



TruCell2 Probe

The TruCell[®]2 Cell Density Monitor is an optical sensor solution consisting of an optical probe and a transmitter having a dedicated 4 to 20 mA output. The optical probe consists of a VCSEL laser, a molded optical gap, and a silicon photodetector with an integral ambient light filter for higher accuracy. All wetted materials of the probe are USP class VI compliant. The design of this sensor has been optimized to provide accurate in-situ measurement of cell count in real time for both cell culture and fermentation applications.



Features

- Low cost solution
- 12 mm sensor w/ USP class VI wetted materials
- Suitable for cell culture and fermentation
- 50+ autoclave cycles at 134° C for 45 minutes
- Remote transmitter

Optical Performance

Range	0 – 4.0 AU (corresponds to 0–500 OD, app. dependent)
Precision (1σ)	+/- 0.02 AU or 5% of reading, whichever is greater
Accuracy (1σ)	+/- 0.05 AU or 5% of reading, whichever is greater*
Drift (1σ)	< 0.02 AU over any 10°C range
Readout Resolution	0.001 AU

Note TruCell2 sensor measures the total optical transmission loss (absorption and scattering) through the sensor gap.

* The probe must be zeroed at the process temperature.

Sensor

Measurement Wavelength	850 nm
Light Source	Vertical Cavity Surface-Emitting Laser (VCSEL)
Optical Path Lengths	5 mm and 10 mm
Probe Diameter	12 mm
Insertion Lengths	120, 225, 325, and 425 mm
Wetted Materials	FDA-approved PFA [®] and 316L stainless steel
Surface Finish	RA12 electro-polished (less than 0.40 micron surface finish)
O-ring Seals	Kalrez
Process Temperature (Operating)	15 – 45°C (59 – 113°F)
Process Temperature (Non-operating) (Sterilization)	134°C (273°F) at 2 bar for 45 minutes up to 50 cycles

Cable

Lengths	6 ft (2 m) and 10 ft (3 m)
Maximum Cable Length	10 ft (3 m)
Cable Type	29-AWG/shielded
Probe Connector	7-pin Fischer
Transmitter Connector	8-pin DIN

Warranty Every TruCell sensor and cable is warranted for one full year (12 months) from date of shipment against defects in material and workmanship.

Finesse Solutions, LLC
3350 Scott Blvd, Bldg 1
Santa Clara, CA 95054

Finesse Solutions AG
Via Sogn Gieri 27a
CH-7402 Bonaduz
Switzerland

877-204-8644
www.finesse.com



Sensors (Fermentation)

05 mm OPL

CDS-PRB-05-120

CDS-PRB-05-225

CDS-PRB-05-325

CDS-PRB-05-425

Sensors (Cell Culture)

10 mm OPL

CDS-PRB-10-120

CDS-PRB-10-225

CDS-PRB-10-325

CDS-PRB-10-425

Cables

CAB-FS-06 6 ft (2 m)

CAB-FS-10 10 ft (3 m)

Housings (Guarded)

HSG-STD-025-G fits 25 mm standard side port

HSG-SFT-025-G fits 25 mm safety side port

HSG-SNY-075-G fits 1½" sanitary side port

Housings (Unguarded)

HSG-STD-025-U fits 25 mm standard side port

HSG-SFT-025-U fits 25 mm safety side port

Replacement Parts

CDS-PRB-KOR Probe, Kalrez O-ring

CDS-PRB-TRN TruCell Probe, Teflon Washer

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