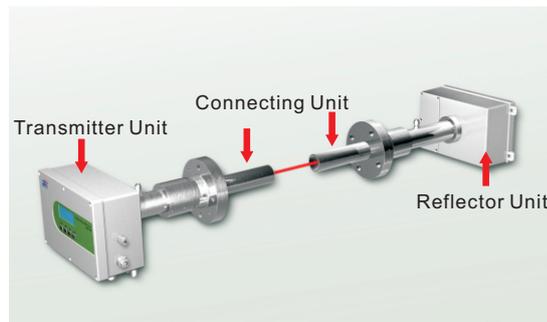


LDM-100

Laser Dust Monitor

■ Overview

LDM-100 monitors the gas turbidity and dust concentration real-time and continuously in each process pipe and emission flue by measuring the ratio of optical intensity after laser transmission and original optical intensity.

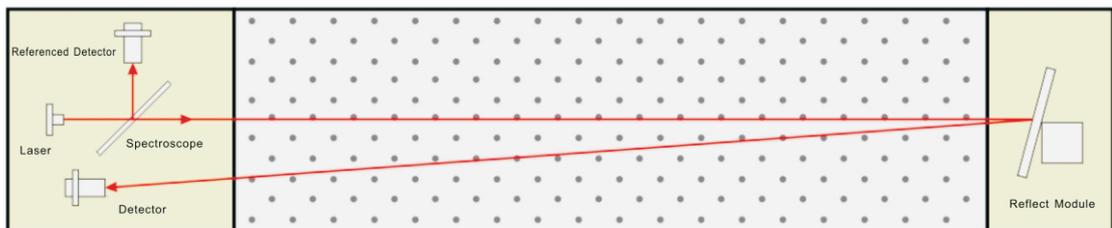


■ Features and Advantages

LDM-100 adopts reflecting style design, making all the photoelectric parts (sensors, laser) be in the same environment temperature and rising the stability when rising measuring optical length and sensitivity. Base on the reflecting design, adjustment requirement is reduced and aseismatic ability is rose.

- Adopts laser transmission method, transmittance, extinction and dust concentration are monitored at the same time;
- In-situ installation. Measure rapidly and high precisely in viscous dust and high temperature;
- High effect reflecting material technology. High detecting sensitivity and measuring stability;
- Measuring probe take operation interface by itself. High centrality. Operate conveniently;
- Modularize designed. Each function part is displaced easily and maintained conveniently;
- Equip purging system and is right for each type of project and application.

■ Measurement Principle

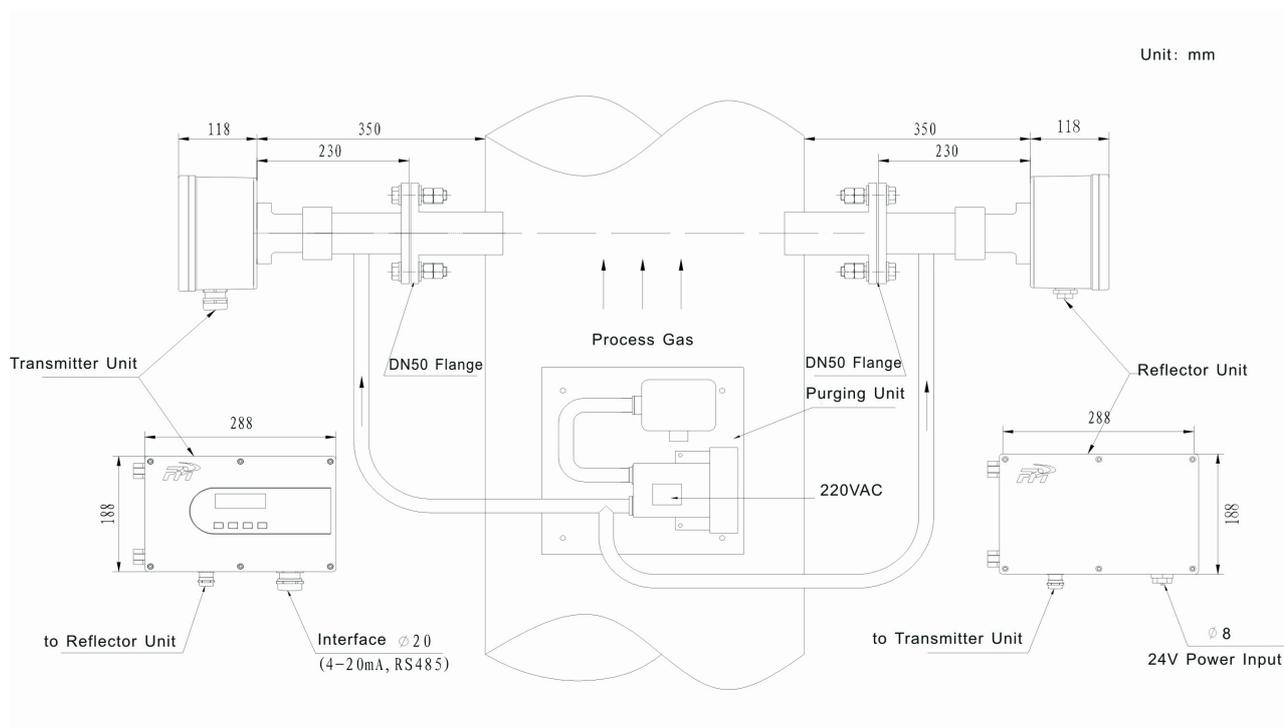


LDM-100 Measurement Principle

LDM-100 adopts Laser Transmission Method to measure the dust concentration. The basal principle (refer to Figure 1.1) is using diode laser as the lamp-house. After the detect laser beams passing through the spectroscop, the reflected light is detected by the detector and forms referenced signals. Transmission light shines to the reflecting material through the measured environment with dust. After the reflected light traverses the measured environment again, it is detected by detector and forms measuring signals. According to the contrast of referenced signals and measuring signals, transmittance information caused by dust is obtained.

Parameters and Specifications

Parameters	Range	Transmittance: (0~100)%, (80~100)%		
		Turbidity: (100~0)%~(20~0)%		
		Extinction: (0~2.5)~(0~0.1)		
		Measurement concentration: (0~5000) mg/m ³ (Concentration is correlative with optical path length, it could be customized base on requirement)		
	Precision	Transmittance/Turbidity: ± 1%		
		Extinction: ± 0.002		
Specifications	Optical path length	(0.5~15)m		
	Flue Temperature	(-20~600)°C		
	Flue Pressure	Instrument Air Purging	(-20~50)kPa	
		Purging Fan	(-10~8)kPa	
	Response	(1~600)s (setting is available)		
	Display Error	≤ ± 1%F•S		
	Repetition	≤ ± 1%F•S		
	Span Drift	≤ ± 2%F•S		
Enclosure Protection	IP 65			
Interface Signals	Analogue Output	2-channel (4~20)mA; Max: 500Ω		
	Digital Output	RS485/GPRS		
	Relay Output	3-channel output (24V, 1A)		
Conditions	Power Supply	Measuring Unit: 24V DC <20W		
		Purging Unit: 220 VAC <400W		
	Ambient Temperature	(-10~50) °C		
Installation	Installation	In-situ		



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