

**OPEN PATH GAS DETECTOR
ISA DATA SHEET**



General	1	Manufacturer	Boreal Laser Inc.
	2	Analyzer Model No.	GasFinder3-DC (Dual Channel) Assembly (e.g. BL-GF3-DC-S- - - - -)
	3	Measurement Head Model No.	Open Path (OPX) Head Assembly (e.g. BL-_-OPX-_-_-)
	4	Warranty Period	18 months from shipment or 12 months from installation
Analyzer Performance	1	Detection/Operating Principle	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
	2	Sensor Type	Semiconductor Diode Laser (Near Infrared)
	3	Channels / Measurement Heads	One (1) or Two (2) Channels / Measurement Heads per GasFinder3-DC
	3	Eye Safety	<10 mW Output (Class 1 AEL under IEC 60825-1)
	4	Sensor Life	Laser specified to last over 20 years
	5	Function	Detects/monitors free gaseous molecules of target gas
	6	Calibration	Factory calibrated with no requirement for periodic/inherent calibration
	7	Field Calibration	None Required or Available
	8	Automatic Validation	Internal Reference Cell (interrogated once a minute)
	9	User Function Testing	External Response Cell to "bump", "test" or "challenge" (Optional Accessory)
	10	Response Time	1.2 Seconds per Sample
	11	Recovery Time	Instantaneous (Each sample is independent of the last)
	12	Analyzer Mounting Location	Field
	13	Display / Local Indication	HMI Touchscreen (ppm-m, light level, alarm status, and fault status)
	14	Accuracy	±2% of Reading
	15	Temperature Compensation	Dynamic (Piezo Resistive) or Static (Manual Entry): -40°C to +150°C
	16	Pressure Compensation	Dynamic (MEMS) or Static (Manual Entry): 50 to 200 KPaA
	17	Drift	±0.1% over operating temperature and pressure ratings
	18	Warm-up / Start-up Time	2 Minutes
	19	User Intervention on Start-up	None Required
	20	Operating Temperature	-40°C to +60°C (General Purpose) and -20°C to +48°C (Hazardous Location)
	21	Operating Humidity	0-100% RH (Non-Condensing)
	22	Operating Pressure	50 to 200 KPaA
	23	Fault Diagnostics	Status Code visible via display, interface, outputs, and log files
	24	Internal Data Logging	User has access to 20 years worth of storage capacity via USB Stick or FTP
	25	Safety Integrity Level	SIL2 Suitable
	26	Obscuration / Beam Block	Operates down to 97% Obscuration (40x Turndown)
27	Solar Blind	Immune (Detects in Near IR)	
Analyzer Enclosure	28	Area Classification	Class 1 Zone 2, IIC (Groups A,B,C,D), T4
	29	Method of Protection	Non-Arcing/Non-Incendive (UL121201, CSA C22.2 No. 213)
	30	Ingress Protection	IP 66 & Type 4x
	31	RFI/EMI	N/A
	32	Enclosure Material	304 Stainless Steel
	33	Enclosure Mounting	Surface/Wall - 4 bolts in structure with 0.3125" nominal hole size
	34	Enclosure Dimensions (LxWxH)	495 x 368 x 160 mm (19.5 x 14.5 x 6.3 inches)
	35	Enclosure Weight	14.6 kg (32.2 lbs)
	36	Shipping Weight	16.6 kg (36.6 lbs)
	37	Power Cable Entry Size	One (1) 1/2" hole / M14 (left side of enclosure)
	38	Communication Cable Entry Size	Two (2) 3/4" holes / M20 (left side of enclosure)
	39	Measurement Head Cable Entry Size	Two (2) 3/4" holes (bottom of enclosure)
	40	Cable Glands: Power & Comm.	Supplied by others (as per local electrical standards)
Analyzer Power	41	Power Consumption	20 Watts
	42	Input Voltage	24 VDC (Nominal) & 120-220 VAC (Available Option)
	43	Power Terminals	3-Wire (16 awg)
	44	Communication Terminals	2-Wire (16 awg)
	45	Measurement Head Terminals	Single Mode Fibre (FC/APC) and CAT6 (RJ-45)
Analyzer Interface Protocols	46	Serial	RS-232, USB, & Micro USB
	47	MODBUS	RS-485
	48	Ethernet	TCP/IP (FTP or Telnet)
Analyzer Outputs	49	Analog Outputs	Three (3): One Analog Loop per Channel (2 channels in total) & One (1) Spare
	50	Configurable Analog Output Options	ppm-m, ppm, mg/Nm3, Light Level, & R2 Confidence Factor
	51	Analog Load Impedance	1,000 ohms (3 Devices)
	52	Analog Range	2-20 mA
	53	Low Light Alarm (Beam Block)	2.7 mA
	54	General System Fault	3.6 mA
	55	Dry-Contact Relays	Three (3): One (1) Relay per Channel (2 channels in total) & One (1) Spare
	56	Configurable Relay Output Options	Hi-Alarm, Hi-Hi-Alarm, Low Light Alarm, & General System Fault
	57	Contact Relay Type	Voltage Free
	58	Analog/Discrete Alarm Settings	User Programmable via HMI Touchscreen or GasView Software (included)
	59	Analog/Discrete Time Delay	User Programmable via HMI Touchscreen or GasView Software (included)
Analyzer Gas Specifications	60	Target Gas	Not Specified
	61	Application/Use	Not Specified
	61	Calibrated Range	Not Specified
	62	Minimal Detectable Limit (MDL)	Not Specified
	63	Sensitivity	Not Specified
	64	Full Scale	Not Specified
	65	Minimum Recommended Alarm Level	Not Specified
66	Maximum Recommended Path Length	Not Specified	

Open Path (OPX) Measurement Head	1	Optical Configuration	Transceiver and Retro-Reflector (Mono-Static)
	2	Assembly Composition	OPX Head, Alignment Scope, Rain/Dust Hood, and X-Y Alignment Mount
	3	Assembly Weight	5.2 kg (11.5 lbs)
	4	Assembly Dimension (LxWxH)	457 x 229 x 140 mm (18 x 9 x 5.5 inches)
	5	Physical Configuration	Remote from Analyzer (GasFinder3-DC) via Fibre Optic and CAT6 Cabling
	6	Mounting Hardware Configuration	Bottom mount with one (1) 3/8" - 16 and four (4) 0.281" - thru holes
	7	Maximum Distance to Analyzer	Up to 100m of Fibre/CAT6 Cabling (cabling available in 10m increments)
	8	Enclosure Material	6061 Anodized Aluminium
	9	Area Classification	Class 1 Zone 1, IIC (Groups A,B,C,D), T4
	10	Method of Protection	Intrinsic Safety "ib" & "Gb" as per IEC 60079-11
	11	Temperature (OPX Head Enclosure)	-40°C to +75°C (Normal) or -40°C to +85°C (High Range)
	12	Temperature (Laser Beam)	-40°C to +150°C (Active Measurement Path / Process)
	13	Beam Divergence	0.2° / 3.49 milliradian (milliradian x path length (m) = laser dot size (mm))
	14	Window Material	Lexan or Mylar
	15	Power	Non-powered (Passive)
	16	Cable Entry Size	3/4" (M20) for Fibre and CAT6 Cabling
	17	Cable Gland	Included as part of Measurement Head Assembly
	18	Cable Connections	Single Mode Fibre (FC/APC) and CAT6 (RJ-45) - Included in Assembly
Retro-Reflector	19	Retro Enclosure Material	304 Stainless Steel or FRP Fiberglass
	20	Retro Enclosure Window Material	Lexan or Mylar (Gas/Application Dependent)
	21	Retro Enclosure Heater	24 VDC @ 20W (110-240 VAC Available)
	22	Retro Enclosure Cable Entry	None
	23	Retro Enclosure Cable Glands	Supplied by others (as per local electrical standards)
	24	Retro Heater Termination	Mounted with flying leads (to be installed as per local electrical standards)
	25	Retro Array	2.5" Cornercube at 30 arc-seconds
	26	Path Length Ranges (Retro-Array)	1-45m (1), 45-75m (3), 75-125m (5), 125-200m (7), 200-350m (12), 350-500m (19)
	27	Rain/Rust Hood	Included
Recommended Accessories	1	Alignment Kit	BL-OAK
	2	I-Beam Mounting Structure	BL-IMS
	3	Response Cell	BL-RC3-__
	4	Two Years' Spare Kit	BL-2YSK
	5	Calibration Certificate Extension	BL-QDRP
	6	120-220 VAC Power Supply	BL-DCPS
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