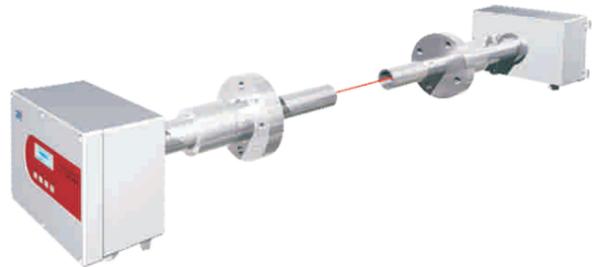
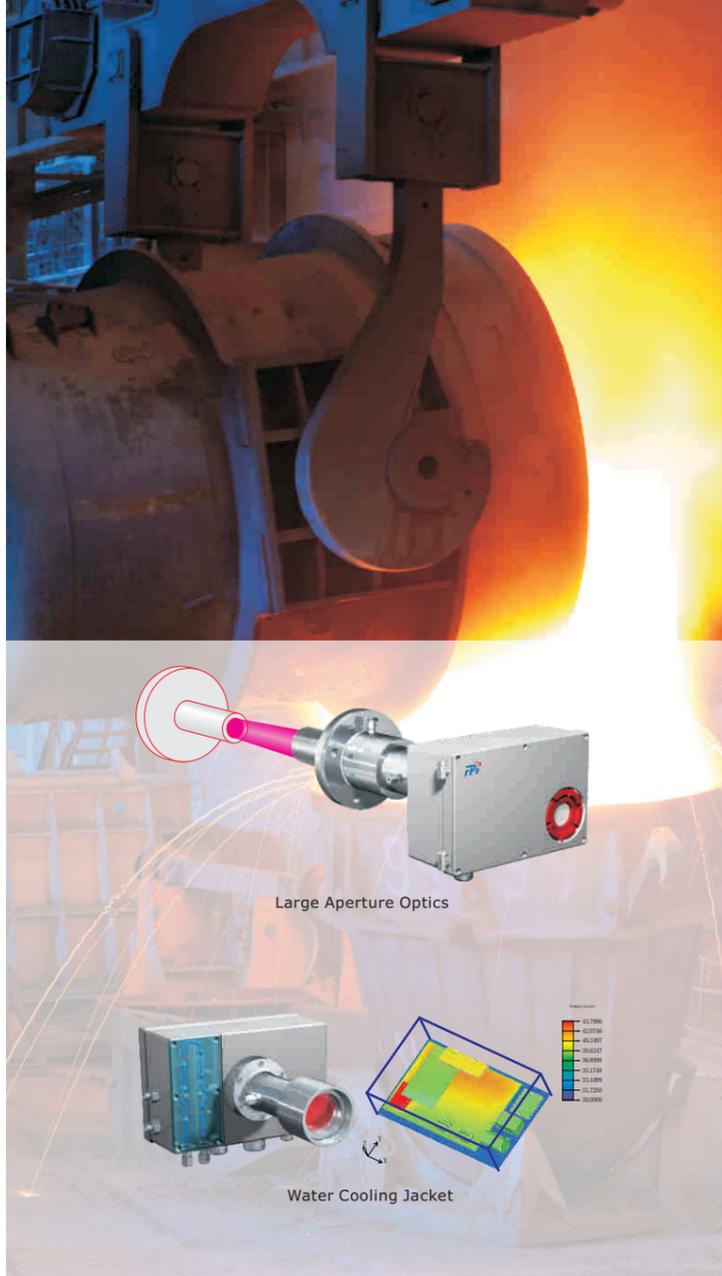


## LGA-4100 In-situ



### Features and Benefits

- In-situ, no gas sampling
- No cross interference
- Fast response less than one second
- Diverse optical length (0.5~20m)
- Reliable in all harsh conditions: high temperature & pressure, dust density, moisture and corrosion
- Online calibration, no zero drift
- Thousands of tailor-made solutions for various applications
- International ATEX certified



### Application Areas

#### Refinery & Petrochemical

- FCC Catalyst Regeneration
- SCR NH3 Injection
- Desulfurization Efficiency
- Explosive Process Gas
- Reactant Ratio Optimization
- Product Purity
- HCL, HF Emission
- Flue Gas Measurement Outlet of Process Heaters, Fractionators, Thermal Crackers, Utility Boilers and Incinerators
- Sulfur Recovery

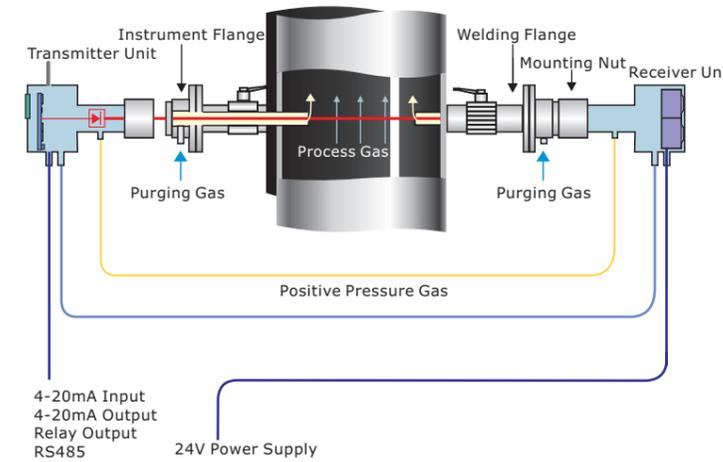
#### Metallurgy

- Combustion Control for Reheating Furnace, Heat Treatment Furnace, Forging Furnace
- Converter Gas Recycle
- Blast Furnace Gas
- Coke Oven Gas
- Flue Gas of Sintering, Pelletizing
- Coal Injection Safety Control
- Electric Tar Precipitator (ETP) Safety Control
- CDQ Circulating Gas
- Gas Tank Safety Control
- Calorific Value Analysis
- Sulfur Recovery

#### Thermal Power

- SCR NH3 Injection
- Desulfurization Efficiency
- Coal Injection Safety Control
- HCL, HF Emission

### LGA Composition



### Technical Data

#### Specifications

- Repeatability:  $\leq \pm 1\%F.S.$
- Linearity:  $\leq \pm 1\%F.S.$
- Span drift:  $\leq \pm 1\%F.S./6$  months
- Response time:  $\leq 1s(T90)$
- Warm-up time:  $\leq 15min$
- Optical path length: 0.5-20m
- Process gas temperature: max. 1500°C
- Process gas pressure: 0.8 to 4 bar abs.

#### Input & Outputs

- Analog outputs: 2 outputs 4-20mA, max. load 750Ω, electrically isolated
- Relay outputs: 3 outputs 24V DC/1A
- Analog inputs: 2 inputs 4-20mA, for gas temperature & pressure compensation
- Communications: RS485(or Bluetooth, RS232 or GPRS)

#### Operating conditions

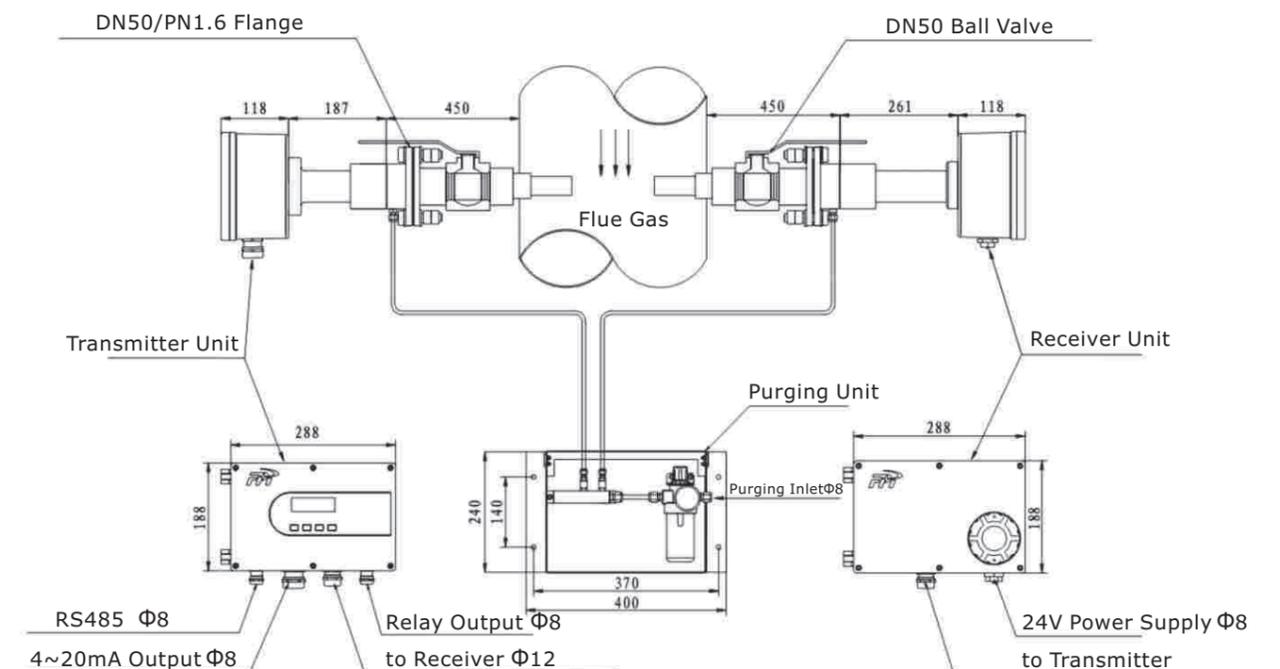
- Power supply: 24V DC(21-36V DC), or 90-240V AC
- Power consumption: max. 20W
- Operating temperature: -30°C to +60°C
- Storage temperature: -40°C to +80°C
- Purge gas: 0.3 to 0.8MPa nitrogen gas or instrument air
- Protection class: IP65

#### Approvals

- Laser class: class 1 conformant with IEC60825-1
- CE certified: conformant with 2004/108/EC
- IECEX certified: IECEX CQM 13.0047X
- ATEX certified: ECM 15 ATEX-B 003 X

### LGA Dimension

Unit:mm



## LGA-4500 Bypass



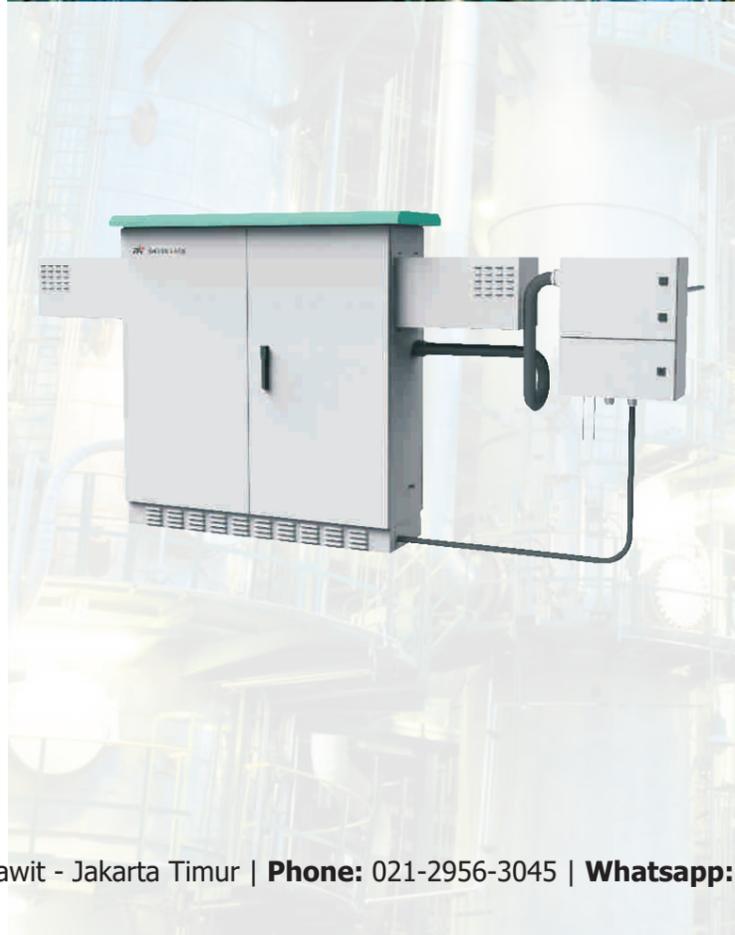
Corrosion resistant/high temperature proof gas cell

### Features and Benefits

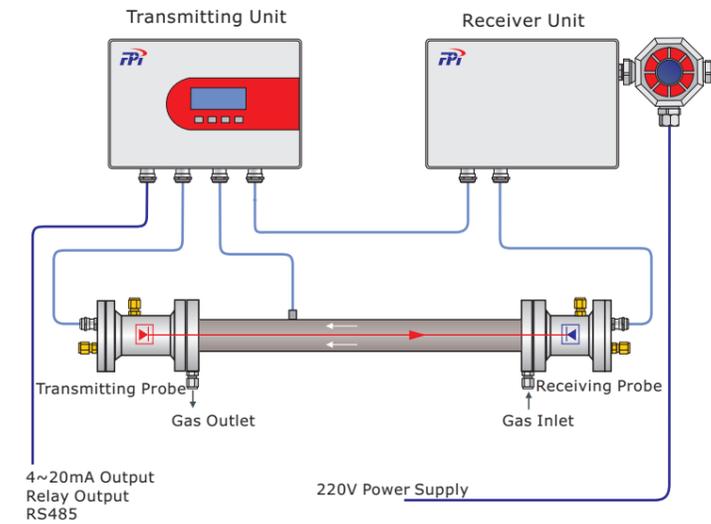
- Fast response
- High accuracy, ppm level resolution
- No cross interference
- Reliable in all harsh conditions: high temperature & pressure, dust density, moisture and corrosion
- Online calibration, no zero drift
- International ATEX certified

### Application Areas

- HCL, HF, NH<sub>3</sub>, H<sub>2</sub>S emission monitoring
- Trace H<sub>2</sub>O in VCM Production
- Coal Injection Safety Control
- SCR NH<sub>3</sub> Injection in Coal-fueled Plants
- All other applications where in-situ doesn't fit due to high pressure or dust density, limitation of stack diameter or position.



### LGA Composition



### Technical Data

#### Specifications

Repeatability:  $\leq \pm 1\%F.S.$   
 Linearity:  $\leq \pm 1\%F.S.$   
 Span drift:  $\leq \pm 1\%F.S./6$  months  
 Instrument response time:  $\leq 1s^*$   
 Warm-up time:  $\leq 15min$   
 Gas cell temperature:  $-30^{\circ}C$  to  $+250^{\circ}C$   
 Gas cell pressure: 0.5 to 3 bar abs.  
 \*Gas flow  $> 1L/min$ , system response time:  $T_{90} < 20s.$

#### Input & Outputs

Analog outputs: 2 outputs 4-20mA, max. load 750 $\Omega$ , electrically isolated  
 Relay outputs: 3 outputs 24V DC/1A  
 Communications: RS485(or Bluetooth, RS232 or GPRS )

#### Operating Conditions

Power supply: 200-240V AC/48-63Hz  
 Power consumption:  $\leq 30W$  (no heat tracing)  
 Operating temperature:  $-30^{\circ}C$  to  $+60^{\circ}C$   
 Storage temperature:  $-40^{\circ}C$  to  $+80^{\circ}C$   
 Purge gas: 0.3MPa nitrogen gas or instrument air  
 Protection class: IP65

#### Approvals

Laser class: class 1 conformant with IEC60825-1  
 CE certified: conformant with 2004/108/EC

### LGA Dimension

Unit:mm

