Dock+

Developer / dongle IoT card
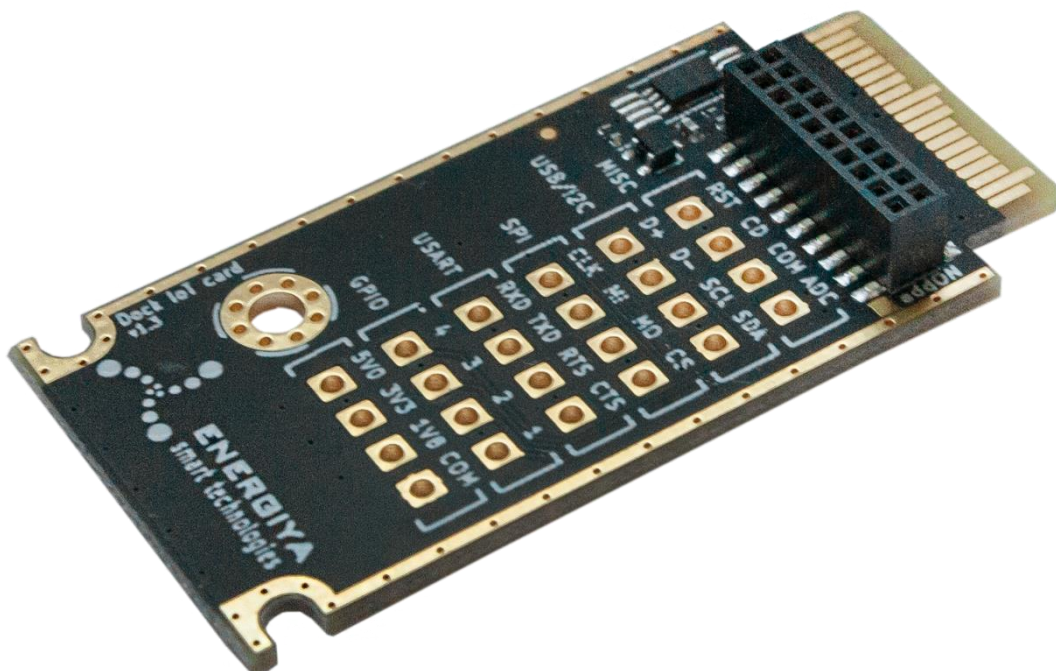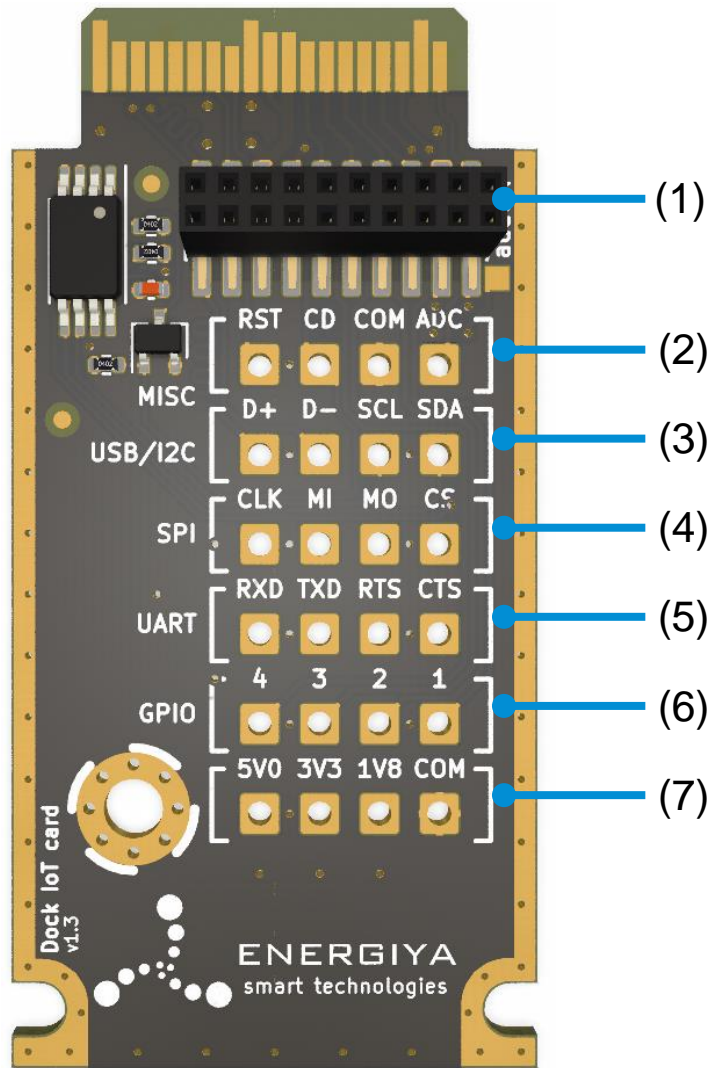
fig. 1

(1)	addON socket
(2)	Miscellaneous port
(3)	USB / I2C port
(4)	SPI port
(5)	UART port
(6)	GPIO port
(7)	Power Supply port

Description

The IoT Dock+ card is applicable as a dongle when no interface is needed for the Energiya application to work and as a developer card because it has the pins from the IoT edge connector brought out.

Thanks to a special connector, the device has the possibility to extend its functionality with addON expansion cards.

The IoT card is compatible with mangOH Green, Red, Yellow and FX30 / FX30S.

Mounting the card in the host

It is recommended to install the IoT card when the power is off to avoid accidental short circuits. If the card is installed with the power on, it is necessary to reboot the program.

Depending on the device used, the card is mounted using standoffs/spacers (mangOH) or rails (FX30). The IoT card also has dedicated cover for locking inside FX30.

⚠️ **Important!** Lock the card in the host before use (in mangOH lock in the spacers, in FX30(S) use dedicated cover).

⚠️ **Important!** Never mount or remove the addON card with power on!

Mechanics

- The pin spacing is 2.54 mm (100 mil).
- The row spacing is 3.81 mm (150 mils).
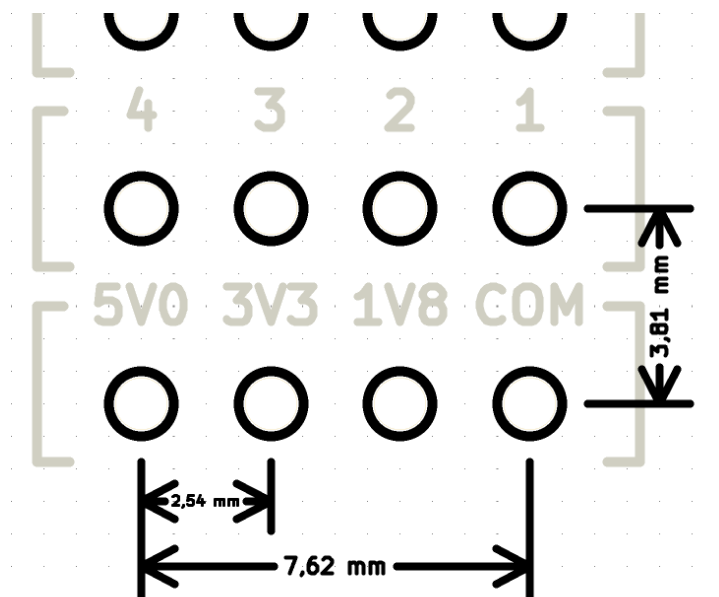- Hole diameter is 1mm (39.4 mils).

fig. 2

The hole spacing allows mounting standard connectors in a 2.54 mm pitch.

Note that mounting connectors that are too high will prevent you from mounting an addON card or mounting a Dock card inside the FX30(S) IoT gateway. Figure 3 shows an example with the connector mounted.
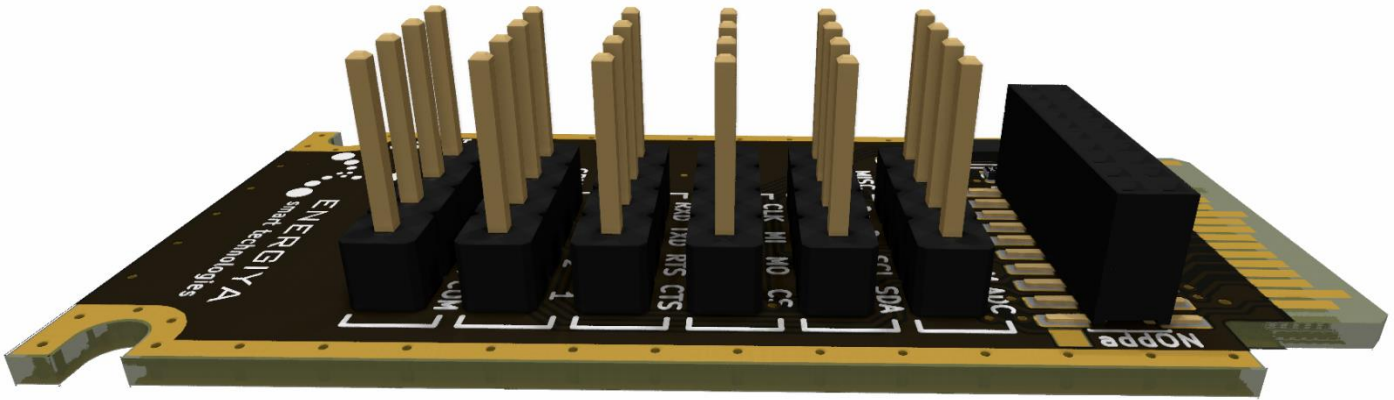

fig. 3

Pins description

Important! The pins of the IoT Dock card are connected directly to the edge connector. Take care when connecting cables and/or devices to the IoT card, as electrostatic discharge may damage the host!
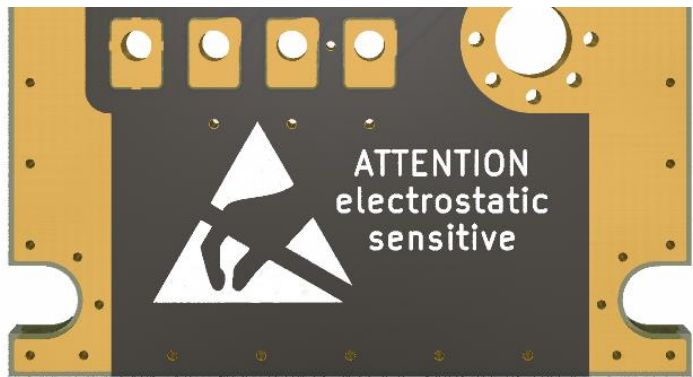

fig. 4

The IoT dock card has been divided into 6 ports, a description of which can be found below.

Miscellaneous port (see figure 1, element 2)			
Pin name	**RST**	**CD**	**COM**	**ADC**
Data direction	output	bidirectional	-	input
Function	Reset expansion card	Card detect (active low)	Ground	Analog to Digital Converter

USB/I2C port (see figure 1, element 3)			
Pin name	**D+**	**D-**	**SCL**	**SDA**
Data direction	bidirectional	bidirectional	output	bidirectional
Function	USB data positive	USB data negative	I2C clock	I2C Tx/Rx data

SPI port (see figure 1, element 4)			
Pin name	**CLK**	**MI**	**MO**	**CS**
Data direction	output	input	output	output
Function	SPI clock	SPI MISO (master RX data)	SPI MOSI (master TX data)	SPI Slave Select / Master Ready

UART port (see figure 1, element 5)			
Pin name	**RXD**	**TXD**	**RTS**	**CTS**
Data direction	input	output	output	input
Function	UART Receive data	UART Transmit data	UART Ready to Send	UART Clear to Send

GPIO port (see figure 1, element 6)			
Pin name	**4**	**3**	**2**	**1**
Data direction	bidirectional	bidirectional	bidirectional	bidirectional
Function	General purpose I/O 4	General purpose I/O 3	General purpose I/O 2	General purpose I/O 1

⚠ **Important!** The power outputs are not protected. Do not exceed the maximum load capacities given in the table below!

⚠ **Important!** Maximum combined power across all voltage rails is 3.3W.

Power Supply port (see figure 1, element 7)			
Pin name	**5V0**	**3V3**	**1V8**	**COM**
Data direction	power output	power output	power output	-
Function	5.0 V max 500 mA	3.3 V max 500 mA	1.8 V max 500 mA	Ground

Specifications

Dimensions (W x H x D)	22.3 x 45.0 x 5.6 mm
Operating temp	–40 to +85°C
Weight	2.5 g
Current consumption	0.01 mA
Ports	Miscellaneous, USB / I2C, SPI, UART, GPIO, Power Supply
Interface connector type	PCB PTH hole 1 mm diameter
Wire range	0.12 to 0.82 mm2 (26 to 18 AWG)
ESD protection	no
addON socket	yes
Latching cover for FX30	yes

Send us your feedback and suggestion to help us improve our products! 😊   **info@energiya.pl**

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