EN

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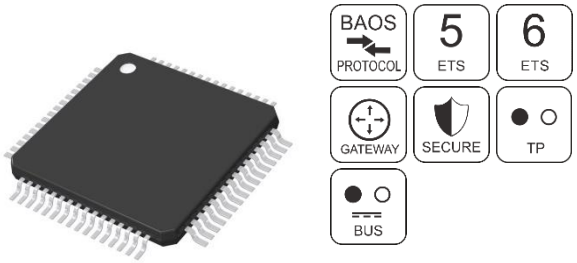
Data sheet

KNX BAOS Chip 83x.1 *secure*

Serial interface and object server for KNX bus



(Art. # 5540)

Application area

“KNX on Chip” is an alternative to KNX modules for the development of KNX devices. The chip can be integrated together with a KNX UART transceiver in a PCB design.

The preprogrammed firmware is identical to the KNX BAOS Module 830.1 *secure* and includes a certified KNX stack as well as the BAOS protocol server.

The connection between application and KNX BAOS chip is established via a UART connection (FT1.2 framing).

The chip 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 chip supports KNX Security and BAOS Security.

Hardware details of the chip are available in the datasheet from Microchip.

Technical Specification

Chip type

- Manufacturer: Microchip
- Type: ATSAMD51J20A-AUT

Environmental requirements

- Ambient temp. operating: -5..+45 °C
- Ambient temp. non-op.: -25..+70 °C
- Rel. humidity (non-condensing): 5..93 %

Mechanical data

- Package: 64-TQFP, 10 x 10 mm
- Delivery in Cut Tape

Power supply / clock

- Power supply voltage: 3.3 V (provided by KNX transceiver)
- On power down one flash page has to be written so a stabeling capacitor needs to provide power for additional 300 ms
- Crystal frequency: 14.7456 MHz

KNX

- Certified KNX Stack (System B)
- Long frames, max. APDU length 233
- Up to 1000 group objects
- Up to 70 kByte parameter space

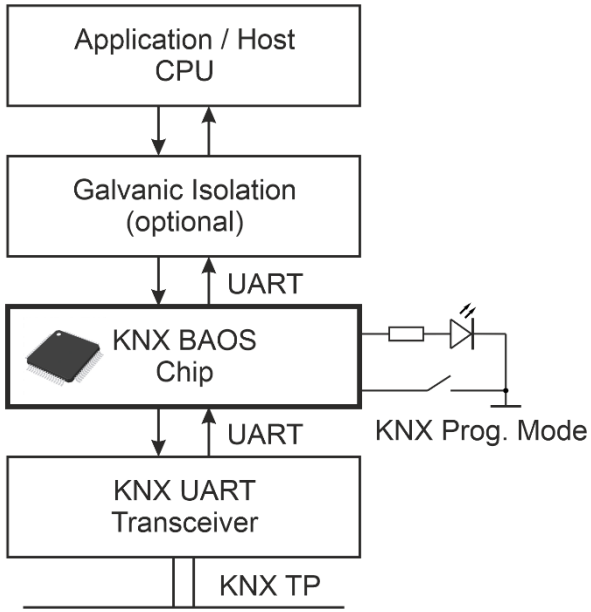
Host Interface

- Baud rate 19.2 / 115 kBit/s, 8e1
- Serial frame format FT1.2
- KNX telegram format: common EMI (cEMI)
- BAOS Protocol V2 *secure*

Documentation and Source Code

The complete KNX BAOS Starter Kit documentation, the ETS databases, the source code of the demo application can be found on our BAOS download page at:
https://weinzierl.de/en/products/baosv2-modules-start

Principle circuit diagram



The KNX BAOS Chip does the communication with the KNX bus via a KNX UART transceiver (e.g. Elmos E981.03).

For the host interface a second UART is provided. Galvanic isolation is required if the application has additional (non-isolated) connections. For the KNX programming mode a LED and a key can be connected to the BAOS chip.

Product database for ETS 5/6
www.weinzierl.de/en/products/83x.1/ets6

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