

# PRODUCT DATASHEET

## BUS System



**The BUS System is a multi-channel, universal fiber optic signal conditioner especially designed for applications that require simultaneous-reading of a large number of measuring points with fast sampling rates. It is designed to offer the speed and versatility required for the most demanding applications.**

Designed to work with all of FISO's fiber optic sensors, the BUS System is a general-purpose instrument ideally suited to perform multi-point temperature, pressure, strain, displacement, refractive index, and force and load measurements in a variety of industrial and R&D applications. The BUS System allows simultaneous multi-channel measurements at sampling rates of up to 1000 Hz. This is the ideal instrument when multi-channel, simultaneous and fast data recording is required.

The BUS conditioner performs accurate multi-channel temperature, pressure, strain, displacement, refractive index, and force and load measurements. Thanks to its unique patented technology, the BUS conditioner is capable of measuring the absolute cavity length of FISO's Fabry-Perot fiber optic sensors with astonishing accuracy, providing highly accurate and reliable measurements.

FISO's fiber optic sensors offer complete immunity to RF and microwave radiation with high temperature operating capability, and intrinsic safety. The sensors are also designed to withstand harsh and corrosive environments.

The BUS System comes in a 19-inch industrial rack chassis that can incorporate from 1 to 8 channels. BUS Systems can be cascaded to obtain a higher number of channels. All optical input channels are easily accessible through the unit's front panel. The system scans all the channels simultaneously at variable sampling rates that can be set individually to 100, 500 or 1000 Hz. Data is stored in the internal memory buffer for later retrieval. Each channel has its own 10-volt analog output and is independently controlled through the RS-232 communication port.

The BUS System conditioner has a non-volatile memory buffer that can store up to 4096 data points per channel. Data logging sequences, duration, and other acquisition and data-management parameters are easily programmable using RS-232 remote control commands or, even more easily, thanks to its accompanying software, FISOCommander BUS/VELOCE Edition.

### Key Features

- 1 to 8 simultaneous channels
- Voltage output
- RS-232 communication port
- Up to 1000 Hz Sampling Rate
- 19-inch Rack Mount chassis
- Upgradeable number of channels
- Compatible with most of FISO's fiber optic sensors

### Applications

- Multi-points dynamic strain measurements
- Laboratory uses
- Civil engineering
- New material research
- Hazardous environments
- High temperature environments
- Aerospace applications

## Specifications

<b>Number of channels</b>	1 to 8
<b>Sampling rate</b>	100 Hz, 500 Hz, 1000 Hz
<b>Averaging</b>	1 to 500 samples
<b>Precision<sup>1</sup></b>	0.05% of full scale
<b>Resolution<sup>1</sup></b>	0.01% of full scale
<b>Dynamic range</b>	15 000 : 1
<b>Data logging</b>	4096 data points
<b>Analog outputs</b>	±10 V with BNC connector
<b>Communication</b>	RS-232
<b>Upgradeability</b>	Flash ROM firmware
<b>Lamp life<sup>2</sup></b>	3000 hours of continuous use
<b>Weight</b>	
Chassis	6.3 kg (13.9 lb)
Module	1.2 kg (2.6 lb)
<b>Dimensions</b>	19-inch rackmount
<b>Power requirements</b>	
Chassis	28 W
Module	15 W
<b>Operating temperature</b>	-20°C to 40°C (-4°F to 104°F)

1. Sensor specification not included.
2. Lamp is replaceable.

## BUS Dimensions

