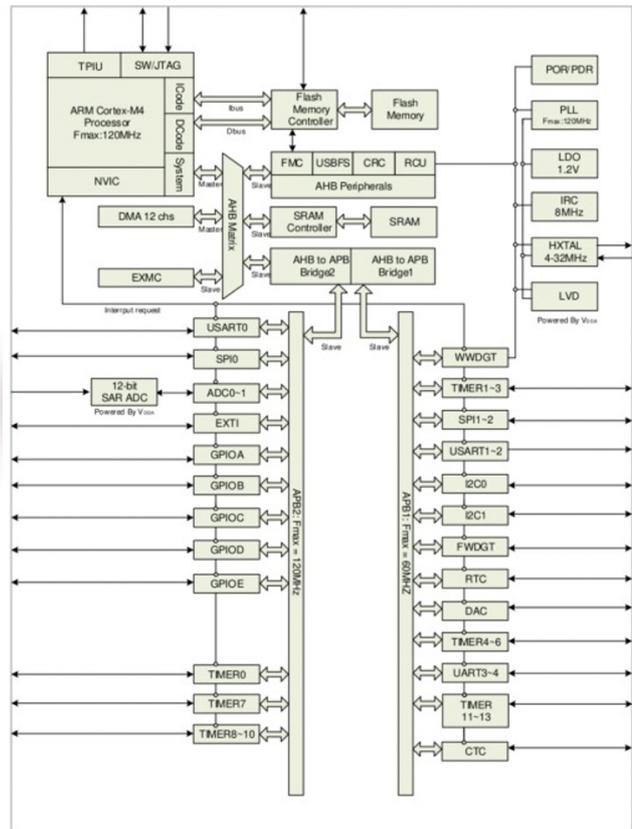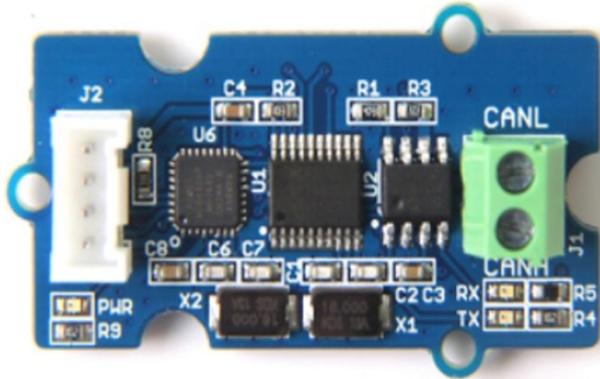# CAN *Newsletter Online*

SERIAL INTERFACE MODULE

Linking serial interfaces to CAN FD networks

Seeed Studio has introduced the CAN Bus Grove module featuring the GD32E103 micro-controller by Gigadevice. It connects a serial interface to a CAN FD network.

The CAN FD module supports bit rates of up to 5 Mbit/s and measures 20 mm x 40 mm x 10 mm (Source: Seeed Studio)

The CAN Bus Grove module is a drop-in replacement for the company's module based on Microchip's MCP2551 CAN high-speed transceiver and MCP2515 CAN stand-alone controller. The 120-MHz Gigadevice MCU (micro-controller unit) is an ARM Cortex-M4F compliant component with two CAN FD protocol controllers on chip. One of the CAN FD ports is equipped with a CAN transceiver qualified for bit rates up to 5 Mbit/s. It is available at the 2-pin terminal block of the module. The UART (universal asynchronous receiver/transmitter) interface is accessible on the 4-pin Grove connector running by default at 9,6 kbit/s. The maximum bit rate of the serial port is 115,2 kbit/s. Optionally, the module can be equipped with a 120-Ω termination resistor.

Seeed Studio provides a gateway firmware. It seems you can use the same AT command set as for the module with the Microchip hardware. Currently, you cannot program the MCU, this will be possible in future versions, said the company on its website. The MCU on-chip memory includes flash memory (between 64 KiB and 128 KiB) as well as SRAM (from 20 KiB to 32 KiB). The implemented MCU by Gigadevice comes with multiple serial interfaces (UART, USART, SPI, and I^{2}C) in housings (QFN36, LQFP48, LQFP64, and LQPF100). It is compatible with the STM32F103 micro-controllers by STM. The Chinese chipmaker also provides other micro-controllers with CAN FD on-chip protocol controllers (up to three interfaces).

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