Fiber optic Signal conditioner WellSens Gen II
Robust & high reliability Multi-channel signal conditioner for harsh environment

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SENSORS & CONTROLS

WellSens Gen II

Description

The WellSens Gen II is the next generation of surface controllers. The WellSens Gen II is a robust and reliable multi-channel signal conditioner. It is compatible with the harsh environment interfero- metric fiber optic pressure and temperature sensor, the OPP-W. The WellSens Gen II can operate in a wide range of ambient temperatures from -20°C to +60 °C.

The wide operating temperature and low power con- sumption, make it ideal for remote applications oper- ating on solar panels or generators. The modular DIN rail design allows for seamless expansion with growing requirements. The high precision, small foot print, fast sampling rates and ease of use make it the solution of choice for oil field or industrial process applications.

At the core of the WellSens is the White Light Polarization Interferometry (WLPI) proprietary technology†. This technology provides a means for making accurate and absolute measurements of the path length difference, which varies as a function of the parameters of interest (pressure or temperature), of any type of interferometric fiber optic sensors.

The WellSens Gen II is capable of a variety of interface and communications protocols which provides easy integration to DCS systems via RS-232, RS-485, TCP/IP on ModBus or SCPI. It is also offered with an optional LCD display, internal data storage, and can be used independently for direct automation control with programmable alarms, relay logic, and standard ana- log voltage and currents I/O.

The WellSens Gen II is a complete data acquisition and processing solution for any application monitoring temperature, pressure, strain, or displacement

Use with WLPI fiber optic pressure, temperature, strain & displacement sensors

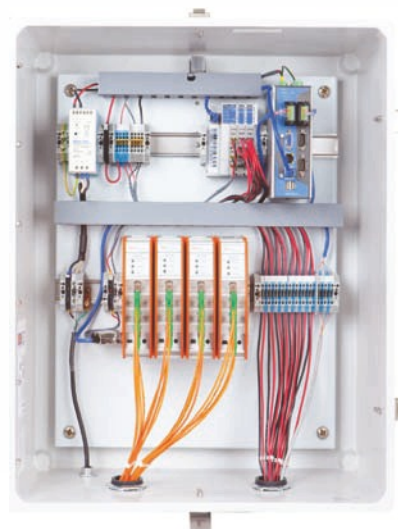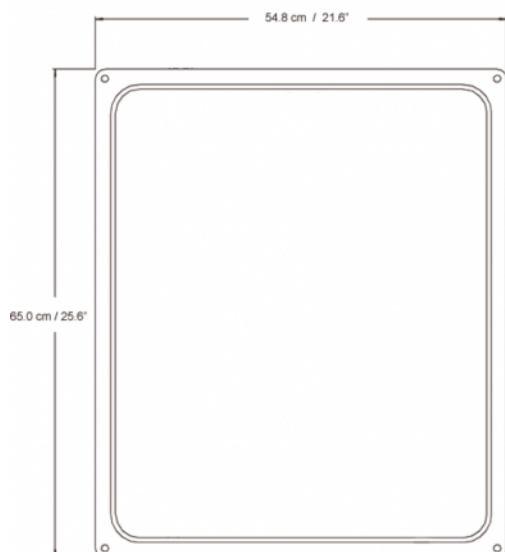† US patent 7,259,862. Patents pending in other countries.

Key features

- High Linearity, precision, with fast sample rates.
- Expandable up to 128 Channels.
- Modular DIN rail design.
- Flexible -Supports current & future WPLI products (P/T, Displacement, and Strain sensors).
- Wide operating temperature range.
- Low Power - <12W for 2 channel (no display). Ideal for remote applications utilizing solar panel
- Supports a variety of interface and communica tion protocols including RS485, TCP/IP, & ModBus.
- Application Control— programmable alarms and I/O options.

Applications

- Downhole oil & gas pressure & temperature monitoring in extreme harsh environments
- High temperature environments
- Ideal for remote monitoring
- Industrial process-control and monitoring applications
- Hazardous and strong EMI/RFI/MRI environments

Dimensions in mm

54.8 cm / 21.6"

65.0 cm / 25.6"

Specifications

Number of channels	Up to 128 channels
Compatibility	OPP-W, OTP-W and OEP fiber optic sensors
Full Scale	30 000 nm (path length difference)
Resolution	± 0.003 % of F.S. (no averaging)
Precision	± 0.01 % of F.S. @ ±3.3 sigma limit (99.9 % confidence level)
Sampling rate	Up to 20 Hz
Output interface	RS-485, RS-232 and Ethernet (TCP/IP)
Communication protocol	Modbus and SCPI
I/O and control option	Various analog and digital outputs (4-20 mA, ±10 V, etc.)
Data storage	Up to 8 Gb (in option)
Display	LCD screen display (in option)
Input power	24 VDC or 85-264 VAC
Consumption	10 W + 1 W x number of channels (Ex.: 16-CH unit = 26 W)
Storage temperature	- 40 °C to 70 °C
Operating temperature	- 20 °C to 60 °C (-40 ˚C option available on request)
Humidity	95 % non condensing

All specifications are subject to change without prior notification

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Germany / Austria / Switzerland	Benelux	France	Sweden	USA / Canada	Other countries
info@althen.de	sales@althen.nl	info@althensensors.fr	info@althensensors.se	info@althensensors.com	info@althensensors.com