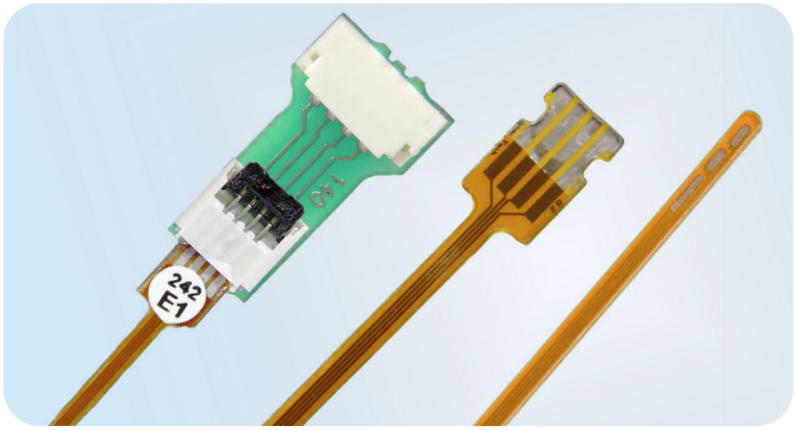
Jobst innovative Sensor Technology

B.IV4

Strip-type biosensor
For various bioanalytical applications

Benefits and characteristics

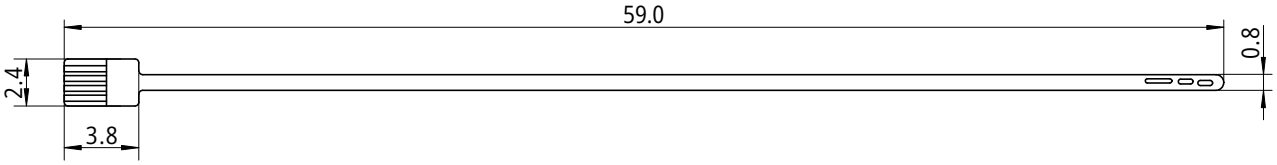
- Enzyme-based amperometric measurement
- Excellent long-term stability
- Reference, counter, and blank electrodes on-chip
- Outstanding reliability
- Fast response time
- Gamma and beta sterilization compatible
- Small size
- Suitable for dip-in applications
- For industrial applications



Left: B.IV4 sensor with JST SURS; **Center:** B.IV4 sensor FPC area; **Right:** B.IV4 sensor sensing area

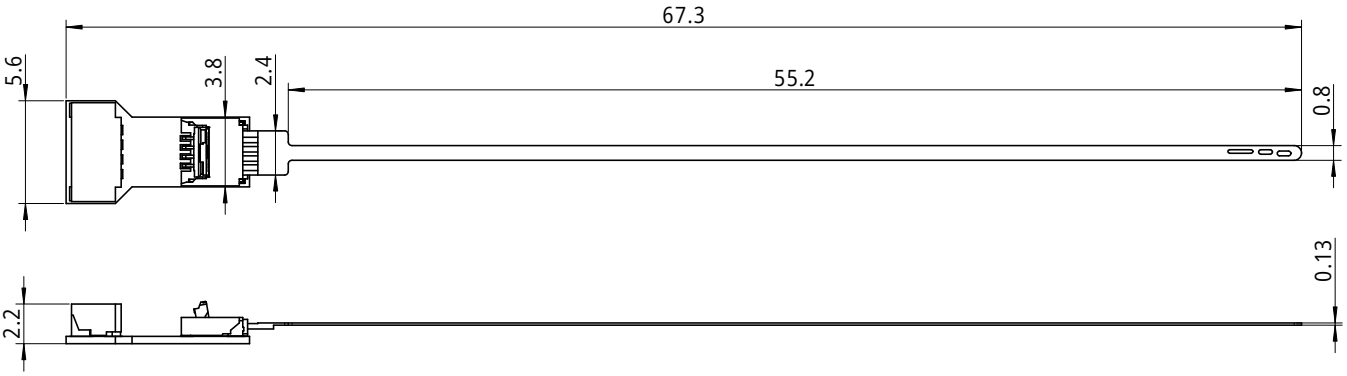
Illustration

B.IV4 sensor, flex print cable termination



B.IV4 sensor with FPC, all dimensions in mm

B.IV4 sensor, JST SURS 4-pin connector



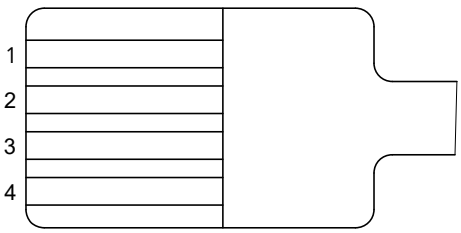
B.IV4 sensor with SURS 4-pin, 0.8 mm pitch connector, all dimensions in mm

Technical data

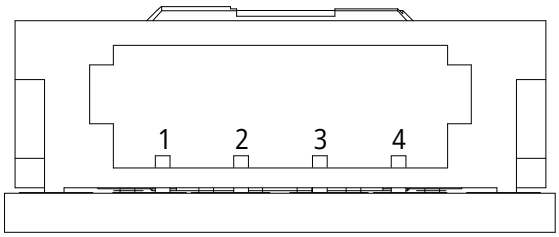
Dimensions:	See illustration above. Dimensions in mm
Measurement principle:	Enzymatic amperometric (oxidase enzymes and H_2O_2 oxidation)
Working electrode:	Platinum covered with enzyme membrane
Blank electrode:	For background compensation
Reference electrode:	Silver/silver chloride
Counter electrode:	Platinum
Analytes and measurement range:	Glucose 0.1 mM to 50 mM Lactate 0.05 mM to 25 mM Glutamine Contact iST Jobst Glutamate Contact iST Jobst Notes: - measured in acetate buffer at 37 °C - other measurement ranges and analytes on request
Sensitivity at 37 °C:	Glucose Typically: 0.4 nA/mM
Sterilization	Irradiation (beta, gamma) - recommended dose: < 25 kGy - sensitivity increases according to applied dose - lifetime decreases according to applied dose Initial bioburden < 1 CFU per sensor Do not use organic solvents, for more information, contact iST Jobst
Time ($t_{90\%}$) to first measurement:	~ 30 min after storage at 37 °C
Response time ($t_{90\%}$):	< 90 s in acetate buffer at 37 °C
Temperature influence:	Glucose: ~3.8 %/K Lactate: ~3.2 %/K
Storage conditions:	+4 °C to +35 °C, desiccated
Shelf life at recommended storage conditions:	> 6 months (from delivery) > 2 years from fabrication
Operational lifetime:	Glucose: > 120 days at 20 mM > 50 days at 50 mM Lactate: > 7 days at 8 mM Notes: - measured in acetate buffer at 37 °C - lifetime may vary in other buffer systems
Operating temperature:	15-42 °C
pH range:	6-8
Drift at 37 °C:	< 5 %/day
Suitable pH buffer systems:	Bicarbonate, acetate, imidazole, for more information, contact iST Jobst - to be used in buffered media only - buffer must contain chloride, [Cl^-] ca. 110 mM - not suitable for direct use in tap water or DI-water
Electrical connection:	FPC: compatible with 0.5 mm pitch FFC/FPC ZIF connectors JST: JST SURS header 4-pin 0.8 mm female

General note: Performance data in this document was determined in acetate buffer at 37 °C, pH 7 and normal atmospheric conditions. All parameters may vary in other media.

Pin assignment



B.IV4 FPC sensor contacts



B.IV4 sensor JST SURS 4-pin 0.8 mm pitch connector side

1	2	3	4
Reference	Counter	Blank	Glucose or Lactate

Order information

Product description	Product name	Product number	Order code iST
Biosensor glucose	B.IV4.G.1X.FPC	1.00102.000	105127
Biosensor glucose, JST connector	B.IV4.G.1X.JST	1.00102.002	105192
Biosensor lactate, JST connector	B.IV4.L.1X.JST	1.00102.003	105191
Other analytes		On request	On request

Disclaimer

Evaluation product for professionals to be used solely for research and development purposes! Not for medical and diagnostic use. Not to be used on humans. For more information, contact iST Jobst.

Jobst Technologies GmbH • Georges-Köhler-Allee 302 • 79110 Freiburg • Germany
+49 761 55 77 520 • info.jobst@ist-ag.com • www.jobst-technologies.com