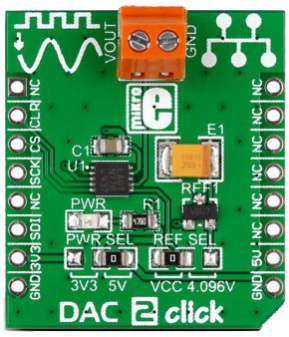
SEMADUC Kit: A Flexible Signal-Chain Evaluation and Prototyping Platform

Kit includes an ARM® Cortex®-M4F baseboard, an interface board and Isolated RS485 and Software-Defined I/O Click boards™

The SEMADUC Kit is a modular prototyping and development platform designed to help engineers quickly build a signal-chain that is ideal for their application needs. By adopting the standard Mikroe Click boards™ form-factor and ecosystem, designers can easily add functionality without the need for hardware configuration. Providing fast prototyping and proof of concept solutions with ease thus increasing efficiency and productivity by minimizing time to market. Over 750 Click boards™ covering sensing, wireless or wired communication, power, and many more technologies are available.

The SEMADUC Kit was built and launched by SEMITRON in partnership with Analog Devices and Mikroe. It includes an ARM® Cortex®-M4F-based MCU base-board and an interface board with two mikroBUS™ sockets compatible with all Click boards™. Also included are two Click boards™ based on two new offerings from Analog Devices - Isolated RS-485/RS-422 transceiver (ADM2867E) and a quad-channel, universal analog and digital software configurable I/O (AD74413R). Applications in industrial, instrumentation, healthcare, transportation, and automotive can take advantage of this kit as a quick prototyping platform.



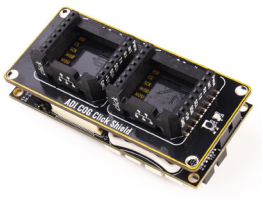
Benefits of the SEMADUC Kit and Click boards™

- Compatible with the Click boards™ ecosystem: Over 750 add-on boards that include all the signal-chain components (wireless connectivity, sensors, interface, power, drivers, actuators, etc.)
- Flexible platform: Mix and match board combinations to customize for specific requirements
- Standardized and small form-factor
- Extensive platform: Easily attachable to other community form-factors by using expander shield boards (ex: Arduino, PMOD, etc.)
- Easy set up: Seamless out-of-box experience and zero hardware configuration with the mikroSDK (firmware, application, and demos)

Plug and play with 750+ Click boards™ to easily add functionality without the need for hardware configuration

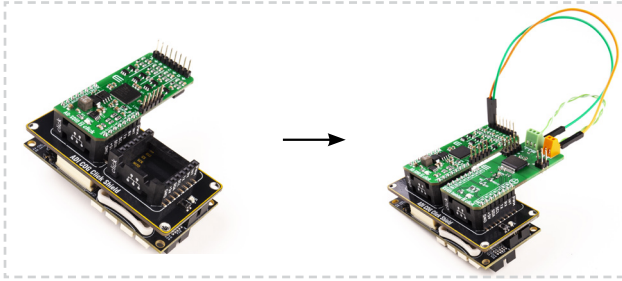
SEMADUC Kit and Click boards™ Concept

Step 1



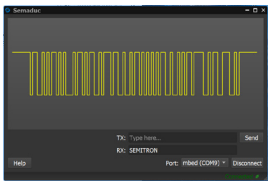
Start by connecting the EV-COG-AD4050LZ MCU board to the interface board (ADI COG Click shield)

Step 2



"Click" one or two of the 750+ Click boards™ to the ADI COG Click shield board

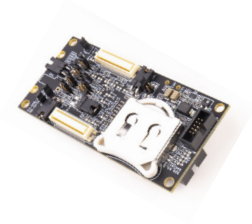
Step 3



Start with the demo GUI or start developing code

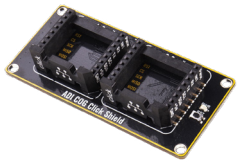
SEMADUC Kit Components

EV-COG-AD4050LZ Base Board



Development platform with an ADUCM4050 ultra-low-power ARM® Cortex®-M4F MCU. Includes accelerometer, temperature sensor and optional Bluetooth LE, LPWAN or Wi-Fi connectivity with an add-on board.

ADI COG CLICK SHIELD



Interface board between the MCU board and up to two Click boards™ via mikroBUS™

RS485 Isolator 2 Click

RS485 Isolator 2 Click features ADM2867E a 5.7 kV rms signal and power isolated full-duplex RS-485 transceiver with level 4 EMC and full ±42 V protection.

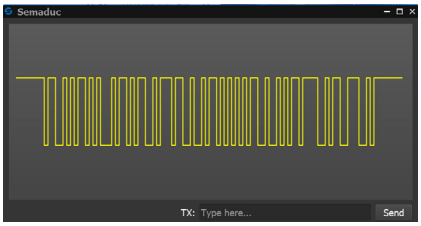
AD-SDIO 2 Click

Quad-channel, universal analog and digital interface software configurable input/output board based on Analog Devices AD74413R which also contains four 13-bit DACs, one per channel, and 16-bit ∑-Δ ADC.

Demo-Software: SEMADUC Kit GUI

PC based application to quickly test the functionality of the RS485 and SDIO combination.

- Establishes a connection with the respective serial port
- User enters the text to be transmitted via RS-485
- The MCU echoes the message received via RS-485 and plots a graphical representation of the signals sampled by the AD-SDIO 2 Click



Mikroe Click board™ Ecosystem

Functionality of the SEMADUC Kit can be easily extended or modified with the 750+ mikroBUS™ Click boards™ across many categories - wired and wireless communications, sensors, power, motor control, HMI, etc. All boards include libraries and example code for easy start-up. mikroSDK makes application code portable, and reusable on many different platforms and architectures, with virtually no code changes.

Ordering Information

SEMADUC Kit Part #: SEM-SEMADUC

Visit www.semitron.de/semaduc for information on local-market seminars, ordering, and access to technical content.

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