MAVERICK® System

Product Specifications



Data Specification Sheet

Specifications	Description
Intended Applications	Monitoring of mammalian cell cultures in CHO or HEK293 media
Analytical Performance	
Measurement/reporting period	1 per minute
Glucose	
Units of measurement	Grams per liter (g/L)
Measurement range	0 to 10 g/L
Measurement precision	Approximately 0.1 g/L
Lactate	
Units of measurement	Grams per liter (g/L)
Measurement range	0 to 5 g/L
Measurement precision	Approximately 0.1 g/L
Total Biomass	
Units of measurement	Biomass units (BMUs)
Measurement range	Equivalent of 0 to 25 x 10^6 cells/mL



Immersion Probe

Measurement Module



Touch Screen Hub

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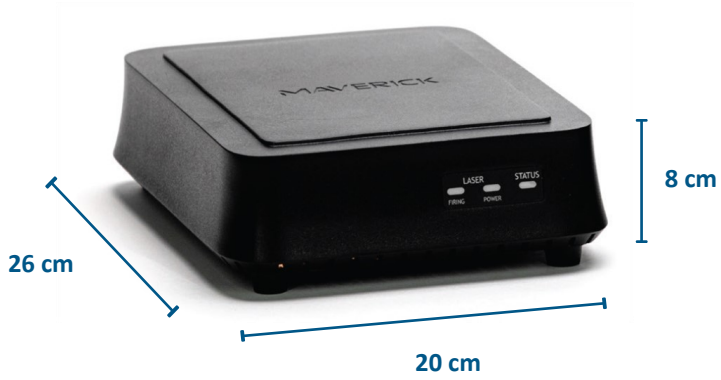
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Hub



Specifications	Description
Measurement module connections	6 with power and data over ethernet
User interface	25.4 cm touch screen
Data export	XLSX or CSV format via USB-C or USB-A port or over LAN
Digital communication protocol	OPC UA
Networking	Ethernet
Dimensions (W x D x H)	21 cm x 26 cm x 17 cm
Weight	2 kg
Power requirements	120/240 VAC, 50/60 Hz
Ingress protection rating	IP 5X
Operating temperature range	15°C to 25°C
Operating humidity range	20-80% RH (non-condensing)
Software	In accordance with GAMP 5 Category 3 guidelines and CFR 21 part 11 compliance ready

Measurement Module



Specifications	Description
Excitation wavelength	785 nm
Laser output power	Approximately 450 mW (strictly less than 500 mW)
Spectral range	200 cm^{-1} to 3,200 cm^{-1}
Spectral resolution	Approximately 6 cm^{-1}
Fiber optic cable length	200 cm
Power requirements	40 W power over ethernet (POE) supplied by Hub
Integrated controllers	Hysteresis controller with configurable analog output
Ingress protection rating	IP 5X
Laser classification	Class 3B laser; NOHD 10 cm from probe tip (equivalent to Class 1 beyond 10 cm)
Analog outputs	Two channel analog: 4–20 mA or 0–10 V
Dimensions (W x D x H)	20 cm x 26 cm x 8 cm
Weight	2 kg
Operating temperature range	15°C to 25°C
Operating humidity range	20-80% RH (non-condensing)

Immersion Probe



Specifications	Description
Probe length and outside diameter	220 mm length, 12 mm diameter
Minimum reactor wall clearance	40 mm
Bioreactor connection	Compression fitting; 12 mm I.D.; PG-13.5 thread
Compatible sterilization methods	Autoclave or steam sterilization
Maximum recommended sterilization temperature and pressure	121°C, 15 psi
Wetted materials	316 L stainless steel with Ra 15 µin Electro-polish surface finish, sapphire, EPDM, and Bio-compatible ISO: 10993 certified lubricant

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