

LT Industries ParaFuel™ NIR Biodiesel Analyzer



ParaFuel™ systems from LT Industries are small, rugged analyzers designed for use in biodiesel Plants & laboratories. Whatever the analytical need – Finished product qualification, In-Process readings, or incoming product properties -- the **ParaFuel™** system can do the job. You can expect low cost, fast results, and low operator training loads from every **ParaFuel™** system.

ParaFuel's full networking capability allows data to be accessed wherever needed. **OpCon-II** user interface provides customized screens, result reporting, and data-logging. **LTBus** software allows the system to interface with plant DCS, PLC, or other computer systems using Modbus, 4-20 mA, and other protocols.

Easy to use, easy to own

Make fussy sampling procedures a thing of the past. Simply dip the probe into a sample and hit "Enter" on the controlling computer. The **ParaFuel** provides your analytical results in seconds.

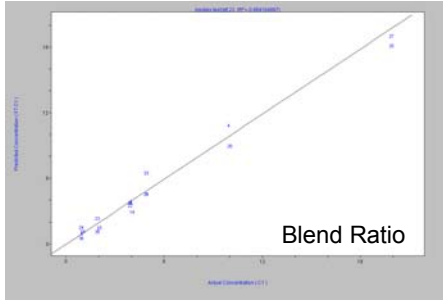
Available Options:

- **On-Line Integration** – With sampling points directly in the process get real time automated results. Use them to control your process to balance other inputs, insure complete reactions, and increase yield of ASTM approved product.

- **Multiplexer** – Allows for multipoint measurement with one analyzer. Up to 20 channels allows for unsurpassed value measurement point.
- **On-site application** — LT Industries personnel will visit your facility, commission the instrument, develop the analytical model and train your personnel.
- **Remote Diagnosis via modem** — Connect an interactive modem to the system, call LT Industries and our technicians can meet your needs over the telephone line.

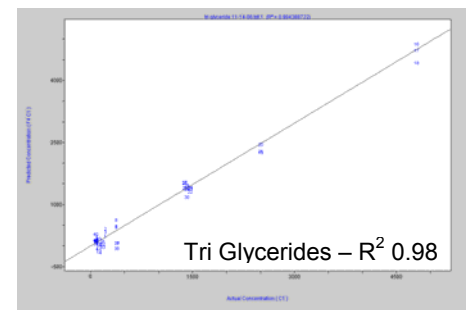
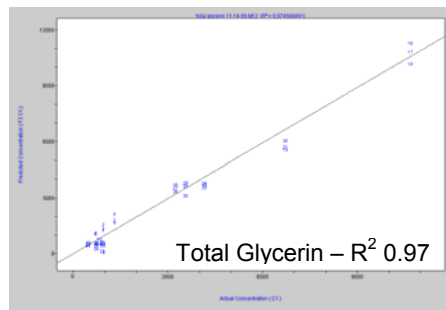
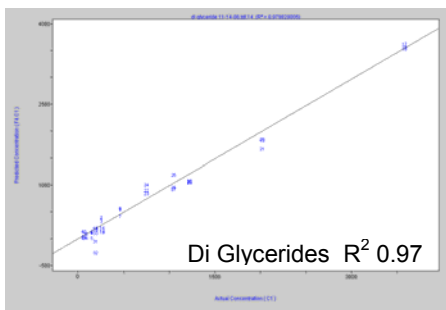
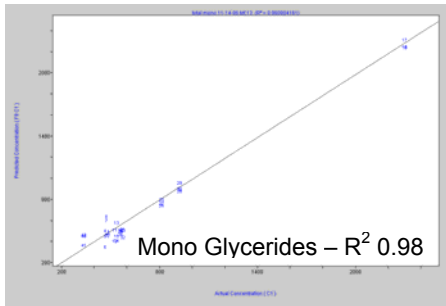
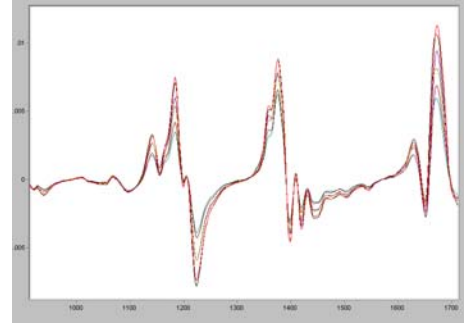
Just some of the ASTM properties measured	
Property	ASTM Method
Flash point	D93
Kinematic Viscosity	D445
Cetane number	D613
Acid number	D664
Cloud point	D2500
Total glycerin	D6484
Distillation temperature	D1160
Moisture	D6304

Selected Measurements in Biodiesel Using the ParaFuel™ Biodiesel Analyzer



The ParaFuel™ analyzer equipped with a Multiplexer, fiber optic cable, and probe was used to scan Biodiesel blends and B-100 directly off the process.

The measurements shown are Glycerin (Mono-, Di-, Tri-, and Total) and the ratio of Biodiesel/Diesel from 1 to 20%. Blended product included Animal Fat, Chicken Fat, Vegetable Fat, and Used Recycled Grease as FAME sources. This extreme range of variables indicates the robustness of the technique. The measurements shown are only a sampling of what the ParaFuel™ can bring to your lab.



Analyzer Specifications:

Reliability:	Designed for twenty-four hour operations without shut-down.
Spectral range:	1200 – 2400 nm (other ranges available from 400 – 2400 nm)
Scanning speed:	5 scans per second
Spectral addition:	Scans may be added under computer control
Measurement modes:	Reflectance, Transmittance, Transflectance
Data interval:	1 nm (1200 points over the spectral range)
Bandwidth:	10 nm
Photometric range:	5 Absorbance Units
Wavelength repeatability:	0.01 nm
Stray light:	0.1% or better
Light geometry:	Optimized for minimum specular reflectance and maximal S/N
Auxiliary port:	Computer controlled for alternative sampling
Possible signal output:	Multiple 4-20 mA, multiple voltages, MODBUS, and more
Power:	120V, 3.5 Amp, 60Hz or 220V, 1.8 Amp, 50 Hz
Power transients:	Filtered
Dimensions:	12" x 15" x 13" (HWD), 30.5 cm x 39.7 cm x 34.9 cm (HWD)