

# SINEAX V620

## Universal Converter

Universal converter for mA, V, TC, RTD,  $\Omega$



### Features / Benefits

- Input: Voltage, current, RTD, TC, NTC, potentiometer, rheostat
- Strobe: Input (control analog output)
- Output: Current, voltage, relay (SPST)
- Resolution: Programmable from 11 to 15 bit + sign
- Accuracy: 0.1%
- Response time: 35 ms (11 bit + sign)
- Isolation: 1.500 V AC at 3 ways
- Power supply: 10 ... 40 V DC, 19 ... 28 V AC



### General Data

Power supply	10 ... 40 V DC, 19 ... 28 V AC																	
Consumption	Max. 2.5 W; 1.6 W at 24 V DC (20 mA output)																	
Isolation	1.500 V AC at 3 ways																	
Input protection	Against pulse overvoltages 400 W/ms																	
Output/Supply protection	Against pulse overvoltages 400 W/ms																	
DIP switch configuration	Input type, start-end, output mode (zero elevation, scale inversion), output type (mA, V)																	
Software configuration	Start-end scale, root extraction, burn-out, etc.																	
Status indicators (LED)	Power supply, out scale, error, alarm																	
Operating temperature	- 10 ... + 60 °C																	
Humidity	Up to 90% at 40 °C non condensing																	
Memory	EEPROM for all setup data; retention time: 40 years																	
Accuracy	V	mA	$\Omega$	Ni100	Pt100	Pt500	Pt1000	KTY81	KTY84	TC J	TC K	TC R	TC S	TC T	TC B	TC E	TC N	Vout
Calibration	0.1%																	0.3%
Thermal drift	0.01% / °K																	
Linearity	0.05%	0.05%			0.02% (>0°C); 0.05%					0.2 °C	0.2 °C	0.5 °C	0.5 °C		1.5 °C	0.2 °C	0.2 °C	0.01%
EMI	< 1%	< 1%								< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Con-formity	CE																	

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### Input Data

<b>Voltage input</b>	9 bipolar ranges from 75 mV to 20 V, input impedance 1 M $\Omega$ , max. resolution 15 bit + sign
<b>Current input</b>	Bipolar ranges up to 20 mA, input impedance 50 $\Omega$ , max. resolution 1 $\mu$ A
<b>RTD input</b>	Pt100, Pt500, Pt1000, Ni100, KTY81, KTY84 und NTC, 3 or 4 wires connection, excitation current 0.65 mA, resolution 0.1 $^{\circ}$ C, RTD or cable interruption automatic detection. Resistive value for NTC: < 25 k $\Omega$ , KTY81, KTY84 and NTC settable only by software
<b>TC input</b>	TCJ, K, R, S, T, B, E, N, resolution: 2.5 $\mu$ V, TC interruption automatic detection, input impedance > 5 M $\Omega$
<b>Potentiometer input</b>	Excitation voltage 300 mV, input impedance > 5 M $\Omega$ , potentiometer range from 500 $\Omega$ to 10 k $\Omega$ (with parallel resistor 500 $\Omega$ )
<b>Rheostat input</b>	End scale min. 500 $\Omega$ , max. 25 k $\Omega$
<b>Strobe input</b>	Alternative to relay output
<b>Response time</b>	35 ms (11 bit + sign) ... 140 ms (15 bit + sign)

### Output Data

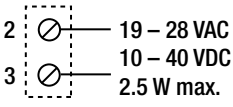
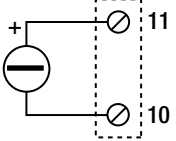
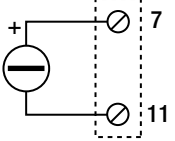
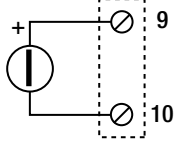
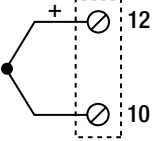
<b>Current output</b>	0 ... 20 / 4 ... 20 mA, max. load resistance: 600 $\Omega$
<b>Voltage output</b>	0 ... 5 / 0 ... 10 / 1 ... 5 / 2 ... 10 V, min. load resistance: 2 k $\Omega$
<b>Relay output</b>	Alternative to strobe input NC relay contact, NO in case of alarm
<b>Resolution</b>	2.5 $\mu$ A / 1.25 mV
<b>Output retransmission</b>	Isolated analog output, current / voltage output Supplied active output connected to passive inputs

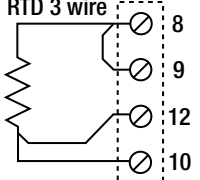
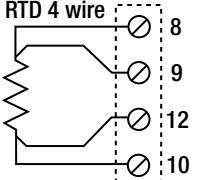
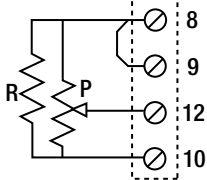
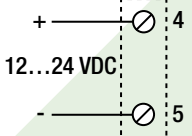
### Order Codes

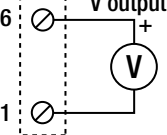
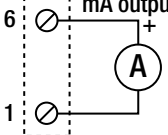
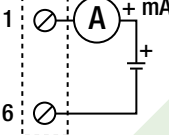
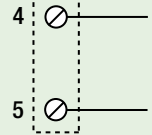
Description	Code
Open cover for DIP-switch Power supply 10 ... 40 V DC, 19 ... 28 V AC	<b>176 405</b>
Accessories: PC configuration cable	<b>176 413</b>

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## Electrical connections

Power supply	Current input	Voltage input	Thermocouple input
 <p>2 — 19 – 28 VAC 3 — 10 – 40 VDC 2.5 W max.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>mA input</b></p>  <p>The loop is powered by the sensor</p> </div> <div style="text-align: center;"> <p><b>mA input (2 wires)</b></p>  <p>The loop is powered by the module</p> </div> </div>	<p><b>V input</b></p> 	<p><b>mV/TC input</b></p> 

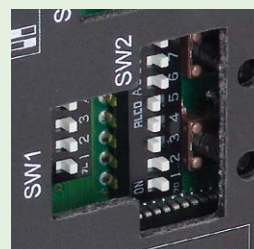
Thermoresistance input	Potentiometer / Rheostat input	Strobe input
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>RTD 3 wire</b></p>  </div> <div style="text-align: center;"> <p><b>RTD 4 wire</b></p>  </div> </div>	<p><b>Potentiometer / Rheostat input</b></p> 	<p><b>Strobe input</b></p>  <p>Alternative to relay output</p>

Retransmitted output	Relay output
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>V output</b></p>  <p>Voltage</p> </div> <div style="text-align: center;"> <p><b>mA output</b></p>  <p>Current (supplied active output connected to passive inputs)</p> </div> <div style="text-align: center;"> <p><b>mA output</b></p>  <p>External power supply current</p> </div> </div>	<p><b>Relay output</b></p>  <p>Enabled alternatively to strobe input. Alarm NO / NC contact relay</p>

## Configuration

### 1. DIP-switch

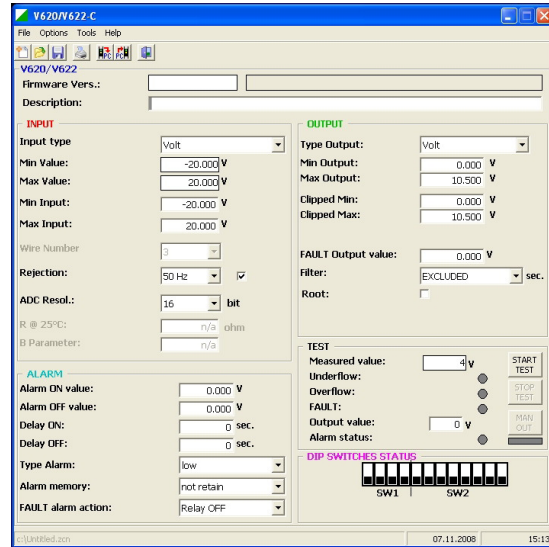
- Input type
- Zero and Span
- Output type
- Scale inversion



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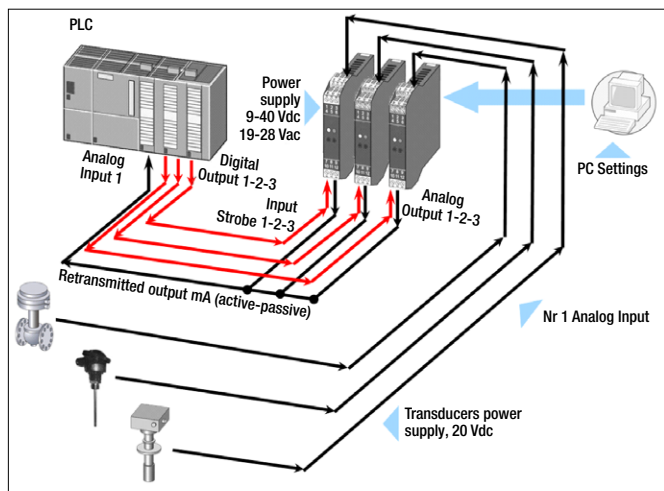
## 3. Software

- Min./max. range scale; digital filter; square root extraction
- Open and short circuit supervision
- Analog scale; error analog output value
- Frequency filter (50 ... 60 Hz)
- Sampling time / Resolution
- Measure 3, 4 wires for RTD
- Relay alarm control, strobe configuration



## Application examples

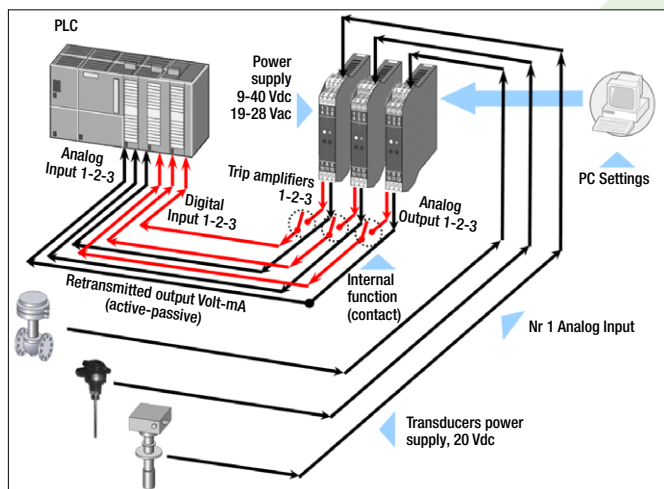
### Multiplexer



#### Advantage:

Just 1 analog input (PLC) is able to read signals outcoming from several SINEAX V620.

### Trip amplifier



#### Advantage:

SINEAX V620 can handle also threshold by a relay settable on 0 ... 100% of universal input value.

## Dimensional drawing

