



## TruCell2 Cable

The TruCell<sup>®</sup>2 probe and transmitter are connected together using a pre-assembled electrical cable, which can be either 6 ft or 10 ft in length. The wire is 29-AWG and shielded, in order to optimize the signal-to-noise ratio at the transmitter electronics.

The cable connects to the probe using a “snap-on” Fischer connector to prevent unwanted connection failures. A cable boot is provided on the probe shaft side to protect the electrical leads in a wash-down environment. An 8-pin DIN connector is used to connect the cable to the main transmitter electronics board. A cable gland is provided on the cable as well, that fits into the one of the transmitter openings, and assures a NEMA 4X rated seal.

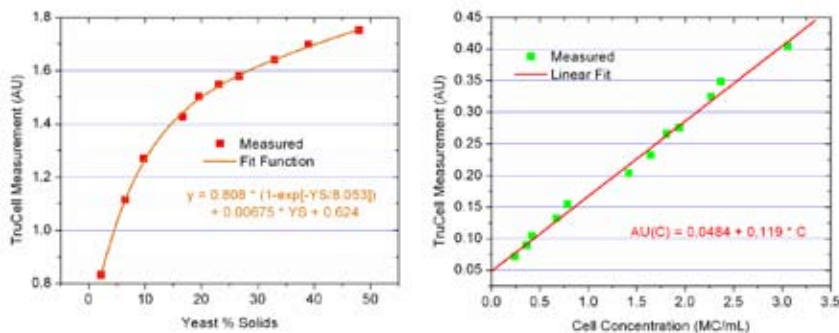


TruCell2 cable

## TruCell2 Curve Fit Applet

For biological samples, especially those related to fermentation, there can be a very high degree of non-linearity owing to light scattering. Fermentation applications often produce a curve that saturates exponentially, when increasing forward scattering of the light saturates the photo-detector response. Cell culture applications can either be linear, or saturate like the fermentation response. Care must be taken to position the TruCell2 sensor away from the sparger, as bubbles will produce additional scattering losses that are not correlated with cell density, and thereby disrupt the measurement.

Finesse has developed a curve fitting algorithm that can convert the measured optical loss into process units.



Response of TruCell AU versus (left) yeast % solids and (right) CHO cell concentration

The Finesse “TruCell Conversion” program generates the parameters for a non-linear curve fit, so that the TruCell2 transmitter can directly convert raw AU data into user-defined process units. By doing this in real-time, the user can generate meaningful process data for controlling the process. For example, the conversion program can be used to convert from raw AU to cell density (cells/l), optical density (OD), or dry cell weight (g/l).