

## **Luminos TDL** *Model 18 Online H<sub>2</sub>O Analyser*

The ATAC Luminos TDL moisture analyser utilizes a tunable laser for precise measurement, even at very low concentrations.

### **Benefits**

- Factory calibrated, Direct Absorption Spectroscopy based measurement requires no field calibration
- Intrinsically Linear
- Ultra-low Noise
- Low Maintenance
- Optional NIST traceable field validation method

### **Features**

- Laser based analyser with no moving parts except valves
- Superb linearity is intrinsic to the measurement method
- Excellent long term stability
- Built In span validation capability
- Specific measurement, no interference from other gases
- Single factory calibration over the whole range
- Ultra-low maintenance requirements
- Real-time measurement <0.5min or 30sec response time
- Easily Re-ranged on site
- Large, clear display with fault beacon function
- Low & High flow alarms built in

### **Applications**

- Natural gas processing, storage and distribution.
- Refinery processes and final products.
- Petrochemical processes.
- LNG processing and NGL products.
- Speciality gases and other non-condensable gases on request.
- Catalyst Protection.

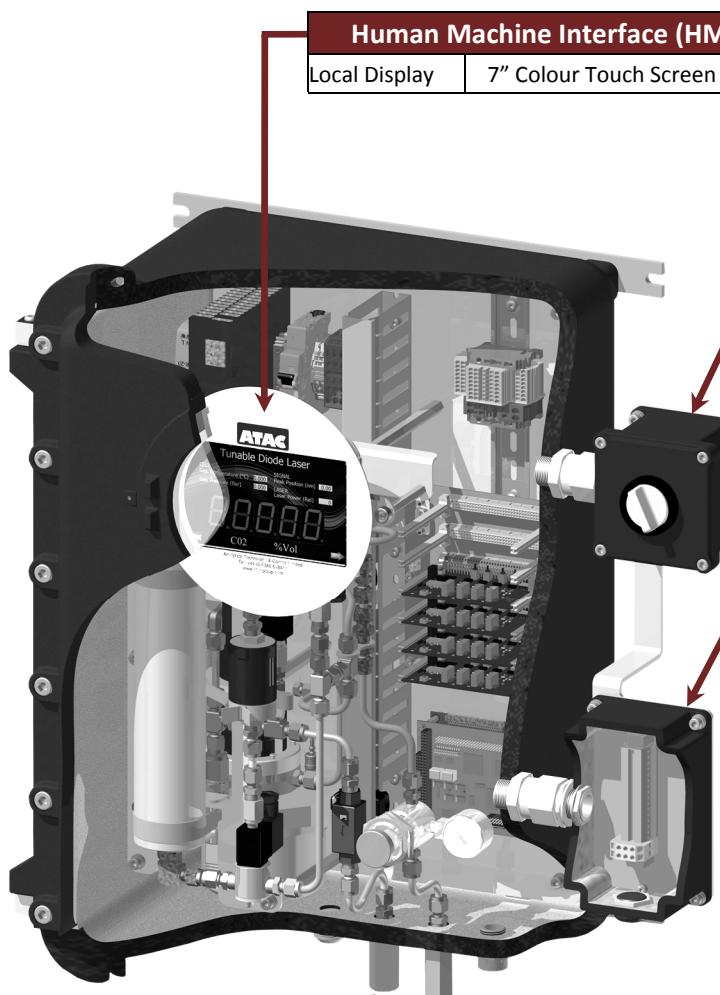


### **Integral Validation - Optional**

Contained within the analyser enclosure is a Validation System which may be invoked locally or from the DSC. Sample is passed through a molecular sieve to remove any moisture and verify the zero level, the sample is then subsequently passed through a moisture permeation device at a controlled temperature and flow rate to provide the required concentration of moisture for a span validation.

The user interface software incorporates an alarm function which is invoked in the event of a failure of either zero or span accuracy.

**Infra Red Spectroscopy:** The instrument operates by measuring the absorbance of infra-red light by the gas species of interest. The range of operational wavelength depends on the specific instrument but is typically 0.7 to 2.6µm. Most gases have absorption chromophores in this range, and the instrument can be factory configured, by selection of the laser diode fitted, to measure a wide range of analytes.



Human Machine Interface (HMI)	
Local Display	7" Colour Touch Screen

Electrical Connections	
Connections	Electrical: M20 Ex e (Power)
Power Supply	86V to 264VAC Frequency: 50/60 Hz (24 VDC Optional)
Consumption	150-500VA

Communications & Networking	
Connections	Electrical: M25 Ex e (Signal)
Can Bus	Local Machine Highway
Serial	Various communications options are available, please consult the factory for details
Analogue Outputs	1 x 4-20mA Isolated Output - Sample Concentration
	1 x 4-20mA Isolated Output - Sample Flow
Analogue Inputs	1 x 0-24Vdc Input - Remote Validation
Relays	2 off 0v Contact Relays (8 Off Relays Optional)
Local Display	7" Colour Touch Screen

Sample Outlet	
Connections	Sample ¼ O/D Swagelok

Sample Inlet	
Connections	Sample ¼ O/D Swagelok
Sample Conditions at Inlet	Pressure: 2.0bar (30psi) Max - High pressure alarm >2 bar
	Temperature <50°C (High Temperature Optional)
Sample Conditions at Outlet	Pressure: 1.6bar Max

Performance Specifications	
Configuration	7.6 Meter Multi-Pass Herriot Cell
Ranges	0 - 10ppm (Min) to 0 - 1500ppm (Max) for higher ranges please consult the factory
Repeatability	<0.2ppm (Low & Ultra Low Ranges)
	<0.5ppm (High Ranges)
Limit Of Detection	0.5% of Range or 0.2ppm
Linearity	1% Of Full Scale
Zero Drift	<1% Of Full Scale/Year
Response Time T90	<90 Seconds ( Flow Rate Dependant)
Gas Flow Rate	1 - 3.6L/min
Explosion Protection	IECEx & ATEX Zone 1 IIB+H2 T4
Dimensions	Width: 582mm
	Depth: 360mm
	Height: 659mm
Weight	80kg+ (Configuration Dependant)
Operating Temp.	0°C to +55°C (Ambient)

Options	
Moisture Verification	Automatic Or On Demand Zero & Span Validation (Option)

Environmental	
Ambient	0°C to 55°C

It is recommended that low range units are installed inside a temperature controlled shelter.