MAKE THINGS HAPPY !

mikroBUS SAM21

One of the most popular microcontrollers is SAMD21. It is a powerful CPU with the Cortex M0+ architecture. Module **mikroBUS SAM21** is the world's smallest development board with this popular CPU, designed in the mikroBUS format and having mikroBUS slot and I2C bus through Grove Systems connector.

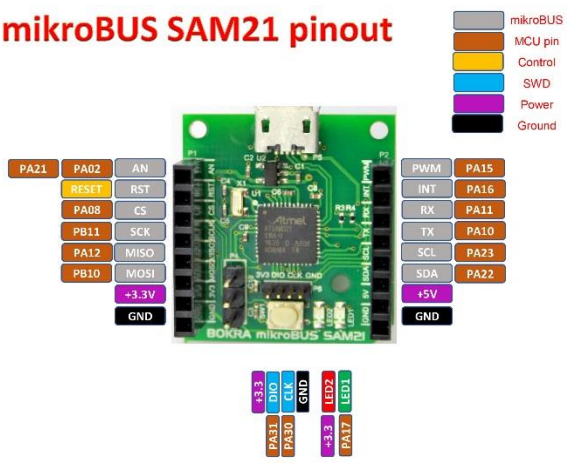
mikroBUS SAM21 makes it easy to implement various projects. This board add the CPU power of ATSAMD21G18A to expansion modules with mikroBUS interface, Grove Systems peripherals (sensors and actuating devices) and any I2C modules. It is no longer necessary build trial system and then think at first, how make a prototype, and then - how to set up a serial production. You can simply make up the required configuration and after software debugging you need only place the system in the case and buy the selected modules for the start of production.

The size of the **mikroBUS SAM21** is 28.6 x 25.4 mm.

The main characteristics of **mikroBUS SAM21** are as follows:

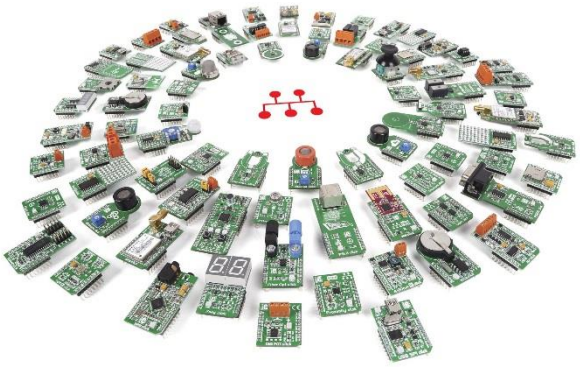
Characteristics	mikroBUS SAM21
CPU Core Frequency, MHz	ATSAMD21G18A Cortex-M0+ 48
Flash Memory, KB	256
RAM, KB	32
Interface for debugging	SWD
Serial interfaces	SPI, I²C, USART
External connectors MicroUSB 2.0 mikroBUS I2C	 1 1 1
Input Power Voltage regulator Output current	5V, через MicroUSB AP2112 фирмы Diodes Incorporated 600 mA
Buttons	RESET
Indicators	Red (power) Green (programmable)
Instrumental software	Arduino IDE

Matching of **mikroBUS SAM21** pins and ATSAMD21G18A pins is shown in the next table (the choice between PA02 and PA21 is made by a jumper):



The Grove I2C connector is located on the bottom side of the module.

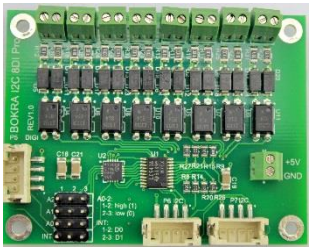
MikroElekronika (www.mikroe.com) produces numerous modules with the mikroBUS interface - modules Click®:



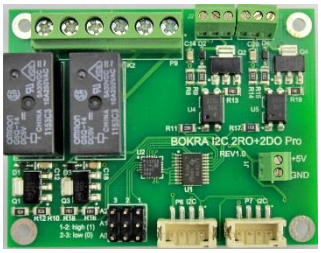
Attention! **mikroBUS SAM21** is compatible with Click® modules using 3.3V, compatibility with 5V Click® modules not guaranteed.

Connect to your **mikroBUS SAM21** one of the wireless communication boards, LED or OLED control boards, stepper motor control and much, much more. Almost everything that may be required for your project, already exist in the range of modules with mikroBUS interface.

Any modules controlled via I2C bus can be connected through I2C connector, for example - manufactured by us in BOKRA:



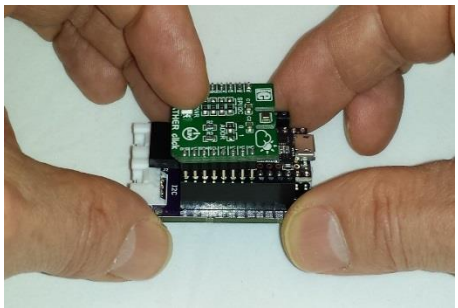
I2C 8DI Pro - Digital input module

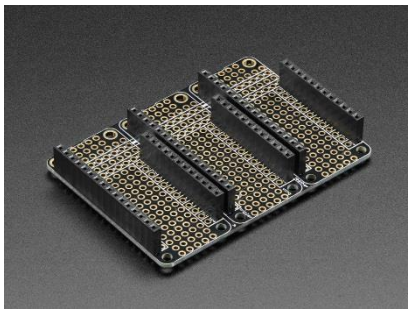


I2C 2RO+2DO Pro –Relay and Digital Output module

It is very easy connect **mikroBUS SAM21** through the I2C with numerous sensors, peripherals and modules from Grove Systems.

Module **mikroBUS SAM21** together with several modules with the mikroBUS interface can form stackable or flat structures:





The delivery set of **mikroBUS SAM21** includes two of headers to form a mikroBUS slot. Before connecting modules to the mikroBUS interface, these headers should be soldered into **mikroBUS SAM21**. When ordering, it is also possible to specify an option to solder this headers in **mikroBUS SAM21**.