory Model, belonging to the system. A local copy (or instance) of such a variable is called a <i>Group Object</i> . Also referred to directly as <i>Group Object</i> . See also: <i>Group Object</i> , <i>Shared Memory model</i>
Shared Variable Model	<i>Messaging model</i> based on <i>Group Objects</i> . In this model each object belongs to the communication system. The object may be produced and/or consumed by several devices.
Simple Network	Network with one or a very limited set of <i>Subnetworks</i> , without configuration of <i>Routers</i> (flat addressing). In such installations, (all) <i>Subnetwork</i> (s) shall be using their default <i>Subnetwork Address</i> . To allow consistent management, such a network is limited to at maximum one instance of each possible medium. <i>Routers</i> - if any – shall be Transparent Media Couplers. Installation of such <i>Routers</i> don't require a professional installer. There are no requirements on topology. See also: <i>Complex Network</i>
Source Address	Address field; contains the <i>Individual Address</i> of the device that transmits a <i>Frame</i> .
Subnetwork	Logical subdivision of a <i>Network</i> . Subnetwork have a different name, depending on their position in the Network hierarchy: <i>Backbone Line</i> , <i>Main Line</i> and <i>Lines</i> .
Subnetwork Address	Part of an Individual Address identifying a <i>Subnetwork</i> in a network. The Subnetwork Address consists of a four-bit Main Line Number and a four bit Line Number.

Term	Definition
Synchronous BiBat System	A Synchronous BiBat System consists of a single <i>BiBat Master</i> and one or several <i>BiBat Slaves</i> (devices). Optionally there can be <i>BiBat Retransmitters</i> in addition.
Synchronous RF Frame	These are the <i>Frames</i> that are transmitted by a <i>BiBat Master</i> to its <i>BiBat Slaves</i> in a time-slotted mechanism. These can be data <i>Frames</i> or Sync <i>Frames</i> . They are identified by a dedicated value of the KNX Crt-field in the frame.
Synchronous RF Retransmitter	A Synchronous RF Retransmitter shall have permanent RF reception capabilities (normally mains powered). It shall retransmit Synchronous RF telegrams with a fixed time delay without the usual collision avoidance of asynchronous RF. It shall treat asynchronous telegrams like an asynchronous RF Retransmitter. SYNONYM BiBat Retransmitter
System Configuration Mode (= System Mode) (= S-Mode)	This is a <i>Configuration Mode</i> where the installation is designed and configured by using a tool (e.g. PC based, perhaps including CAD functions). The tool enables to manage the system complexity efficiently and with reliability. The configuration may be very detailed. KNX S-Mode installations are configured by means of the ETS software. See also: <i>Easy Configuration Mode, Engineering Tool Software (ETS)</i>
System Device	A KNX device with (one or more) communication relevant part(s) not enabling connection of an additional application part (as specified in [04]) is considered a KNX system device. EXAMPLE TP1 Coupler, EDI/RS232, appliance interface, TP/PL Media Coupler, PL110 Repeater, TP1 Repeater.
System Interface Object	Internal Object related to a system function of a device EXAMPLES Application Program, Group Address Table.... This may be accessed dedicated L7 services.
TP1 Repeater	System Device interconnecting two (physical) TP1 <i>Segments</i> . A TP1 Repeater will forward any frame from one <i>Segments</i> to another without filtering (this is a <i>Bridge</i> functionality), but with hop count decrement (this is a <i>Router</i> functionality).
TP-UART	A specific commercially available integrated solution for KNX TP1 bus access.
Transparent Media Coupler	A <i>Router</i> that couples two different media and does not requires configuration. It forwards broadcast-, multicast- and point-to-point messages without filtering but with evaluation of the hop_count. See also: <i>Router, Media Coupler</i>
user localisation action:	This shall be an action performed by a human on the device. the specific realisation is implementation dependent. EXAMPLE 4 a press on a rocker of a push button

Term	Definition
Volume	Self consistent set of documents of the KNX Specifications, dedicated to a given aspect. EXAMPLE Volume 3 "System Specifications"
Zone	Usually a geographical entity like a room, an apartment... May also be functional.

2 List of abbreviations

Abbreviation	Description
AA	Area Address
AC	Alternating Current
ACK	Positive Acknowledgement
ADC	Analog to Digital Converter
AIL	Application Interface Layer
AIL-PDU	Application Interface Layer PDU
AIS	Application Interworking Specifications
AL	Application Layer
AM	Application Management Application Module
AP	Application Process Application Program
APDU	Application Layer PDU
API	Application Programmer's Interface
APS	Ancillary Power Supply
ASAP	Application Layer Service Access Point
ASCII	American Standard Code for Information Interchange
BAU	Bus Access Unit
BCU	Bus Coupling Unit
BDUT	Bus Device Under Test
BIM	Bus Interface Module
cEMI	Common EMI
COM	Communication
CSMA	Carrier Sense Multiple Access
CSMA/CA	Carrier Sense, Multiple Access, with Collision Avoidance
DAA	Distributed Address Assignment
DAF	Destination Address Flag
DC	Direct Current
DD0	Device Descriptor Type 0 The value 000000b for the Descriptor Type in the A_DeviceDescriptor- _Read-service.
DD2	Device Descriptor Type 2 The value 000010b for the Descriptor Type in the A_DeviceDescriptor- _Read-service.
DLL	Data Link Layer

Abbreviation	Description
DoA	Domain Address
DPSU	Distributed Power Supply Unit
DPT	Datapoint Type
EITT	KNX (formerly EIB) Interoperability Test Tool
EMC	Electro Magnetic Compatibility
EMI	External Message Interface
eteC	KNX Tool Environment Components
ETS	KNX Engineering Tool Software
FB	Functional Block
FCS	Frame Check Sequence / Frame CheckSum
FEC	Flexible E-Mode Channel See also: <i>Flexible E-Mode Channel</i>
FOCI	Function Of Common Interest
GA	Group Address
GO	Group Object
GrAT	Group Addresss Table
GrOT	Group Object Table
Group_Obj	Group Object
HBES	Home and Building Electronic Systems
HID	Human Interface Device
HMI	Human Machine Interface
ID	Identifier
Idx	Index
IMI	Internal Message Interface
Int_Obj	Interface Object
IO	Interface Object
IOT	Interface Object Type
IR	Infra-Red
KMB	KNX Association Marketing Board
KSG	KNX Association System Group
KTB	KNX Association Technical Board
L2-acknowledge	Layer 2 acknowledge (values ACK, NAK, BUSY, FULL)
L4-acknowledge	Layer 4 acknowledge
LA	Line Address
LPDU	Data Link Layer PDU

Abbreviation	Description
LSAP	Link Layer Service Access Point
lsb	Least Significant Bit
LSB	Least Significant Byte
LSM	Load State Machine
MC	Message Code
msb	Most Significant Bit
MSB	Most Significant Byte
NL	Network Layer
NM	Network Management
NPDU	Network Layer PDU
NRZ	Non Return to Zero
OS	(PC) Operating System
OSI	Open Systems Interconnection
PCI	Protocol Control Information
PDT	Property Datatype
PDU	Protocol Data Unit
PEI	Physical External Interface
PELV	Protective Extra Low Voltage
PhL	Physical Layer
Ph-PDU	Physical Layer PDU
PID	Property Identifier
PL	Powerline
PSU	Power Supply Unit
RF	Radio Frequency
SAP	Service Access Point
SDU	Service Data Unit
SEC	Static E-Mode Channel
SELV	Safety Extra Low Voltage
SL	Session Layer
SM	System Management
SNA	Subnetwork Address
TF	Task Force
TL	Transport Layer
TP	Twisted Pair
TPDU	Transport Layer PDU

Abbreviation	Description
TP-UART	Twisted Pair Universal Asynchronous Receiver/Transmitter See also: <i>TP-UART</i>
TSAP	Transport Layer Service Access Point
UART	Universal Asynchronous Receiver/Transmitter
USB	Universal Serial Bus
WG	Working Group