ALTHEN
SENSORS & CONTROLS

RadSens

Description

The RadSens is a polyvalent, scalable system that includes a PSC-D advanced control unit, modular signal conditioner units (PSR-100 modules), a com- prehensive graphical user-interface environment and customizable OTG-R fiber optic temperature for fast response time temperature monitoring.

The RadSens PSC-D control unit houses a reliable, low power, Intel™ XScale processor based computer running under real time Windows CE™. System set-up, data collection and data storage are no longer a headache for the user with the most comprehensive graphical user interface. Through the Ethernet RJ-45 connection, the user can easily interface with a PC computer and get access to real time data with no loss of accuracy due to digital to analog, back to digital conversion.

With the 4 G internal memory capacity and internal current source option, user can locally store data during a test and perform sensor calibration at all time.

The RadSens scalable from 100 Hz to 1000 Hz, is a system specifically designed for HERO and RADHAZ applications such as electromagnetic compatibility testing and assessment of bridge-wire electro-explosive devices (EED).

Use with OTG-R GaAs (SCBG) temperature fiber optic sensors

PSC-D
PROSENS PLATFORM DEDICATED FOR HIGH SPEED MIXED PARAMETERS MEASUREMENTS

PSR-100
GAAS-BASED TECHNOLOGY FOR HIGH SPEEDTEMPERATURE MEASUREMENTS

Key features

- Modular platform accepting up to 8 modules
- High speed modules (1000 Hz sampling rate)
- High linearity, precision and resolution
- Ethernet, CAN Bus and RS-232 interfaces
- Individual ±5V analog outputs
- Host-independent graphical user interface (GUI)
- 6.5" Front panel touch-screen color display

Applications

- Electro-explosive device testing (RADHAZ and HERO applications)
- Static or dynamic temperature measurements conducted under confined space, hazardous and strong EMI/RFI/MRI environments
- High speed simultaneous temperature measure ments of temperature
- Automotive airbag igniters testing
- Hazardous environments
- Fast transient temperature measurements

PSC-D RadSens Platform

The RadSens has been developed with cutting edge technologies to provide the user with the most flexible tool for performing temperature, pressure, strain or displacement measurements in the most adverse conditions. Both WLPI (interferometric) and SCBG (GaAs-based) fiber optic sensing technologies can be mixed together within the PCS-D RadSens chassis, then getting the most out of your measurement applications and future needs.

Control Unit with GUI Touch-Screen Display

The PSC-D RadSens chassis offers a Windows CE based single board com- puter with a graphical user interface 6.5" TFT color touch-screen display. This GUI is ideal for easy system control and set-up, fast data collection and storage.
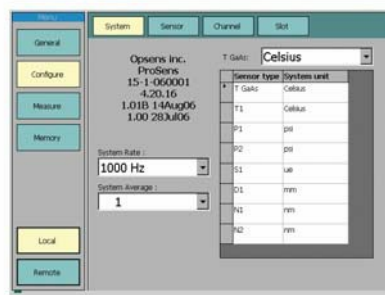
Ethernet communication interface

Easy configurable Ethernet communication interface provides the throughput necessary for real time data transfer between the ProSens and remote computer.

SoftProSens user interface software

Our SoftProSens software runs on a PC computer as a remote replicate of the ProSens graphical user interface (GUI). The user has the ability to control, display, acquire and save data in the same way as with the RadSens GUI.
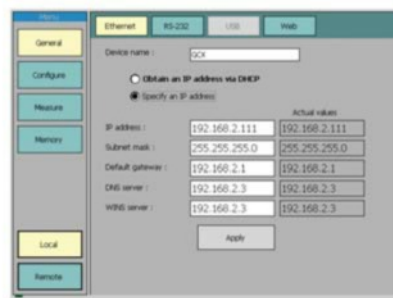
OTG-R sensor and assembly services

The OTG-R fiber optic temperature sensor is offered in different sheaths options and sizes deisgned to fit your application requirements. We also offer sensor to EED installation services as part of our turn key solution to the HERO / RADHAZ group worldwide.
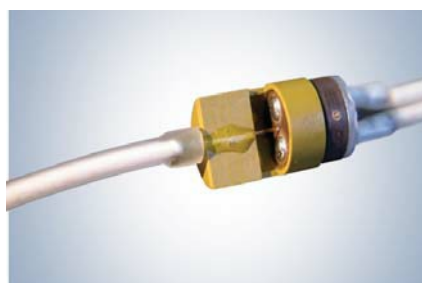
PSC-D

Description

The PSC-D is a 19¨ rackmount chassis, a control unit houses a reliable, low power, Intel™ Xscale processor based computer running under real time Win- dows CE™.

It is capable to contain up to 8 optoelectronics modules with on computer for real time data acquisition and transfer.

System set-up, data collection and data storage are no longer a headache for the user with the most comprehensive graphical user interface. Through the Ethernet RJ-45 connection, the user can easily interface with a PC computer and get access to real time data with no loss of accuracy due to digital to analog, back to digital conversion.

Scalable from 100 Hz to 1000 Hz, the RadSens PSC- D ofefrs an internal 4 G memory function and an internal current source for easy sensor calibration.

The RadSens PSC-D also offer different user-selectable output measurement units in °C, relative temperature to auto-zero reference, mA, mW and dB.

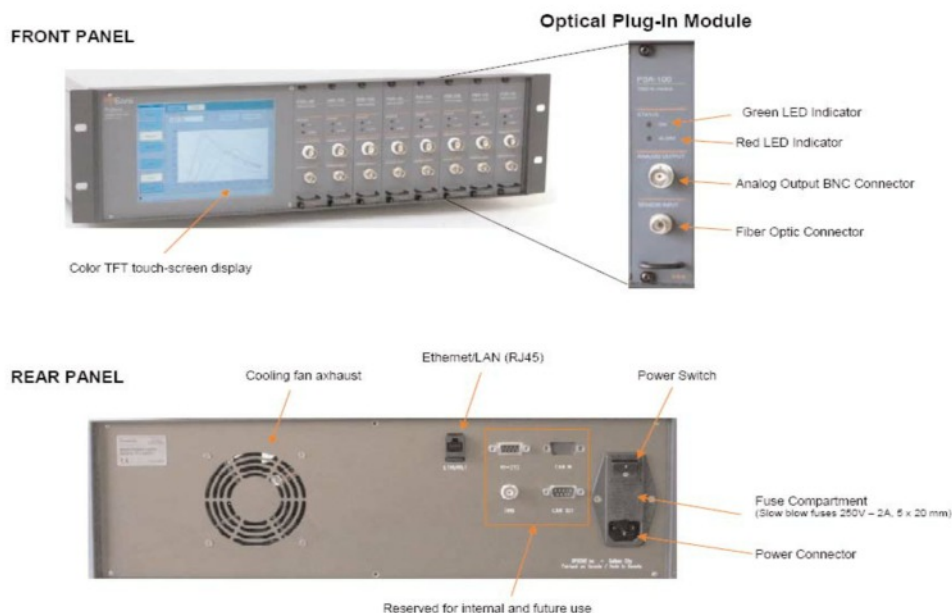**Use with the OTG-R GaAs (SCBG) temperature fiber optic sensors**

Key features

- Modular platform accepting up to 8 modules
- High speed modules (1000 Hz sampling rate)
- High linearity, precision and resolution
- Ethernet, CAN Bus and RS-232 interfaces
- Individual ±5V analog outputs
- Host-independent graphical user interface (GUI)
- 6.5" Front panel touch-screen color display

Applications

- Electro-explosive device testing (RADHAZ and HERO applications)
- Static or dynamic temperature measurements conducted under confined space, hazardous and strong EMI/RFI/MRI environments
- High speed simultaneous temperature measure ments of temperature
- Automotive airbag igniters testing
- Hazardous environments
- Fast transient temperature measurements

Dimensions in mm

FRONT PANEL

Optical Plug-In Module

Color TFT touch-screen display

Green LED Indicator
Red LED Indicator
Analog Output BNC Connector
Fiber Optic Connector

REAR PANEL

Cooling fan exhaust

Ethernet/LAN (RJ45)

Power Switch

Fuse Compartment
(Slow blow fuses 250V – 2A, 5 x 20 mm)

Power Connector

Reserved for internal and future use

Specifications

Number of measuring slots	8
Compatibility	PSR-100 module
I/O interfaces	Ethernet 10/100 Base-T interface
Graphical user interface	TFT 6.5" Touch-screen color display
Internal data storage memory	Up to 4Gbytes
Input power	90 to 230 VAC
Internal current source	0.4 to 180mA, 0,4 to 800 mA
Dimension	19" rack mount, 3U
Power consumption	2W (excluding signal conditioner modules)
Storage temperature	- 40 °C to 70 °C
Operating temperature	10 °C to 35 °C
Humidity	95 % non condensing

All specifications are subject to change without prior notifications

PSR-100

Description

The PSR-100 is a GaAs-based spectrophotometric module that measures the spectral position of the temperature-dependent bandgap of a GaAs crystal affix at the end of a 100 microns core optical fiber. This module is compatible with our SCBG (GaAs-based) fiber optic temperature sensors and hence, it requires no calibration factor.

The PSR-100 can be configured to sample measure- ments at rates varying from 100 Hz to 1000 Hz. The analog output scale and offset are adjustable, with a av- eraging capability for improved resolution.

The PSR-100 is dedicated solely to temperature meas- urements. With its advanced technology, the PSR-100 is reliable, repeatable experiences no signal degrada- tion due to any external perturbations.

The PSR-100 is stable and consistant from module to module hence the OTG-R sensor is 100% inter- changeable among systems and modules at all time.

Use with the OTG-R GaAs (SCBG) temperature fiber optic sensors

Key features

- High speed modules (1000 Hz sampling rate)
- High linearity, precision and resolution
- No gauge factor entry
- Absolute temperature measurement
- Individual ±5V analog outputs

Applications

- Electro-explosive device testing (RADHAZ and HERO applications)
- Static or dynamic temperature measurements conducted under confined space, hazardous and strong EMI/RFI/MRI environments
- High speed simultaneous temperature measure ments of temperature
- Automotive airbag igniters testing
- Hazardous environments
- Fast transient temperature measurements

Dimensions in mm

Specifications

Sensing Technology	SCBG: GaAs-based spectrophotometry
Sensor Compatibility	All of our GaAs-based temperature sensors with100 microns core optical fiber
Fiber optic core size	100 microns
Fiber Optic Connector	ST type
Analog output	±5 Volts output, BNC connector
Sampling rate	Adjustable from 100 Hz to 1000 Hz
Measuring range	-20°C to 250°C (other range available upon request)
Accuracy	± 1.5 °C (include sensor error)
Resolution	± 0.1 °C
Power consumption	2W
Light source life span	60 000 hours MTBF
Dimension	19" rack mount, 3U (140mm x 449mm x 316mm)
Storage temperature	-40 °C to 70 °C
Operating temperature	10 °C to 35 °C

All specifications are subject to change without prior notifications

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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.

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