

Signal Amplifier
filtering electronics, with
4...20mA , 2 wire current
loop output

FEATURES

- 2 wire connection – loop powered
- No extra power required
- Internal zero setting of sensor offset
- Reverse polarity protected
- Output is surge-protected
- Sensor powered by stable internal 5V regulator
- Zero and span adjustment by means of high quality potentiometers
- Electronics parts hermetically enclosed
- Programmable low-pass filter with optional settings
- High-pass filter also available
- Custom made connectors also possible

DESCRIPTION

The NV6a is used for excitation, for filtering, and for standardisation of the different SEIKA sensors output signals. The 4..20mA output signal permits a problem-free signal transfer to measurement equipment such as an oscilloscope, AD-cards in PC's, or to other OEM equipment.

Even with large changes at the unit power supply, the NV6a will act very stable both for offsetting the sensors zero point and on supplying a stable 4..20mA current output linear to the sensors working range.

APPLICATION

The NV6a is used everywhere where a SEIKA sensor should be combined with a user-specific demand for high voltage output / special wishes for filtering of the sensor signal, plus where a non-stabilised 8....30VDC supply can be an advantage for the system.

For 0..5VDC output please have a look at NV8a

For +/-4VDC output the NV4a is the correct solution.

TECHNICAL DATA

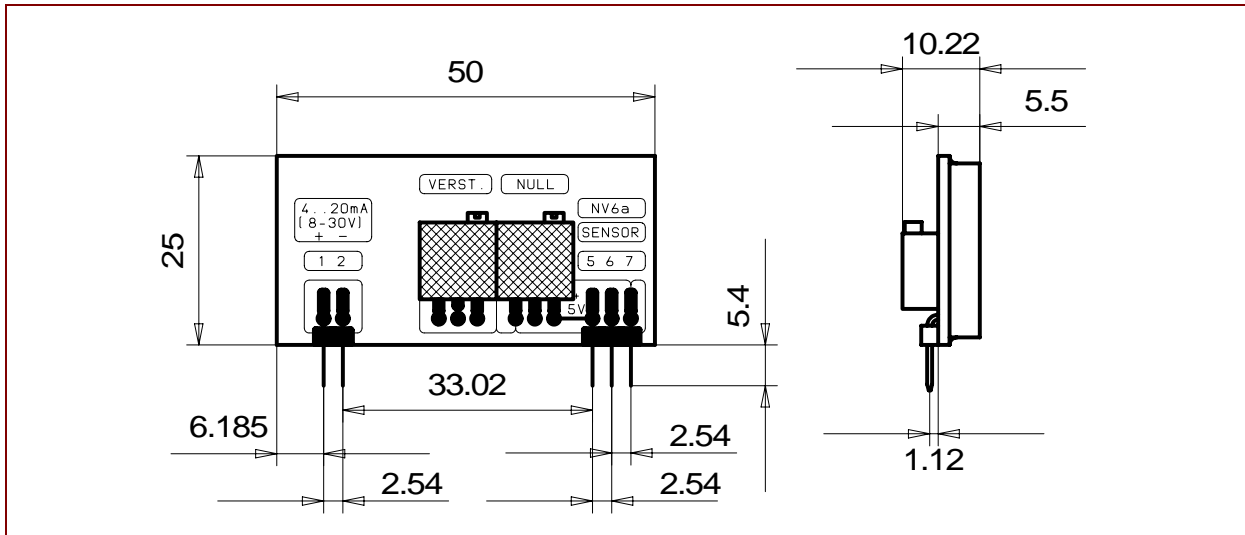
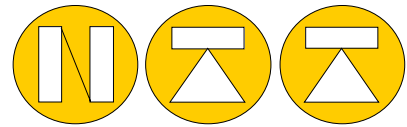
Dimensions	Please see drawing
Supply voltage	+8...+30Volt (reverse polarity protected to -70Volt)
Current consumption without sensor	Approx.2mA
Operating temperature	-40...+85°C
Sensor supply	+5.00 Volt
Sensor supply-temperature drift	20ppm /°C
Max. Loop current	Approx. 24mA
Active measuring range equal to sensor range	4...20mA
Signal zero point	12mA
Off-set range	2.3 ...2.7 Volt (larger for e.g. B1 in Z-direction)
Max. Load impedance at nominal 24VDC supply	Approx.500 Ω
Noise value on power supply	30μV _{p.p.}
Signal audio-frequency noise at standard sensor	>65dB
Frequency range	0...10Hz, 0...200Hz, 0...1kHz plus custom wishes
Electrical connections	Pin connectors 2.54mm, length 5.7mm, Ø 0.63mm gold plated optional: Soldering pads

Dimensions

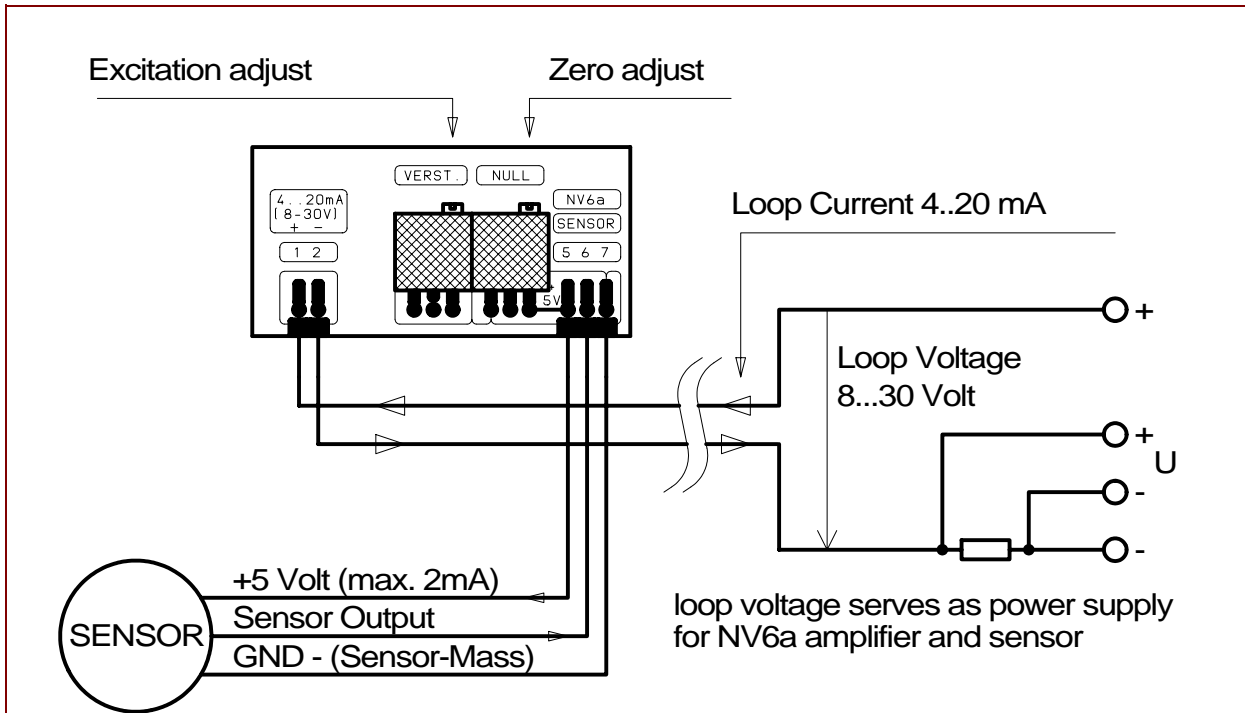
Nordic Transducer * Als Odde * DK-9560 Hadsund Denmark * Tel: +45 98581444 * Fax: +45 98581866

Internet: www.ntt.dk * e-Mail: ntt@ntt.dk

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Pin connections



Caution! Sensor-GND and NV6a-GND (both on same potential) must be isolated from the current-loop ! In case of multiple axes (e.g. in SW3) all sensors grounds/housings must be isolated from each other. Especially consider in the case of an order: Sensor internally isolated for combination with NV6a" !

This does not apply for the other types of amplifiers (NV4a, NV8a) with VOLTAGE OUTPUT!

Since the supply voltages for the NV6a and the sensor are obtained from the current loop and both together require max. 3mA, an input voltage of min. 8Volt must be supplied to the NV6a. This is also required in order to guarantee correct operation when the highest loop current of approx. 24mA is used.