

Field Mounted - Multi-Channel - TDL Gas Analyzer
ISA DATA SHEET



General	1	Manufacturer	Boreal Laser Inc.
	2	Analyzer Model No.	GasFinder3-MC (Multi-Channel) Assembly (e.g. BL-GF3-MC-__-__-__-__-__-__)
	3	Measurement Head Model No.	N/A
	4	Warranty Period	10 years on Laser (Light Source) and 3 years Full Warranty
Analyzer Performance	5	Detection/Operating Principle	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
	6	Sensor Type / Number of Sensors	Semiconductor Diode Laser (NIR) / One (1) or Two (2) Lasers per GasFinder3-MC
	7	Channels / Measurement Heads	One (1), Two (2), Three (3), or Four (4) Measurement Heads per GasFinder3-MC
	8	Eye Safety	Class 1 AEL under IEC 60825-1
	9	Function	Detects/monitors free gaseous molecules of one (1) or two (2) target gas(es)
	10	Calibration	Factory calibrated with recommended 2 year service interval
	11	Field Calibration	None available but Calibration Certificate Extensions provided (Optional Service)
	12	Automatic Validation	Internal Reference Cell (interrogated once a minute)
	13	User Function Testing	External Response Cell to "bump", "test" or "challenge" (Optional Accessory)
	14	Response Time	1.2 Seconds per Sample/Channel
	15	Recovery Time	Instantaneous (Each sample is independent of the last)
	16	Analyzer Mounting Location	Field (See Area Classification for more details)
	17	Display / Local Indication	HMI Touchscreen (ppm-m, light level, alarm status, and fault status)
	18	Internal Temperature Compensation	Dynamic (Piezo Resistive) or Manual Entry: -55°C to +150°C (-67°F to +302°F)
	19	Internal Pressure Compensation	Dynamic (MEMS) or Manual Entry: 50 to 200 kPa Absolute (7.25 to 29 psia)
	20	Drift	±0.1% over operating temperature and pressure ratings
	21	Warm-up / Start-up Time	2 Minutes
	22	User Intervention on Start-up	None Required
	23	Operating Temperature	-55 to +65°C (-67 to 149°F)
	24	Operating Humidity	0-100% RH (Non-Condensing)
	25	Operating Pressure	50 to 200 kPa Absolute (7.25 to 29 psia)
	26	Fault Diagnostics	Status Code visible via HMI Display, Interface, Outputs, and Logfiles
	27	Internal Data Logging	User has access to 20 years worth of storage capacity via USB Stick
28	Safety Integrity Level	SIL2 Suitable	
29	Obscuration / Beam Block	Operates down to 97% Obscuration (40x Turndown)	
30	Solar Blind	No False Positives from Solar Interference	
Analyzer Enclosure	31	Area Classification - Option #1	(A)Ex nA IIC T5 Tamb -45 to 65°C (Equivalent to: Class 1 Div/Zone 2 & Groups A,B,C,D)
	32	Area Classification - Option #2	(A)Ex nA IIC T6 Tamb -45 to 50°C (Equivalent to: Class 1 Div/Zone 2 & Groups A,B,C,D)
	33	Method of Protection	Non-Sparking/Non-Arcing "nA" (CSA No. 60079-15:16, ANSI/ISA 12.12.01-2015)
	34	Ingress Protection	IP 66 & NEMA Type 4X
	35	RFI/EMI	N/A
	36	Enclosure Material	304 Stainless Steel
	37	Enclosure Mounting	Surface/Wall - 4 bolts in structure with 0.3125" nominal hole size
	38	Enclosure Dimensions (LxWxH)	495 x 368 x 160 mm (19.5 x 14.5 x 6.3 inches)
	39	Enclosure Weight	14 kg (31 lbs)
	40	Shipping Weight	16.6 kg (36.6 lbs)
	41	Storage Temperature	-55 to +65°C (-67 to 149°F)
	42	Power Cable Entry Size	One (1) 1/2" hole / M14 (left side of enclosure)
	43	Communication Cable Entry Size	Two (2) 3/4" holes / M20 (left side of enclosure)
	44	Measurement Head Cable Entry Size	Four (4) 3/4" holes / M20 (bottom of enclosure)
	45	Cable Glands: Power & Comm.	Supplied by others (as per local electrical standards)
Analyzer Power	46	Power Consumption/Fuse	20 Watts under Normal Operation and 4A Fast Blow Cartridge Fuse (5x20 mm)
	47	In-Rush Current	Non-Hydrogen Fluoride (HF): 2.5A for 100ms & Hydrogen Fluoride (HF): 3.1A for 100ms
	48	Input Voltage	24 VDC (Nominal) & 120-220 VAC (Available Option)
	49	Power/Communication Terminals	4-Wire Device (16 awg)
	50	Measurement Head Terminals	Single Mode Fiber Optic Cabling (FC/APC) and Shielded CAT6/5e Cabling (RJ-45)
Analyzer Interface Protocols	51	Serial	USB (Data Download via USB Stick), & Micro USB (Realtime Data via GasView)
	52	MODBUS	RS-485
	53	HART	PV (ppm-m), SV (Light Level), TV (R2 Confidence Factor), & QV (TBD)
Analyzer Outputs	54	Analyzer Board Stack Outputs	One (1) HART 7 enabled Non-Isolated/ Active Analog Loop and Digital Relay Output
	55	Analog Module	Four (4) HART 7 enabled Isolated/ Active Analog Loops per Analog Module
	56	Max. # of Analog Modules	GasFinder3-MC can support up to two (2) Analog Modules
	57	Configurable Analog Output Options	ppm-m, ppm, mg/Nm ³ , Light Level (Rx), & R2 Confidence Factor
	58	Analog Load Impedance	1,000 ohms (3 Devices)
	59	Analog Range	2-20 mA
	60	Low Light Alarm (Beam Block)	2.7 mA
	61	General System Fault	3.6 mA
	62	Relay Module	Six (6) Isolated Digital Relays per Relay Module (24 V, 1A Max)
	63	Max # of Relay Module(s)	GasFinder3-MC can support up to four (4) Relay Modules
	64	Configurable Relay Output Options	Hi-Alarm, Hi-Hi-Alarm, Low Light (Low Rx) Alarm, & General System Fault
	65	Contact Relay Type	Voltage Free
	66	Analog Range Settings	User Programmable via HMI Touchscreen or HART Communicator
	67	Discrete Alarm Settings	User Programmable via HMI Touchscreen or HART Communicator
	68	Analog/Discrete Low Light Time Delay	0 to 300 seconds - User Programmable via HMI Touchscreen or HART Communicator

Lo-Range Hydrogen Fluoride (HFL)	69	Application/Use	Leak Detection - Toxic
	70	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	71	Units of Measure (Default)	Parts Per Million (ppm)
	72	Plume Size (Default)	10 m Plume
	73	Hi-Alarm (Default)	3 ppm
	74	HiHi-Alarm (Default)	9 ppm
	75	Range of Actionable Concentrations	0.5 - 25 ppm
	76	Recommended Path Length	10 - 200 m
77	Maximum Recommended Cable Length	300 m	
Lo-Range Hydrogen Fluoride Plus (HFL+)	78	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	79	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	80	Minimum Detectable Limit (MDL)	0.4 ppm-m (0.3 mg/m ³ for sensitivity capped systems)
	81	Lowest Actionable Concentration	0.8 ppm-m (2x MDL)
	82	Lowest Recommended Alarm Threshold	2 ppm-m (5x MDL)
	83	Sensitivity	0.1 ppm-m
	84	Full Scale	250 ppm-m
85	Maximum Recommended Path Length	200 m	
86	Maximum Recommended Cable Length	300 m	
Hi-Range Hydrogen Fluoride Plus (HFH+)	87	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	88	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	89	Minimum Detectable Limit (MDL)	4 ppm-m
	90	Lowest Actionable Concentration	8 ppm-m (2x MDL)
	91	Lowest Recommended Alarm Threshold	20 ppm-m (5x MDL)
	92	Sensitivity	1 ppm-m
	93	Full Scale	1,000 ppm-m
94	Maximum Recommended Path Length	200 m	
95	Maximum Recommended Cable Length	300 m	
Lo-Range Ammonia (NH3L)	96	Application/Use	Leak Detection - Toxic
	97	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	98	Units of Measure (Default)	Parts Per Million (ppm)
	99	Plume Size (Default)	10 m Plume
	100	Hi-Alarm (Default)	25 ppm
	101	HiHi-Alarm (Default)	50 ppm
	102	Range of Actionable Concentrations	1.6 - 650 ppm
	103	Recommended Path Length	10 - 200 m
104	Maximum Recommended Cable Length	300 m	
Lo-Range Ammonia Plus (NH3L+)	105	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	106	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	107	Minimum Detectable Limit (MDL)	8 ppm-m
	108	Lowest Actionable Concentration	16 ppm-m (2x MDL)
	109	Lowest Recommended Alarm Threshold	40 ppm-m (5x MDL)
	110	Sensitivity	2 ppm-m
	111	Full Scale	6,500 ppm-m
112	Maximum Recommended Path Length	200 m	
113	Maximum Recommended Cable Length	300 m	
Ultra Hi-Range Ammonia (NH3UH)	114	Application/Use	Leak Detection - Combustible
	115	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	116	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	117	Hi-Alarm (Default)	20% LEL-m (32,000 ppm-m)
	118	HiHi-Alarm (Default)	40% LEL-m (64,000 ppm-m)
	119	Range of Actionable Concentrations	0.05 - 3 LEL-m (8,000 - 500,000 ppm-m)
	120	Recommended Path Length	10 - 200 m
121	Maximum Recommended Cable Length	300 m	
Ultra Hi-Range Ammonia Plus (NH3UH+)	122	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	123	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	124	Minimum Detectable Limit (MDL)	4,000 ppm-m
	125	Lowest Actionable Concentration	8,000 ppm-m (2x MDL)
	126	Lowest Recommended Alarm Threshold	20,000 ppm-m (5x MDL)
	127	Sensitivity	1,000 ppm-m
	128	Full Scale	0.1 - 50% or 50 - 100 % -m (1,000 - 500,000 ppm-m or 500,000 - 1,000,000 ppm-m)
	129	Maximum Recommended Path Length	200 m
	130	Maximum Recommended Cable Length	300 m

Lo-Range Methane (CH4L)	131	Application/Use	Leak Detection - Incipient
	132	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	133	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	134	Hi-Alarm (Default)	5% LEL-m (2,500 ppm-m)
	135	HiHi-Alarm (Default)	10% LEL-m (5,000 ppm-m)
	136	Range of Actionable Concentrations	0 - 17% LEL-m (20 - 8,500 ppm-m)
	137	Recommended Path Length	10 - 200 m
138	Maximum Recommended Cable Length	300 m	
Lo-Range Methane Plus (CH4L+)	139	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	140	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	141	Minimum Detectable Limit (MDL)	2 ppm-m
	142	Lowest Actionable Concentration	4 ppm-m (2x MDL)
	143	Lowest Recommended Alarm Threshold	10 ppm-m (5x MDL)
	144	Sensitivity	0.5 ppm-m
	145	Full Scale	8,500 ppm-m
146	Maximum Recommended Path Length	200 m	
147	Maximum Recommended Cable Length	300 m	
Hi-Range Methane (CH4H)	148	Application/Use	Leak Detection - Combustible
	149	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	150	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	151	Hi-Alarm (Default)	20% LEL-m (20,000 ppm-m)
	152	HiHi-Alarm (Default)	40% LEL-m (40,000 ppm-m)
	153	Range of Actionable Concentrations	0.004 - 5 LEL-m (200 - 250,000 ppm-m)
	154	Recommended Path Length	10 - 200 m
155	Maximum Recommended Cable Length	300 m	
Hi-Range Methane Plus (CH4H+)	156	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	157	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	158	Minimum Detectable Limit (MDL)	100 ppm-m
	159	Lowest Actionable Concentration	200 ppm-m (2x MDL)
	160	Lowest Recommended Alarm Threshold	500 ppm-m (5x MDL)
	161	Sensitivity	25 ppm-m
	162	Full Scale	1,000,000 ppm-m
163	Maximum Recommended Path Length	200 m	
164	Maximum Recommended Cable Length	300 m	
Lo-Range Hydrogen Sulphide (H2SL)	165	Application/Use	Leak Detection - Toxic
	166	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	167	Units of Measure (Default)	Parts Per Million (ppm)
	168	Plume Size (Default)	25 m Plume
	169	Hi-Alarm (Default)	10 ppm
	170	HiHi-Alarm (Default)	40 ppm
	171	Range of Actionable Concentration	8 - 320 ppm
172	Recommended Path Length	25 - 200 m	
173	Maximum Recommended Cable Length	300 m	
Lo-Range Hydrogen Sulphide Plus (H2SL+)	174	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	175	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	176	Minimum Detectable Limit (MDL)	100 ppm-m
	177	Lowest Actionable Concentration	200 ppm-m (2x MDL)
	178	Lowest Recommended Alarm Threshold	500 ppm-m (5x MDL)
	179	Sensitivity	25 ppm-m
	180	Full Scale	100,000 ppm-m
181	Maximum Recommended Path Length	200 m	
182	Maximum Recommended Cable Length	300 m	
Hi-Range Hydrogen Sulphide (H2SH)	183	Application/Use	Leak Detection - Combustible
	184	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	185	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	186	Hi-Alarm (Default)	20% LEL-m (8,000 ppm-m)
	187	HiHi-Alarm (Default)	40% LEL-m (16,000 ppm-m)
	188	Range of Actionable Concentrations	0.1 - 5 LEL-m (2,000 - 215,000 ppm-m)
	189	Recommended Path Length	10 - 200 m
190	Maximum Recommended Cable Length	300 m	
Hi-Range Hydrogen Sulphide Plus (H2SH+)	191	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	192	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	193	Minimum Detectable Limit (MDL)	1,000 ppm-m
	194	Lowest Actionable Concentration	2,000 ppm-m (2x MDL)
	195	Lowest Recommended Alarm Threshold	5,000 ppm-m (5x MDL)
	196	Sensitivity	250 ppm-m
	197	Full Scale	500,000 ppm-m (analog range(s) are user programmable)
198	Maximum Recommended Path Length	200 m	
199	Maximum Recommended Cable Length	300 m	

Lo-Range Hydrogen Chloride (HCIL)	200	Application/Use	Leak Detection - Toxic
	201	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	202	Units of Measure (Default)	Parts Per Million (ppm)
	203	Plume Size (Default)	10 m Plume
	204	Hi-Alarm (Default)	2 ppm
	205	HiHi-Alarm (Default)	5 ppm
	206	Range of Actionable Concentrations	0.4 - 40 ppm
	207	Recommended Path Length	10 - 200 m
	208	Maximum Recommended Cable Length	300 m
	209	Retro-Array Requirements	2-Channel (100m max path length) & 4-Channel (40m max path length)
210	Maximum Recommended Cable Length	300 m	
Lo-Range Hydrogen Chloride Plus (HCIL+)	211	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	212	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	213	Minimum Detectable Limit (MDL)	2 ppm-m
	214	Lowest Actionable Concentration	4 ppm-m (2x MDL)
	215	Lowest Recommended Alarm Threshold	10 ppm-m (5x MDL)
	216	Sensitivity	0.5 ppm-m
	217	Full Scale	2,500 ppm-m
	218	Retro-Array Requirements	2-Channel (100m max path length) & 4-Channel (40m max path length)
	219	Maximum Recommended Cable Length	300 m
Lo-Range Hydrogen Cyanide (HCNL)	220	Application/Use	Leak Detection - Toxic
	221	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	222	Units of Measure (Default)	Parts Per Million (ppm)
	223	Plume Size (Default)	10 m Plume
	224	Hi-Alarm (Default)	2.5 ppm
	225	HiHi-Alarm (Default)	5 ppm
	226	Range of Actionable Concentrations	1.6 - 40 ppm
	227	Recommended Path Length	10 - 200 m
	228	Maximum Recommended Cable Length	300 m
	229	Special Note	Ammonia (NH ₃) will cause interference, another absorption line will be selected.
Lo-Range Hydrogen Cyanide Plus (HCNL+)	230	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	231	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	232	Minimum Detectable Limit (MDL)	8 ppm-m
	233	Lowest Actionable Concentration	16 ppm-m (2x MDL)
	234	Lowest Recommended Alarm Threshold	40 ppm-m (5x MDL)
	235	Sensitivity	2 ppm-m
	236	Full Scale	5,000 ppm-m
	237	Maximum Recommended Path Length	200 m
	238	Maximum Recommended Cable Length	300 m
	239	Special Note	Ammonia (NH ₃) will cause interference, another absorption line will be selected.
Lo-Range Carbon Monoxide (COL)	240	Application/Use	Leak Detection - Toxic
	241	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	242	Units of Measure (Default)	Parts Per Million (ppm)
	243	Plume Size (Default)	10 m Plume
	244	Hi-Alarm (Default)	100 ppm
	245	HiHi-Alarm (Default)	200 ppm
	246	Range of Actionable Concentrations	1.6 - 850 ppm
	247	Recommended Path Length	10 - 40 m
	248	Maximum Recommended Cable Length	5 m
	249	Special Note #1	Only available in 2-channels
250	Special Note #2	Visible Laser function from Optical Multi-Meter will not work with COL Transceivers	
Lo-Range Carbon Monoxide Plus (COL+)	251	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	252	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	253	Minimum Detectable Limit (MDL)	8 ppm-m
	254	Lowest Actionable Concentration	4 ppm-m (2x MDL)
	255	Lowest Recommended Alarm Threshold	40 ppm-m (5x MDL)
	256	Sensitivity	2 ppm-m
	257	Full Scale	8,500 ppm-m
	258	Maximum Recommended Path Length	40m
	259	Maximum Recommended Cable Length	5 m
	260	Special Note #1	Only available in 2-channels
261	Special Note #2	Visible Laser function from Optical Multi-Meter will not work with COL Transceivers	
Hi-Range Carbon Monoxide (COH)	262	Application/Use	Leak Detection - Toxic
	263	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	264	Units of Measure (Default)	Parts Per Million (ppm)
	265	Plume Size (Default)	10 m Plume
	266	Hi-Alarm (Default)	100 ppm
	267	HiHi-Alarm (Default)	200 ppm
	268	Range of Actionable Concentrations	50 - 1,600 ppm
	269	Recommended Path Length	10 - 200 m
	270	Maximum Recommended Cable Length	300 m
Ultra Hi-Range Carbon Monoxide (COUH)	271	Application/Use	Leak Detection - Combustible
	272	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	273	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	274	Hi-Alarm (Default)	20% LEL-m (25,000 ppm-m)
	275	HiHi-Alarm (Default)	40% LEL-m (50,000 ppm-m)
	276	Range of Actionable Concentrations	0 - 4 LEL-m (500 - 500,000 ppm-m)
	277	Recommended Path Length	10 - 200 m
	278	Maximum Recommended Cable Length	300 m

Ultra Hi-Range Carbon Monoxide Plus (COUH+)	279	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	280	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	281	Minimum Detectable Limit (MDL)	250 ppm-m
	282	Lowest Actionable Concentration	500 ppm-m (2x MDL)
	283	Lowest Recommended Alarm Threshold	1,250 ppm-m (5x MDL)
	284	Sensitivity	60 ppm-m
	285	Full Scale	500,000 ppm-m
	286	Maximum Recommended Path Length	200 m
287	Maximum Recommended Cable Length	300 m	
Ultra Lo-Range Carbon Dioxide Plus (CO2UL+)	288	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	289	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	290	Minimum Detectable Limit (MDL)	0.4 ppm-m
	291	Lowest Actionable Concentration	0.8 ppm-m (2x MDL)
	292	Lowest Recommended Alarm Threshold	2 ppm-m (5x MDL)
	293	Sensitivity	0.1 ppm-m
	294	Full Scale	250 ppm-m
	295	Maximum Recommended Path Length	0.5 m
	296	Maximum Recommended Cable Length	20 m
	297	Retro-Array Requirements	Not compatible with the Open Path (OPX) Head Assembly
298	Special Note	2-Channels Only & Atmospheric Concentrations can vary from 400-1,000 ppm	
Lo-Range Carbon Dioxide (CO2L)	299	Application/Use	Leak Detection - Incipient
	300	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	301	Units of Measure (Default)	Parts Per Million (ppm)
	302	Plume Size (Default)	10 m Plume
	303	Hi-Alarm (Default)	10,000 ppm-m (25% OF IDLH)
	304	HiHi-Alarm (Default)	14,000 ppm-m (35% of IDLH)
	305	Highest Actionable Concentration	24 - 8,000 ppm-m
	306	Recommended Path Length	10 - 50 m
	307	Maximum Recommended Cable Length	300 m
	308	Special Note	2-Channels Only & Atmospheric Concentrations can vary from 400-1,000 ppm
Lo-Range Carbon Dioxide Plus (CO2L+)	309	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	310	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	311	Minimum Detectable Limit (MDL)	120 ppm-m
	312	Lowest Actionable Concentration	240 ppm-m (2x MDL)
	313	Lowest Recommended Alarm Threshold	600 ppm-m (5x MDL)
	314	Sensitivity	30 ppm-m
	315	Full Scale	80,000 ppm-m
	316	Maximum Recommended Path Length	50 m
	317	Maximum Recommended Cable Length	20 m
	318	Special Note	2-Channels Only & Atmospheric Concentrations can vary from 400-1,000 ppm
Hi-Range Carbon Dioxide (CO2H)	319	Application/Use	Leak Detection - Toxic
	320	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	321	Units of Measure (Default)	Parts Per Million (ppm)
	323	Plume Size (Default)	10 m Plume
	324	Hi-Alarm (Default)	20,000 ppm (50% of IDLH)
	325	HiHi-Alarm (Default)	30,000 ppm (75% of IDLH)
	326	Highest Actionable Concentration	100 - 50,000 ppm
	327	Recommended Path Length	10 - 200m
	328	Maximum Recommended Cable Length	300 m
	329	Special Note	Atmospheric Concentrations can vary from 400-1,000 ppm
Hi-Range Carbon Dioxide Plus (CO2H+)	330	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	331	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	332	Minimum Detectable Limit (MDL)	500 ppm-m
	333	Lowest Actionable Concentration	1,000 ppm-m (2x MDL)
	334	Lowest Recommended Alarm Threshold	2,500 ppm-m (5x MDL)
	335	Sensitivity	150 ppm-m
	336	Full Scale	500,000 ppm-m
	337	Maximum Recommended Path Length	200 m
	338	Maximum Recommended Cable Length	300 m
	339	Special Note	Atmospheric Concentrations can vary from 400-1,000 ppm
Lo-Range Acetylene (C2H2L)	340	Application/Use	Leak Detection - Combustible
	341	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	342	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	343	Hi-Alarm (Default)	5% of LEL-m (1,250 ppm-m)
	344	HiHi-Alarm (Default)	10% of LEL-m (2,500 ppm-m)
	345	Range of Actionable Concentrations	0 - 10% LEL-m (8 - 2,500 ppm-m)
	346	Recommended Path Length	10 - 200m
	347	Maximum Recommended Cable Length	300 m

Lo-Range Acetylene Plus (C2H2+)	348	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	349	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	350	Minimum Detectable Limit (MDL)	4 ppm-m
	351	Lowest Actionable Concentration	8 ppm-m (2x MDL)
	352	Lowest Recommended Alarm Threshold	16 ppm-m (5x MDL)
	353	Sensitivity	2 ppm-m
	354	Full Scale	2,500 ppm-m
	355	Maximum Recommended Path Length	200 m
Lo-Range Ethylene (C2H4)	356	Maximum Recommended Cable Length	300 m
	357	Application/Use	Leak Detection - Combustible
	358	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	359	Units of Measure (Default)	Lower Explosive Limit - Meters (LEL-m)
	360	Hi-Alarm (Default)	20% of LEL-m (5,500 ppm-m)
	361	HiHi-Alarm (Default)	40% of LEL-m (11,000 ppm-m)
	362	Range of Actionable Concentrations	0 - 55% of LEL-m (40 - 15,000 ppm-m)
	363	Recommended Path Length	10 - 200m
Lo-Range Ethylene Plus (C2H4+)	364	Maximum Recommended Cable Length	300 m
	365	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	366	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	367	Minimum Detectable Limit (MDL)	20 ppm-m
	368	Lowest Actionable Concentration	40 ppm-m (2x MDL)
	369	Lowest Recommended Alarm Threshold	100 ppm-m (5x MDL)
	370	Sensitivity	5 ppm-m
	371	Full Scale	15,000 ppm-m
Lo-Range Oxygen (O2L)	372	Maximum Recommended Path Length	200 m
	373	Maximum Recommended Cable Length	300 m
	374	Application/Use	Limiting Oxygen Content (LOC)
	375	Focus of Calibration	5-Point Calibration ($\pm 3\%$ of Full Scale Accuracy)
	376	Units of Measure (Default)	Percent (%)
	377	Path Length (Default)	1m
	378	Hi-Alarm (Default)	3% (30,000 ppm-m)
	379	HiHi-Alarm (Default)	5% (50,000 ppm-m)
Lo-Range Oxygen Plus (O2L+)	380	Range of Actionable Concentrations	0.1 - 36% (1,000 - 360,000 ppm-m)
	381	Maximum Recommended Path Length	4 m
	382	Maximum Recommended Cable Length	5 m
	383	Special Note	For FDA & Hazardous Area requirements, this laser has a power output limit of 0.5 mW
	384	Application/Use	Quantitative - Ambient Monitoring/In-Situ
	385	Focus of Calibration	Comprehensive 15-Point Quantitative Calibration ($\pm 2\%$ of Reading Accuracy)
	386	Minimum Detectable Limit (MDL)	1,000 ppm-m
	387	Lowest Actionable Concentration	1,000 ppm-m
Latest Revision	388	Lowest Recommended Alarm Threshold	1,000 ppm-m
	389	Sensitivity	1,000 ppm-m
	390	Full Scale	360,000 ppm-m
	391	Maximum Recommended Path Length	4 m
	392	Maximum Recommended Cable Length	5 m
	393	Special Note	For FDA & Hazardous Area requirements, this laser has a power output limit of 0.5 mW
	394	1/17/24	