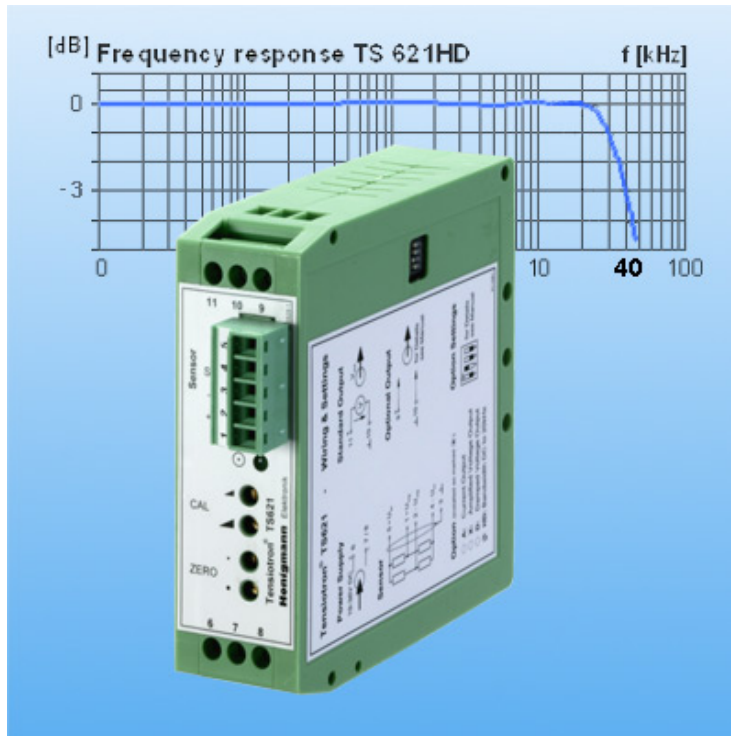


# TENSIOTRON® TS 621 HD

High speed strain gauge amplifier - wide bandwidth 40kHz



The **TENSIOTRON® TS 621 HD** electronic strain gauge amplifier is especially intended for amplification of high frequency sensor signals.

Best temperature stability, long-term stability and high accuracy are guaranteed by using modern technology.

The **TS 621 HD** delivers superb performance features such as galvanic isolation, removable terminal block for the sensor connections, multiple options and high quality.

## Special features:

- Detection of high frequency sensor signals by large gain bandwidth; **DC...40kHz**
- Great noise immunity and service reliability for use in rough industrial operation
- Direct input power supply of 24V DC, reverse-polarity protected, providing
  - wide operating input power supply of 19-36V DC, LED indicates power-on status
  - integrated DC-DC converter for galvanic isolation between power supply and measuring circuit (very important to avoid ground loops in combination with secondary electronics)
- Provides a well-regulated power supply for sensor excitation, balanced to ground
- Coarse and fine adjustments for zero and amplification setting
- Screw terminal for power and outputs
- Removable screw terminal plug for the sensor connections
  - available accessory: adapter plug 2/1 ( parallel connection of 2 sensors directly at amplifier input )
- Standard: voltage output 0-10V, bipolar
- Optional outputs available:
  - Option **D** → additional **filtered voltage output**, selectable cut-off frequency 0,5 / 5 / 10 / 20Hz
  - Option **A40** → additional **current output**, selectable 0-20 / 4-20mA, unipolar or bipolar
  - Option **X40** → additional voltage output, selectable **amplification factor 2x, 3x, 4x, 5x**

# Technical Data TS 621 HD

Designation		<b>Tensiotron® TS 621 HD</b>	
Design		DIN-rail housing for convenient snap-in installation	
Accuracy class		<b>0,1</b>	
Sensors to be connected: - strain gauge, full bridge	$\Omega$	admissible connection impedance $\geq 150$	
Bridge excitation voltage - referenced to ground (GND)	V DC V DC	$10 \pm 0,5 \%$ $\pm 5$	
Nominal gain $G_{nom}$		667	
Nominal measuring range $U_{sig}$	mV	$\pm 15$	
Calibration range referenced to $G_{nom}$	%	38 to 100 to 580	
Adjustment range zero @ $G_{nom}$ - fine approx. - coarse approx.	% <sup>1</sup> % <sup>1</sup>	$\pm 20$ $\pm 60$	
Input impedance	$\Omega$	$10^{10}$	
Cut-off frequency (- 3 dB)	kHz	approx. 40	
Phase delay (frequency range)	$\mu s$	< 7,5	
max. slew rate $V_{out}$	V / $\mu s$	2,5	
max. ringing at surge <sup>2</sup>	%	< 5	
Standard output - voltage output $V_{out}$ (@ $G_{nom} \cdot U_{sig}$ )  <b>OPTION</b> additional output: - <b>D</b> 2nd voltage output, filtered $V_{dout}$ Bessel low-pass-filter 5 <sup>th</sup> order (configuration via DIP switch)  - <b>A40</b> current output - bipolar - unipolar - unipolar (configuration via DIP switch) cut-off frequency $f_C$ (-3dB)  - <b>X40</b> 2nd voltage output with selectable amplification factor X $V_{out}^* = X \cdot V_{out}$ voltage output $V_{out}^*$ (configuration via DIP switch) cut-off frequency $f_C$ (-3dB)	V  V Hz  mA mA mA  kHz  V V  kHz	0 to $\pm 10$ , max. 10 mA  0 to $\pm 10$ , max. 10 mA $f_C = 0,5 / 5 / 10 / 15$  0 to $\pm 20$ , admissible load 0 to 500 $\Omega$ 0 to + 20, admissible load 0 to 500 $\Omega$ 4 to + 20, admissible load 0 to 500 $\Omega$  approx. 40  $V_{out}^* = 2 / 3 / 4 / 5 \cdot V_{out}$ 0 to $\pm 10$ , max. 10 mA  approx. 40	

Nominal temperature range	° C	0 to + 60
Operation temperature range	° C	0 to + 60
Storage temperature range	° C	-25 to + 75
Temperature influence per 10 °C - on zero at amplifier output - on calibration	mV % <sup>1</sup>	< 10 (@ G <sub>nom</sub> ) < 0,05
Supply voltage Power consumption	V DC W	19 to 36 max. 3 integrated DC-DC converter for galvanic isolation between supply voltage and measurement circuit
Amplifier connection		screw terminals for flexible cable 0,2 to 2,5 mm <sup>2</sup>
Sensor connection		plug with screw terminals for flexible cable 0,08 to 1,5 mm <sup>2</sup>
Dimensions (L x W x H)	mm	80 x 25 x 95
Weight	g	approx. 100
Installation		Snap-in installation on DIN-EN mounting rails

<sup>1</sup> of final value

<sup>2</sup> @ G<sub>nom</sub> and 15 mV square wave amplitude input signal (U<sub>sig</sub>)

Explanation of grammalogue:

f<sub>C</sub> ⇒ Cut-off frequency

G<sub>nom</sub> ⇒ Nominal gain

U<sub>sig</sub> ⇒ Input voltage

V<sub>out</sub> ⇒ Voltage at standard output

V<sub>out</sub>\* ⇒ Voltage at optional output with select. amplification factor

V<sub>dout</sub> ⇒ Voltage at optional damped output

*Technical execution subject to change without prior notice*

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