

MEASUREMENT SPECIFICATIONS

Measurement Species	Choose up to 3 species sets per system: O ₂ , CO, CO & CH ₄ , CO ₂ , Temperature & H ₂ O
Measurement System	Multiplexed Tunable Diode Laser Absorption Spectroscopy (TDLAS)
Available Paths per System	1 to 14

Constituent	Full Scale Range	Accuracy	Precision	Temperature Range
Temperature	Standard: 260 to 1700° C Enhanced: 0 to 1700° C	± 1.0% fs	± 0.5% fs	N/A
O ₂ %	0 to 30%	± 0.25% abs	± 0.125% abs	260 to 1700° C
CO - High Resolution	0 to 10,000 ppm	± 100 ppm	±50 ppm	500 to 1700° C
CO - High Concentration	0 to 20%	0.2%	± 0.1%	500 to 1700° C
CH ₄ %	0 to 10%	± 0.5% abs	± 0.25% abs	25 to 500° C
H ₂ O %	0 to 30%	± 1.0% abs	± 0.50% abs	260 to 1700° C
CO ₂ %	0 to 50%	± 1.0% abs	± 0.50% abs	260 to 1700° C

* fs = full scale abs = absolute Specifications based on nominal installation, actual results will vary based on installation specific criteria.

Pressure Range	0.8 to 1.1 atm	
Optical Path Length	1 to 25 meters (3 to 82 feet)	
Applicable Fired Gases	Natural Gas, LPG, Waste Gas, Naphtha, Hydrogen, Coal, Biomass and others	
Dust Sensitivity	Negligible for typical firing conditions	
Path Measurement Time	10 seconds	Typical per path duration
Complete Furnace Profile	Total path count X 10 sec	Typical cycle duration (e.g. 12 paths = 2 minutes)
On-site Calibration	Not required	Self-calibrated every 24 hours

SENSALIGN HEADS

Features

Active Heads	Automatic Alignment	± 2.5 deg range
	Local Indicator Light	Green (measuring), Yellow (open), Red (error)
	Weight	11 kg (24 lbs)
	Dimensions	285 mm D x 215 mm W x 225 mm H (11.3 in. D x 8.7 in. W x 8.9 in. H)
Passive Heads	Hardened Reflecting Mirror	Head alignment not required
	Weight	9 kg (20 lbs)
	Dimensions	110 mm D x 175 mm W x 200 mm H (4.4 in. D x 7.0 in. W x 8.0 in. H)
Measurement Path	Low Maintenance	Configurable but not required
	Purge Air/N ₂	Recommendation available based on fired gas
	Cooling Air	Not required
	Alerts / Health Checks	Signal Strength, Temperature, Open Head

Installation Conditions

Operating Temperature	-20 to 85 °C R.H. 0-100%, (-4 to +185 F)
Ingress Protection	IP66
Sight Tube Installation	75mm Ø (3") cutout in refractory and furnace for tube penetration
Sight Port Installation	Outage not typically required for sight port replacement, multiple sight port sizes available
Hazardous Classifications Available	Class I Division 2 / Zone 2, (NEC / ATEX / IECEx / KCs)
Conduit (Active Head to J-Box)	Hi-temp flex conduit - electrical and fiber optics
Conduit (J-Box to Rack)	38mm (1.5 in) O.D. typical - electrical and fiber optics
Electrical	48V CAN bus supplied by Control Rack, no local power required

ZOLOSCAN2 CONTROL CABINET

Features

Data Output	OPC UA/DA via Ethernet TCP/IP, Additional protocols available via converter
User Interface	ZoloSCAN BalanceApp for combustion visualization
Species Measurements	Path and zone data for all measured species
Alert / Health Checks	Laser status, temperature, comm errors
Lock-out Tag-out Available	Yes, main power disconnect
Remote Access Available	Yes, for remote monitoring and support

Installation Conditions

Ambient Temperature	-20 to 55 °C R.H. 0-100%, (-4 to +131 F)
Ingress Protection	IP66 Powder Coated Steel or Optional Stainless Steel
Weight	353kg (780 lbs)
Hazardous Classifications Available	Class I Division 2 / Zone 2, (NEC / ATEX / IECEx / KCs)
Electrical Requirements	230/240 Vac, Single Phase, 50/60Hz, 25A
Dimensions	1220 mm W x 1525 mm H x 560 mm D (60"W x 60"H x 18"D)