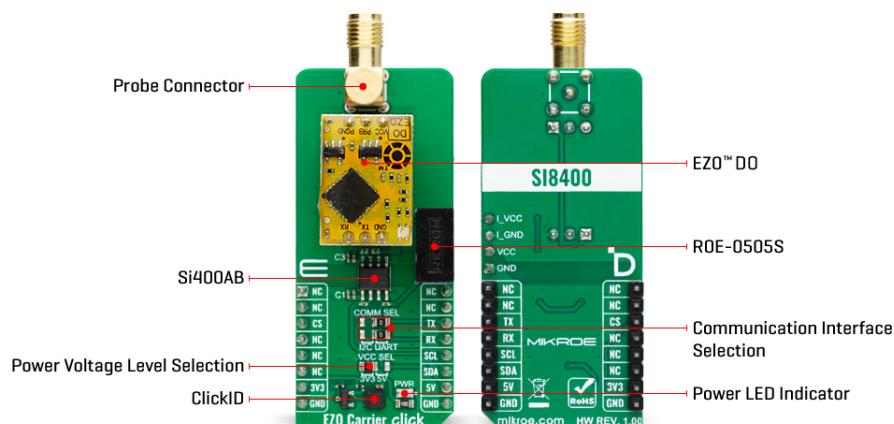


EZO Carrier Click - Oxygen





The EZO-DO™ circuit is a very sensitive device, and the sensitivity is what gives this circuit its accuracy. It can read micro-voltages that are bleeding into the water from unnatural sources such as pumps, solenoid valves, or other probes/sensors. So, to eliminate the electrical noise, besides the Si8400AB isolator, the power supply voltage is also isolated. For this purpose, this Click™ board is equipped with the ROE-0505S, a DC/DC converter from Recom. The EZO-DO™ has a flexible calibration protocol allowing for single-point, two-point, or three-point calibration. The temperature compensation should be taken into account. The EZO-DO™ features sleep mode, continuous operation, find function, export/import calibration, on-module status LED, and many more features detailed and described in the attached datasheet.

EZO Carrier Click - Oxygen can use a standard 2-wire UART interface to communicate with the host MCU with the default baud rate of 9600bps. While using the UART interface, you can use the library we provide or a simple ASCII set of commands. You can also choose a standard 2-wire I2C interface over the COMM SEL jumpers.

This Click board™ can operate with either 3.3V or 5V logic voltage levels selected via the VCC SEL jumper. This way, both 3.3V and 5V capable MCUs can use the communication lines properly. Also, this Click board™ comes equipped with a library containing easy-to-use functions and an example code that can be used as a reference for further development.

Specifications

Type	Environmental, Gas
Applications	Can be used for electrochemical sensing and also capable of reading micro-voltages that are bleeding into the water from unnatural sources such as pumps, solenoid valves, or other probes/sensors
On-board modules	EZO-DO™ - embedded dissolved oxygen circuit board from Atlas Scientific
Key Features	ISO 5814 compliant, high stability and accuracy, easy-to-use data protocol, simple command structure, flexible calibration protocol, works with any off-the-shelf galvanic probe, noise immunity, completely isolated data and power supply lines, and more

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ISO 27001: 2013 certification of informational security management system.
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 OHSAS 18001: 2008 certification of occupational health and safety management system.



ISO 9001: 2015 certification of quality management system (QMS).

Interface	I2C, UART
Feature	ClickID
Compatibility	mikroBUS™
Click board size	L (57.15 x 25.4 mm)
Input Voltage	3.3V or 5V

Pinout diagram

This table shows how the pinout on EZO Carrier Click - Oxygen corresponds to the pinout on the mikroBUS™ socket (the latter shown in the two middle columns).

Notes	Pin	mikro™ BUS					Pin	Notes
	NC	1	AN	PWM	16	NC		
	NC	2	RST	INT	15	NC		
ID COMM	CS	3	CS	RX	14	TX	UART TX	
	NC	4	SCK	TX	13	RX	UART RX	
	NC	5	MISO	SCL	12	SCL	I2C Clock	
	NC	6	MOSI	SDA	11	SDA	I2C Data	
Power Supply	3.3V	7	3.3V	5V	10	5V	Power Supply	
Ground	GND	8	GND	GND	9	GND	Ground	

Onboard settings and indicators

Label	Name	Default	Description
LD1	PWR	-	Power LED Indicator
JP1	VCC SEL	Left	Logic Level Voltage Selection 3V3/5V: Left position 3V3, Right position 5V
JP2-JP3	COMM SEL	Right	Communication Interface Selection I2C/UART: Left position I2C, Right position UART

EZO Carrier Click - Oxygen electrical specifications

Description	Min	Typ	Max	Unit
Supply Voltage	3.3	-	5	V
Dissolved Oxygen Range	0.01	-	100	mg/L
Accuracy	-0.05	-	+0.05	mg/L

Software Support

We provide a library for the EZO Carrier DO Click as well as a demo application (example), developed using MIKROE [compilers](#). The demo can run on all the main MIKROE [development boards](#).

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Package can be downloaded/installed directly from NECTO Studio Package Manager(recommended), downloaded from our [LibStock™](#) or found on [Mikroe github account](#).

Library Description

This library contains API for EZO Carrier DO Click driver.

Key functions

- `ezocarrierdo_send_cmd` Send command function.
- `ezocarrierdo_send_cmd_with_par` Send command function with parameter.
- `ezocarrierdo_send_cmd_check` Check the sent command.

Example Description

This example demonstrates the use of EZO Carrier DO click board by processing the incoming data and displaying them on the USB UART.

The full application code, and ready to use projects can be installed directly from NECTO Studio Package Manager(recommended), downloaded from our [LibStock™](#) or found on [Mikroe github account](#).

Other Mikroe Libraries used in the example:

- `MikroSDK.Board`
- `MikroSDK.Log`
- `Click.EZOCarrierDO`

Additional notes and informations

Depending on the development board you are using, you may need [USB UART click](#), [USB UART 2 Click](#) or [RS232 Click](#) to connect to your PC, for development systems with no UART to USB interface available on the board. UART terminal is available in all MIKROE [compilers](#).

mikroSDK

This Click board™ is supported with [mikroSDK](#) - MIKROE Software Development Kit. To ensure proper operation of mikroSDK compliant Click board™ demo applications, mikroSDK should be downloaded from the [LibStock](#) and installed for the compiler you are using.

For more information about mikroSDK, visit the [official page](#).

Resources

[mikroBUS™](#)

[mikroSDK](#)

[Click board™ Catalog](#)

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[Click Boards™](#)

Downloads

[EZO-DO™ Datasheet](#)[EZO Carrier Click - Oxygen 2D and 3D files](#)[SI8400 datasheet](#)[EZO Carrier Click - Oxygen schematic](#)[EZO Carrier Click - Oxygen example on Libstock](#)

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