PATsmart™ MAVEN® System

Product Specifications

Specification Sheet



Overview

The PATsmart™ MAVEN® System is a highly versatile, on-line, sample-free monitor of glucose and lactate in bioreactors and fermenters with optional automated feed control. The device's compact housing contains all the necessary mechanical, fluidic, and modular electronics. The MAVEN System may be operated using a diffusion probe or diffusion module, both of which allow for sterile and safe measurement from the bioreactor. Transport buffer, control solution, and waste can be suspended in bags and attached to the supplied stand hook to save space.

Specifications

Measured analytes	Glucose and lactate
Measurement frequency	Up to 30 per hour (every 2 minutes), user configurable
Measurement range	Glucose: 0.01 to 40 g/L Lactate: 0.05 to 10 g/L
Measurement precision	Glucose: <1.5% at 2.0 g/L Lactate: <1.5% at 1.0 g/L
Probe/flow cell connections	1
Measuring principle	Selective flow diffusion with enzyme-based amperometric biosensor
Biosensor service life	5,000 measurements or 30 days
Biosensor storage temperature	5°C to 25°C (41°F to 77°F)
Physical dimensions (*W* × *D* × *H*)	280 mm × 140 mm × 140 mm
Weight	3 kg
Physical dimensions with stand (*W* × *D* × *H*)	292 mm × 514 mm × 305 mm
Weight with stand	5.8 kg
Ambient operating temperature	15°C to 35°C (59°F to 95°F)
Ambient operating humidity	10–90% R.H. (non-condensing)
System storage temperature	5°C to 60°C (41°F to 140°F)
pH range of bioreactor medium	4.8 to 9.2

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Specifications *(continued)*	
Device ingress protection rating	IP54
Safety/Compliance	UL/CSA/IEC 61010-1 CE marking
Software	Web-based or PC application
Software requirements	Operating system: Windows XP, Windows 7, 8, 10, or Windows Server 2012 R2
Power requirements	100–120, 220–240 VAC; 50–60 Hz
Device battery	Lithium (0.07 g, UN test 38.3) Type CR2032 (3 V)
Analog output options	• 0 to 10 V • 0 to 20 mA • 4 to 20 mA
Communication interfaces	• RS232 • Ethernet
Data exchange modes	• OPC UA • Modbus TCP
Integrated controllers	PID, On/Off
Included components	• Power adapter • Power plug • Crossover ethernet cable • User manual • MAVEN Software

Customer Service

Repligen Corporation
685 Route 202/206
Bridgewater, NJ 08807

analytics-support@repligen.com

(908) 707-1009

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