

FUTURA

neo_{tf}

Single-use viable biomass sensor specifications

Our single-use viable biomass sensors are available for use with a range of Thermo Scientific Single-Use Bioreactors via a Thermo Scientific port SV20716. With the development of single-use systems, ABER continues to expand its range of solutions available for use from R&D and pilot scale through to manufacturing.

For recommendations on suitable products for your application, please contact sales@aberinstruments.com

FUTURA neo_{tf} headamp

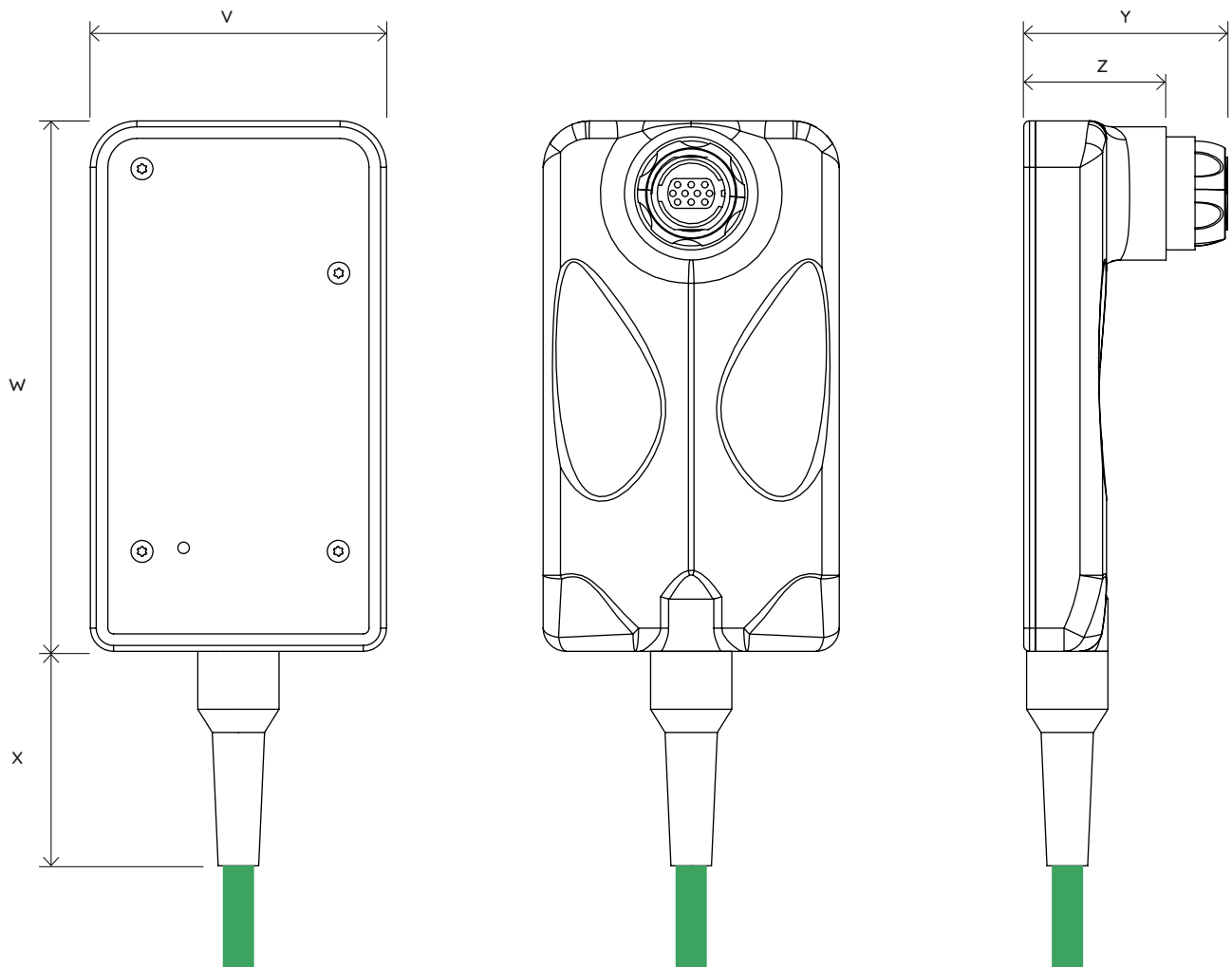
FUTURA neo_{tf} single-use sensor



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Product specification

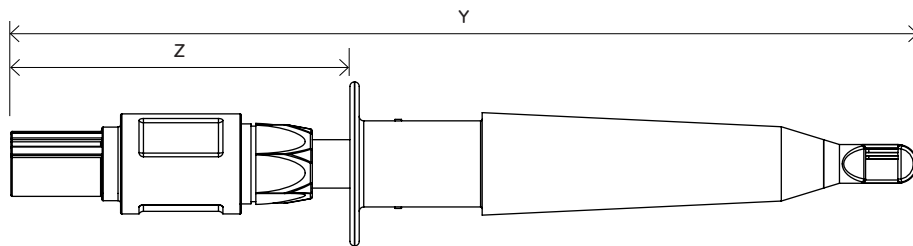


Part Number	Description	Dimensions (mm)				
		V	W	X	Y	Z
5360-00	FUTURA neo _{tf} (Head Amplifier)	51	91.5	37	34.7	24.5

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Product specification



Part Number	Description	Dimensions (mm)	
		Y	Z
5340-00	FUTURA neo _{tf} single-use sensor for Thermo Scientific S.U.B.s	140	55



Part Number	Description
5341-00	FUTURA neo _{tf} signal simulator - Zero Value
5342-00	FUTURA neo _{tf} signal simulator - High Value

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System technical specification

Frequency Range:	50KHz to 20MHz
Measuring Ranges:	Capacitance: 0.0 to 400 pF/cm Conductivity: 1.0 to 40 mS/cm
Cell Concentration Range:	Depends on cell sizes but typically: Yeast (6 µm): 10 ⁶ cells/ml to 10 ¹⁰ Cells/ml Bacteria (1 µm): 10 ⁹ cells/ml to 10 ¹³ Cells/ml Animal Cell (12 µm): 10 ⁵ cells/ml to 10 ⁹ Cells/ml Plant Cell (50 µm): 10 ³ cells/ml to 10 ⁷ Cells/ml
Resolution:	Resolution: 0.1 pF/cm. Bacteria typically 0.2g/L dry weight or 2x10 ⁹ Cells/ml for E. Coli. Yeast or Animal Cells 0.05g/L or 1 x10 ⁵ Cells/ml The relationship of these capacitance values to biomass levels depends upon the cell type and cell line.
Accuracy:	Better than ± 3% of the reading
Stability:	Better than ± 0.2 pF/cm at constant temperature with standard conductivity solution of ~12 mS/cm
Linearity:	Better than ± 1% over 100 pF/cm
Precision:	<± 0.5 pF/cm, no filter active
Power Supply:	24V DC power is typically supplied by an Aber Connect running on 110V AC to 240V AC mains.
EMC Compliance:	Directive 2014/30/EU as demonstrated compliance to: EN 61326-1:2013 + EN 61326-2-1:2013. FCC: CFR47 Part15 Sub Part B Part 1: General
LVD Compliance:	Low Voltage Directive 2014/35/EU and complies with the following standards: EN61010: 2010
Weight:	225g



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Sensor technical specification

Operating Temperature Range:	2°C - 40°C (36°F - 140°F)
Storage Temperature Range:	2°C - 25°C (36°F - 140°F)
Process Connection:	Via Thermo Fisher Scientific port SV20716
Sterilization:	Gamma ray sterilizable 25-45 kGy
Shelf Life:	3 years after irradiation, under appropriate storage conditions
Mechanical Pressure Resistance:	1bar
Wetted Materials:	Makrolon Rx2530, Platinum 99.99%, Dymax 1180-M-UR. Complies with the requirements of FDA-modified ISO 10993-1 and USP Class VI, 2019 BPOG L&E
Precision:	Better than $\pm 1\%$ over 100 pF/cm
Approvals:	USP class VI & FDA for all wetted materials, factory calibration
Minimum sensor clearance:	60mm *For further information on probe clearance please contact support@aberinstruments.com



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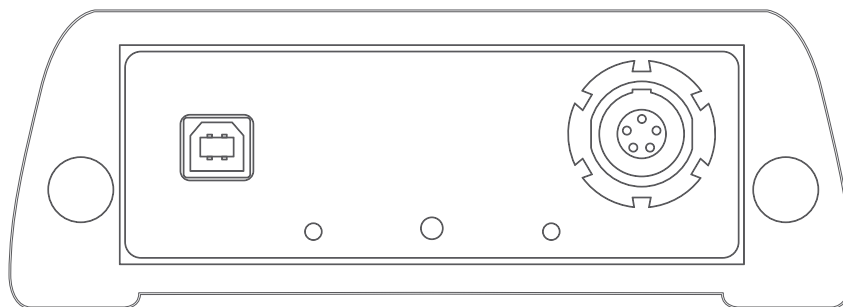
Connect 1

Product and technical specification

The Connect 1 is a transmitter that is used with a single Futura neo_{fr} instrument.

Communication:

- Connects Aber's FUTURA equipment to a PC via a USB port.
- Provides FUTURA equipment with 2 x 4-20mA Analog (Current loop) outputs.
- Provides FUTURA equipment with a Modbus Interface to SCADA or a controller



Part Number	Description
2801-00	FUTURA Connect 1
2820-00	FUTURA Connect 1 - Din Rail Mountable

Dimensions	Height: 38 mm Width: 105 mm Depth: 145 mm Weight: 0.7 kg
Power Supply:	Desktop mains power supply. Aber part number: 2880-35 Nominally 110 to 240 volts AC 50/60Hz. Installation Category II
Power Consumption:	10W Maximum
Electrical Safety:	Must use ABER branded external power supply, part number: 2885-35
Environmental:	Safe ambient operating temperature range: 5°C to 40°C Recommended ambient operating temperature range: 15°C to 30°C Relative Humidity: < 85%. Pollution: Deg 2. (EN61010) Not Waterproof. Recommended operating altitude: < 2000m

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Connect 4

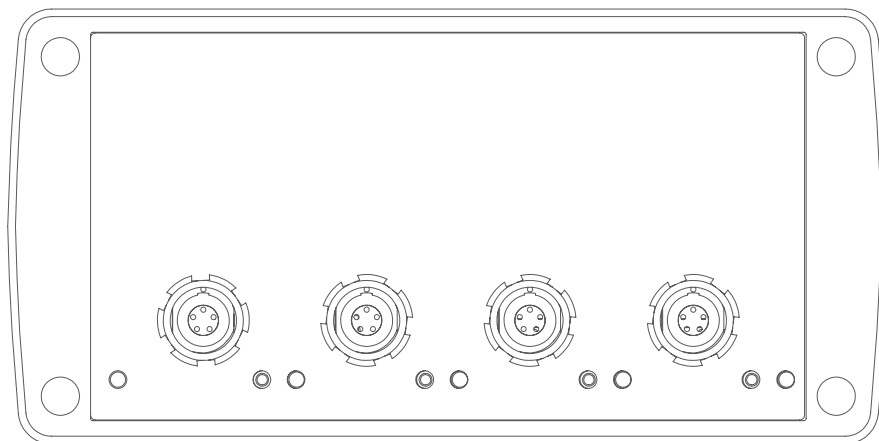
Product and technical specification

For use with up to four FUTURA and multiple bioreactors

The FUTURA CONNECT provides power and communications to the FUTURA

Communication:

- Connects ABER's FUTURA equipment to a PC via a USB port.
- Provides FUTURA equipment with 8 x 4-20mA Analog (Current loop) outputs.
- Provides FUTURA equipment with a Modbus Interface to SCADA or a controller



Part Number	Description
2814-00	FUTURA Connect 4
Dimensions	Height: 88 mm Width: 175 mm Depth: 132 mm Weight: 1.35 kg
Power Supply:	Desktop mains power supply. Aber part number: 2885-35 Nominally 110 to 240 volts AC 50/60Hz. Installation Category II
Power Consumption:	60W Maximum
Electrical Safety:	Must use ABER branded external power supply, part number: 2885-35
Environmental:	Safe ambient operating temperature range: 5°C to 40°C Recommended ambient operating temperature range: 15°C to 30°C Relative Humidity: < 85%. Pollution: Deg 2. (EN61010) Not Waterproof. Recommended operating altitude: < 2000m

For further technical information please contact:

support@aberinstruments.com

or alternatively contact sales@aberinstruments.com

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