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ELECTROCHEMICAL SENSOR

Type: AC13.W*.R*

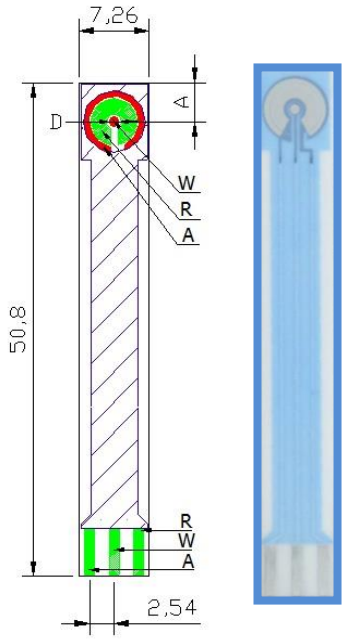
Description

The sensor is formed on a corundum ceramic base. On to this surface the working, the reference and the auxiliary electrodes are applied. The working and the auxiliary electrodes are made of variety of materials. At the end of the sensor there is a contacting field which is connected with the active part by the silver conducting paths which are covered by a dielectric protection layer. A bio-chemically active substance can be immobilised on the working electrode of the sensor to create a biosensor.

Physical parameters

Dimensions:
Weight: 0.9 gms
Length: 50.80 mm
Width: 7.26 mm
Thickness: 0.63 mm

A = 4.00 ± 0.05 mm
D = 1.00 ± 0.05 mm



Electrode Materials are defined by:

AC13.W*.R*

The asterisk is replaced by the appropriate number or letter.

AC - Amperometric sensor or electrode on corundum ceramic base	
AC13 - Sensor group reference number	
W - Working electrode material	**R - Reference electrode material**
S - Alloy of Gold and Platinum	**S - Silver**
1 - Pure Gold	**1 - Silver / Silver Chloride**
2 - Pure Platinum	**2 - Silver covered by AgCl**
3 - Pure Silver	
4 - Carbon(Graphite)	
5 - Manually Microdispensed Carbon(Graphite) with Au+Pt alloy auxiliary electrode	

Connector types for AC13 sensors range

	KA1	KA1.S	KA1.C	KA4
AC13.W*.R*	✓	✓	✓	✓

Sensor Usage

This specific range of AC13 sensors enable the measurement of:

- Basic electrochemical and bio-electrochemical techniques
- Enzyme activity and Michaelis Menten constant
- H_2O_2 concentration
- Glucose
- Ferricyanide
- Toxicity caused by pesticides
- Enzyme activity

Activation

BVT offers unactivated versions of both W4 and W5 for standard tests and direct measuring. For specialised testing and more precise results it is recommended to have the W4 and W5 activated (the activation in most cases, is unique for each type of test being carried out). The activation can be carried out by BVT, based on your requirements (activation will have an additional cost, which varies based on the type of activation required).
(Note: Please refer to AC1.* Data Sheet for more information on Activation)

References

- Jan Krejčí, Jan Prášek, Lukáš Fujcik, Sameh Khatib, Edita Hejátková, Luboš Jakubka, Louisa Giannoudi, Screen-printed sensors with graphite electrodes – comparison of properties and physical method of sensitivity enhancement, *Microelectronics International*, 2004, Vol. 21 Issue: 3, pp.20-24, https://doi.org/10.1108/13565360410549684
- Andrew C. Barton, Stuart D. Collyer, Frank Davis, Davinia D. Gornall, Karen A. Law, Emma C.D. Lawrence, Daniel W. Mills, Suzy Myler, Jeanette A. Pritchard, Mark Thompson, Seamus P.J. Higson, Sonochemically fabricated microelectrode arrays for biosensors offering widespread applicability: Part I, *Biosensors and Bioelectronics*, Volume 20, Issue 2, 2004, Pages 328-337, ISSN 0956-5663, https://doi.org/10.1016/j.bios.2004.02.002.
- Jan Krejčí, Lucie Ježová, Radka Kučerová, Robert Plička, Štěpán Broža, David Krejčí, Iva Ventrubová, The measurement of small flow, *Sensors and Actuators A: Physical, Available* online 6 September 2017, ISSN 0924-4247, https://doi.org/10.1016/j.sna.2017.08.050.

Software Packs

These are available for:

- Basic evaluation
- Measurement of enzyme activity and Michaelis Menten constant X

Ordering information

- The order is specified by whole sensor description formula
- Minimum order quantity – 20 sensors
- Delivery time for standard AC13 sensors is 4 weeks from receipt of order
- Delivery time for non-standard AC13 sensors depends on final technical specification of order