

os3300

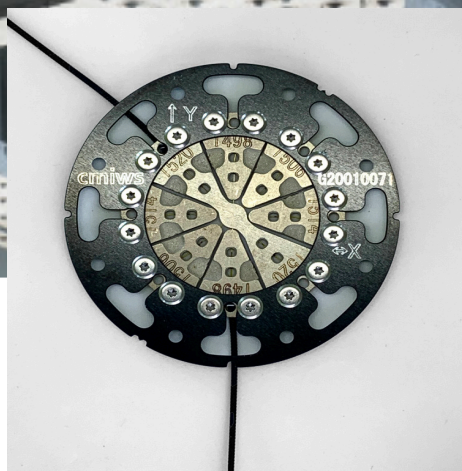
Optical Strain Rosettes by CMIWS

Luna's os3300s are fiber Bragg grating (FBG) based strain rosette sensors. Featuring simple integration, low profile sensors that can be dispersed over up to 10km, with 3 active strain elements (0°/45°/90°) for the most robust sensor coverage on the market.

The os3300 features a novel approach to compact spot weldable strain measurements, all while being able to pair with various physical parameters e.g. temperature, displacement, acceleration, tilt, pressure.

Installation is simple and repeatable with a mounting plate affixed on the os3300 to help guide the installer. With strain ranges of -1,800 to 1,800 $\mu\epsilon$, and available integrated temperature compensation, the os3300 series presents a unique capability for sensor deployments. Up to 96 os3300 sensors can be integrated on Luna's HYPERION platform.

The os3300 series of sensors is compatible with ENLIGHT Sensing Analysis Software, which provides an integrated suite of tools for data acquisition, computation and analysis of optical sensor networks as well as the HYPERION platforms comprehensive Application Programming Interface (API) and examples written in LabVIEW, Python, Matlab, C++ and C#.



Key Features

Ease of installation, simple and repeatable installation

Discrete, low profile, multipoint up to 96 sensors on a single HYPERION instrument

Multiparameter various physical parameters measurements coupled onto the same instrumentation platform

Long distance, with over 10km of coverage

Applications

Structures

Energy

Transportation

Marine vessels

Simple, repeatable, low profile, multipoint, strain measurements

Performance

Specifications	os3310	os3320 - Temperature Compensated
Measurement Type	Strain rosette	Strain rosette, temperature compensated
FBG Elements	3 - Strain	3 - Strain, 1 temperature compensation
Measurement Range	$\pm 1,800\mu\epsilon$	
Strain Sensitivity	$\sim 1.2 \mu\text{m}/\mu\epsilon$	
Measurement Angles	0, 45, 90°	
Operating Temperature	-40 to 120 °C	
Measurement Distance	Up to 10km	
Measurement Points Per Interrogator	Up to 96, 6 sensors per channel	Up to 80, 5 sensors per channel
Scan Frequency	1kHz and 5kHz instrument options available	
Wavelength Options	1460 to 1620 nm options available	
Physical Properties		
Dimensions	$\varnothing 34 \text{ mm}$ Diameter, 1.5 mm Thickness	
Carrier Material	304 Stainless Steel	
Cable Type / Length	1 mm Fiberglass Braid / 1 m ($\pm 10 \text{ cm}$), each end	
Fastening Method	Spot Weld	

Ordering Information

os3310-ssss-ssss-ssss-1xx-1yy

os3320-ssss-ssss-ssss-tttt-1xx-1yy

ssss-ssss-ssss

os3310 Strain FBG Wavelengths

1465 - 1473 - 1481
1491 - 1499 - 1507
1517 - 1525 - 1533
1543 - 1551 - 1559
1569 - 1577 - 1585
1595 - 1603 - 1611

ssss-ssss-ssss-tttt

os3320 Strain/Temp FBG Wavelengths

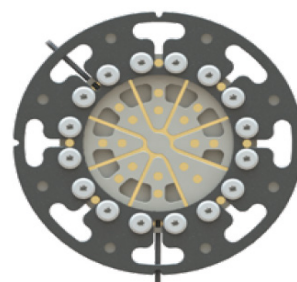
1466 - 1474 - 1482 - 1488
1498 - 1506 - 1514 - 1520
1530 - 1538 - 1546 - 1552
1562 - 1570 - 1578 - 1584
1594 - 1602 - 1610 - 1616

xx

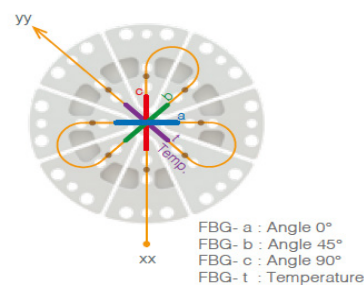
1xx Cable 1 m, Length & Connector
1 m Standard, Cable Length
UT Underminated
FC FC/APC Connector

yy

1yy Cable 1 m, Length & Connector
1 m Standard, Cable Length
UT Underminated
FC FC/APC Connector

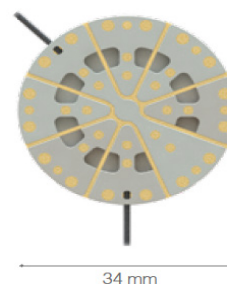


Before Mounting



FBG Layout

Thickness = 1.5 mm



34 mm



+1.866.586.2682

interlab@interlab.pl



INTERLAB Sp. z o.o. | Instrumenty badawcze i pomiarowe

Kosiarzy 37 paw. 20, 02-953 Warszawa | +48 22 840 81 80 | interlab@interlab.pl | interlab.pl