

# Optical Power Sensing System

The OP-SS series have been designed for fiber optic smart structure. The OP-SS is a fast scan, high resolution, high power and multi-sensor measurement system that provides high performance in mechanical strain, temperature and variation sensing applications.

Buildings, structures, and space vehicles can be equipped to sense and react to their surroundings by means of hair-thin glass fiber sensors embedded in structural materials and capable of carrying information and measuring changes in stress, and then environmental factors. Data is collected and transmitted to a central location. The OP-SS includes up to 64 channel sources and detectors in a unit. The OP-SS simultaneously measures reflected signals in 64 channels. The OP-SS interfaces to PC via RS232.



## Features

- ▶ Complete sensor system with high power sources and detectors
- ▶ Very fast scanning speed
- ▶ High resolution
- ▶ Up to 64 sensing channels
- ▶ Simultaneous measures reflected optical power signals in 64channels
- ▶ RS232 interface
- ▶ Reduced installation time

## Applications

- ▶ Structural health monitoring of buildings bridges, roads and dams
- ▶ Structural health monitoring and damage detection of ship and aircraft
- ▶ Continuous monitoring of gas and oil pipelines pressure and temperature variation
- ▶ Simultaneous real time monitor different places via multi channels
- ▶ Real time monitoring of turbine blades

## Optical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit
Optical channels	CH	1	-	64	
Dynamic range <sup>1</sup>	DR	-	15	-	dB
Resolution	R <sub>s</sub>	-	-	0.01	dB
Accuracy	A <sub>c</sub>	-	-	0.04	dB
Scan frequency	SF	-	-	100	Hz
Optical power <sup>2</sup>	P <sub>OUT</sub>	-10	-	-	dBm

Note1. This condition is 64channel OP-SS. If channels are smaller than this condition, typical value is higher than 15dB.

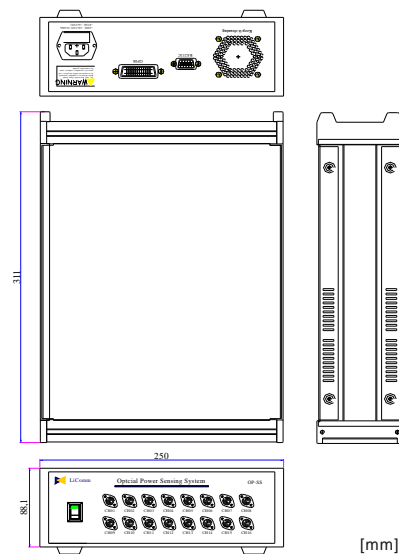
Note2. This condition is 64channel OP-SS. If channels are smaller than this condition, minimum value is higher than -10dBm.

## Electrical & Environmental

Parameter	Typical value
Power supply voltage	AC 110 ~ 220 V
Interface	RS232
Operating temperature	0 ~ 50 °C
Storage temperature	-40 ~ 85 °C
Storage humidity	0 ~ 95% R.H
Power consumption	20W

\* Optical channels = 64channel (@25°C)

## Mechanical Dimension



## Ordering Information

OP - SS -XX<sub>1</sub>

XX<sub>1</sub> : Number of Channels

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