



Beacon 3000 Process NIR Analyzer

Low Maintenance

Proprietary probe design prevents fouling and eliminates the need to dismantle and clean the probe on a constant basis. Little or no conditioning is required, further increasing the system's reliability.

Low Cost

In many applications, the Beacon 3000's performance and price make it an attractive alternative to traditional analyzers, such as gas chromatographs or distillation analyzers. No analyzer shelter is needed, and the low maintenance requirements reduce ownership costs to a minimum.

Field Proven

The Beacon technology has been successfully implemented in Refinery, Pipeline and Petrochemical applications.



Unique Architecture

- The Main Analyzer is located in the Control Room, protected from the process environment.
- The Main Analyzer connects, via telecommunications fiber optics, to the Field Units, which are installed up to 3 km (2 miles) away, close to the process.
- Up to 8 Field Units can be connected to one Main Analyzer.

Intrinsically Safe

- The Field Unit uses no electricity, and contains no moving parts.
- This 100% optical probe requires no explosion proof housing or analyzer shelter.
- The Field Unit is certified under the ATEX Directive 94/9/EC (EN 60079-28:2007).

Beacon 3000 represents a breakthrough in NIR process analyzer design. The intrinsically safe probe and low system cost result from a combination of innovative optics and the patented application of standard, optical, fiber technology to NIR analysis.

Applications

- Gasoline and Diesel on-line blending
- Catalytic cracking unit optimization
- Continuous catalyst regeneration
- Reformer streams on-line analysis
- Crude distillation unit optimization
- HF Alkylation acid analysis
- Solvents extraction and complex on-line analysis

NIR Analyzer Beacon 3000

SPECIFICATIONS AND BENEFITS

Performance Specification

- **Cycle time:** 10-30 sec / stream
- **Main Analyzer Unit to Field Units maximum distance:** 3 km
- **Multiplexing Capability:** up to 8 Field Units
- **Outputs:**
 - Modbus RS 485
 - TCP/IP Ethernet Communication
 - Optional AO/AI/DI/DOs

Field Unit Operating Conditions

- **Ambient Temperature:** -40°C to +70 °C
- **Maximum Sample Temperature:** up to 160 °C
- **Sample Conditioning Requirement:** Haze-free
- **Maximum Inlet Pressure:** 550 psi (40 bars)
- **Flow Rate Requirement:** 1 l/min to 3 l/min
- **Sample phase:** Liquid
- **Weight:** Approximately 7 kg (15 lb.)
- **Dimensions:** H 30 cm - D 38 cm - W 16 cm
- **Routine Maintenance:** None
- **Area Classification:** Zone 1 (EN 60079 EN 6007928:2007)

Spectrometer Operating Conditions

- **Ambient Temperature:** 0°C - 45°C (32°F - 113°F)
- **Relative Humidity:** 30% - 90% non-condensing
- **Supply Voltage:** 100/120/220/VAC, 50/60 Hz (3 A max.) Via on-line UPS
- **Weight:** Approximately 8 kg
- **Dimensions:** Single 2U, 19" Rack Unit, 35.3 cm deep
- **Routine Maintenance:** Replacement of light source every 6 months
- **Area Classification:** General Purpose

Services Available

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support

Measured Properties

- Motor Octane Number
- Research Octane Number
- Aromatics
- Olefins
- Benzene
- Distillation Points
- Oxygenates
- API Gravity
- Cloud Point
- PIONA
- Flash Point
- Pour Point
- Cetane index
- Reid Vapor Pressure
- para Xylenes
- ortho Xylenes
- meta Xylenes
- Viscosity
- Chemical Composition
- % MTBE and more ...

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