

**STACK/DUCT (SDX) PROBE ASSEMBLY  
ISA DATA SHEET**



|  |                           |  |   |
|--|---------------------------|--|---|
| <b>General</b>   | 1                         | Manufacturer   | Boreal Laser Inc.   |
|  | 2                         | Analyzer Model No.   | GasFinder3-MC (Multi-Channel) Assembly (e.g. BL-GF3-MC-_-_-_-_-_-_-_-_-_-_-)            |
|  | 3                         | Measurement Head Model No.   | Stack/Duct (SDX) Probe Assembly (e.g. BL-_-_-SDX-_-_-)                                  |
|  | 4                         | Warranty Period  | 10 years on Laser (Light Source) and 3 years Full Warranty                              |
| <b>Stack/Duct (SDX) Probe Assembly</b>                 | 5                         | Optical Configuration  | Transceiver and Retro-Reflector (Mono-Static) or Transmit/Receive (Bi-Static) Available |
|  | 6                         | Assembly Composition   | Stack/Duct (SDX) Probe and Retro-Flange   |
|  | 7                         | Assembly Weight  | 6.2 kg (14 lbs) + Retro Flange Option   |
|  | 8                         | Assembly Dimension (LxWxH)   | 270.5 x 190 x 190 mm (10.71 x 7.5 x 7.5 inches)   |
|  | 9                         | Physical Configuration   | Remote from Analyzer (GasFinder3-MC) via Fibre Optic and CAT6/5e Cabling                |
|  | 10                        | Mounting Hardware Configuration  | ANSI 3" 150# Flange   |
|  | 11                        | Maximum Distance to Analyzer   | Up to 300m of Single Mode Fibre and Shielded CAT6/5e Cabling (10m Increments)           |
|  | 12                        | Enclosure Material   | 316 Stainless Steel, 6061 Anodized Aluminium Junction Box                               |
|  | 13                        | Area Classification  | (A)Ex ib IIC T5 Gb environments (Equivalent to: Class 1 Div/Zone 2 and Groups A,B,C,D)  |
|  | 14                        | Method of Protection   | Intrinsic Safety "ib" & "Gb" as per IEC 60079-11  |
|  | 15                        | Temperature (SDX Probe Enclosure)  | -45 to 70°C (-49 to 158°F)  |
|  | 16                        | Temperature (Laser Beam) - Opt. #1   | -55°C to 150°C (-49 to 300°F) with Accuracy of ±2 of Reading                            |
|  | 17                        | Temperature (Laser Beam) - Opt. #2   | >150°C (>300°F) with Reduced Accuracy (Application Dependent)                           |
|  | 18                        | Pressure - Stack/Duct (SDX) Probe  | 50 to 200 kPa Absolute (7.25 to 29 psia)  |
|  | 19                        | Process Pressure (Laser Beam)  | 50 to 200 kPa Absolute (7.25 to 29 psia)  |
|  | 20                        | Beam Divergence  | 32mm (1 1/4") @ 1m (3.3ft) = (32 milliradian x path length (m) = laser dot size (mm))   |
|  | 21                        | Window Material  | Sapphire  |
|  | 22                        | Power  | Non-powered (Passive)   |
|  | 23                        | Cable Entry Size   | 3/4" (M20) for Fibre and CAT6/5e Cabling  |
|  | 24                        | Cable Gland  | Included as part of Measurement Probe Assembly  |
|  | 25                        | Cable Connections  | Single Mode Fibre (FC/APC) and CAT6/5e (RJ-45) - Included in Assembly                   |
| 26   | Dual Gas Configuration #1 | Any two gases except O2, CO2L, COL, CO2UL can share a Stack/Duct (SDX) Probe |   |
| 27   | Dual Gas Configuration #2 | CO2L, COL, CO2UL can share a Stack/Duct (SDX) Probe                          |   |
| 28   | Dual Gas Configuration #3 | O2 always requires a dedicated Stack/Duct (SDX) Probe                        |   |
| <b>Retro-Flange Option #1: Standard</b>                | 29                        | Retro Enclosure Material   | 316 Stainless Steel   |
|  | 30                        | Assembly Weight  | 2.0 kg (4.5 lbs)  |
|  | 31                        | Assembly Dimension (LxWxH)   | 9.53 x 190 x 190 mm (0.375 x 7.5 x 7.5 inches)  |
|  | 32                        | Retro Enclosure Window Material  | None  |
|  | 33                        | Retro-Reflector Temperature  | -55°C to 85°C (-67°F to 185°F)  |
|  | 34                        | Retro Enclosure Cable Entry  | None (Passive)  |
|  | 35                        | Retro Array (IMOS)   | 50.8 mm (2") IMOS Reflector   |
|  | 36                        | Path Length Ranges (Retro-Arrays)  | 0.5-20m Diameter Stack/Duct   |
| <b>Retro-Flange Option #2: High Temperature</b>        | 37                        | Retro Enclosure Material   | 316 Stainless Steel   |
|  | 38                        | Retro Enclosure Window Material  | Sapphire  |
|  | 39                        | Assembly Weight  | 4.8 kg (10.5 lbs)   |
|  | 40                        | Assembly Dimension (LxWxH)   | 200 x 190 x 190 mm (7.87 x 7.5 x 7.5 inches)  |
|  | 41                        | Retro-Reflector Temperature  | -55°C to +120°C (-67°F to 248°F)  |
|  | 42                        | Retro Enclosure Cable Entry  | None (Passive)  |
|  | 43                        | Retro Array (Comercube)  | 50.8 mm (2") IMOS Reflector   |
|  | 44                        | Path Length Ranges (Retro-Arrays)  | 0.5-20m Diameter Stack/Duct   |
| <b>Receiver Probe (Transmit/Receive Configuration)</b> | 45                        | Receiver Enclosure Material  | 316 Stainless Steel, 6061 Anodized Aluminium Junction Box                               |
|  | 46                        | Receiver Enclosure Window Material   | Sapphire  |
|  | 47                        | Assembly Weight  | 6.2 kg (14 lbs)   |
|  | 48                        | Assembly Dimension (LxWxH)   | 270.5 x 190 x 190 mm (10.71 x 7.5 x 7.5 inches)   |
|  | 49                        | Receiver Temperature   | -55°C to +120°C (-67°F to 248°F)  |
|  | 50                        | Receiver Enclosure Cable Entry   | 3/4" (M20) for CAT6/5e Cabling  |
|  | 51                        | Receiver Enclosure Cable Glands  | Supplied by others (as per local electrical standards)                                  |
|  | 52                        | Receiver Array (Gold Mirror)   | 25.4 mm (1") Gold Mirror  |
|  | 53                        | Path Length Ranges (Retro-Arrays)  | 0.5-20m Diameter Stack/Duct   |
| <b>Purge Insert for SDX Assembly</b>                   | 54                        | Purge Insert Material  | 316 Stainless Steel   |
|  | 55                        | Assembly Weight  | 7.0 kg (15.5 lbs)   |
|  | 56                        | Assembly Dimension (LxWxH)   | 200 x 190 x 190 mm (7.87 x 7.5 x 7.5 inches)  |
|  | 57                        | Mounting Hardware Configuration  | ANSI 3" 150# Flange   |
|  | 58                        | Purge Connections  | 1/4" NPT  |
| <b>Recommended Accessories</b>                         | 59                        | Alignment Kit  | BL-OAK-MC   |
|  | 60                        | In-Line Response Cell  | BL-ILRC-___ (HF, HCN, NH3, or CH4)  |
|  | 61                        | Commissioning and Spares Assembly  | BL-CASA   |
|  | 62                        | Calibration Certificate Extension  | BL-QDRP   |
|  | 63                        | 120-220 VAC Power Supply   | BL-HAPS or BL-HAPS-S  |
| <b>Latest Revision</b>                                 | 64                        | 1/09/21  |   |