

# FIBER OPTIC GYROSCOPE VG103S-2LND

## SPECIFICATION

| <b>POWER REQUIREMENTS</b>       |           |               |   |
|---------------------------------|-----------|---------------|---|
| Voltage (single supply)         | V         | +4.75 to 5.25 | regulated                                 |
| Supply Current                  | A         | 0.15          | min                                       |
| <b>PERFORMANCE</b>              |           |               |   |
| Input range                     | °/s       | 200           | for info                                  |
| Scale factor (SF)               | mV/°/s    | 8             | ±15%                                      |
| Bandwidth                       | kHz       | 1             | 2 <sup>nd</sup> order LPF (analog filter) |
| Angular Random Walk (ARW)       | °/√h      | 0.007         |   |
| Output Noise PSD                | μV/√Hz    | 1             |   |
| Bias, RMS                       | °/h       | 1             | Allan variance min                        |
| Bias Offset                     | mV        | 0.1           | typical                                   |
| Bias OTR                        | μV/°C     | ±1            | for info                                  |
| SF, RMS                         | %         | 0.02          | In run, day-to-day                        |
| SF OTR                          | %/°C      | -0.03         | typical                                   |
| Initialization                  | s         | <0.03         |   |
| Dissipation                     | W         | 0.5           | @ 20°C (typical)                          |
| <b>ELECTRICAL INTERFACE</b>     |           |               |   |
| Data rate                       | kHz       | 8             | 24 bit data                               |
| Baud rate                       | kBd       | 920           | RS422, asynchronous                       |
| <b>PHYSICAL PARAMETERS</b>      |           |               |   |
| Dimensions                      | mm        | ∅55 x 17      | ISO 2768-m tolerance                      |
| Weight                          | gram      | 40            | approx.                                   |
| Volume                          | cl        | 4             |   |
| Housing material                |           | hard plastic  |   |
| Ingress protection class        |           | IP67          |   |
| <b>ENVIRONMENT</b>              |           |               |   |
| Temperature (operating)         | °C        | -40...+70     | built-in sensor                           |
| Temperature (endurance)         | °C        | -55...+85     | 2 h min, non-operating                    |
| Vibration, RMS (endurance)      | g         | 18            | 20 Hz... 2000 Hz                          |
| Output Noise on vibration       | μV/g·Hz   | 10            | typical @NTE 0.2 g <sup>2</sup> /Hz       |
| Acceleration (operational)      | g         | 50            |   |
| Shocks                          | g         | 350           | 1 ms half-sine                            |
| Magnetic response               | °/h/Gauss | 1.5 (0.03*)   | typical (X axis)                          |
|                                 |           |               | *with optional μ-shield                   |
| <b>RELIABILITY</b>              |           |               |   |
| MTBF                            | h         | 100 000       | humidity conditions applied               |
| Lifetime                        | yr        | 15            | humidity conditions applied               |
| <b>Temperature sensor TMP36</b> |           |               |   |
| Scale Factor                    | mV/°C     | 10            |   |
| Output Voltage                  | mV        | 750           | @25°C                                     |