



CoreSens

**Description**

Designed for the most demanding applications requiring high-speed deterministic measurements

Precise and tailored to your needs, the CoreSens new generation of signal conditioner offers high-speed measurements with deterministic synchronization over a large number of measurement channels. With its EtherCAT interface, multiple CoreSens units can be grouped in single measurement system offering up to 1,300 measurement channels.

The CoreSens unit is built around dual-channel fiber optic measurement modules which are mounted in a rackmount chassis. The WLX-2(S) modules are used with WLPI-based technology fiber optic sensors for measuring temperature, pressure, strain or displacement.

The GSX-2 modules are used with SCBG-based technology fiber optic temperature sensors (OTG sensors). Both type of modules can be mixed in a single chassis and each module has two fiber optic measurement channels each running at sampling rate up to 1,000 Hz and comes with two analog outputs.

**Key features**

- Scalable system with dual channel fiber optic measurement modules
- Available in multi-Module rackmount chassis or single-module stand-alone unit
- Support both WLPI and SCBG-based technologies
- EtherCAT® and Ethernet interfaces
- Embedded web server application for easy system configuration and control
- Internal data logging and storage
- Bluetooth remove communication (optional)

**The CoreSens signal conditioner: the optimal solution for high-speed and synchronised measurements**

**Versatile, modular and scalable**

The CoreSens unit is the latest generation of signal conditioners equipped with state-of-the-art technologies. It is a scalable and modular unit with dual-channel measurement modules that can be added as function of your needs.

sensors and offers measurement sampling rate up to 1,000 Hz. The integrated EtherCAT® deterministic synchronisation of the multichannel measurements.

**The CoreSens support two different dual-channel modules:**

- WLX-2(S) for White Light Polarization Interferometry (WLPI) technology (Patent # US7,259,862) which provides accurate and reliable measurements of physical parameters such as temperature, strain, pressure and displacement
- GSX-2 for SemiConductor BanGap (SCBG) technology for measuring fast temperature variations.



■ Tailored to your needs

measurement modules per chassis) for great modularity. The Master EtherCAT® (CSC-M) or the Bridge EtherCAT® (CSC-B) control y CoreSens chassis to provide full control over a total of 1,300 measurement channels.

RACKMOUNT SINGLE CHASSIS



RACKMOUNT MULTI-CHASSIS



STAND-ALONE UNIT



■ Multi-sectorial

- **Civil Engineering:** monitoring civil and geotechnical infrastructures (bridges, dams, tunnels, mines, buildings)
- **Military and aerospace:** testing, monitoring of aircraft components
- **Industrial:** automation and process control
- **Energy:** wind farm, nuclear environment, turbine instrumentation, high voltage areas
- **Oil and gas:** offshore platform, refining and storage applications

■ Multi-functional

- Simultaneous and synchronised high-speed measurements of:
  - Temperature
  - Pressure
  - Strain
  - Displacement

■ A flexible instrument

Versatile and open interfaces

system to their own EtherCAT® network (with CSC-B module) or Ethernet network (with CSC-M module).

CoreSens open interface architecture enables users to develop and use their own application interface on EtherCAT® or Ethernet-based communication link with the CoreSens unit. SCPI-like commands for easy programming are supported with both interfaces.

**EtherCAT** Capability

The EtherCAT® interface and protocol is the ultimate choice for true deterministic synchronisation of high-speed and multi-channel measurements.

We are proud to offer this state-of-the-art real-time industrial CoreSens products.

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

■ **Servsens: for easy configuration and data acquisition**

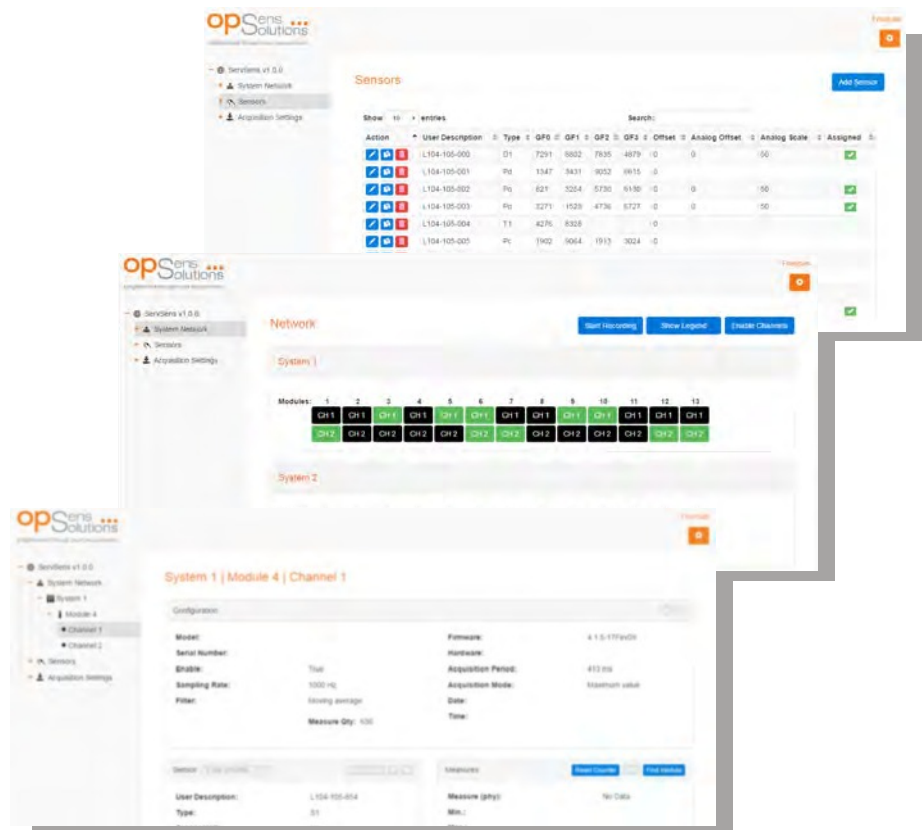
with the CSC-M control unit module, the ServSens application runs in an embedded web server without the need to install any software on customer PC.

acquisition and storage.

■ **Key features**

- Configure multiple CoreSens units and modules
- Create and edit your sensor list
- Perform multi-channel data acquisition at full system speed (1,000 Hz on each channel)
- Store, retrieve, visualise and export acquired data seamlessly
- Perform system diagnostic and system firmware update

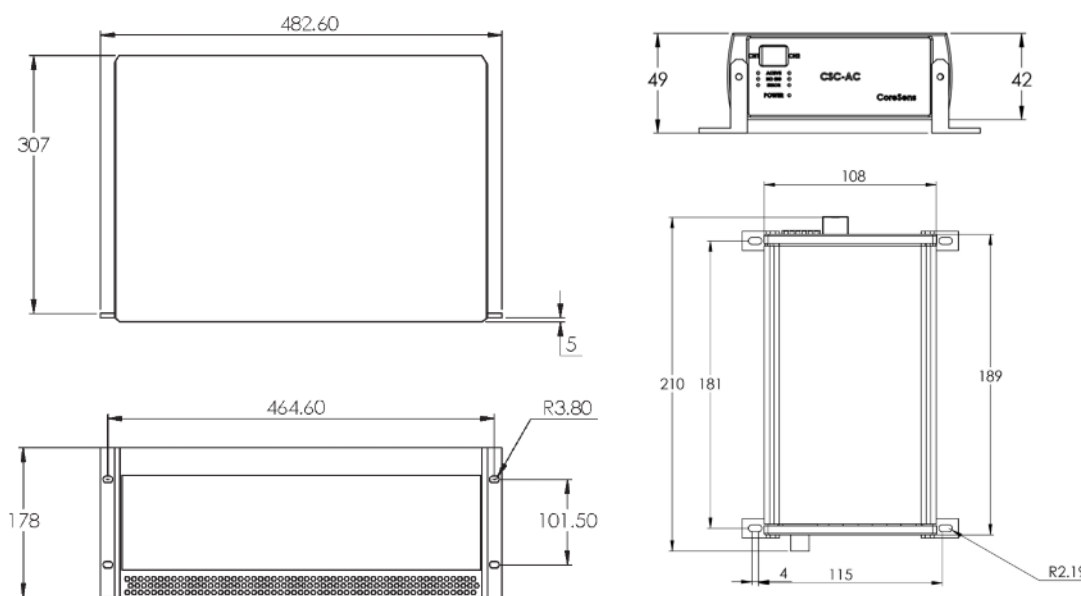
**Web server application - ServSens**



## Specifications

configuration	rackable chassis	stand-alone
Technologies	White Light Polarization Interferometry (WLPI) Semiconductor Band Gap (SCBG)	
Sensors Compatibility	All WLPI sensors and SCBG-based sensors	
Number of Module	1 to 13 WLX-2(S) and/or GSX-2 modules 1 Control interface module (CSC-B or CSC-M module)	1 WLX-2(S) or GSX-2 module
Number of Channel	2 to 26 channels per chassis	2 channels
Sampling Rate	WLX-2 module: up to 500 Hz WLX-2S module: up to 1,000 Hz GSX-2 module: up to 1,000 Hz	
Communication Interfaces	EtherCAT® and Ethernet Interface 10/100 Base-T	Ethernet Interface 10/100 Base-T
Analog Outputs	0-5 V, ±5 V, 0-10 V, 0-20mA, 4-20 mA	
Dimensions	19" Rack, 4U (482.6mm x 307mm x 178mm)	210mm x 115mm x 42mm
Weight	Full: 9.4 Kg (0.35 Kg per module)	0.68 Kg
Input Voltage and Frequency	90 to 260 VAC ; 48 to 62 Hz	8 to 32 VDC
Power Consumption	Full: 70W (5W per module)	5W
ServSens Application	Embedded or on computer	On computer
Local Data Storage	SDHC (32Gb)	NA
Storage Temperature	-30°C to 65°C	
Ambient Operating Temperature	0°C to 45°C	
Ambient Relative Humidity	Maximum 95% non-condensing	

### Mechanical Drawings (in mm)



The information provided herein is to the best of our knowledge true and accurate, it is provided for guidance only. All specifications are subject to change without prior notification.

**Althen – Your expert partner in Sensors & Controls | [althensensors.com](http://althensensors.com)**

Althen stands for pioneering measurement and custom sensor solutions. In addition we offer services such as calibration, design & engineering, training and renting of measurement equipment.

Germany/Austria/Switzerland  
info@althen.de

Benelux  
sales@althen.nl

France  
info@althensensors.fr

Sweden  
info@althensensors.se

USA/Canada  
info@althensensors.com

Other countries  
info@althensensors.com