



Redondo Optics, Inc.

# Product Release

## Fiber Bragg Grating Transceivers

### FBG-Transceiver™










Redondo Optics' family of FBG-Transceiver™ systems, based on its patented hybrid planar lightwave circuit technology, represents a completely new, highly robust and reliable technology to accurately monitor in real time the passive or dynamic status of single or multiple distributed fiber optic Bragg grating strain or temperature sensors installed in critical infrastructures.

Its miniaturized packaging, low power operation, state-of-the-art data communications architecture and affordable price make it a very attractive solution for a large number of SHM/NDI applications in energy, aerospace, naval and maritime industries, civil structures such as bridges, buildings and dams, the oil and chemical industry, defense and for homeland security.

# FBG-Transceiver™ System Series

## Performance Specifications\*

| Model No.   | FBGT-100  | FBGT-200  | FBGT-300  | FBGT-600  | FBGT-1200   | FAEEnse-M200  | FAEEnse-M400                 |
|---|---|---|---|---|---|---|------------------------------|
|  |  |  |  |  |  |  |                              |
| <b>Sensing Channels</b>   | 1   | 2   | 3   | 6   | 12  | 2   | 4                            |
| <b>FBG Center Wavelength</b>  | 1550-nm   | 1550-, 1560-nm  | 1540-, 1550-, 1560-nm   | 1520-, 1530-, 1540-, 1550-, 1560-nm   | 1520-, 1525-, 1530-, ..., 1575-nm   | 1540-, 1550-nm  | 1530-, 1540-, 1550-, 1560-nm |
| <b>Wavelength Dynamic Range</b>   | ± 2-nm  | ± 2-nm  | ± 2-nm  | ± 2-nm  | ± 1.5-nm  | ± 2-nm  | ± 2-nm                       |
| <b>Wavelength Resolution</b>  | 10-pm   | 10-pm   | 10-pm   | 10-pm   | 10-pm   | 0.01-pm   | 0.01-pm                      |
| <b>Sampling Frequency</b>   | 2-kHz   | 40-kHz  | 20-kHz  | 40-kHz  | 50-kHz  | 150-kHz   | 500-kHz                      |
| <b>Light Source</b>   | 1550-nm   | 1550-nm   | 1550-nm   | 1550-nm   | 1550-nm   | 1550-nm   | 1550-nm                      |
| <b>3 dB Bandwidth</b>   | 60-nm   | 60-nm   | 60-nm   | 60-nm   | 60-nm   | 60-nm   | 60-nm                        |
| <b>SLD Source Cooling</b>   | Passive   | Passive   | Passive   | Active  | Active  | Active  | Active                       |
| <b>Weight (gr.)</b>   | 75  | 75  | 100   | 250   | 350   | 250   | 350                          |
| <b>Dimensions (W x H x L) (mm)</b>  | 18.5 x 18.5 x 50  | 25.4 x 25.4 x 76.2  | 18.5 x 50.8 x 50.8  | 25.4 x 25.4 x 101.6   | 50.8 x 50.8 x 101.6   | 25.4 x 25.4 x 101.6   | 50.8 x 50.8 x 101.6          |
| <b>Signal Processor</b>   | Microcontroller - Sensor Calibration and Temperature Compensation                 |   |   |   |   |   |                              |
| <b>Data Communication</b>   | USB or (Optional Ethernet, Wireless)  |   |   |   |   |   |                              |
| <b>Optical Connector</b>  | Single Fiber FC/APC or Custom   |   |   |   |   |   |                              |
| <b>Data Display</b>   | LabView Graphical Interface   |   |   |   |   |   |                              |
| <b>Power Supply</b>   | USB   |   |   |   |   |   |                              |

| Delivery | 4-6 Weeks | 4-6 Weeks | 4-6 Weeks | 4-6 Weeks | 8-12 Weeks | 8-12 Weeks | 8-12 Weeks |
|----------|-----------|-----------|-----------|-----------|------------|------------|------------|
|          |           |           |           |           |            |            |            |

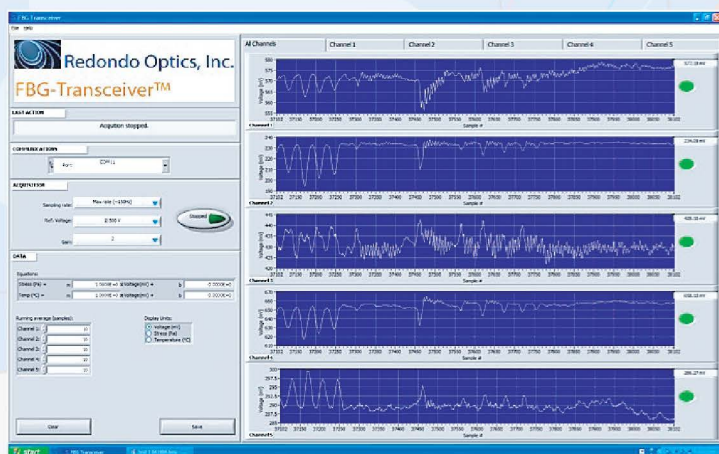
\* Engineering prototypes specification subject to change without prior notice.

### Applications

- Structural health monitoring
- Nondestructive evaluation
- Smart structures
- Passive and dynamic sensing

### Key Features

- No moving parts
- Monolithic integration
- Miniature package
- Autonomous operation



### Contact Information

For further information on this or other products, please contact our sales department at (310) 406-1295 or e-mail [sales@redondooptics.com](mailto:sales@redondooptics.com).



**Redondo Optics**