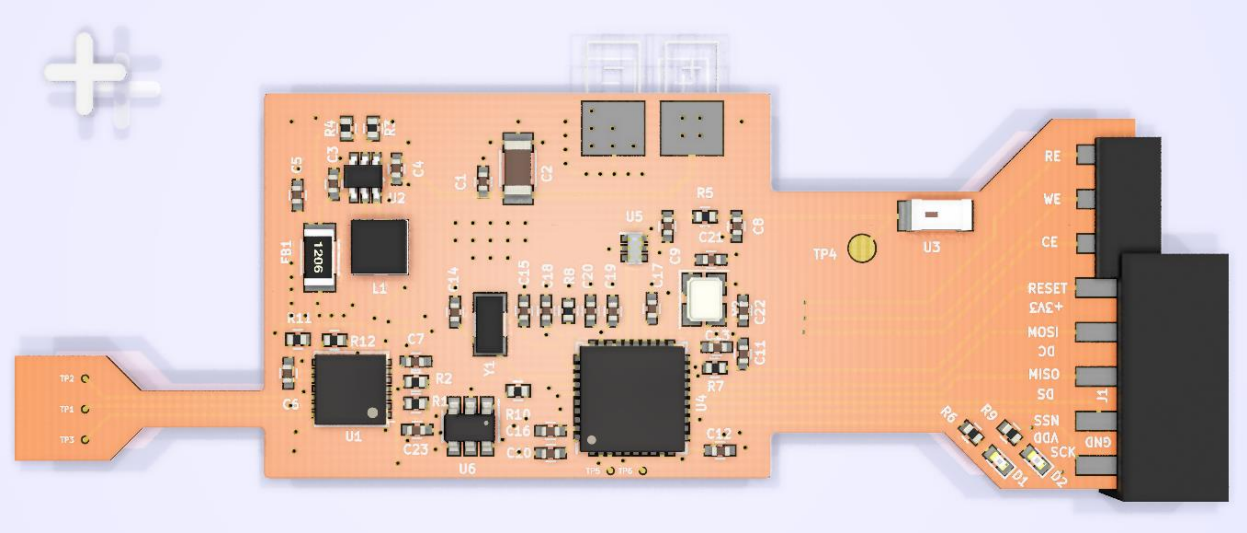
Zimmer & Peacock
Sensor Manufacturing and Technology

ecFlex datasheet



Physical properties			
	Dimensions (main body)		25x29x1 mm
	Weight (with battery)		1.2 g
Power source			
	Vdd*		2.7 5.25 V
	Battery*		Up to 0.7 – 3.0 V battery (regulated to 3.0 V)
		Battery life	8h (Assuming 500 ms transmission interval, OCP mode and 17 mAh battery)
Techniques (Technique hard coded into the device before delivery)			
	Open circuit potentiometry		0 - 3V
	Chronoamperometry		-24-24 % of Vdd in with 2 % resolution. For Vdd = 3.0 V: -720 -720 mV with 60 mV resolution
	Multistep amperometry		
	Staircase voltammetry		
	Coarse Cyclic square wave voltammetry		
	Custom technique		Inquire at sales@zimmerpeacock.com
Communication			
	Bluetooth Low Energy		
		Polling rate	0.1-3 Hz
		Range**	~10 m
Electrodes***			
	Materials		
		Carbon	Graphite or reduced graphene oxide
		Silver/Silver Chloride	Different atomic ratios available
		Gold	

		Platinum	
		Custom	Custom inks can be printed

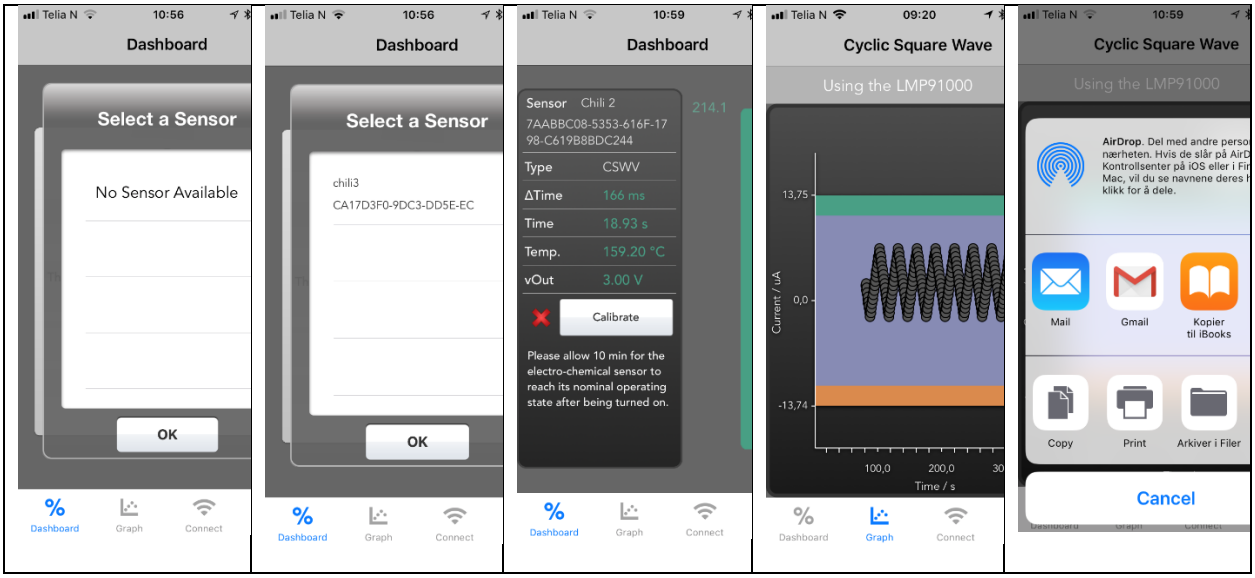
*Vdd affects the potentiostat bias and virtual ground

** Varies with obstacles and transmission medium

***WE and CE are always the same material

Data retrieval

Download the “TI gas sensor app” from the apple store. Power the circuit, open the app, and select the sensor named “BLE SensorPeripheral”. The procedure from connection to data retrieval is outlined in the figures below.



The data is conveniently sent in comma separated format for importing into numerical analysis software. An example is provided below.

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0

Sensor Name: Chili 2
Sensor Type: CSWV
Timestamp: 11 May at 12:24 PM

"Time / s","Current / uA"
15.106,107.038
15.272,107.038
15.438,107.038
15.604,107.038
15.770,107.038
15.936,107.038
16.102,107.038
16.268,107.038
16.434,107.038
16.600,107.038
16.766,107.038
16.932,107.038
17.098,107.038
17.264,107.038
17.430,107.038
17.596,107.038
17.762,107.038
17.928,107.038
18.094,107.038
18.260,107.038
18.426,107.038
18.592,107.038