

Technobis



tft-fos

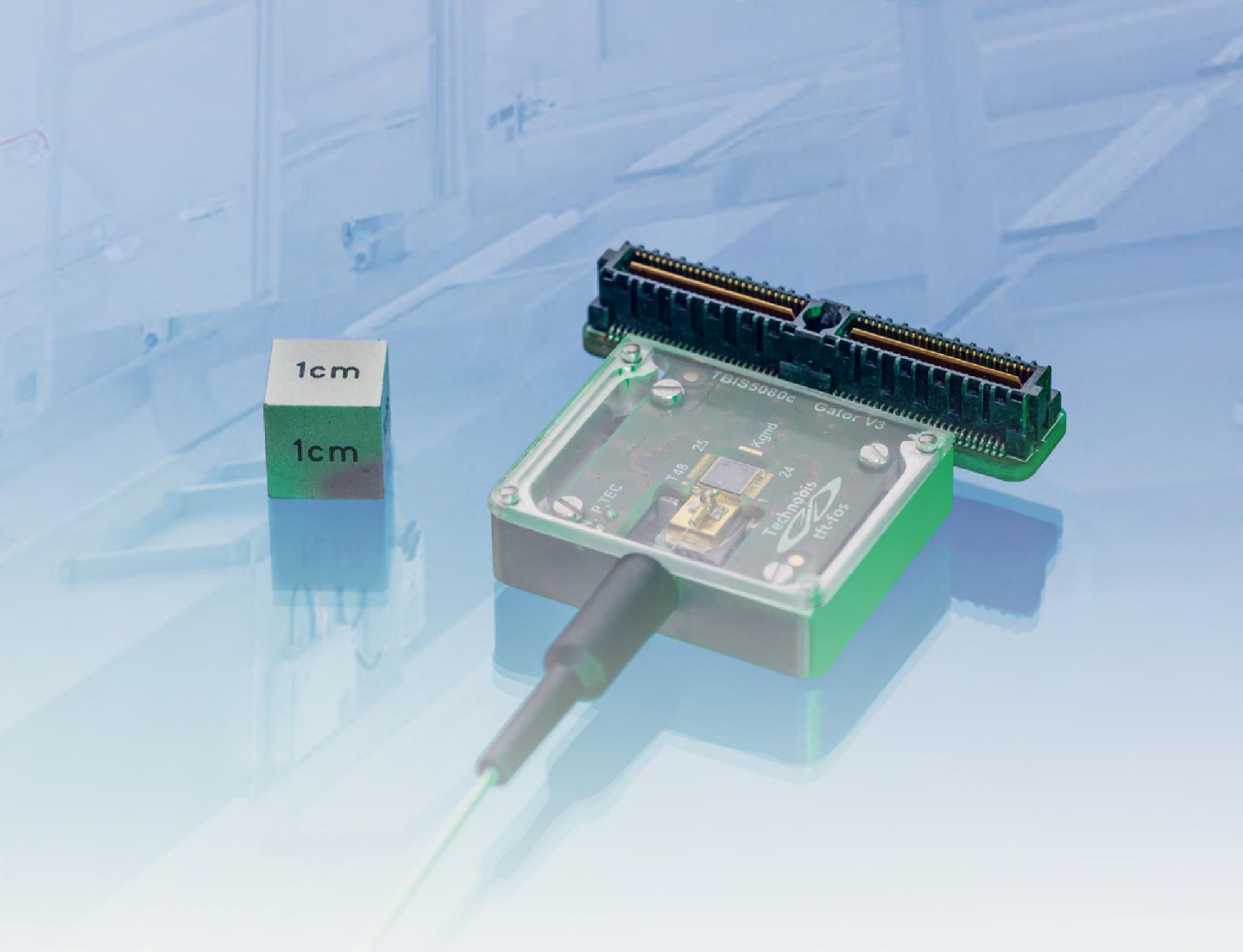
FIBER OPTIC SENSING SOLUTIONS

PRODUCT CATALOG 2019

GATOR



GATOR | AEROGATOR | SWITCHEDGATOR | LADYGATOR | PALAWANGATOR | CHIROPTERA



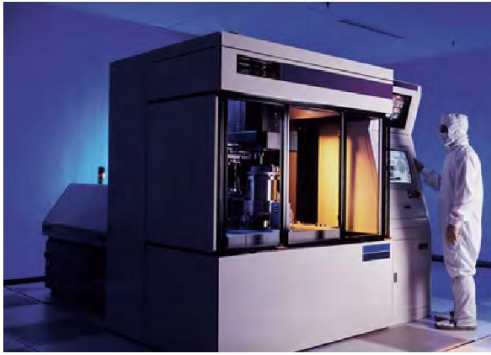
INTRODUCTION

Technobis tft-fos is the leading provider of Application Specific Photonic Integrated Circuit (ASPIC)-based fiber sensing systems for demanding market segments such as high tech, aeronautics, space, medical and automotive testing industries.

The application of the superior technology of integrated photonics has proved to be capable of supporting both new and existing sensing and monitoring solutions for challenging applications. Technobis tft-fos is on the frontline with the development of extreme performance in fiber sensing which has already led to the establishment of a number of world records.

All of our systems are developed and produced to high specifications and if you don't find the solution you need, please contact us.

TYPICAL APPLICATION FIELDS



High-tech Industry

High resolution strain sensing

Thermal Mapping, Vibration Monitoring, Position Feedback



Aeronautics

High reliability strain sensing

Structural & Prognostic Health Monitoring, Shape Reconstruction, Thermal Sensing, Load Monitoring, Damage & Impact Detection



Medical

Minimal invasive sensing

Cardiovascular Diagnostics, Force Sensing, Shape Reconstruction, Pressure & Temperature Sensing, Haptic Feedback



Energy

High endurance sensing

Strain sensing in high temperature and radiated environments, Temperature & Heat Flux Sensing



Mobility

High speed strain sensing

Load Monitoring and Vibration Sensing



Space

High reliability sensing

Thermal Mapping, Displacement Sensing

GATOR

MULTI-APPLICATION FBG STRAIN SENSING PLATFORM

State-of-the-Art basic FBG
interrogator for strain sensing

Technobis is proud to present the Gator series, the World's First ASPIC based FBG interrogator module.

Technobis Fibre Technologies has developed the Next Generation Fibre Bragg Grating (FBG) metrology system Gator that is based on Integrated Photonics technology. The Gator features specifically designed integrated photonics functionality (patented technology) that forms the basis for all Gator series with the standard specifications as mentioned.

Based on the Gator platform different variations and chipsets are available for different measurement capabilities and application requirements. In addition a multiplexing feature is available in combination with these different measurement capabilities.



Gator	
Performance Properties	
Number of Optical Channels	1
Sampling Speed	Up to 19,2 kHz
Wavelength Range	1515-1585 nm
Wavelength Stability*	5 pm
Wavelength Resolution	1 pm 1 µε 100 mK
Dynamic Range	4.8nm 4000 µε 480 K
FBG Sensors per Channel	8
Optical Connectors	FC-APC
Validation FBG, FWHM	300 pm
Validation FBG, Reflectivity	90%
FBG, FWHM range	300 ± 100 pm
FBG Reflectivity range**	>10%
Data Properties	
Interfaces	USB 2.0
Software	Comprehensive API and example support for LabVIEW, Python, Matlab and C++
Physical Properties	
Dimensions	99 x 119 x 35 mm
Max Weight	310 gr
Operating Temperature	-20..+55 °C
Storage Temperature	-40..+85 °C
Input Voltage***	12 VDC
Power Consumption*	5 W
Typical Applications	
Typical Application Field	Strain / Temperature Sensing

Notes

* At room temperature , after warming-up

** Firmware adjustable gain

*** 8...40 VDC supported

(Optional interface can be implemented for User adjustable gain)

AEROGATOR & SWITCHEDGATOR

CHANNEL MULTIPLEXED STRAIN AND TEMPERATURE SENSING

*Fiber sensing in **Aerospace** becomes reality with Integrated Photonics*

Full solid state, multi-channel, fiber sensing versatility, fitting into a miniature turnkey solution.

The AeroGator demonstrates great versatility, providing channel multiplexing up to 16 channels with 8 sensors per fiber, high resolution sensing, high sampling speeds per channel and programmable multiplexing profiles. With its small dimensions, its low weight and low power consumption, the AeroGator is by far the smallest footprint multi-channel FBG interrogator currently available and particular suitable for aerospace applications.

Aerogator

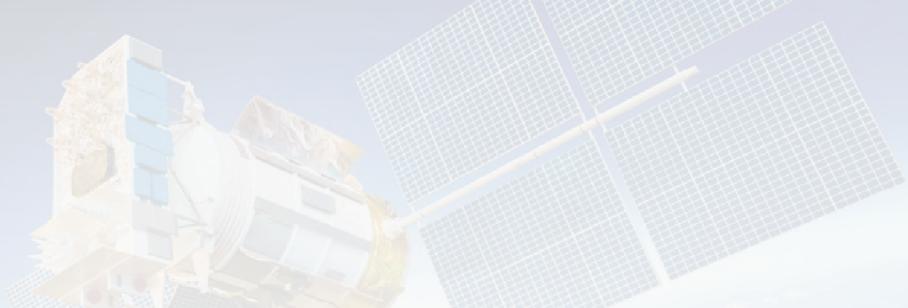
Aerospace Multichannel FBG interrogator
for channel multiplexed strain and
temperature sensing



SwitchedGator

Desktop Multichannel FBG interrogator
for channel multiplexed strain and
temperature sensing





	SwitchedGator	AeroGator
Performance Properties		
Number of Optical Channels	8	6
Sampling Speed	Up to 19,2 kHz	Up to 19,2 kHz
Wavelength Range	1515-1585 nm	1515-1585 nm
Wavelength Stability*	5 pm max	5 pm max
Wavelength Resolution	1 pm 1 µε 100 mK	1 pm 1 µε 100 mK
Dynamic Range	4.8nm 4000 µε 480 K	4.8 nm 4000 µε 480 K
FBG Sensors per Channel	8	8
Max Switching Speed	<1 ms	<1 ms
Optical Connectors	FC-APC	DIN
Validation FBG, FWHM	300 pm	300 pm
Validation FBG, Reflectivity	90%	90%
FBG, FWHM range	300 ± 100 pm	300 ± 100 pm
FBG Reflectivity range**	>10%	>10%
Data Properties		
Interfaces	USB 2.0	USB 2.0 (LEMO connector)
Software	Comprehensive API and example support for LabVIEW, Python, Matlab and C++	Comprehensive API and example support for LabVIEW, Python, Matlab and C++
Physical Properties		
Dimensions [mm]	110 x 130 x 47 mm	99 x 70 x 38 mm
Max Weight	540 gr	300 gr
Operating Temperature	-20..+55 °C	-20..+55 °C
Storage Temperature	-40..+85 °C	-40..+85 °C
Input Voltage***	12 VDC	12 VDC
Power Consumption*	5 W	5 W
Typical Applications		
Typical Application Field	Distributed FBG Sensing	Distributed FBG Sensing

Notes

* At room temperature, after warming-up

** Firmware adjustable

*** 8..40 VDC supported



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