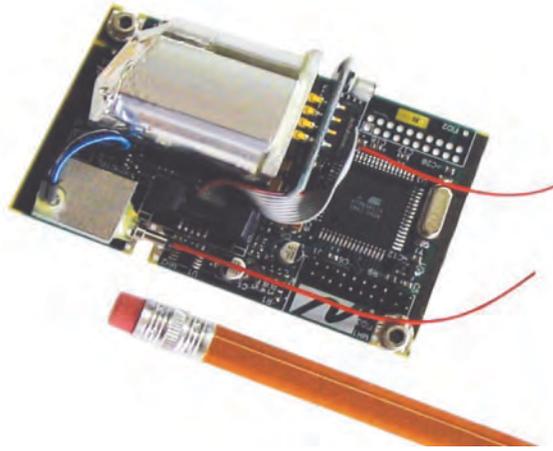


A small size, low power and full feature fiber optic signal conditioner for temperature measurement in OEM applications

Key Features

Very small size
Low power consumption
Low heat generation
Internal datalogging
Serial communication
-200 to 300°C temp. range
No gage factor or calibration
Accuracy of $\pm 0.5^{\circ}\text{C}$

OEM Fiber Optic Signal conditioner



The Neoptix fiber optic temperature signal conditioner OEM card is specifically designed to be integrated into your own system. The board features very small footprint (smaller than a business card!), low height, serial communication, low power consumption and datalogging. This solution provides quick and cost-oriented fiber optic temperature measurement to your own application.

The board features three latching points for direct installation into your own electronic or it can optionally be already integrated inside an OEM enclosure. The card can communicate with a host using ASCII commands over RS-232 or RS-485. TTL connectivity is also available directly on the card. In addition to serial communication, the board has three available I/O on its connector to transfer card information and status directly to the host. It also features a 1A (5V) transistor that act as supplementary power I/O.

The OEM card can act as master or slave. Temperature readings can be sent continuously when powered on or data can be sent only when asked by the host system. It also has two surface mounted LEDs, one for the system status and one for the probe status, that can be inked to a light pipe. This status information can also be transferred to the host system using serial communication.

The OEM signal conditioner do not need any calibration and its light source MTBF is rated 40 000 hours of continuous use (> 20 years of standard use). With our technology, performances of the system do not degrade over time such as seen with other solutions based on LED and intensity of returned light.

Multiple OEM cards can be clipped together in cascade, through an ingenious communication surface-mounted latch, to form an array of up to eight channels. This cluster can then be directly connected to a mother-card that adds even more features such as datalogging on a standard SD flash card with up to 1GB of memory, analog outputs, Full and Half-duplex MODBUS communication or Ethernet connectivity.

The board comes standard with a 5Hz sampling rate output. It is also possible to order the card with a fast 20 Hz sampling rate. Custom averaging and data smoothing functions are also available for this board.

The Neoptix OEM card requires very low power (120 mA @ 5V) to operate. It runs on 5VDC and it is possible to have the card getting its power from standard rechargeable batteries by adding a simple step down circuitry. The card also features a sleep mode that can be enabled by software. This will bring down its consumption to a mere 60mA.

The OEM board also comes with a built-in non-volatile EEPROM internal memory for direct datalogging; No data will be lost when power is turned off. Data are retrieved using serial communication.

The system generates a negligible amount of heat (<600mW), simplifying your board and system thermal management design. Its operating temperature is minus 20C up to 75C. Moreover, it has a useful built-in temperature sensor for monitoring the system internal temperature, which is accessible through serial communication.

Card accuracy and high degree of sensitivity to temperature changes make it a natural choice for a wide variety of OEM applications. Moreover, the card perfectly matches all of our Neoptix™ field proven sensors for medical, laboratory and high voltage applications. Our temperature sensors are interchangeable and no calibration or inconvenient gage factors are required when changing sensors.

The Neoptix OEM card comes with a complete two-year international warranty and is backed by Neoptix "48-hours Service" policy.

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SPECIFICATIONS

Model name:

OEM Signal Conditioner

Number of channel:

Single-channel instrument;
multiple board can be linked together

Resolution:

0.1°C

Accuracy:

±0.5°C

Sampling rate:

5 Hz; 10 Hz and 20 Hz optional

Averaging:

Averaging and data smoothing available; contact factory

Upgradability - Firmware:

Flash ROM upgradeable through serial communication

Display:

None

Units:

User selectable, Metric or Imperial

Data logging memory:

Internal: Built-in data logging plus internal temperature, time and date stamp in ASCII format or;

SD Card: Data logging on removeable SD flash card with optional plug-in board

Temperature measurement range:

-80 to 300°C (-112 to 572°F); Cryogenic range available (down to 20 Kelvin)

COMMUNICATION AND I/O

Operating Mode:

ASCII commands over RS-232 or RS-485

or Neoptix™ NeoLink™ PC Software

Communication (hardware):

RS-232 or RS-485, TTL optional

Analog outputs with optional plug-in card

Communication protocols:

ASCII

MODBUS (Full or Half-Duplex with optional plug-in card)

Ethernet bridge optional

Board I/O :

Three customizable I/O on 2x10 connector

One 1A (5V) transistor that act has supplementary power I/O

OEM board status :

Built-in temperature sensor; info can be logged into internal memory or sent through serial communication

Two LED status; One for the system and one for the probe; can be linked to serial communication

Three customizable I/O on 2x10 connector

One 1A (5V) transistor that act has supplementary power I/O

MECHANICAL AND ENVIRONMENTAL

Operating temperature:

-20 to 65°C

Storage temperature:

-40 to 85°C, non-condensing

Form factor:

1/16" thick PCB with three slots for screw fixation

Enclosure:

None; OEM protective enclosure optional

Connectors:

Optical: One ST connector

Serial and power-in: Two of 2x10 / 2 mm pitch array connectors

Dimensions:

Width: 80 mm ; Height: 45 mm; Thickness: 24.5 mm

Weight:

250 grams (without batteries and cables)

POWER

Power requirements:

5 VDC power-in; battery operation optional

Sleep mode available

Power consumption:

600 milli Watts

(300 milliWatts in Sleep Mode)

OTHER

Probe compatibility

Compatible with all of Neoptix GaAs fiber optic temperature probes and transducers

Also compatible with former Nortech-Fibronic, Inc. probes and all GaAs-based probes

Warranty

One-year complete international warranty

Extended warranty available

ORDERING CODE:

OEM-1CH

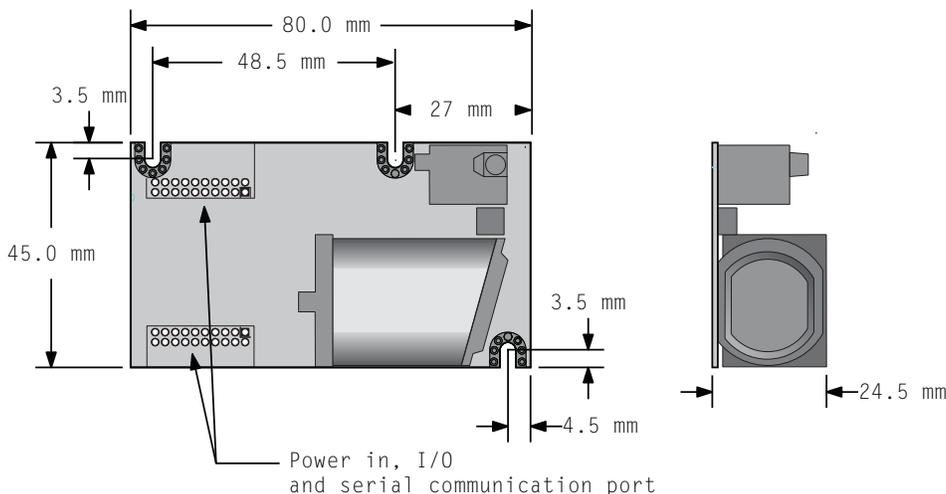
ACCESSORIES

- Plug-in card for SD card datalogging, analog outputs and MODBUS communication

- 256 MB SD Flash Card (NMD-256)

- 1 GB SD Flash Card (NMD-1GB)

- OEM aluminum or steel custom enclosure



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