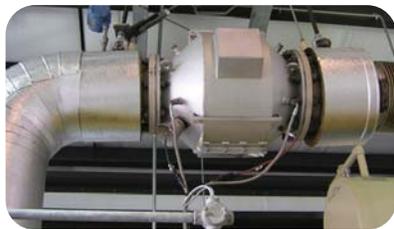


CATALYST MONITORING SYSTEM

WHY AUTOMATE?



Today's emissions regulations for Reciprocating Internal Combustion Engines (RICE) are more stringent and sophisticated than ever. The monitoring of catalytic converters for these engines now requires recording inlet temperatures as well as differential pressure across the catalytic converter. Maximum Achievable Control Technology (MACT) compliance requires the implementation of a Continuous Parameter Monitoring System (CPMS) in order to monitor inlet temperature data and reduce this data to 4-hour rolling averages.

COMPLETE SOLUTIONS

Winn-Marion has designed a monitoring solution that is MACT compliant regarding the National Emission Standards for Hazardous Air Pollutants (NESHAP) for RICE. This simple, yet elegant field proven design utilizes standard off-the-shelf components that have years of proven reliability in harsh oil and gas applications. With over 100,000 installations of each component, this system ensures the most robust design available for this application and the best value for emissions compliance.

The ABB G4 XRC hardware and software provides the ability for customization to customer requirements, while still locking in MACT compliance. The XRC can provide monitoring for a single catalyst, as has been most competitors offering, but it also is capable of being expanded to monitor multiple catalysts at the same site. Familiar communication protocols are built in to this product, using the same hardware as the ABB Totalflow that most oil and gas companies are intimately familiar with.



Both the inlet temperature to the catalyst and differential pressure (DP) on each unit will be measured continuously while in operation. The inlet temperature is data logged every 15-minutes with computation of a 4-hour

rolling average of values for comparison with the operating limit (1250 F). The DP is trended and logged on the display.

SYSTEM DESCRIPTION

This Winn-Marion solution manufactured by ABB is viable for a full range of catalyst and asset monitoring applications. We can

customize the application software to suit the customer's requirements.

APPLICATION DETAILS

- ABB G4 6410 XRC Control
Class 1 Div 2 approved enclosure, 12 Vdc
- MACT Compliance App for the XRC (scrolling data)
- 2 line - wide temperature range - LCD display
- RS232/485 Modbus™ RTU serial Communications port
- Ethernet TCP/IP Modbus™ communications port
- On-board non-volatile RAM (months of data storage)
- Remotely retrievable historical data
- Locally retrievable historical data
- Internal storage of emissions maintenance (catalyst S/N and install dates, etc.)
- 2 ABB TTH300 Temperature Transmitters
Type K Thermocouple to 4- 20 mA - loop powered
- 2 AST 4300LP Pressure Transmitters -
4-20 mA - loop powered - 0-27" H2O W.C.
- Optional keypad, I/O modules (multi-catalyst) and power supply converters

ADVANTAGES

Not only can Winn-Marion prepare your engine for MACT compliance, our solution features:

- Standard off-the-shelf hardware
Already familiar to most companies in the industry
- Standard communications software
Familiar to the industry (ABB Totalflow)
- Standard intuitive PC Interface Software
Familiar to the industry (ABB PCCU)
- Proven in harsh environments
Installed base > 100,000 (-40 to +140F)
- Wide environmental specifications
Installation anywhere on the engine skid
- Reliable high accuracy transmitters
Wide environmental specifications (-40 to +185F)
- Class 1 Div 2 classification for all components
- Multiple catalysts monitoring
Expandable to additional monitoring points & radios

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