

# GTLab

Sensors vibration,  
pressure, force.  
Measuring devices.

Catalog 2021



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## The principle of product names

### Sensors

<b>1</b>	<b>Measured parameter or operating principle:</b> 1 – vibration acceleration 2 – vibration speed 3 – vibration displacement 4 – force 5 – dynamic pressure 6 – static-dynamic pressure 7 – acoustic emission 8 – eddy current	<b>2</b>	<b>Output:</b> V – voltage C – charge A – current D – digital	<b>3</b>	<b>Sensor type:</b> 0 – reference 1 – general purpose 2 – industrial 3 – shock 4 – high-sensitive
<b>4</b>	<b>Sensor model and number of measuring axes:</b> 01 - 49 one-component 50 - 89 three-component 90 - 99 two-component	<b>5</b>	<b>The direction of the cable output:</b> T – vertical H – horizontal	<b>6</b>	<b>Split/all-in-one plug:</b> A - all-in-one M - all-in-one metal jacket X - split  (where the x - code corrodes the cable, see table 2)
<b>7</b>	<b>Coefficient (numeric value):</b> For vibration sensors - coef-t conversion to mV/g. For pressure sensors, the upper limit of the range in bar (for IEPE), or the conversion coefficient in pC/bar.				

Example: 1V204NM-100 – vibration acceleration sensor (accelerometer) with voltage output, industrial, one-component, with horizontal cable output, all-in-one plug, cable in a metal sleeve, conversion coefficient – 100 mV/g.

### Signal generators

<b>A</b>	<b>1</b>	<b>Features:</b> 0 - Matching 1 - Converts 2 - Commuting 3 - Eddy current 4 - Acoustic emission	<b>2</b>	<b>The type of input, the model:</b> 01 - 19 Voltage 20 - 29 Charge 30 - 39 Charge differential 40 - 59 Charge and voltage 60 - 79 Current 80 - 99 Digital
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Example: A002 – matching signal generator, voltage.

### Measuring device

<b>D</b>	<b>1</b>	<b>Features:</b> 0 - ADC 1 - Vibrometers 2 - Eddy current	<b>2</b>	<b>The type of input, the model:</b> 01 - 19 Voltage 20 - 29 Charge 30 - 39 Charge differential 40 - 59 Charge and voltage 60 - 79 Current 80 - 99 Digital
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Example: D141 – Vibrometer, for sensors with charge output and IEPE standard voltage output.

### Calibrators

**S**

Example: S01 – portable calibrator.

# ACCELEROMETERS



# ACCELEROMETERS

GTLab

Electromechanical transducers for measuring vibration and shock accelerations.

## With charging output

Accelerometers for extreme application conditions: high temperature, high intensity shock acceleration in a wide frequency range.

### General purpose

Measurement of parameters of medium-and high-intensity vibration processes.

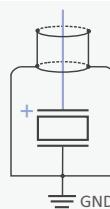
#### One-component



Series 1C101



Series 1C102



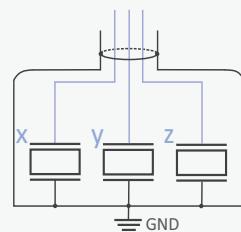
#### Three-component



Series 1C151



Series 1C152



Pages: 9,10,11,12,13.

### Industrial

Measurement of parameters of high-intensity shock processes



Series 1C201



Series 1C202



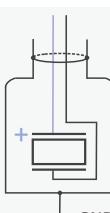
Series 1C203



Series 1C204



Series 1C206



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### Shock

Measurement of parameters of high-intensity shock processes

#### One-component



1C301HA



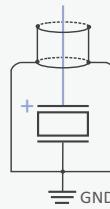
1C302HA



1C303HA



1C304HA



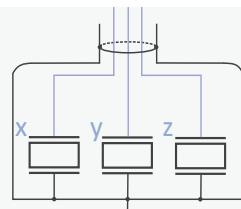
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#### Three-component



1C351

Pages: 19,20,21



# With voltage output

Accelerometers with increased noise immunity.

## General purpose

Measurement of parameters of vibration processes (in multi - channel systems, modal analysis, analysis in industrial sanitation).

### One-component



### Three-component



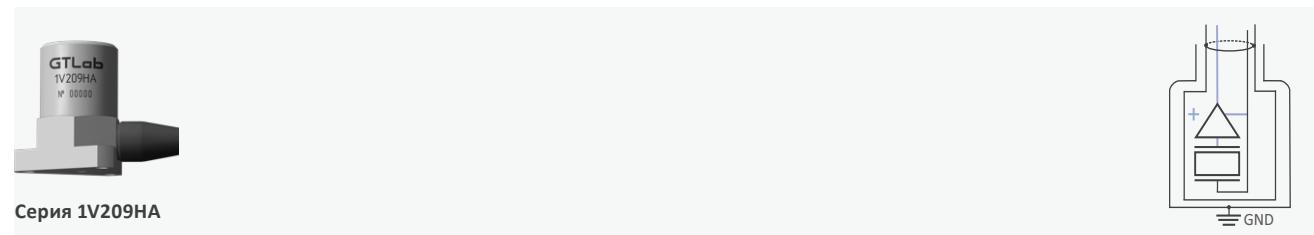
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## Industrial

Monitoring the condition of industrial equipment in conditions of strong industrial interference.

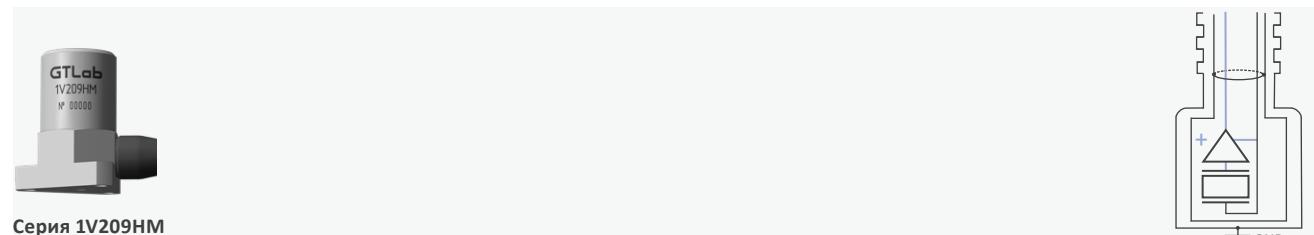


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Серия 1V209HA

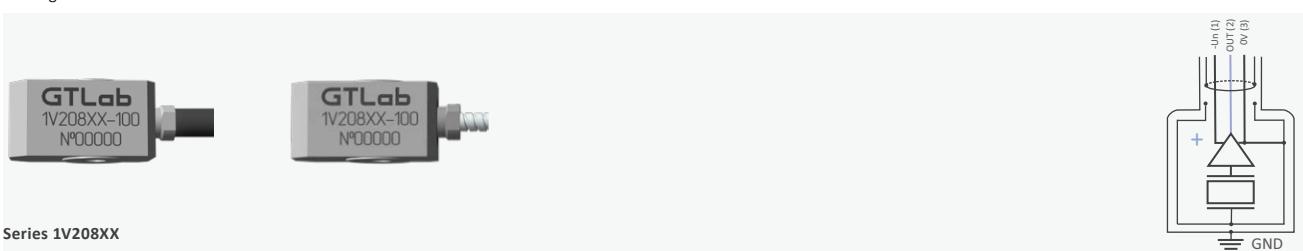
Страница: 40



Серия 1V209HM

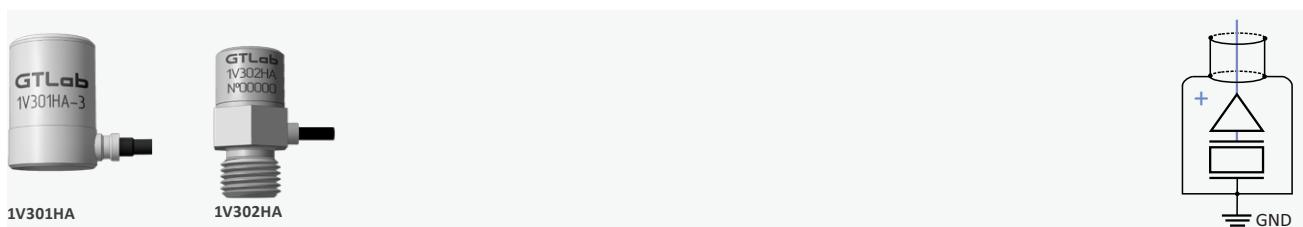
Страница: 41.

With negative nutrition



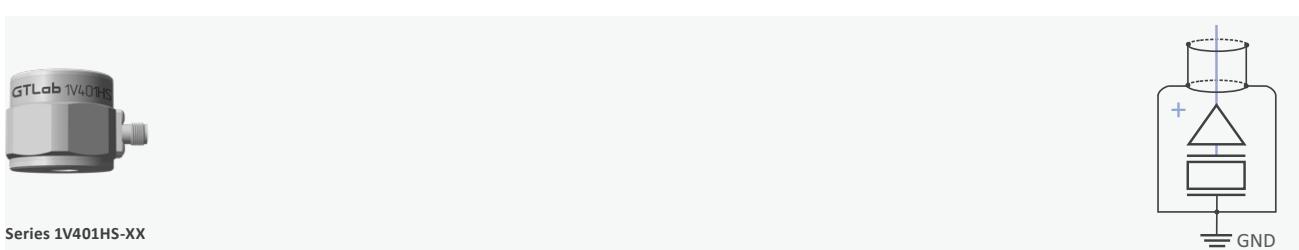
## Shock

Measurement of parameters of high-intensity shock processes



## High-sensitive

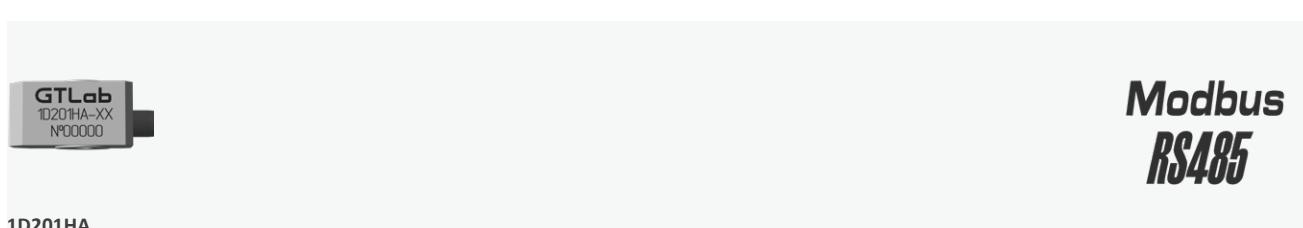
Measurement of low-frequency parameters in low-intensity vibration processes.



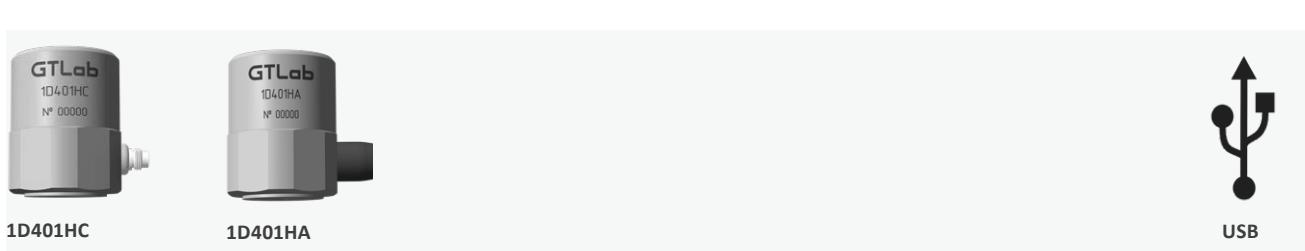
# With digital output

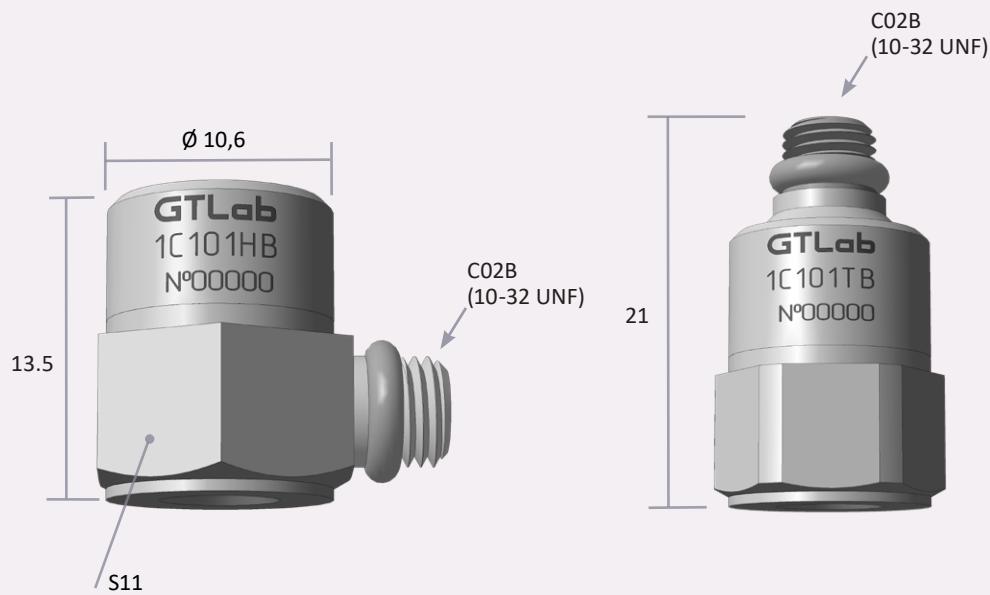
Accelerometers with built-in ADC.

## Industrial



## High-sensitive



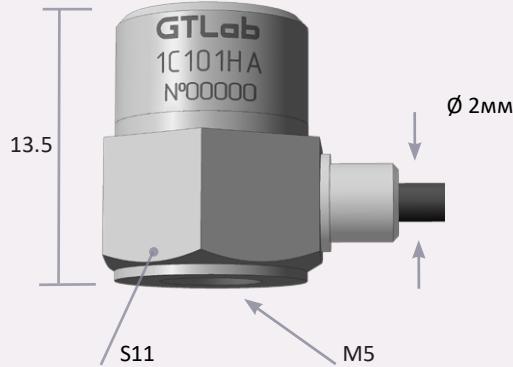


Parameter	1C101HB	1C101TB
Sensitivity ( $\pm 20\%$ )	$1 \text{ pC}/(\text{m}\cdot\text{s}^2)$	
Transverse sensitivity	< 5 %	
Measurement range	$\pm 100\,000 \text{ m/s}^2$	
Maximum shock limit (peak value)	$\pm 150\,000 \text{ m/s}^2$	
Temperature range	-60 ... +150 °C	
Frequency range (uneven frequency response) $\pm 1 \text{ dB}$	0,5 ... 16 000Hz	
Resonant frequency	> 50 kHz	
Electric capacity	800 ... 1100 pF	
Insulation resistance under normal conditions	> 10 000 MΩ	
Housing material	stainless steel /titanium Determined by the customer's request	
Weight (without cable)	10 g	
Supplied accessories	cable 03B1B1 (determined by the customer's request) pin P0505	

General purpose

With charge output

Accelerometers

**Parameter**Sensitivity ( $\pm 20\%$ )**1C101HA** $1 \text{ pC}/(\text{m}\cdot\text{s}^2)$ 

Transverse sensitivity

&lt; 5 %

Measurement range

 $\pm 100\,000 \text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 150\,000 \text{ m/s}^2$ 

Temperature range

− 60 ... + 150 °C

Frequency range (uneven frequency response)  $\pm 1 \text{ dB}$ 

0,5 ... 16 000Hz

Resonant frequency

&gt; 50 kHz

Electric capacity

800 ... 1100 pF

Insulation resistance under normal conditions

&gt; 10 000 MΩ

Housing material

stainless steel /titanium

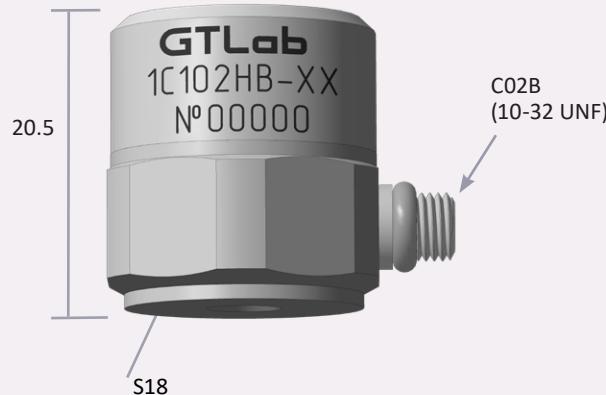
Determined by the customer's request

Weight (without cable)

10 g

Supplied accessories

pin P0505

**Parameter**Sensitivity ( $\pm 20\%$ )**1C102HB**10 pC/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

 $\pm 15\,000\text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 50\,000\text{ m/s}^2$ 

Temperature range

−60 ... +150 °C

Frequency range (uneven frequency response)  $\pm 1\text{ dB}$ 

0,5 ... 8 000Hz

Resonant frequency

&gt; 20 kHz

Electric capacity

1000 ... 1500 pF

Insulation resistance under normal conditions

&gt; 10 000 MΩ

Housing material

stainless steel

Weight (without cable)

40 g

Supplied accessories

cable 03B1B1 (determined by the customer's request) pin P0505

**Parameter**Sensitivity ( $\pm 20\%$ )**1C102TB**10 pC/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

 $\pm 15\,000 \text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 50\,000 \text{ m/s}^2$ 

Temperature range

− 60 ... + 150 °C

Frequency range (uneven frequency response)  $\pm 1 \text{ dB}$ 

0,5 ... 8 000Hz

Resonant frequency

&gt; 20 kHz

Electric capacity

1000 ... 1500 pF

Insulation resistance under normal conditions

&gt; 10 000 MOhm

Housing material

stainless steel

Weight (without cable)

40 g

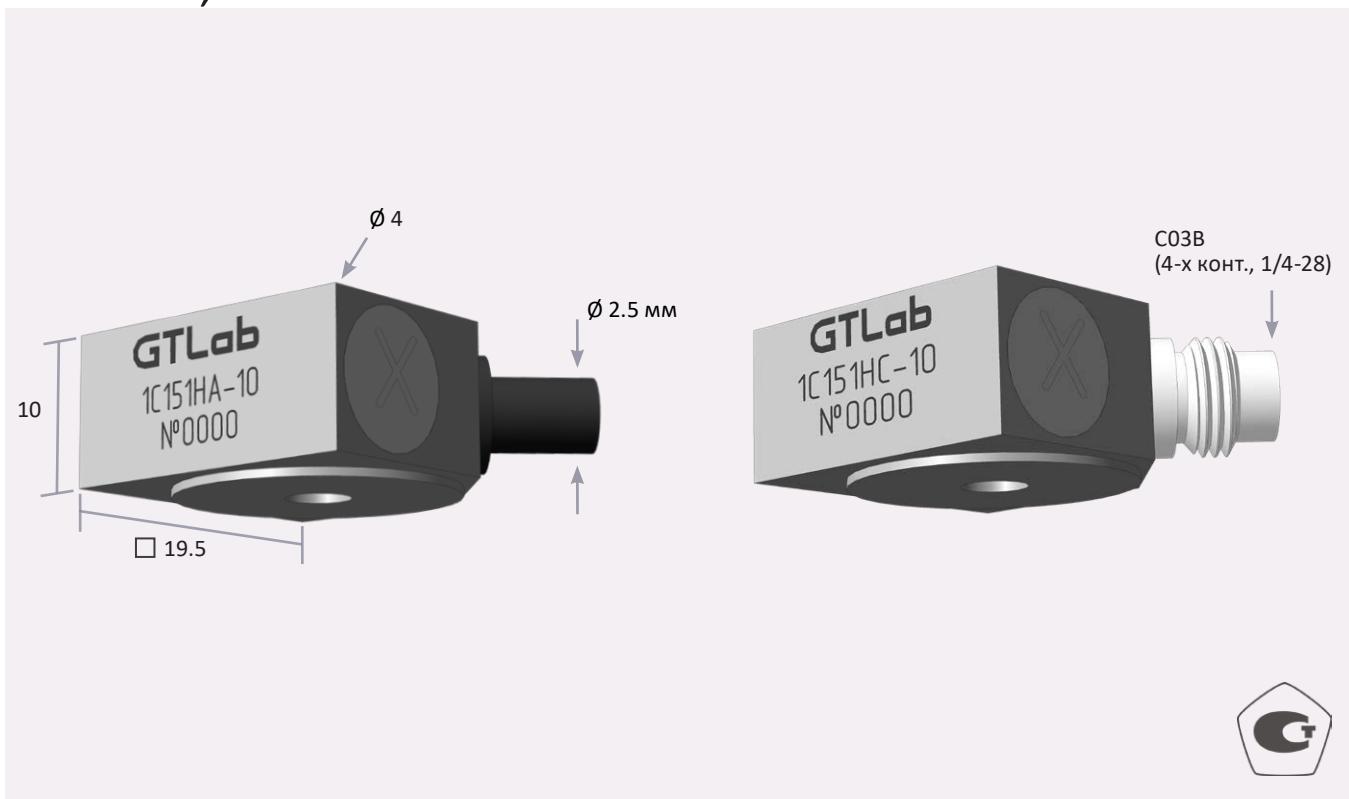
Supplied accessories

cable 03B1B1 (determined by the customer's request) pin P0505

General purpose

With charge output

Accelerometers

**Parameter**Sensitivity ( $\pm 20\%$ )

Transverse sensitivity

Measurement range

Maximum shock limit (peak value)

Temperature range

Frequency range (uneven frequency response  $\pm 1 \text{ dB}$ )

Resonant frequency

Electric capacity

Insulation resistance under normal conditions

Housing material

Weight (without cable)

Supplied accessories

**1C151HA**1 pC/(m·s<sup>-2</sup>)

&lt; 5 %

 $\pm 25\ 000 \text{ m/s}^2$  $\pm 100\ 000 \text{ m/s}^2$ 

– 60 ... + 150 °C

0,5 ... 10 000Hz

&gt; 30 kHz

800 ... 1 100 pF

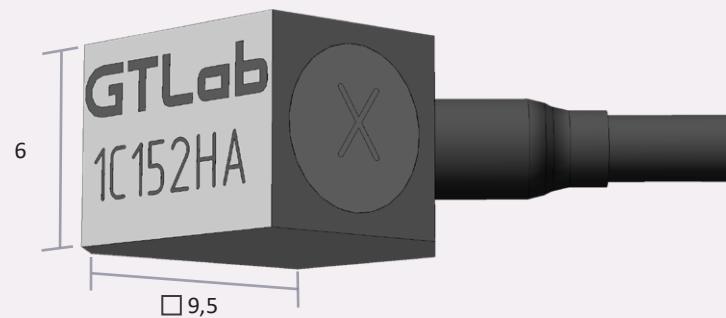
&gt; 10 000 MOhm

titanium alloy

17 g

screw M5 × 15

**1C151HC**cable 41C1B3 (determined by the customer's request)  
screw M5 × 15

**Parameter**

Sensitivity ( $\pm 20\%$ )	0,2 pC/(m·s $^2$ )
Transverse sensitivity	< 5 %
Measurement range	$\pm 30\,000\text{ m/s}^2$
Maximum shock limit (peak value)	$\pm 100\,000\text{ m/s}^\circ$
Temperature range	- 60 ... + 150 °C
Frequency range (uneven frequency response $\pm 1\text{ dB}$ )	5 ... 20 000Hz
Resonant frequency	> 60 kHz
Electric capacity	600 ... 900 pF
Insulation resistance under normal conditions	> 10 000 MOhm
Housing material	titanium alloy
Weight (without cable)	3 g

**1C152HA**

0,2 pC/(m·s $^2$ )
< 5 %
$\pm 30\,000\text{ m/s}^2$
$\pm 100\,000\text{ m/s}^\circ$
- 60 ... + 150 °C
5 ... 20 000Hz
> 60 kHz
600 ... 900 pF
> 10 000 MOhm
titanium alloy
3 g

**Parameter**Sensitivity ( $\pm 20\%$ )**1C201HA-2****1C201HA-5**0,2 pC/(m·s<sup>-2</sup>)0,5 pC/m·s<sup>-2</sup>

Transverse sensitivity

&lt; 5 %

Measurement range

 $\pm 10\,000 \text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 50\,000 \text{ m/s}^2$ 

Temperature range

−60 ... +400 °C

Frequency range

2 ... 10 000Hz

2 ... 8 000Hz

(uneven frequency response  $\pm 1 \text{ dB}$ )

&gt; 30 kHz

&gt; 24 kHz

Resonant frequency

500 ... 900 pF

Electric capacity

&gt; 100 MOhm

Insulation resistance under normal conditions

stainless steel

Housing material

1Ex ib IIB T6...T1 Gb

Explosion-proof

85 g

95 g

Weight (without cable)

Supplied accessories

**Parameter**Sensitivity ( $\pm 20\%$ )**1C202HA-2****1C202HA-5**

Transverse sensitivity

0,2 pC/(m·s<sup>-2</sup>)0,5 pC/(m·s<sup>-2</sup>)

Measurement range

 $\pm 10\,000\text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 50\,000\text{ m/s}^2$ 

Temperature range

-60 ... +400 °C

Frequency range

2 ... 10 000Hz

2 ... 8 000Hz

(uneven frequency response  $\pm 1\text{ dB}$ )

&gt; 30 kHz

&gt; 20 kHz

Resonant frequency

500 ... 900 pF

Electric capacity

&gt; 100 MOhm

Insulation resistance under normal conditions

stainless steel

Housing material

Weight (without cable)

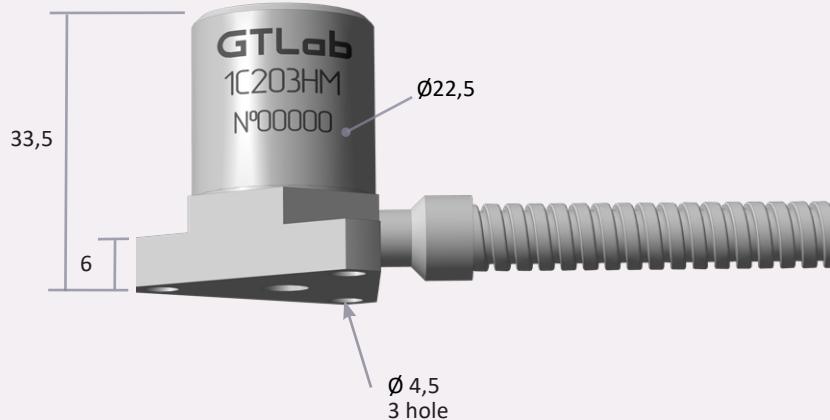
140 g

Explosion-proof

1Ex ib IIB T6...T1 Gb

Supplied accessories

4 screws DIN 404 M3,5\*14 A2

**Parameter**Sensitivity ( $\pm 20\%$ )

Transverse sensitivity

Measurement range

Maximum shock limit (peak value)

Temperature range

Frequency range  
(uneven frequency response  $\pm 1 \text{ dB}$ )

Resonant frequency

Electric capacity

Insulation resistance under normal conditions

Explosion-proof

Housing material

Weight (without cable)

Supplied accessories

**1C203HM- 20**2 pC/(m·s<sup>-2</sup>)

&lt; 5 %

 $\pm 15\,000 \text{ m/s}^2$  $\pm 50\,000 \text{ m/s}^2$ 

- 60 ... + 250 °C

2 ... 12 000Hz

&gt; 36 kHz

900 ... 1500 pF

&gt; 1000 MOhm

1Ex ib IIB T6...T1 Gb

stainless steel

80 g

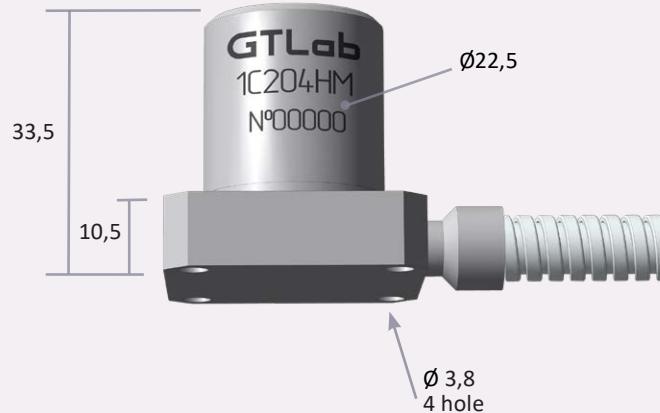
3 screws DIN 404 M4\*12 A2

**1C203HM- 100**10 pC/(m·s<sup>-2</sup>) $\pm 10\,000 \text{ m/s}^2$ 

2 ... 8 000Hz

&gt; 20 kHz

90 g

**Parameter**Sensitivity ( $\pm 20\%$ )**1C204HM-20****1C204HM-100**2 pC/(m·s<sup>-2</sup>)10 pC/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

 $\pm 15\,000 \text{ m/s}^2$  $\pm 10\,000 \text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 50\,000 \text{ m/s}^2$ 

Temperature range

− 60 ... + 250 °C

Frequency range  
(uneven frequency response  $\pm 1 \text{ dB}$ )

2 ... 12 000Hz

2 ... 8 000Hz

Resonant frequency

&gt; 36 kHz

&gt; 20 kHz

Electric capacity

900 ... 1500 pF

Insulation resistance under normal conditions

&gt; 1000 MΩ

Housing material

stainless steel

Explosion-proof

1Ex ib IIB T6...T1 Gb

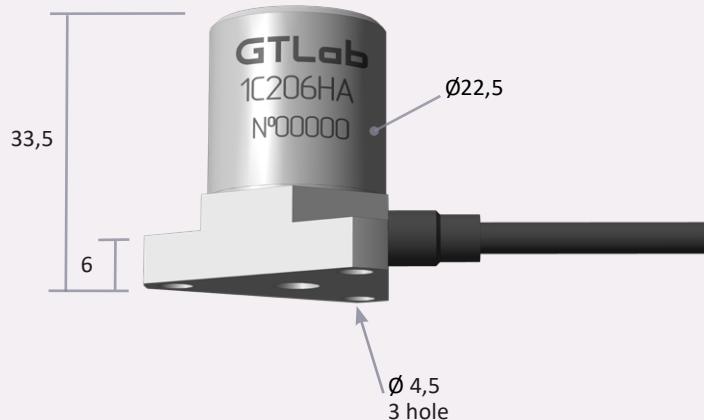
Weight (without cable)

120 g

132 g

Supplied accessories

4 screws DIN 404 M3.5\*14 A2

**Parameter**Sensitivity ( $\pm 20\%$ )

Transverse sensitivity

Measurement range

Maximum shock limit (peak value)

Temperature range

Frequency range  
(uneven frequency response  $\pm 1 \text{ dB}$ )

Resonant frequency

Electric capacity

Insulation resistance under normal conditions

Housing material

Weight (without cable)

Supplied accessories

**1C206HA**10 pC/(m·s<sup>-2</sup>)

&lt; 5 %

 $\pm 10\,000 \text{ m/s}^2$  $\pm 50\,000 \text{ m/s}^2$ 

- 60 ... + 250 °C

2 ... 8 000Hz

&gt; 20 kHz

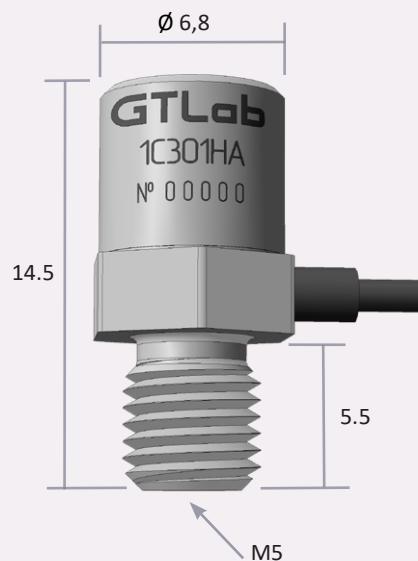
900 ... 1500 pF

&gt; 1000 MΩ

stainless steel

90 g

3 screws DIN 404 M4 \*12 A2

**Parameter**Sensitivity ( $\pm 20\%$ )**1C301HA**0,0025 pC/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

± 1 000 000 m/s<sup>2</sup>

Maximum shock limit (peak value)

± 1 500 000 m/s<sup>2</sup>

Temperature range

– 60 ... + 200 °C

Frequency range (uneven frequency response)  $\pm 1 \text{ dB}$ 

20 ... 50 000Hz

Resonant frequency

&gt; 150 kHz

Electric capacity

200 ... 300 pF

Insulation resistance under normal conditions

&gt; 10 000 MOhm

Coefficient of the effect of the ambient temperature

&lt; 0,02 % / °C

Housing material

stainless steel

Weight (without cable)

2,6 g

Shock

&gt;

With charge output

Accelerometers

**Parameter**Sensitivity ( $\pm 20\%$ )**1C302HA**0,02 pC/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

± 200 000 m/s<sup>2</sup>

Maximum shock limit (peak value)

± 500 000 m/s<sup>2</sup>

Temperature range

− 60 ... + 150 °C

Frequency range (uneven frequency response)  $\pm 1$  dB

20 ... 30 000Hz

Resonant frequency

&gt; 90 kHz

Electric capacity

400 ... 500 pF

Insulation resistance under normal conditions

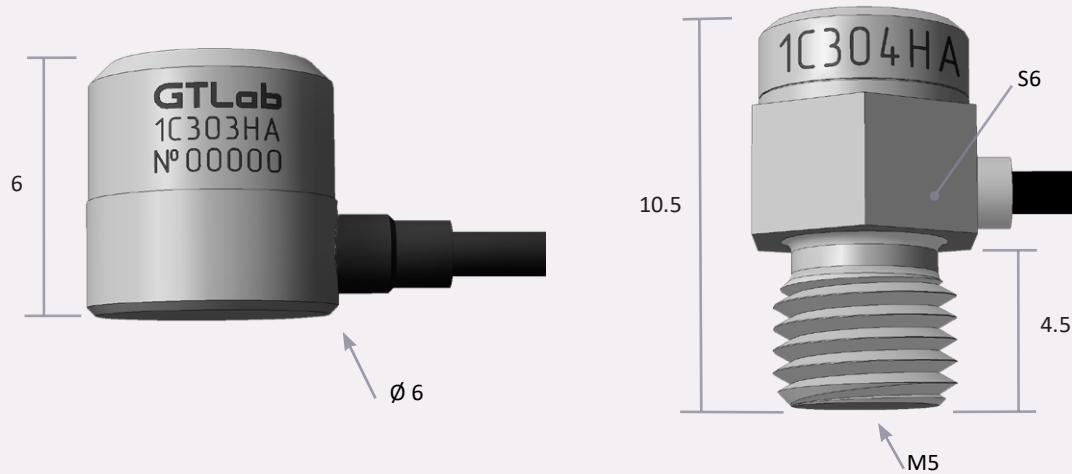
&gt; 1 000 MOhm

Housing material

titanium alloy

Weight (without cable)

0,15 g

**Parameter**Sensitivity ( $\pm 20\%$ )**1C303HA** $0,2 \text{ pC}/(\text{m}\cdot\text{s}^2)$ **1C304HA** $0,1 \text{ pC}/(\text{m}\cdot\text{s}^2)$ 

Transverse sensitivity

&lt; 3 %

Measurement range

 $\pm 100\,000 \text{ m/s}^2$  $150\,000 \text{ m/s}^2$ 

Maximum shock limit (peak value)

 $\pm 200\,000 \text{ m/s}^2$  $\pm 500\,000 \text{ m/s}^2$ 

Temperature range

 $-60 \dots +150^\circ\text{C}$ Frequency range (uneven frequency response)  $\pm 1 \text{ dB}$ 

5 ... 20 000Hz

5 ... 23 000Hz

Resonant frequency

&gt; 60 kHz

&gt; 70 kHz

Electric capacity

600 ... 800 pF

Insulation resistance under normal conditions

&gt; 10 000 MOhm

Housing material

stainless steel

Weight (without cable)

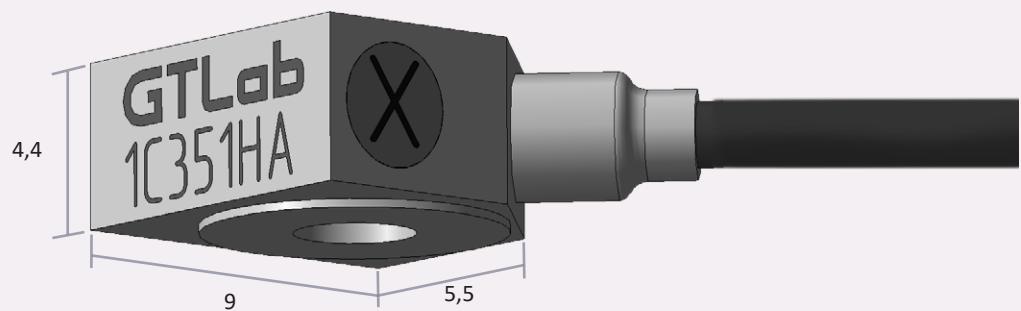
2 g

1,4 g

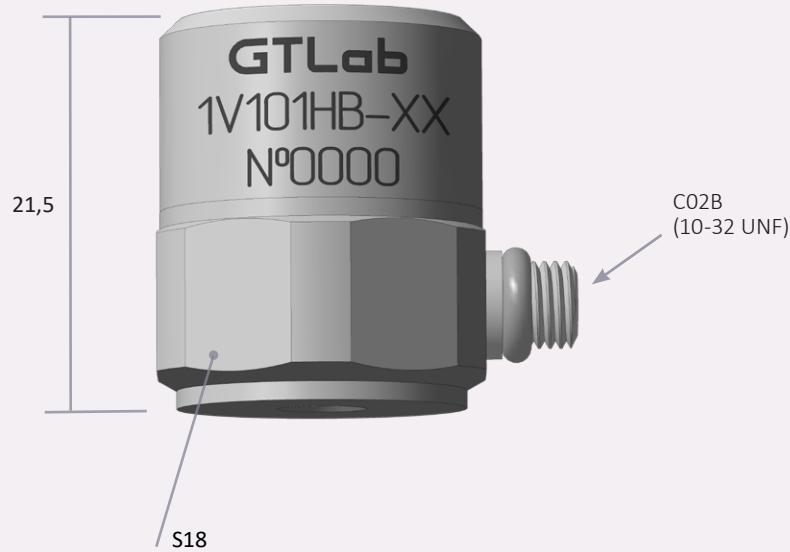
&gt; Shock

&gt; With charge output

&gt; Accelerometers

**Parameter**

Sensitivity ( $\pm 20\%$ )	<b>1C351HA</b> 0,2 pC/(m·s $^{-2}$ )
Transverse sensitivity	< 5 %
Measurement range	$\pm 200\,000 \text{ m/s}^2$
Maximum shock limit (peak value)	$\pm 400\,000 \text{ m/s}^2$
Temperature range	-60 ... +150 °C
Frequency range (uneven frequency response) $\pm 1 \text{ dB}$	20 ... 30 000Hz
Resonant frequency	> 90 kHz
Electric capacity	400 ... 500 pF
Insulation resistance under normal conditions	> 1 000 MΩ
Housing material	stainless steel
Weight (without cable)	2,3 g
Supplied accessories	screw ISO 7380 M3 x 8



Parameter	1V101HB-100	1V101HB-500	1V101HB-1000
Sensitivity	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )	100 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>	± 50 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 25 000 m/s <sup>2</sup>		
Temperature range	- 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 12 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 8 000Hz		
- uneven frequency response ± 5%	1 ... 4 800Hz		
Resonant frequency	> 24 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,0005 m/s <sup>2</sup>	0,0004 m/s <sup>2</sup>	0,0003 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constnt output votage level	10 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel		
Weight (without cable)	42 g		
Supplied accessories	cable 03B1D1 (determined by the customer's request)pin P0505		



Parameter	1V101TB-100	1V101TB-500	1V101TB-1000
Sensitivity	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )	100 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>	± 50 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 25 000 m/s <sup>2</sup>		
Temperature range	- 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 12 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 8 000Hz		
- uneven frequency response ± 5%	1 ... 4 800Hz		
Resonant frequency	> 24 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,0005 m/s <sup>2</sup>	0,0004 m/s <sup>2</sup>	0,0003 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constnt output votage level	10 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel		
Weight (without cable)	40 g		
Supplied accessories	cable 03B1D1 (determined by the customer's request)pin P0505		

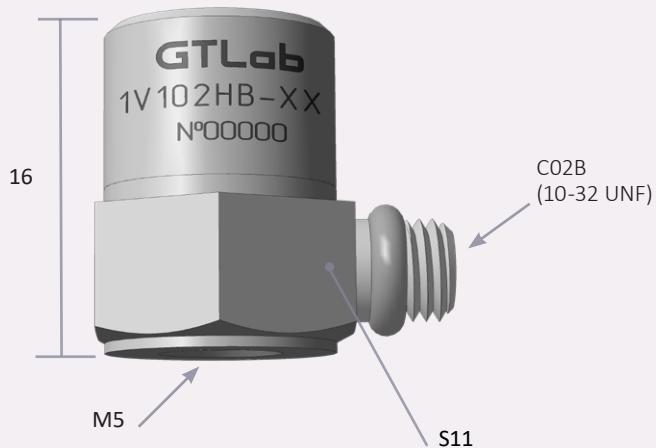
› General purpose

With voltage output

Accelerometers



Parameter	1V102HA-10	1V102HA-100	1V102HA-500
Sensitivity	1 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 100 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 24 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 16 000Hz		
- uneven frequency response ± 5 %	1 ... 10 000Hz		
Resonant frequency	> 50 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,005 m/s <sup>2</sup>	< 0,0035 m/s <sup>2</sup>	< 0,002 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constnt output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel (titanium alloy) Determined by the customer's request		
Weight (without cable)	13 g		
Supplied accessories	pin P0505		



Parameter	1V102HB-10	1V102HB-100	1V102HB-500
Sensitivity	1 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 100 000 m/s <sup>2</sup>		
Temperature range	- 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 24 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 16 000Hz		
- uneven frequency response ± 5%	1 ... 10 000Hz		
Resonant frequency	> 50 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,005 m/s <sup>2</sup>	< 0,0035 m/s <sup>2</sup>	< 0,002 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnnt output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel (titanium alloy) Determined by the customer's request		
Weight (without cable)	10 g		
Supplied accessories	cable 03B1D1 (Determined by the customer's request) pin P0505		

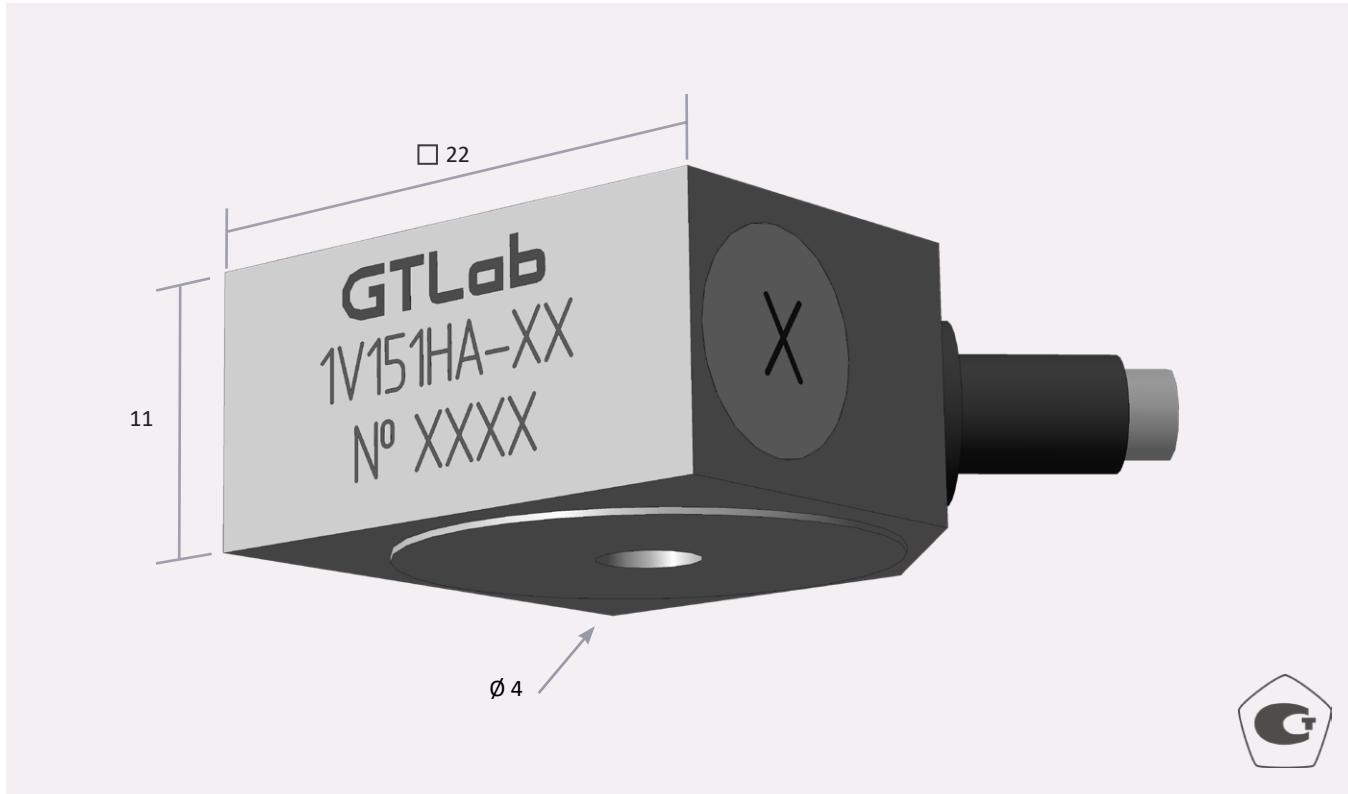
General purpose

With voltage Output

Accelerometers



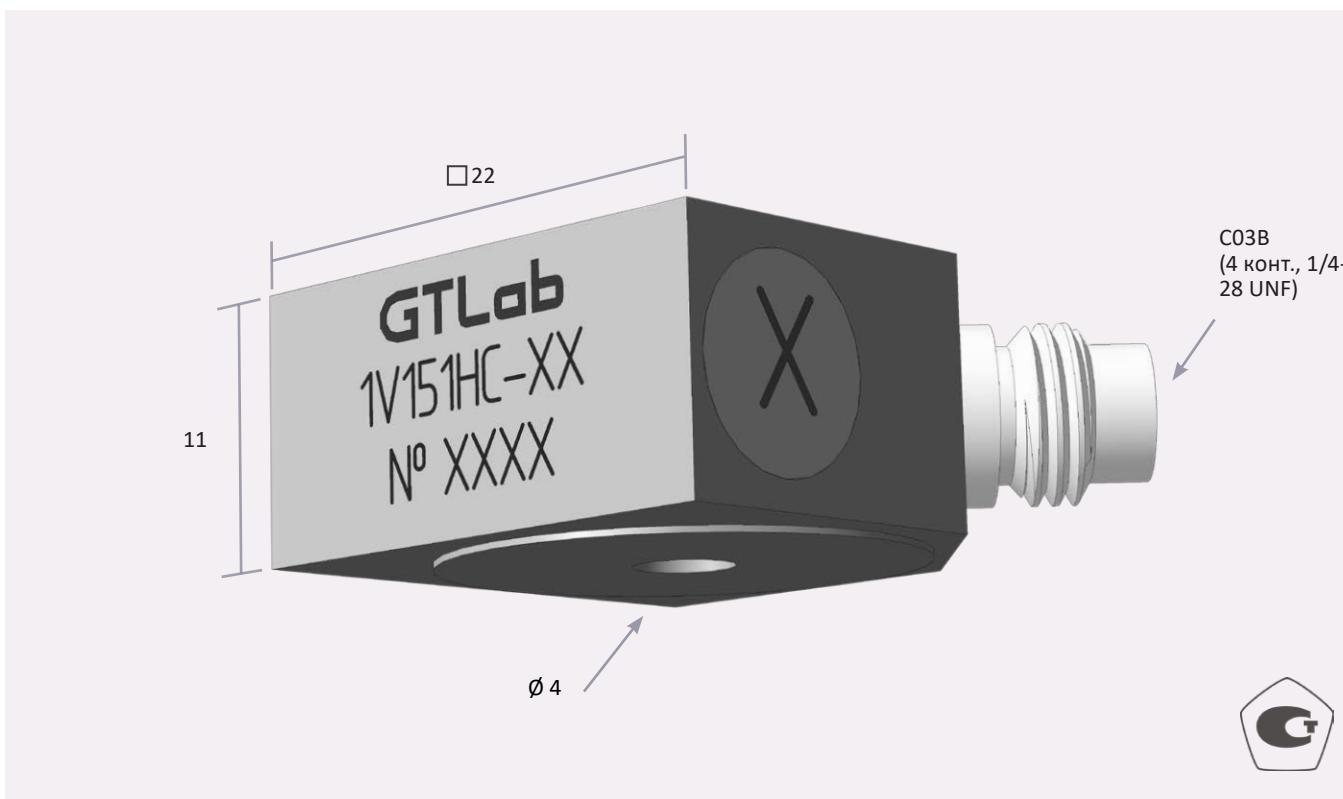
Parameter	1V102TB-10	1V102TB-100	1V102TB-500
Sensitivity	1 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 100 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 24 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 16 000Hz		
- uneven frequency response ± 5%	1 ... 10 000Hz		
Resonant frequency	> 50 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,005 m/s <sup>2</sup>	< 0,0035 m/s <sup>2</sup>	< 0,002 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnat output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel (titanium alloy) Determined by the customer's request		
Weight (without cable)	11 g		
Supplied accessories	cable 03B1D1 (Determined by the customer's request) pin P0505		



Parameter	1V151HA- 10	1V151HA-100	1V151HA-500
Sensitivity	1 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 22 500Hz		
- uneven frequency response ± 1 dB	0,5 ... 15 000Hz		
- uneven frequency response ± 5 %	1 ... 9 000Hz		
Resonant frequency	> 45 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,005 m/s <sup>2</sup>	< 0,003 m/s <sup>2</sup>	< 0,002 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnnt output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	titanium alloy		
Weight (without cable)	≤ 26 g		
Supplied accessories	screw ISO 7380 M4 × 16		

› General purpose , three-component

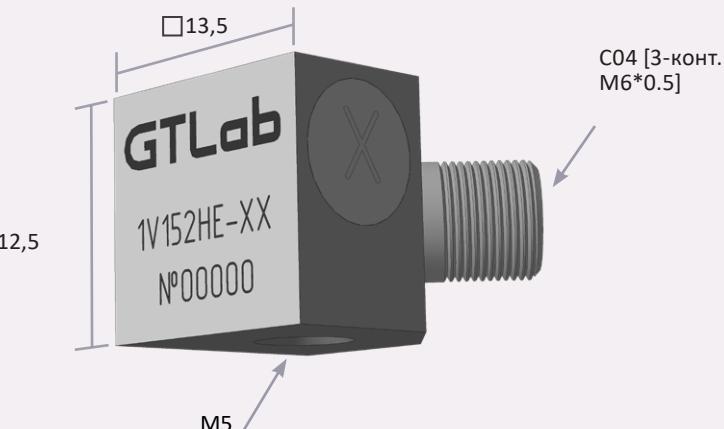
Accelerometers   › With voltage output



General purpose, three-component  
With voltage output

Accelerometers

Parameter	1V151HC- 10	1V151HC-100	1V151HC-500
Sensitivity	1 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 22 500Hz		
- uneven frequency response ± 1 dB	0,5 ... 15 000Hz		
- uneven frequency response ± 5 %	1 ... 9 000Hz		
Resonant frequency	> 45 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,005 m/s <sup>2</sup>	< 0,003 m/s <sup>2</sup>	< 0,002 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnt output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	titanium alloy		
Weight (without cable)	≤ 26 g		
Supplied accessories	cable 41C1D3 (determined by the customer's request) screw ISO 7380 M4 x 16		

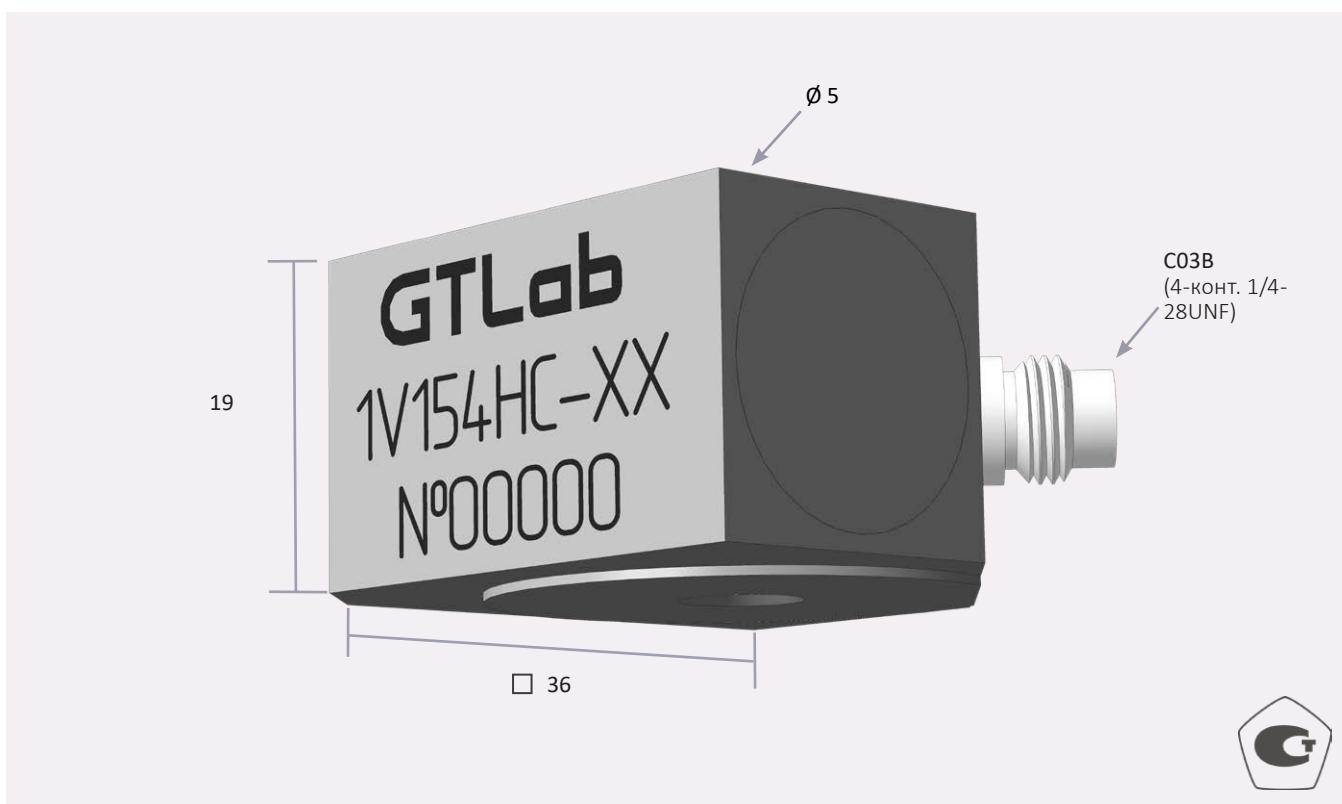


Parameter	1V152HE-10	1V152HE-30	1V152HE-100
Sensitivity	1 mV/(m·s <sup>-2</sup> )	3 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 5 000 m/s <sup>2</sup>	± 1600 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 22 500Hz		
- uneven frequency response ± 1 dB	0,5 ... 15 000Hz		
- uneven frequency response ± 5%	1 ... 9 000Hz		
Resonant frequency	> 45 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,01 m/s <sup>2</sup>	< 0,009 m/s <sup>2</sup>	< 0,008 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnat output votage level	8 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	titanium alloy		
Weight (without cable)	11 g		
Supplied accessories	cable 41E1D3 (determined by the customer's request) pin P0505		

General purpose , three-component

With voltage output

Accelerometers

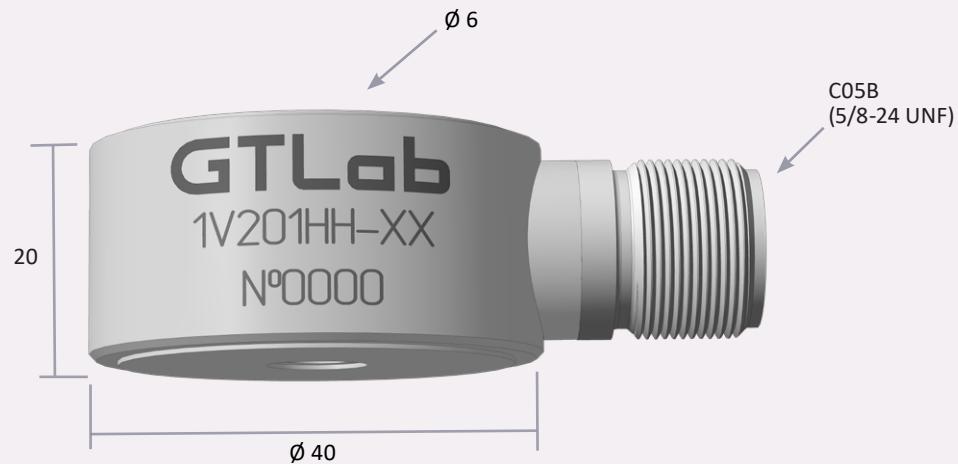


General purpose, three-component

With voltage output

Accelerometers

Parameter	1V154HC-100	1V154HC-500	1V154HC-1000
Sensitivity	10 mV/(m·s <sup>-2</sup> )	50 mV/(m·s <sup>-2</sup> )	100 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %		
Measurement range	± 500 m/s <sup>2</sup>	± 100 m/s <sup>2</sup>	± 50 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 20 000 m/s <sup>2</sup>		
Temperature range	– 55 ... + 125 °C		
Frequency range :			
- uneven frequency response ± 3 dB	0,2 ... 10 000Hz		
- uneven frequency response ± 1 dB	0,5 ... 6 000Hz		
- uneven frequency response ± 5%	1 ... 4 000Hz		
Resonant frequency	> 20 kHz		
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,0005 m/s <sup>2</sup>	0,0004 m/s <sup>2</sup>	0,0003 m/s <sup>2</sup>
Output impedance	< 500 Ohm		
Power:			
- voltage	+ (18 ... 30) V		
- current	2 ... 20 mA		
Constsnt output votage level	10 ... 13 V		
Coefficient of the effect of the ambient temperature	± 0,2 %/°C		
Run mode setting time	4 s		
Housing material	stainless steel		
Weight (without cable)	115 g		
Supplied accessories	cable 41C1D3 (determined by the customer's request)screw M5 × 25 A2		



## Parameter

Sensitivity

### 1V201HH-30

### 1V201HH-100

Transverse sensitivity

3 mV/(m·s<sup>-2</sup>)10 mV/(m·s<sup>-2</sup>)

Measurement range

&lt; 5 %

± 1600 m/s<sup>2</sup>± 500 m/s<sup>2</sup>

Maximum shock limit (peak value)

± 10 000 m/s<sup>2</sup>

Temperature range

- 55 ... + 125 °C

Frequency range :

0,2 ... 15 000Hz

- uneven frequency response ± 3 dB

0,5 ... 10 000Hz

- uneven frequency response ± 1 dB

1 ... 6 000Hz

- uneven frequency response ± 5%

Resonant frequency

&gt; 30 kHz

Noise level, root mean square value (1 Hz ÷ 10 kHz)

< 0,002 m/s<sup>2</sup>

Output impedance

&lt; 500 Ohm

Power:

- voltage
- current

+ (18 ... 30) V

2 ... 20 mA

Constsnat output votage level

8 ... 13 V

Coefficient of the effect of the ambient temperature

± 0,2 %/ °C

Run mode setting time

4 s

Housing material

stainless steel

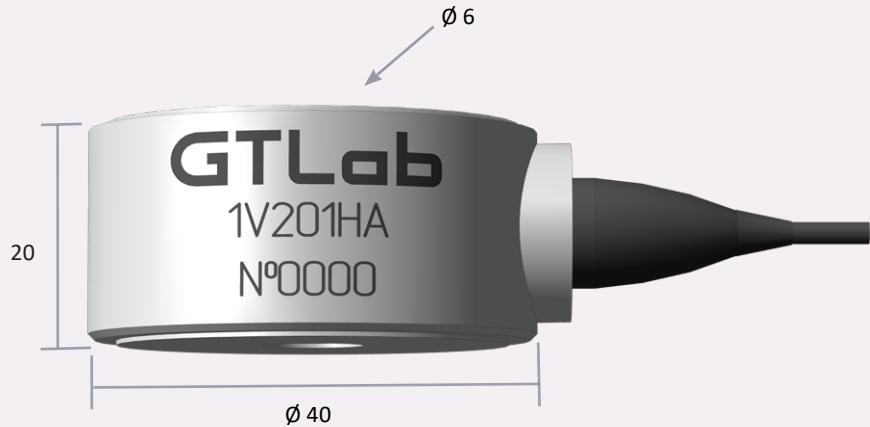
Weight (without cable)

90 g

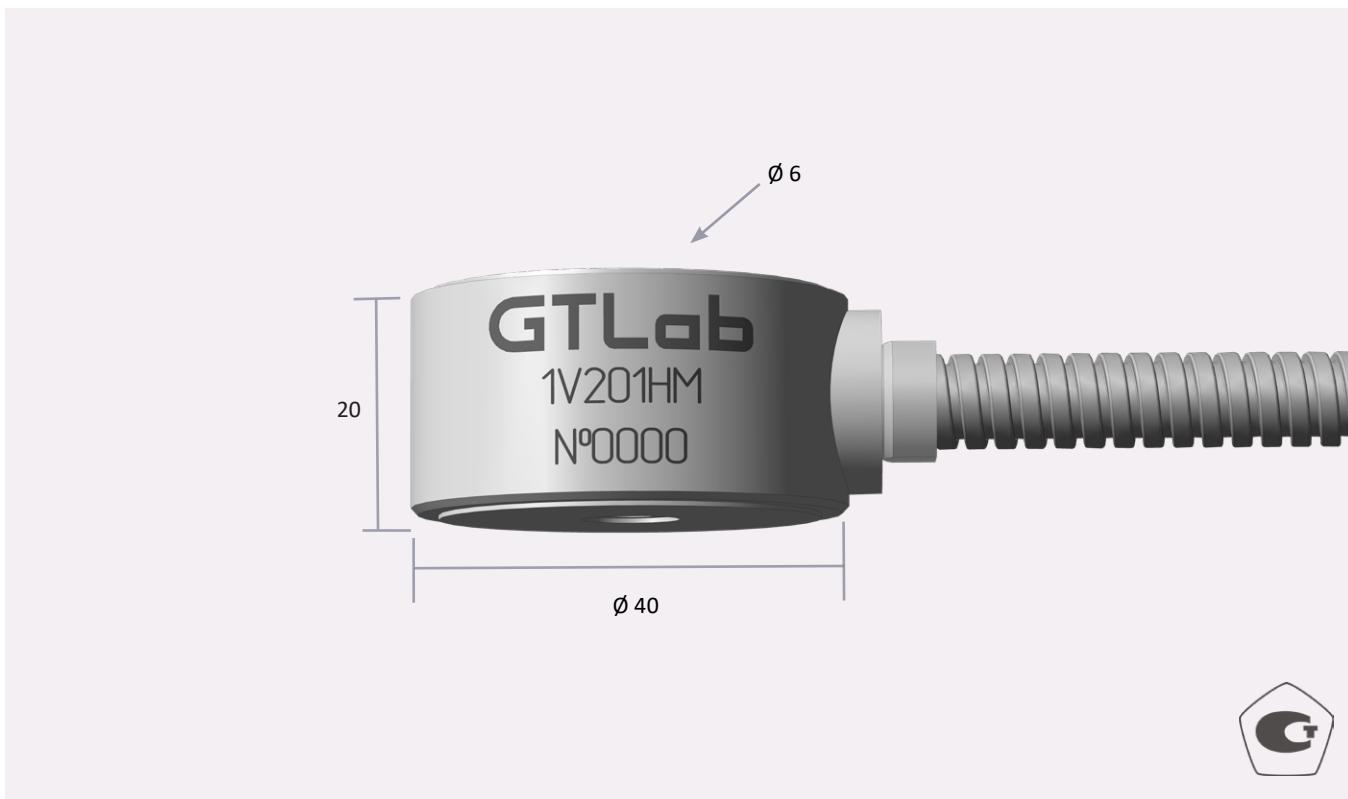
Supplied accessories

cable 03H1D1 (determined by the customer's request)

screw M6-8g × 30



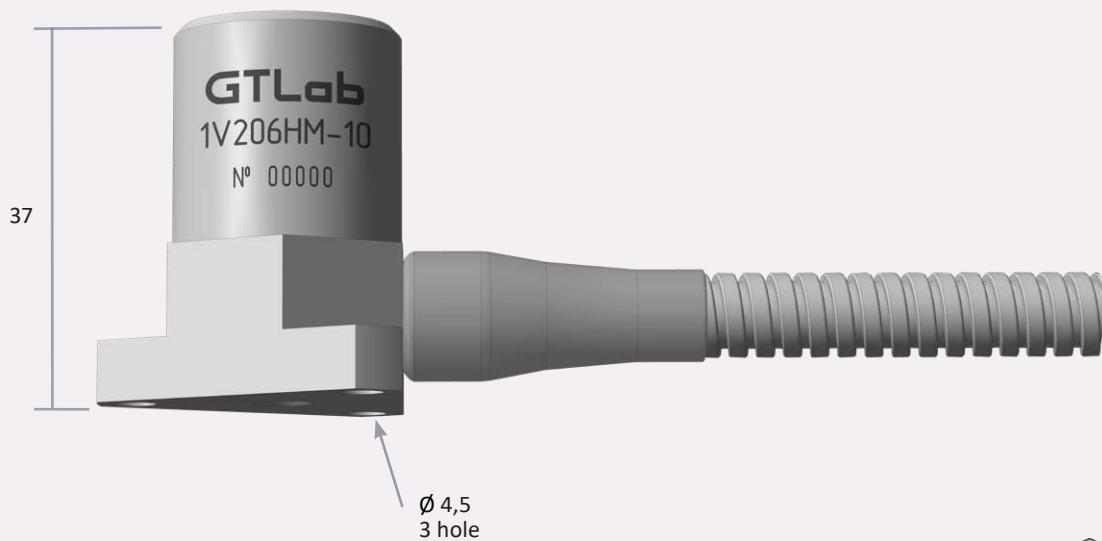
Parameter	1V201HA-30	1V201HA-100
Sensitivity	3 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %	
Measurement range	± 1600 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>	
Temperature range	– 55 ... + 125 °C	
Frequency range :		
- uneven frequency response ± 3 dB	0,2 ... 15 000Hz	
- uneven frequency response ± 1 dB	0,5 ... 10 000Hz	
- uneven frequency response ± 5%	1 ... 6 000Hz	
Resonant frequency	> 30 kHz	
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,002 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (18 ... 30) V	
- current	2 ... 20 mA	
Constsnat output votage level	8 ... 13 V	
Coefficient of the effect of the ambient temperature	± 0,2 % / °C	
Run mode setting time	4 s	
Housing material	stainless steel	
Weight (without cable)	90 g	
Supplied accessories	screw M6-8g x 30	



Parameter	1V201HM-30	1V201HM-100
Sensitivity	3 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %	
Measurement range	± 1600 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>	
Temperature range	- 55 ... + 125 °C	
Frequency range :		
- uneven frequency response ± 3 dB	0,2 ... 15 000Hz	
- uneven frequency response ± 1 dB	0,5 ... 10 000Hz	
- uneven frequency response ± 5%	1 ... 6 000Hz	
Resonant frequency	> 30 kHz	
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,002 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (18 ... 30) V	
- current	2 ... 20 mA	
Constsnnt output votage level	8 ... 13 V	
Coefficient of the effect of the ambient temperature	± 0,2 % / °C	
Run mode setting time	4 s	
Housing material	stainless steel	
Weight (without cable)	90 g	
Supplied accessories	screw M6-8g × 30	



Parameter	1V202TH-30	1V202TH-100
Sensitivity	3 mV/(m·s <sup>-2</sup> )	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %	
Measurement range	± 1600 m/s <sup>2</sup>	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 10 000 m/s <sup>2</sup>	
Temperature range	- 55 ... + 125 °C	
Frequency range :		
- uneven frequency response ± 3 dB	0,3 ... 12 000Hz	
- uneven frequency response ± 1 dB	0,5 ... 10 000Hz	
- uneven frequency response ± 5 %	1 ... 7 000Hz	
Resonant frequency	> 30 kHz	
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,002 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (18 ... 30) V	
- current	2 ... 20 mA	
Constsnt output votage level	8 ... 13 V	
Coefficient of the effect of the ambient temperature	± 0,2 % / °C	
Run mode setting time	4 s	
Housing material	stainless steel	
Weight (without cable)	42 g	
Supplied accessories	cable 03H1D1 (determined by the customer's request) pin P0606	

**Parameter****1V206HM-10**

Sensitivity

1 mV/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Measurement range

± 4 000 m/s<sup>2</sup>

Maximum shock limit (peak value)

± 5 000 m/s<sup>2</sup>

Temperature range

- 60 ... + 150 °C

Frequency range :

- uneven frequency response ± 3 dB
- uneven frequency response ± 1 dB
- uneven frequency response ± 5%

Resonant frequency

&gt; 25 kHz

Noise level, root mean square value (1 Hz ÷ 10 kHz)

< 0,005 m/s<sup>2</sup>

Output impedance

&lt; 500 Ohm

Power:

- voltage
- current

+ (9 ... 30) V

2 ... 5 mA

Constsnt output votage level

5 ... 6 V

Coefficient of the effect of the ambient temperature

± 0,2 %/ °C

Run mode setting time

4 s

Housing material

stainless steel

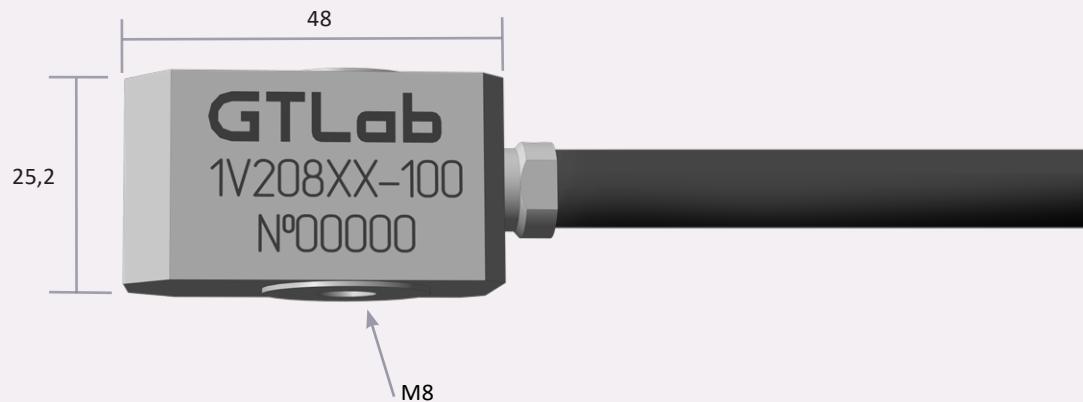
Weight (without cable)

95 g

Supplied accessories

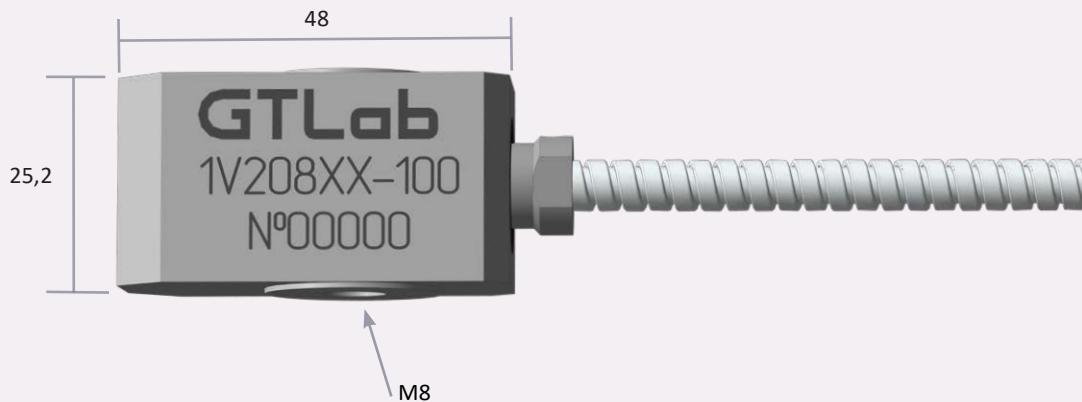
3 screws DIN 404 M3.5\*14 A2

## 1V208HA-100



Parameter	1V208HA-100
Conversion factor ± 5%	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %
Maximum value of measured vibroacceleration namplitude	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 5 000 m/s <sup>2</sup>
Temperature range	-50 ... +125 °C
Pyrosensitivity: from 4 Hz	0,01 g / °C
Frequency range :	
- uneven frequency response ± 3 dB	1,5 ... 12 000 Hz
- uneven frequency response ± 1 dB	2 ... 10 000 Hz
- uneven frequency response ± 5%	4 ... 7 000 Hz
Self-resonant frequency	30 kHz
Noise level, root mean square value(1 Hz ÷ 10 kHz)	<0,002 m/s <sup>2</sup>
Output impedance	<50 Ohm
Power:	
- voltage	(18 ... 30) V
- current	< 5 mA
Constant output voltage level	-10 ... -14 V
Run mode setting time	4 s
Coefficient of the effect of the ambient temperature	± 0,2 % / °C
Electric strength of insulation between the case and cable cores	500 V
Housing material	stainless steel
Weight (without cable)	160 g
Supplied accessories	screw M8 × 40

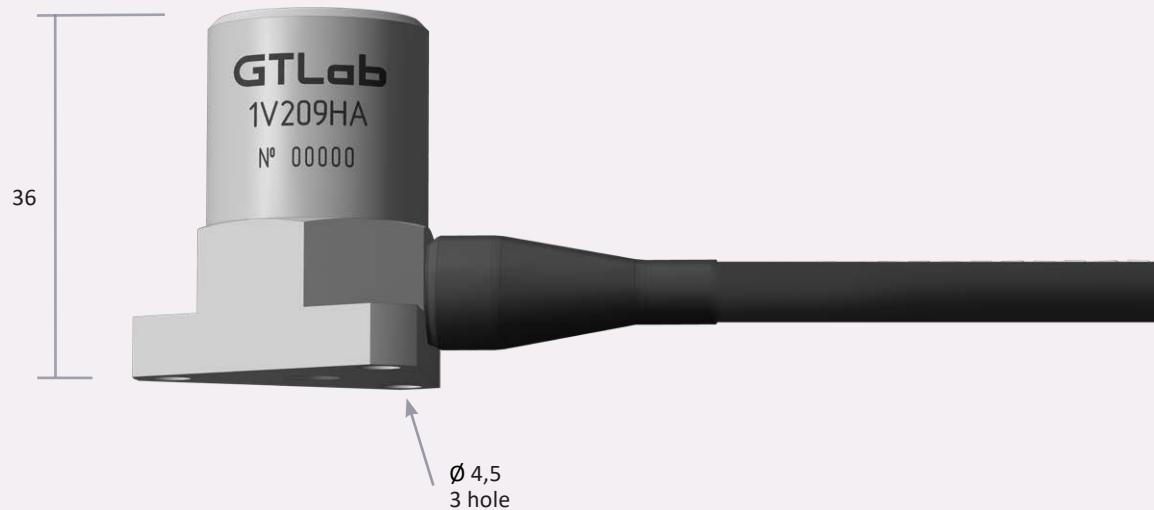
# 1V208HM-100



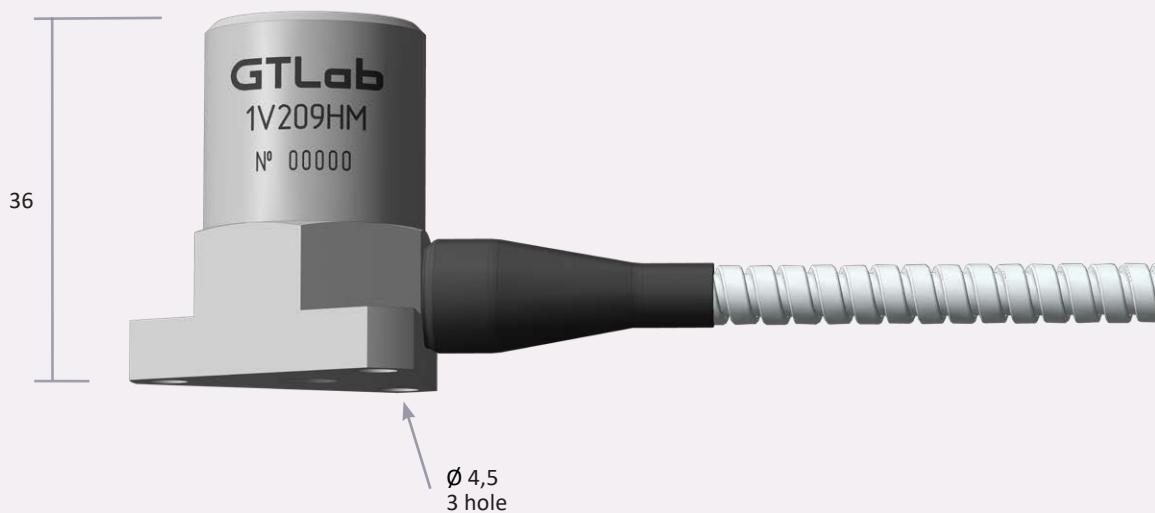
## PARAMETER

Conversion factor ± 5%	10 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %
Maximum value of measured vibroacceleration namplitude	± 500 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 5 000 m/s <sup>2</sup>
Temperature range	-50 ... +125 °C
▪ Pyrosensitivity:	0,01 g / °C
▪ from 4 Hz	
▪ Frequency range :	
▪ - uneven frequency response ± 3 dB	1,5 ... 12 000 Hz
▪ - uneven frequency response ± 1 dB	2 ... 10 000 Hz
▪ - uneven frequency response ± 5%	4 ... 7 000 Hz
Self-resonant frequency	30 kHz
Noise level, root mean square value(1 Hz ÷ 10 kHz)	<0,002 m/s <sup>2</sup>
Output impedance	<50 Ohm
▪ Power:	- (18 ... 30) V
▪ - voltage	<5 mA
▪ - current	
Constant output voltage level	-10 ... -14 V
Run mode setting time	4 s
Coefficient of the effect of the ambient temperature	± 0,2 % / °C
Electric strength of insulation between the case and cable cores	500 V
Housing material	stainless steel
Weight (without cable)	160 g
Supplied accessories	screw M8 × 40

## 1V208HM-100



PARAMETER	1V209HA-10
Conversion factor	1 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %
Maximum value of measured vibroacceleration namplitude	± 5 000 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 5 000 m/s <sup>2</sup>
Temperature range	-55 ... +125 °C
Pyrosensitivity:	
▪ from 0,2 Hz	0,002 g/ °C
▪ from 3 Hz	0,0005 g/ °C
▪ Frequency range :	
▪ - uneven frequency response ± 3 dB	0,2 ... 12 000 Hz
▪ - uneven frequency response ± 1 dB	0,5 ... 8 000 Hz
▪ - uneven frequency response ± 5 %	1 ... 5 000 Hz
Self-resonant frequency	> 25 kHz
Noise level, root mean square value(1 Hz ÷ 10 kHz)	0,005 m/s <sup>2</sup>
Output impedance	< 500 Ohm
▪ Power:	
▪ - voltage	+ (18 ... 30) V
▪ - current	2 ... 20 mA
Constant output voltage level	8 ... 13 V
Run mode setting time	4 s
Coefficient of the effect of the ambient temperature	± 0,2 %/ °C
Electric strength of insulation between the case and cable cores	500 V
Housing material	stainless steel
Weight (without cable)	105 g
Supplied accessories	3 screws M4 × 14

**PARAMETER**

Conversion factor

**1V209HM-10**1 mV/(m·s<sup>-2</sup>)

Transverse sensitivity

&lt; 5 %

Maximum value of measured vibroacceleration  
namplitude± 5 000 m/s<sup>2</sup>

Maximum shock limit (peak value)

± 5 000 m/s<sup>2</sup>

Temperature range

-55 ... +125 °C

Pyrosensitivity:

0,002 g/ °C

▪ at 0,2 Hz

▪ at 3 Hz

▪ Frequency range :

- - uneven frequency response ± 3 dB
- - uneven frequency response ± 1 dB
- - uneven frequency response ± 5 %

0,0005 g/ °C

0,2 ... 12 000 Hz

0,5 ... 8 000 Hz

1 ... 5 000 Hz

Self-resonant frequency

&gt; 25 kHz

Noise level, root mean square value(1 Hz ÷ 10 kHz)

0,005 m/s<sup>2</sup>

Output impedance

&lt; 500 Ohm

▪ Power:

+ (18 ... 30) V

▪ - voltage

2 ... 20 mA

▪ - current

8 ... 13 V

Constant output voltage level

4 s

Run mode setting time

± 0,2 %/ °C

Coefficient of the effect of the ambient  
temperature

500 V

Electric strength of insulation between the case  
and cable cores

stainless steel

Housing material

105 g

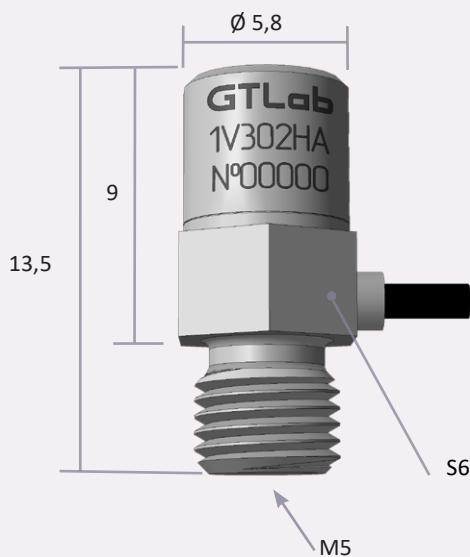
Weight (without cable)

Supplied accessories

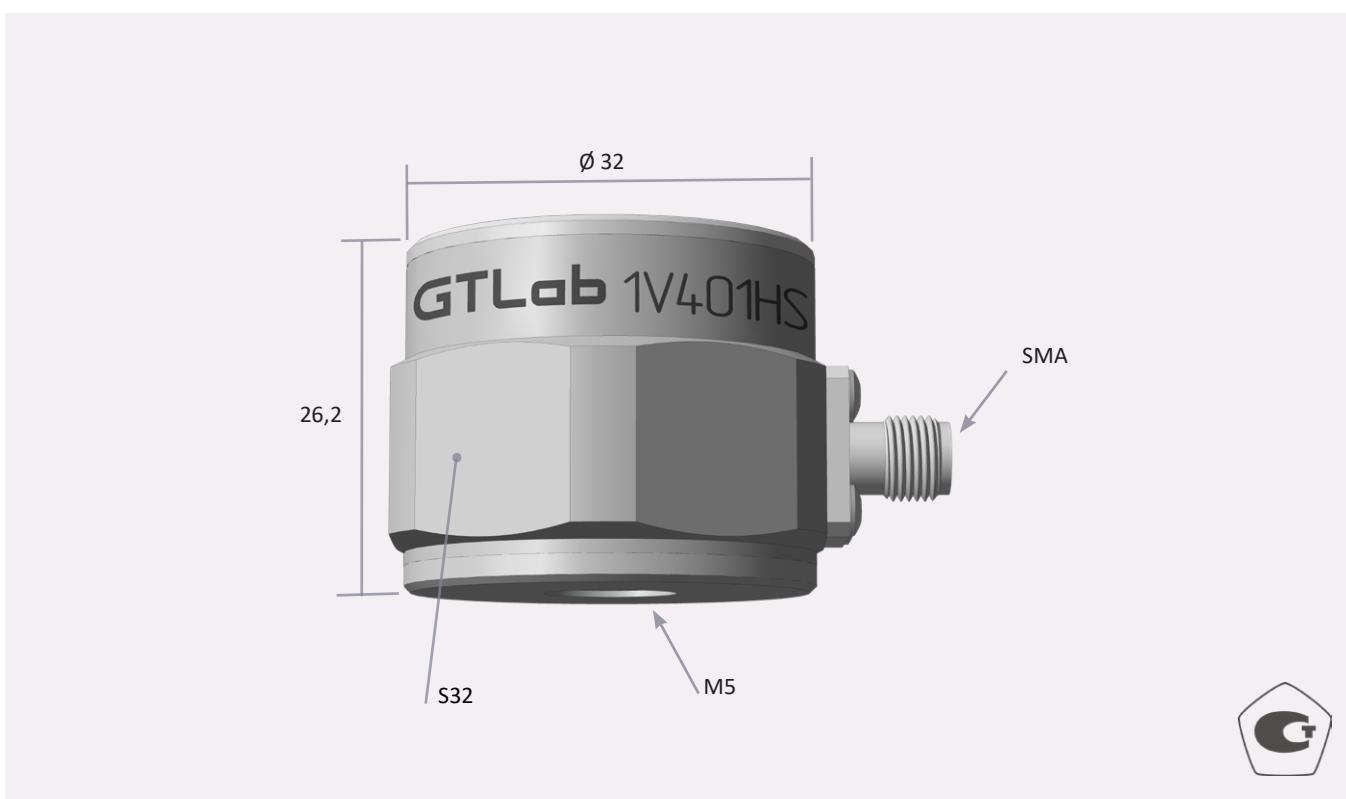
3 screws M4 × 14



Parameter	1V301HA-1	1V301HA-3
Sensitivity	0,3 mV/(m·s <sup>-2</sup> )	
Transverse sensitivity	< 3 %	
Measurement range	± 50 000 m/s <sup>2</sup>	± 16 000 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 100 000 m/s <sup>2</sup>	± 30 000 m/s <sup>2</sup>
Temperature range	- 55 ... + 125 °C	
Frequency range :		
- uneven frequency response ± 3 dB	0,4 ... 38 000Hz	0,4 ... 33 000Hz
- uneven frequency response ± 1 dB	1... 25 000Hz	1... 18 000Hz
- uneven frequency response ± 5%	2 ... 15 000Hz	2 ... 12 000Hz
Resonant frequency	> 75 kHz	> 60 kHz
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,02 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (15 ... 30) V	
- current	2 ... 20 mA	
Constnt output votage level	8 ... 10 V	
Coefficient of the effect of the ambient temperature	± 0,2 % / °C	
Run mode setting time	4 s	
Housing material	stainless steel	
Weight (without cable)	1,5 g	1,4 g



Parameter	1V302HA-1	1V302HA-2
Sensitivity	0,3 mV/(m·s <sup>-2</sup> )	0,2 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 3 %	
Measurement range	± 50 000 m/s <sup>2</sup>	± 25 000 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 150 000 m/s <sup>2</sup>	
Temperature range	- 55 ... + 125 °C	
Frequency range :		
- uneven frequency response ± 3 dB	0,4 ... 38 000Hz	0,4 ... 35 000Hz
- uneven frequency response ± 1 dB	1... 25 000Hz	1... 23 000Hz
- uneven frequency response ± 5%	2 ... 15 000Hz	2 ... 14 000Hz
Resonant frequency	> 75 kHz	> 70 kHz
Noise level, root mean square value (1 Hz ÷ 10 kHz)	< 0,02 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (15 ... 30) V	
- current	2 ... 20 mA	
Constnt output votage level	8 ... 10 V	
Coefficient of the effect of the ambient temperature	± 0,2 %/ °C	
Run mode setting time	4 s	
Housing material	stainless steel	
Weight (without cable)	1,8 g	1,9 g



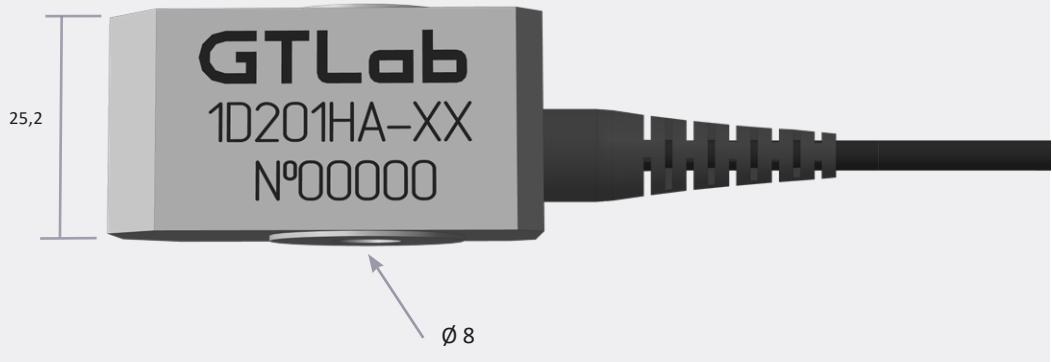
High-sensitive

With voltage output

Accelerometers

Parameter	1V401HS-500	1V401HS-1000
Sensitivity	50 mV/(m·s <sup>-2</sup> )	100 mV/(m·s <sup>-2</sup> )
Transverse sensitivity	< 5 %	
Measurement range	± 100 m/s <sup>2</sup>	± 50 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 1 000 m/s <sup>2</sup>	
Temperature range	- 55 ... + 125 °C	
Sensitivity to variable temperature		
cutoff frequency of HPF	0,2Hz	
3Hz	0,002 g/°C	
0,0005 g/°C		
Frequency range :		
- uneven frequency response ± 3 dB	0,04 ... 4 500Hz	0,04 ... 3 000Hz
- uneven frequency response ± 1 dB	0,1 ... 3 000Hz	0,1 ... 2 000Hz
- uneven frequency response ± 5 %	0,2 ... 1 800Hz	0,2 ... 1 200Hz
Resonant frequency	> 9 kHz	> 6 kHz
Noise level, root mean square value (0,1 ... 2 000Hz)	< 0,0001 m/s <sup>2</sup>	
Output impedance	< 500 Ohm	
Power:		
- voltage	+ (18 ... 30) V	
- current	2 ... 20 mA	
Constsnt output votage level	8 ... 13 V	
Coefficient of the effect of the ambient temperature	± 0,2 %/°C	
Run mode setting time	10 s	
Housing material	stainless steel	
Weight (without cable)	160 g	
Supplied accessories	cable O3S1D1 (determined by the customer's request) pin P0505	

**Modbus**  
**RS485**



Parameter	1D201HA
Range of measured amplitudes vibration accelerations	0 ...100 m/s <sup>2</sup> 0 ...200 m/s <sup>2</sup> 0 ...400 m/s <sup>2</sup> (user configurable)
Measurement Mode	vibration acceleration, vibration velocity, vibration displacement
Detector	RMS,Peak, RMS
Measured temperature range by integrated sensor ( $\pm 2^{\circ}\text{C}$ )	- 40 ... +125°C
high-pass filter	2, 3, 5, 10 Hz (user configurable)
low-pass filter	200,500,1000 Hz (user configurable)
Frequency range uneven frequency response $\pm 3 \text{ dB}$	2 ...1 000 Hz 3 ...1 000 Hz 5 ...1 000 Hz 10 ...1 000 Hz (user configurable)
Maximum impact (peak)	$\pm 1\,000 \text{ m/s}^2$
Transverse sensitivity	< 5%
Temperature range	- 40 ... +125°C
Output	RS-485, protocol Modbus RTU
Supply voltage	10 ... 24 V
Number of measuring axes	3 (x, y, z)
Housing material	stainless steel
Weight	160 g
Supplied accessories	screw M8 x 35



USB

**Parameter**

	<b>1V401HC</b>
Conversion factor	10 ...100 mV/(m·s <sup>-2</sup> )
Measurement range	10 ...100 m/s <sup>2</sup>
Maximum shock limit (peak value)	± 1 000 m/s <sup>2</sup>
Temperature range	- 20 ... + 70 °C
Frequency range :	
- uneven frequency response ± 3 dB	0,5 ... 5 000Hz
Output interface	USB 2.0 full speed
Number of ADC bits	24 bit
Input sampling rate	48 000 Hz
Noise level, root mean square value (1 ... 5 000Hz)	< 0,02 m/s <sup>2</sup>
Time of establishment of the operating mode	10 s
Power:	
- voltage	+ 5 V
- current	80 mA
Housing material	stainless steel
Connector type	C03B
Weight (without cable)	250 g
Supplied accessories	cable73C1U1 pin P0505 software GTL

General purpose

With digital output

Without

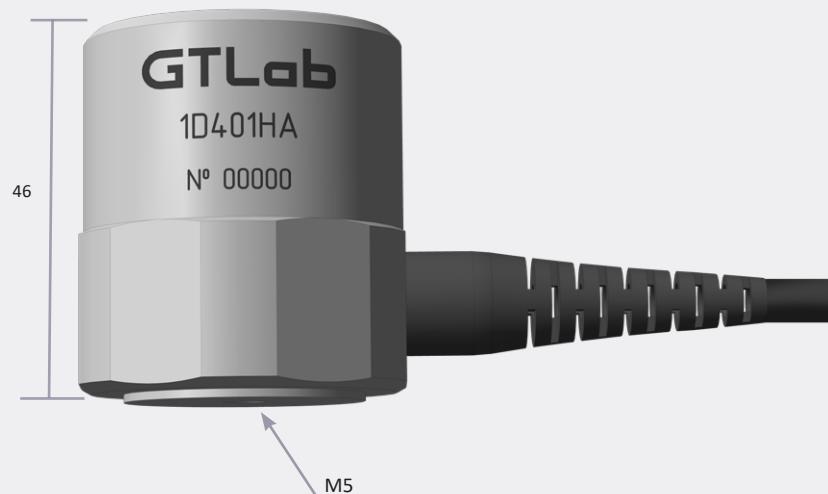
Accelerometers

**GTL Software Features**

- oscilloscope;
- spectrum analyzer;
- amplitude-phase frequency response;
- modal analysis;
- AC voltmeter;
- DC voltmeter;
- recording and sound;
- cardioscreening;
- flexible digital filters LPF, HPF, bandpass, notch;
- data recording to a personal computer running Windows XP / 7/8/10.



USB

**Parameter**

Conversion factor

Measurement range

Maximum shock limit (peak value)

Temperature range

Frequency range :

- uneven frequency response  $\pm 3$  dB

Output interface

Number of ADC bits

Input sampling rate

Noise level, root mean square value (1 ... 5 000Hz)

Time of establishment of the operating mode

Power:

- voltage
- current

Housing material

Connector type

Weight (without cable)

Supplied accessories

**1V401HA**10 ...100 mV/(m·s<sup>-2</sup>)10 ...100 m/s<sup>2</sup> $\pm 1\ 000\ m/s^2$ 

-20 ... + 70 °C

0,5 ... 5 000Hz

USB 2.0 full speed

24 bit

48 000 Hz

< 0,02 m/s<sup>2</sup>

10 s

+ 5 V

80 mA

stainless steel

C03B

250 g

pin P0505

software GTL

**GTL Software Features**

- oscilloscope;
- spectrum analyzer;
- amplitude-phase frequency response;
- modal analysis;
- AC voltmeter;
- DC voltmeter;
- recording and sound;
- cardioscreening;
- flexible digital filters LPF, HPF, bandpass, notch;
- data recording to a personal computer running Windows XP / 7/8/10.

# VIBRATION SPEED SENSORS

Vibration transducers of speed with a standard current output 4... 20 mA. Designed to measure the RMS vibration velocity of industrial equipment in conditions of strong industrial interference. The increased noise immunity (including protection against the pyroelectric effect) provides the design features of the shear sensitive element of the board, the screen and its electrical isolation from the object of study.

## With current output

### Demountable



Pages: 51, 54, 57, 60, 64, 67

### One-piece



Pages: 50, 53, 56, 59, 62, 65

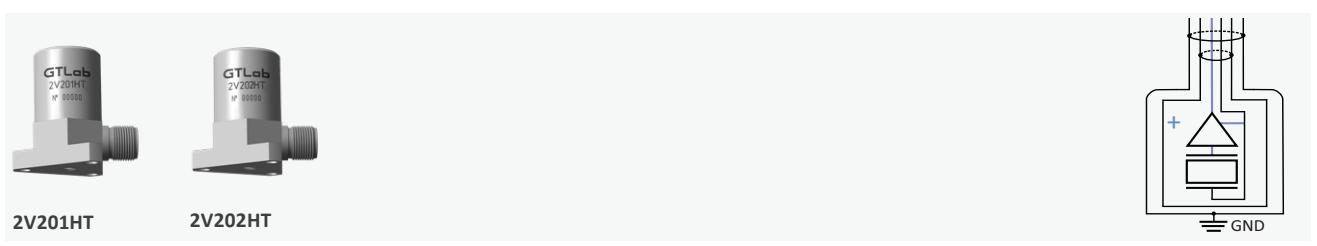
### One-piece in metal hose



Pages: 52, 55, 58, 61, 63, 66

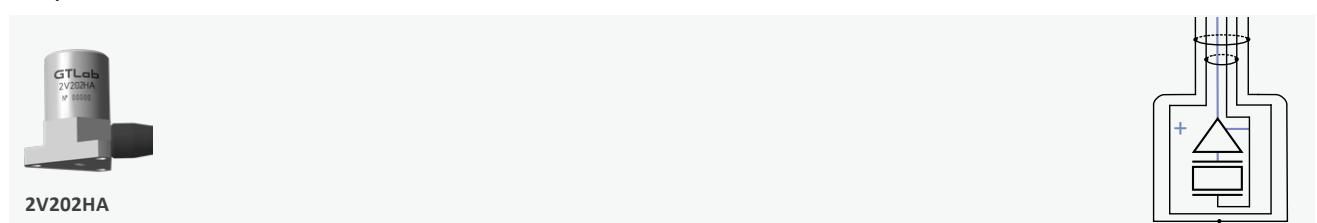
## With voltage output

### Demountable



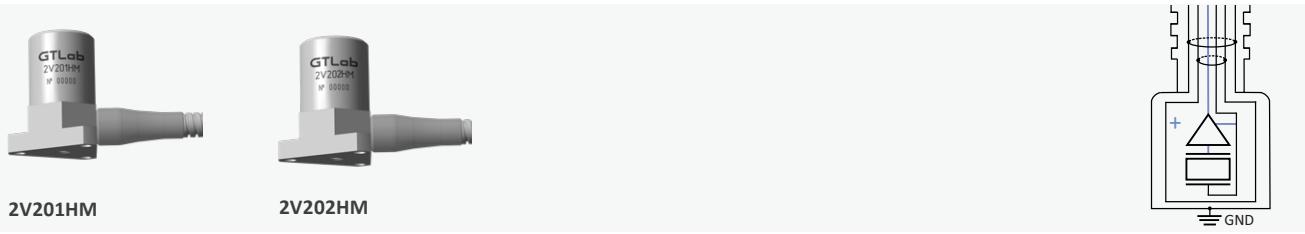
Pages: 69, 72

### One-piece



Pages: 71

**One-piece in metal hose**



Pages: 68,70



Parameter	2A201TA-20	2A201TA-40	2A201TA-80	2A201TA-160	2A201TA-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Resonant frequency	> 30 kHz				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
- at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	pin P0606				

Industrial  
With current output

Vibration speed sensors



Parameter	2A201TH-20	2A201TH-40	2A201TH-80	2A201TH-160	2A201TH-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Resonant frequency	> 30 kHz				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }/\text{°C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100\text{ }\Omega$				
- at power supply voltage 25 V	$\leq 800\text{ }\Omega$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	cable 41H1A3 (determined by the customer's request) pin P0606				

**Parameter**Sensitivity by vibration speed to current signal 4 ... 20 mA,  
( $\pm 10\%$ )

Range of measured vibration velocity, RMS

Frequency range of the measured vibration speed

Variation in frequency response relative to the base  
frequency of 159,15 Hz, within

Transverse sensitivity

Resonant frequency

Limit temperature range

Temperature range

Coefficient of the effect of the ambient temperature

Power from an external DC power source

Load resistance in the current output circuit:

- at power supply voltage 9 V
- at power supply voltage 25 V

Run mode setting time

Housing material

Explosion-proofness

Protection against external influences

Weight (without cable)

Supplied accessories

Industrial

&gt; With current output

Vibration speed sensors

	2A201TM-20	2A201TM-40	2A201TM-80	2A201TM-160	2A201TM-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Resonant frequency	> 30 kHz				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	± 0,2 %/°C				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	≤ 100 Ohm				
- at power supply voltage 25 V	≤ 800 Ohm				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	pin P0606				



Parameter	2A202TA-20	2A202TA-40	2A202TA-80	2A202TA-160	2A202TA-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }%/^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100\text{ Ohm}$				
- at power supply voltage 25 V	$\leq 800\text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	pin P0606				



Industrial

With current output

Vibration speed sensors

Parameter	2A202TH-20	2A202TH-40	2A202TH-80	2A202TH-160	2A202TH200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }/\text{ }^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100 \Omega$	$\leq 800 \Omega$			
- at power supply voltage 25 V					
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	cable 41H1A3 (determined by the customer's request) pin P0606				

**Parameter**

Sensitivity by vibration speed to current signal 4 ... 20 mA,  
( $\pm 10\%$ )

Range of measured vibration velocity, RMS

Frequency range of the measured vibration speed

Variation in frequency response relative to the base  
frequency of 159,15 Hz, within

Transverse sensitivity

Limit temperature range

Temperature range

Coefficient of the effect of the ambient temperature

Power from an external DC power source

Load resistance in the current output circuit:

- at power supply voltage 9 V
- at power supply voltage 25 V

Run mode setting time

Housing material

Explosion-proofness

Protection against external influences

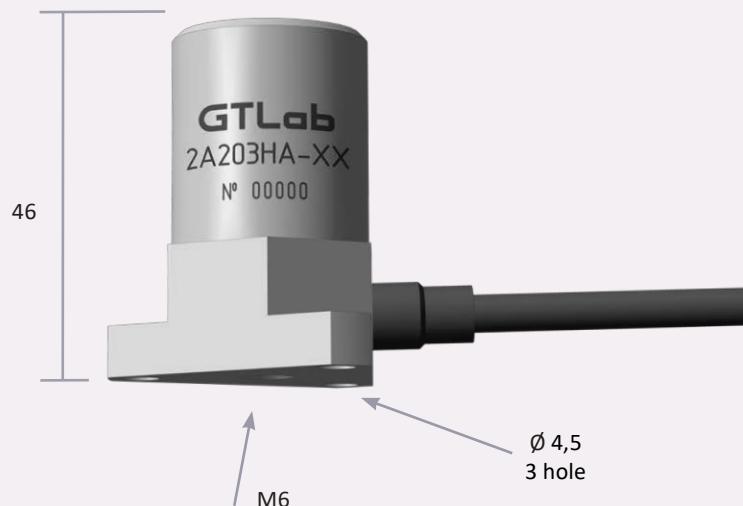
Weight (without cable)

Supplied accessories

	2A202TM-20	2A202TM-40	2A202TM-80	2A202TM-160	2A202TM200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }%/^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100\text{ Ohm}$				
- at power supply voltage 25 V	$\leq 800\text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	60 g				
Supplied accessories	pin P0606				

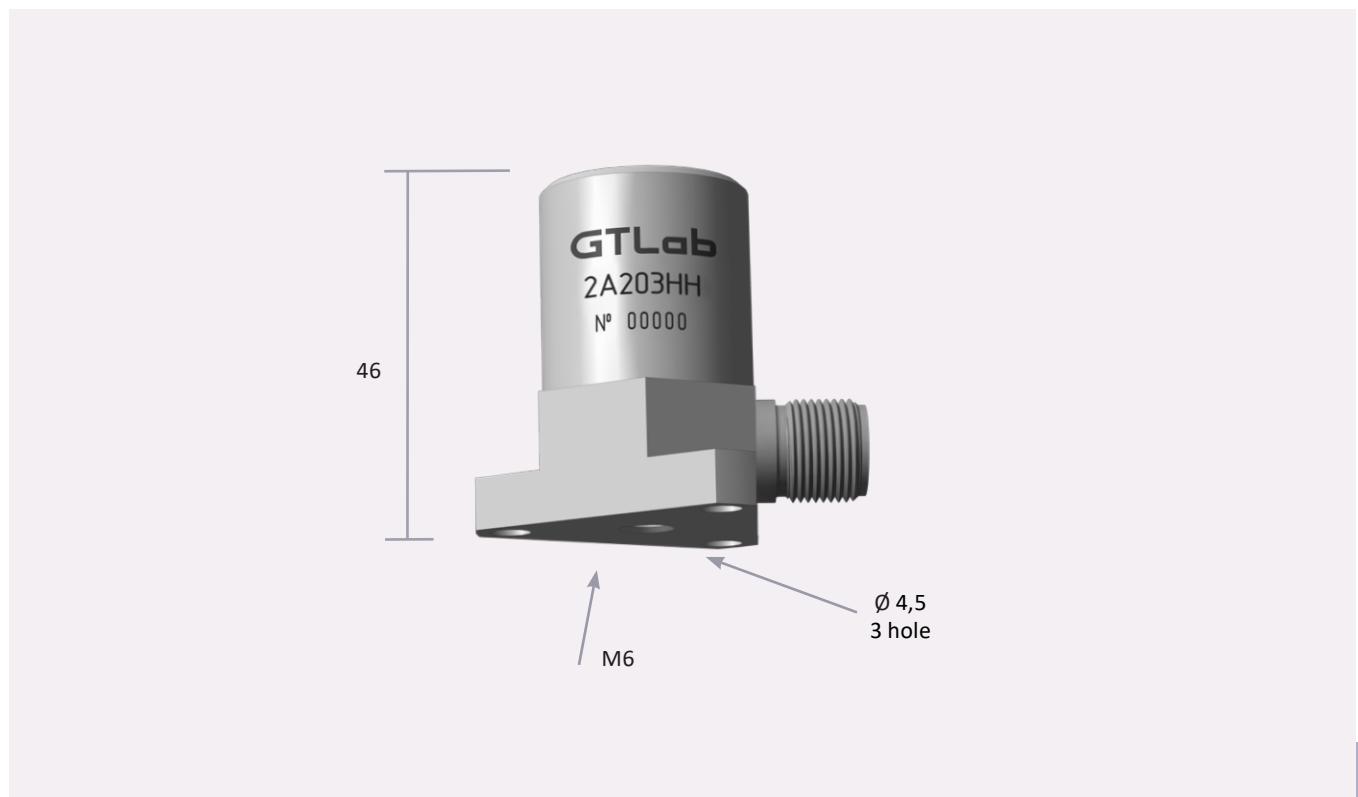
Vibration speed sensors   > With current output   > Industrial

# 2A203HA-XX



PARAMETER	2A203HA-20	2A203HA-40	2A203HA-80	2A203HA-160	2A203HA-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Temperature range	-40 ... +85 °C				
Limit temperature range	-60 ... +125 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
Load resistance in the current output circuit:					
- at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
- at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	145 g				
Supplied accessories	3 screws DIN 404 M4 × 14 A2				

## 2A203HH-XX



## PARAMETER

Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )

Range of measured vibration velocity, RMS

Frequency range of the measured vibration speed

Variation in frequency response relative to the base frequency of 159,15 Hz, within

Transverse sensitivity

Temperature range

Limit temperature range

Coefficient of the effect of the ambient temperature

Power from an external DC power source

- Load resistance in the current output circuit:
- - at power supply voltage 9 V
- - at power supply voltage 25 V

Run mode setting time

Housing material

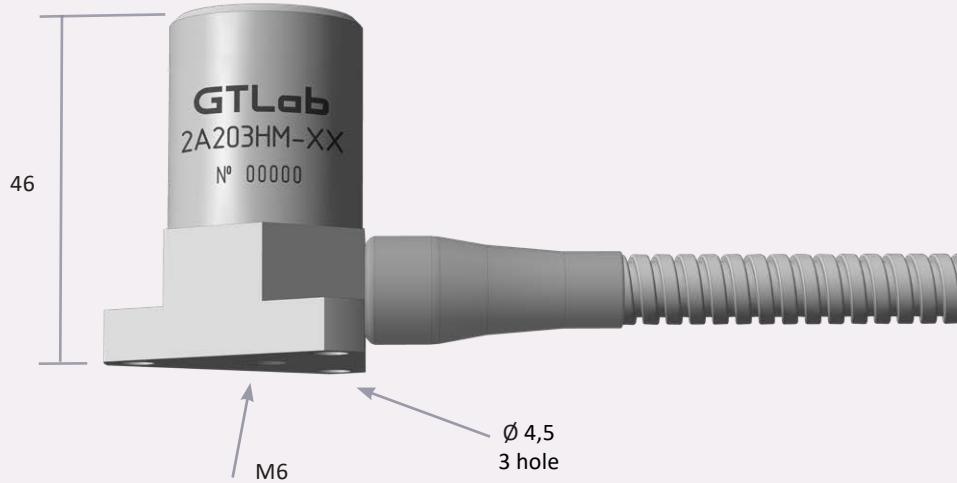
Explosion-proofness

Protection against external influences

Weight (without cable)

Supplied accessories

	2A203HH-20	2A203HH-40	2A203HH-80	2A203HH-160	2A203HH-200
0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm	
20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s	
10 ... 1 000 Hz					
from 3 to minus 12,5 %					
< 5 %					
-40 ... +85 °C					
-60 ... +125 °C					
± 0,2 %/°C					
+ (9 ... 25) V					
≤ 100 Ohm					
≤ 800 Ohm					
< 4 s					
stainless steel					
1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga					
IP67					
145 g					
cable 03H1A2 (determined by the customer's request)					
3 screws DIN 404 M4 × 14 A2					

**PARAMETER**Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )**2A203HM-20**

0,8 mA·s/mm

**2A203HM-40**

0,4 mA·s/mm

**2A203HM-80**

0,2 mA·s/mm

**2A203HM-160**

0,1 mA·s/mm

**2A203HM-200**

0,08 mA·s/mm

Range of measured vibration velocity, RMS

20 mm/s

40 mm/s

80 mm/s

160 mm/s

200 mm/s

Frequency range of the measured vibration speed

10 ... 1 000 Hz

Variation in frequency response relative to the base frequency of 159,15 Hz, within

from 3 to minus 12,5 %

Transverse sensitivity

&lt; 5 %

Temperature range

−40 ... +85 °C

Limit temperature range

−60 ... +125 °C

Coefficient of the effect of the ambient temperature

± 0,2 %/°C

Power from an external DC power source

+ (9 ... 25) V

▪ Load resistance in the current output circuit:

- - at power supply voltage 9 V
- - at power supply voltage 25 V

≤ 100 Ohm

≤ 800 Ohm

Run mode setting time

&lt; 4 s

Housing material

stainless steel

Explosion-proofness

1Ex d IIC T6...T4 Gb,  
0Ex ia IIC T6...T4 Ga

Protection against external influences

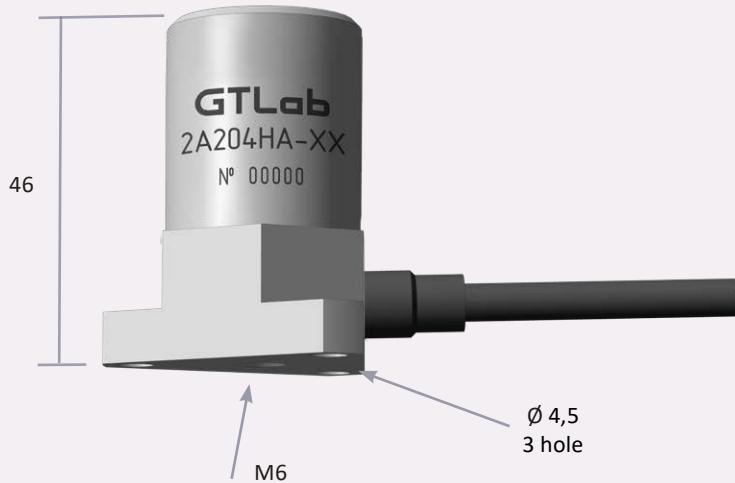
IP67

Weight (without cable)

145 g

Supplied accessories

3 screws DIN 404 M4 × 14  
A2

**PARAMETER**

Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )

Range of measured vibration velocity, RMS

Frequency range of the measured vibration speed

Variation in frequency response relative to the base frequency of 159,15 Hz, within

Transverse sensitivity

Temperature range

Limit temperature range

Coefficient of the effect of the ambient temperature

Power from an external DC power source

- Load resistance in the current output circuit:
- - at power supply voltage 9 V
- - at power supply voltage 25 V

Run mode setting time

Housing material

Explosion-proofness

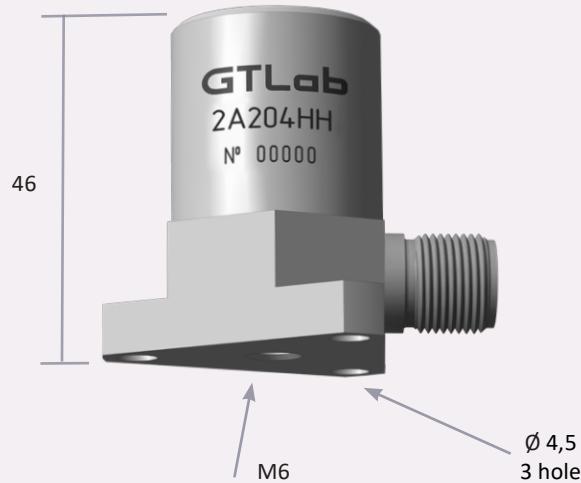
Protection against external influences

Weight (without cable)

Supplied accessories

	<b>2A204HA-20</b>	<b>2A204HA-40</b>	<b>2A204HA-80</b>	<b>2A204HA-160</b>	<b>2A204HA-200</b>
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Temperature range	-40 ... +85 °C				
Limit temperature range	-60 ... +125 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\%/{^\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \Omega$				
▪ - at power supply voltage 25 V	$\leq 800 \Omega$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	145 g				
Supplied accessories	3 screws DIN 404 M4 × 14 A2				

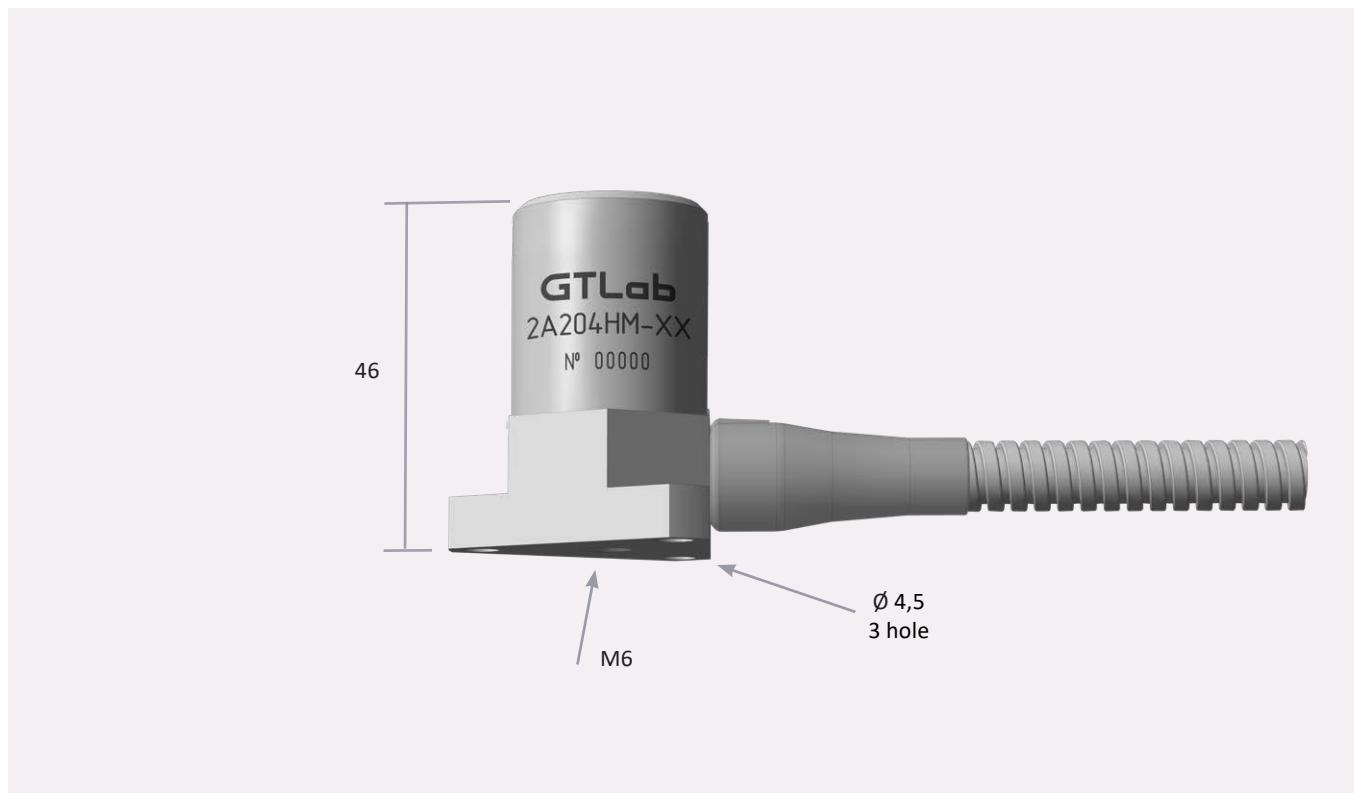
# 2A204HH-XX



## PARAMETER

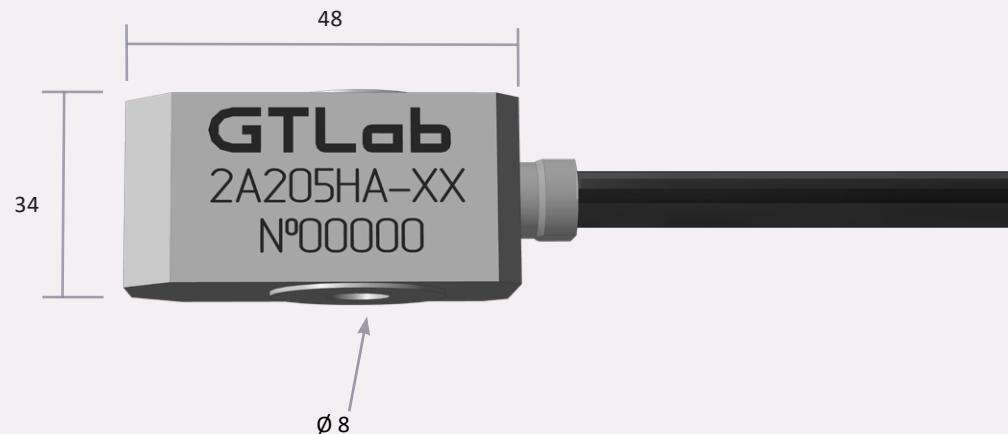
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	2A204HH-20	2A204HH-40	2A204HH-80	2A204HH-160	2A204HH-200
Range of measured vibration velocity, RMS	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Frequency range of the measured vibration speed	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Variation in frequency response relative to the base frequency of 159,15 Hz, within	2 ... 1 000 Hz				
Transverse sensitivity	from 3 to minus 12,5 %				
Temperature range	< 5 %				
Limit temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	-60 ... +125 °C				
Power from an external DC power source	$\pm 0,2\%/\text{°C}$				
▪ Load resistance in the current output circuit:	+ (9 ... 25) V				
▪ - at power supply voltage 9 V	$\leq 100 \Omega$				
▪ - at power supply voltage 25 V	$\leq 800 \Omega$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	145 g				
Supplied accessories	cable O3H1A2 (determined by the customer's request) 3 screws DIN 404 M4 × 14 A2				

## 2A204HM-XX

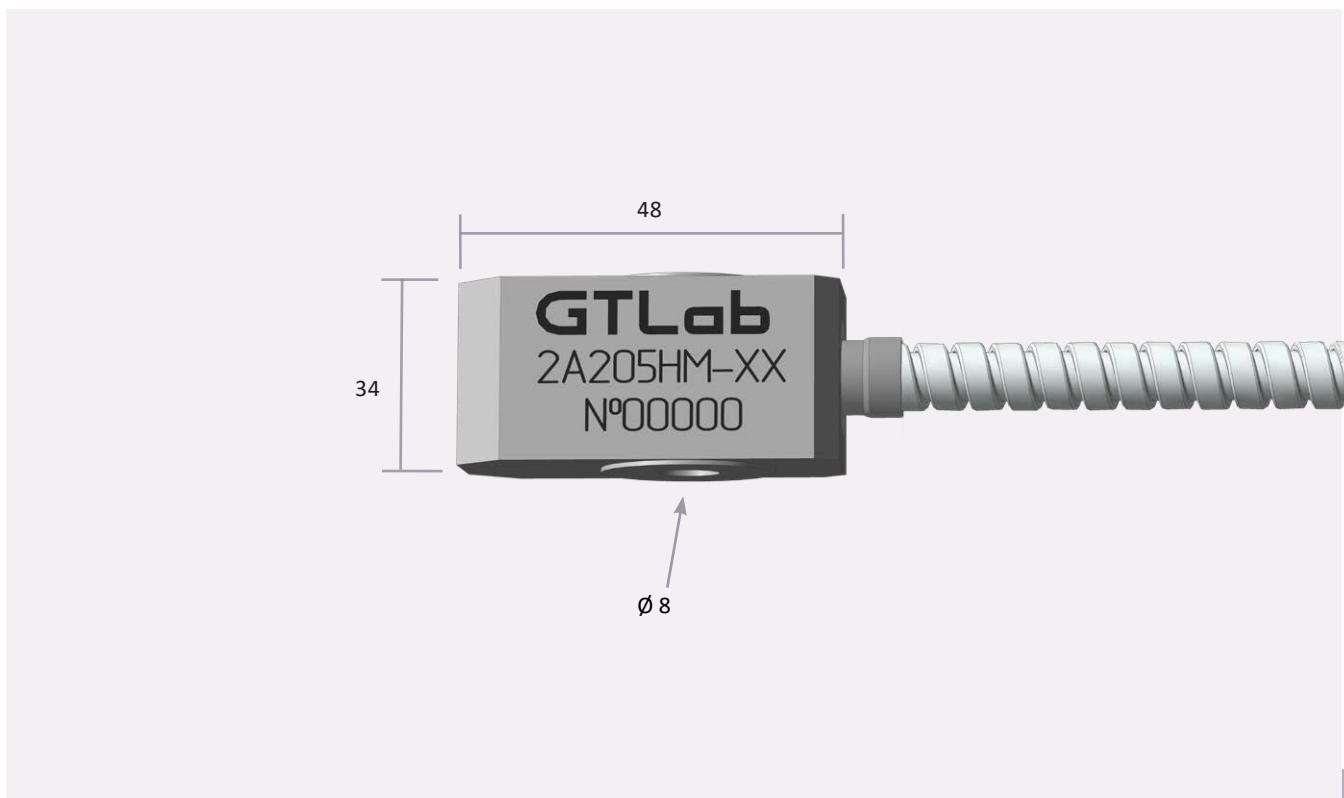


PARAMETER	2A204HM-20	2A204HM-40	2A204HM-80	2A204HM-160	2A204HM-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Temperature range	-40 ... +85 °C				
Limit temperature range	-60 ... +125 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\%/\text{°C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \Omega$				
▪ - at power supply voltage 25 V	$\leq 800 \Omega$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	145 g				
Supplied accessories	3 screws DIN 404 M4 × 14 A2				

## 2A205HA-XX

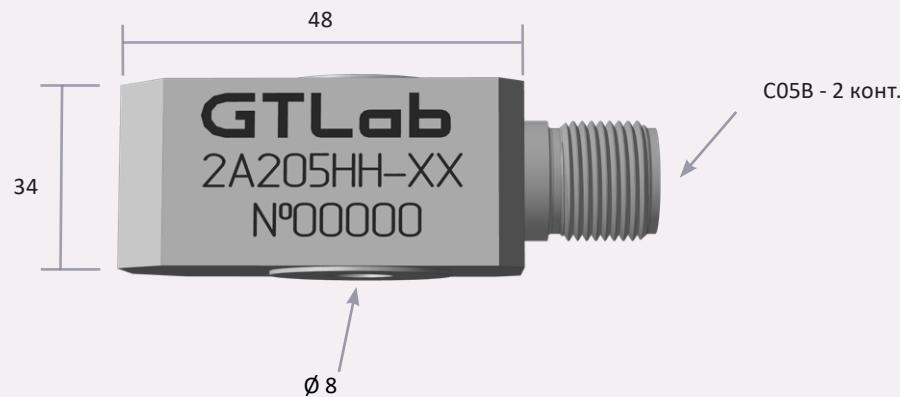


PARAMETER	2A205HA-20	2A205HA-40	2A205HA-80	2A205HA-160	2A205HA-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Temperature range	-40 ... +85 °C				
Limit temperature range	-60 ... +125 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }/\text{°C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100\text{ }\Omega$				
▪ - at power supply voltage 25 V	$\leq 800\text{ }\Omega$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	Screw M8 × 40 ISO 7380				



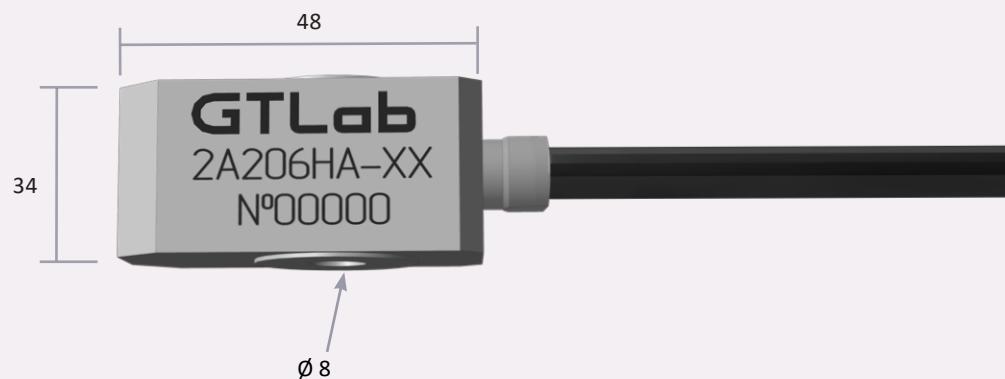
PARAMETER	2A205HM-20	2A205HM-40	2A205HM-80	2A205HM-160	2A205HM-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Temperature range	-40 ... +85 °C				
Limit temperature range	-60 ... +125 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
▪ - at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	Screw M8 x 40 ISO 7380				

## 2A205HH-XX

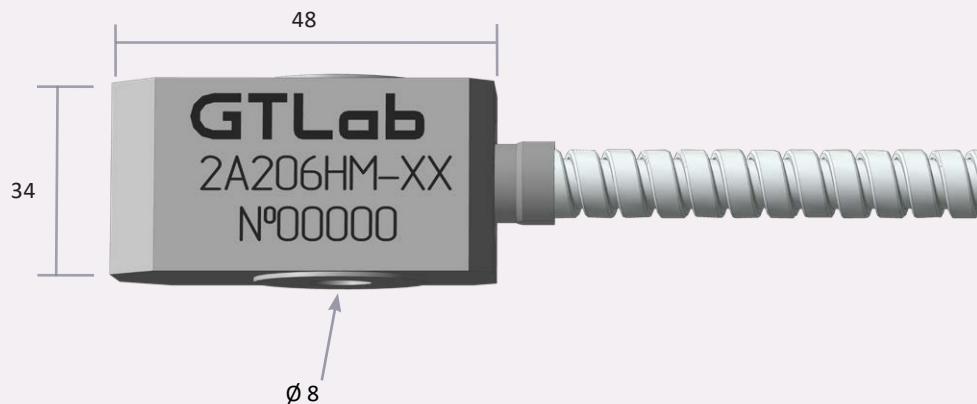


PARAMETER	2A205HH-20	2A205HH-40	2A205HH-80	2A205HH-160	2A205HH-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	10 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\%/{^\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
<ul style="list-style-type: none"> <li>▪ Load resistance in the current output circuit:</li> <li>▪   - at power supply voltage 9 V</li> <li>▪   - at power supply voltage 25 V</li> </ul>	<ul style="list-style-type: none"> <li>≤ 100 Ohm</li> <li>≤ 800 Ohm</li> </ul>				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	cable 03H1A2 (determined by the customer's request)				
	screw M8 × 40 ISO 7380				

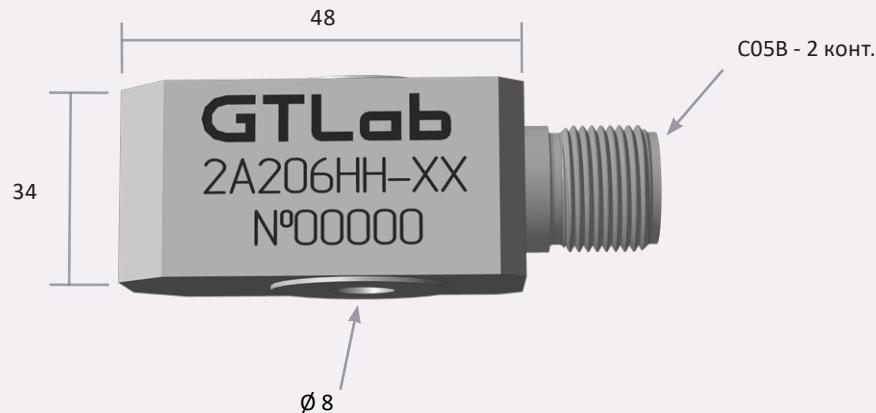
## 2A206HA-XX



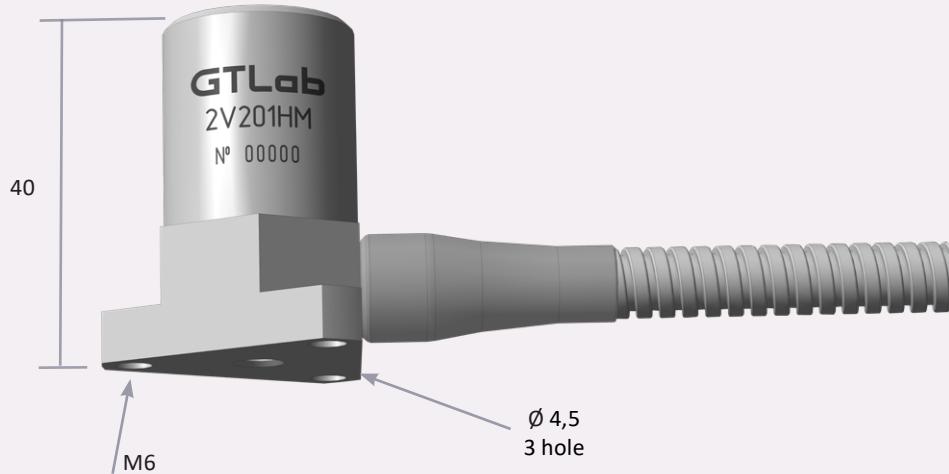
PARAMETER	2A206HA-20	2A206HA-40	2A206HA-80	2A206HA-160	2A206HA-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\%/\text{°C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
▪ - at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	Screw M8 x 40 ISO 7380				



PARAMETER	2A206HM-20	2A206HM-40	2A206HM-80	2A206HM-160	2A206HM-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\%/\text{°C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
▪ - at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	Screw M8 × 40 ISO 7380				



PARAMETER	2A206HH-20	2A206HH-40	2A206HH-80	2A206HH-160	2A206HH-200
Sensitivity by vibration speed to current signal 4 ... 20 mA, ( $\pm 10\%$ )	0,8 mA·s/mm	0,4 mA·s/mm	0,2 mA·s/mm	0,1 mA·s/mm	0,08 mA·s/mm
Range of measured vibration velocity, RMS	20 mm/s	40 mm/s	80 mm/s	160 mm/s	200 mm/s
Frequency range of the measured vibration speed	2 ... 1 000 Hz				
Variation in frequency response relative to the base frequency of 159,15 Hz, within	from 3 to minus 12,5 %				
Transverse sensitivity	< 5 %				
Limit temperature range	-60 ... +125 °C				
Temperature range	-40 ... +85 °C				
Coefficient of the effect of the ambient temperature	$\pm 0,2\text{ }^{\circ}\text{C}$				
Power from an external DC power source	+ (9 ... 25) V				
▪ Load resistance in the current output circuit:					
▪ - at power supply voltage 9 V	$\leq 100 \text{ Ohm}$				
▪ - at power supply voltage 25 V	$\leq 800 \text{ Ohm}$				
Run mode setting time	< 4 s				
Housing material	stainless steel				
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga				
Protection against external influences	IP67				
Weight (without cable)	330 g				
Supplied accessories	cable 03H1A2 (determined by the customer's request) screw M8 x 40 ISO 7380				

**Parameter**

Sensitivity at the base frequency 80 Hz

**2V201HM** $2,5 \pm 0,25 \text{ mV/mm/s}$ 

Range of measured speeds

0,1 ... 500 mm/s

Frequency range of the measured vibration speed

2 ... 3 000Hz

Unevenness of the frequency response relative to the value  
at the base frequency 80 Hz: $\pm 1 \text{ dB}$ 

- in frequency range 2 ... 3 000Hz
- in frequency range 5 ... 2 000Hz

5 %

Transverse sensitivity

&lt; 5 %

Temperature range

- 50 ... + 150°C

Coefficient of the effect of the ambient temperature

 $\pm 0,1 \text{ %}^{\circ}\text{C}$ 

SCR level of own noise, given to the input

&lt; 0,04 mm/s

Maximum output voltage with a non-linear distortion  
coefficient of no more than 5 % $\pm 5 \text{ V}$ 

Output impedance

&lt; 500 Ohm

Power mode:

- external DC voltage source
- current

 $+ (20 \dots 30) \text{ V}$ 

&lt; (7 ... 9) mA

Constsnt output votage level

 $+ (7 \dots 13) \text{ V}$ 

Housing material

stainless steel

Explosion-proofness

1Ex d IIC T6...T4 Gb,

0Ex ia IIC T6...T4 Ga

Weight (without cable)

90 g

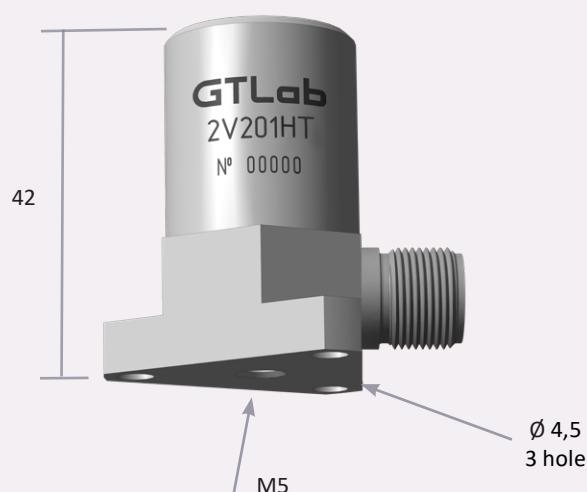
Supplied accessories

3 screws DIN 404 M4\*14 A2

&gt; Industrial

&gt; With voltage output

Vibration speed sensors

**PARAMETER**

Conversion factor at basic frequency 80 Hz

Vibration velocity measuring range

Frequency range of the measured vibration speed

Неравномерность частотной характеристики относительно значения на базовой частоте 80 Hz:

- в диапазоне частот 2 ... 3 000 Hz
- в диапазоне частот 5 ... 2 000 Hz

Transverse sensitivity

Temperature range

Coefficient of the effect of the ambient temperature

RMS level of intrinsic noise, reduced to the input

Maximum output voltage with a nonlinear distortion factor of no more than 5%

Output impedance

- Power:
- external source of voltage dc
- current

Constant output voltage level

Explosion-proofness

Housing material

Weight (without cable)

Supplied accessories

**2V201HM**

2,5 ± 0,25 mV/mm/s

0,1 ... 1500 mm/s

2 ... 3 000 Hz

± 1 dB  
5 %

&lt; 5 %

-50 ... +150°C

± 0,1 %/°C

&lt; 0,04 mm/s

± 5 V

&lt; 500 Ohm

+ (20 ... 30) V  
< (7 ... 9) mA

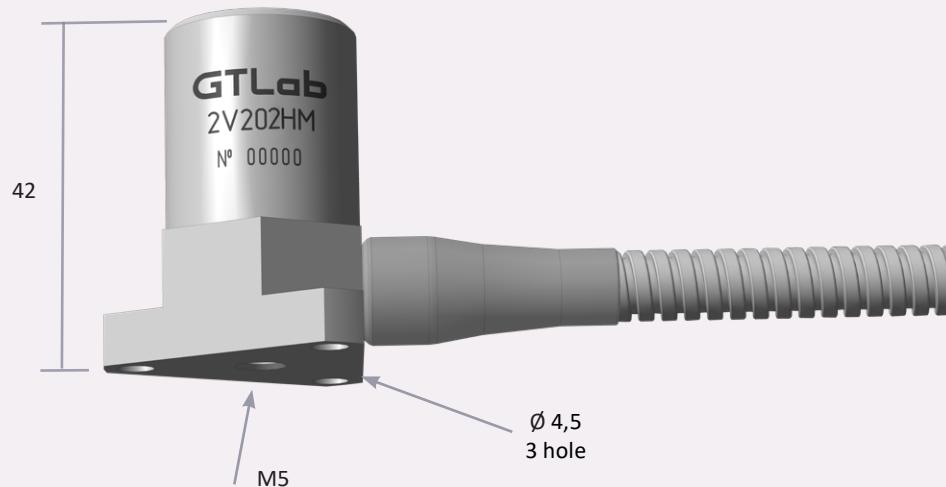
+ (7 ... 13) V

1Ex d IIC T6...T4 Gb,  
0Ex ia IIC T6...T4 Ga

stainless steel

120 g

cable 32T1AA4 (determined by the customer's request)  
3 screws DIN 404 M4 × 14 A2

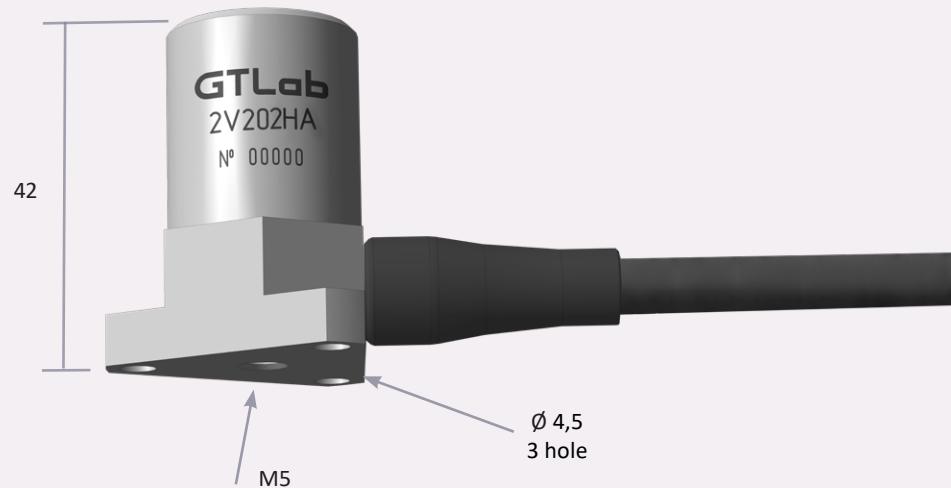


Industrial

Vibration velocity sensors &gt; Voltage output

**PARAMETER**

Conversion factor at basic frequency 80 Hz	<b>2V202HM</b> 5 ± 0,5 mV/mm/s
Vibration velocity measuring range	0,1 ... 800 mm/s
Frequency range of the measured vibration speed	5 ... 1 000 Hz
Variation in frequency response relative to the value at the base frequency of 80 Hz in the frequency range 5 ... 1000 Hz	± 1 dB
Transverse sensitivity	< 5 %
Temperature range	-50 ... +150°C
Coefficient of the effect of the ambient temperature	± 0,1 %/°C
RMS level of intrinsic noise, reduced to the input	< 0,02mm/s
Maximum output voltage with a nonlinear distortion factor of no more than 5%	± 5 V
Output impedance	< 500 Ohm
Power:	+ (20 ... 30) V < (7 ... 9) mA
Constant output voltage level	+ (7 ... 13) V
Explosion-proofness	1Ex d IIC T6...T4 Gb, 0Ex ia IIC T6...T4 Ga
Housing material	stainless steel
Weight (without cable)	120 g
Supplied accessories	3 screws DIN 404 M4 × 14 A2

**PARAMETER**

Conversion factor at basic frequency 80 Hz

**2V202HA**

5 ± 0,5 mV/mm/s

Vibration velocity measuring range

0,1 ... 800 mm/s

Frequency range of the measured vibration speed

5 ... 1 000 Hz

Variation in frequency response relative to  
the value at the base frequency of 80 Hz in the  
frequency range 5 ... 1000 Hz

± 1 dB

Transverse sensitivity

&lt; 5 %

Temperature range

−50 ... +150°C

Coefficient of the effect of the ambient  
temperature

± 0,1 %/°C

RMS level of intrinsic noise, reduced to the input

&lt; 0,02mm/s

Maximum output voltage with a nonlinear  
distortion factor of no more than 5%

± 5 V

Output impedance

&lt; 500 Ohm

▪ Power:

+ (20 ... 30) V

▪ external source of voltage dc

&lt; (7 ... 9) mA

▪ current

+ (7 ... 13) V

Constant output voltage level

1Ex d IIC T6...T4 Gb,  
0Ex ia IIC T6...T4 Ga

Explosion-proofness

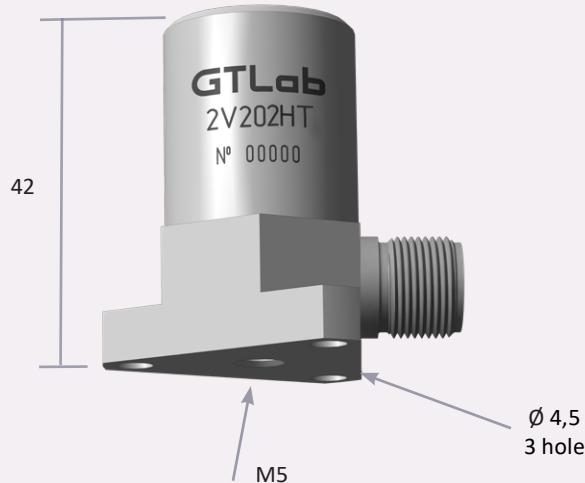
stainless steel

Housing material

120 g

Weight (without cable)

Supplied accessories

**PARAMETER**

Conversion factor at basic frequency 80 Hz

**2V202HT** $5 \pm 0,5 \text{ mV/mm/s}$ 

Vibration velocity measuring range

0,1 ... 800 mm/s

Frequency range of the measured vibration speed

5 ... 1 000 Hz

Variation in frequency response relative to  
the value at the base frequency of 80 Hz in the  
frequency range 5 ... 1000 Hz $\pm 1 \text{ dB}$ 

Transverse sensitivity

&lt; 5 %

Temperature range

−50 ... +150°C

Coefficient of the effect of the ambient  
temperature $\pm 0,1 \text{ %}/^\circ\text{C}$ 

RMS level of intrinsic noise, reduced to the input

&lt; 0,02mm/s

Maximum output voltage with a nonlinear  
distortion factor of no more than 5% $\pm 5 \text{ V}$ 

Output impedance

&lt; 500 Ohm

▪ Power:

▪ external source of voltage dc

▪ current

+ (20 ... 30) V

&lt; (7 ... 9) mA

Constant output voltage level

+ (7 ... 13) V

Housing material

stainless steel

Explosion-proofness

1Ex d IIC T6...T4 Gb,

0Ex ia IIC T6...T4 Ga

Weight (without cable)

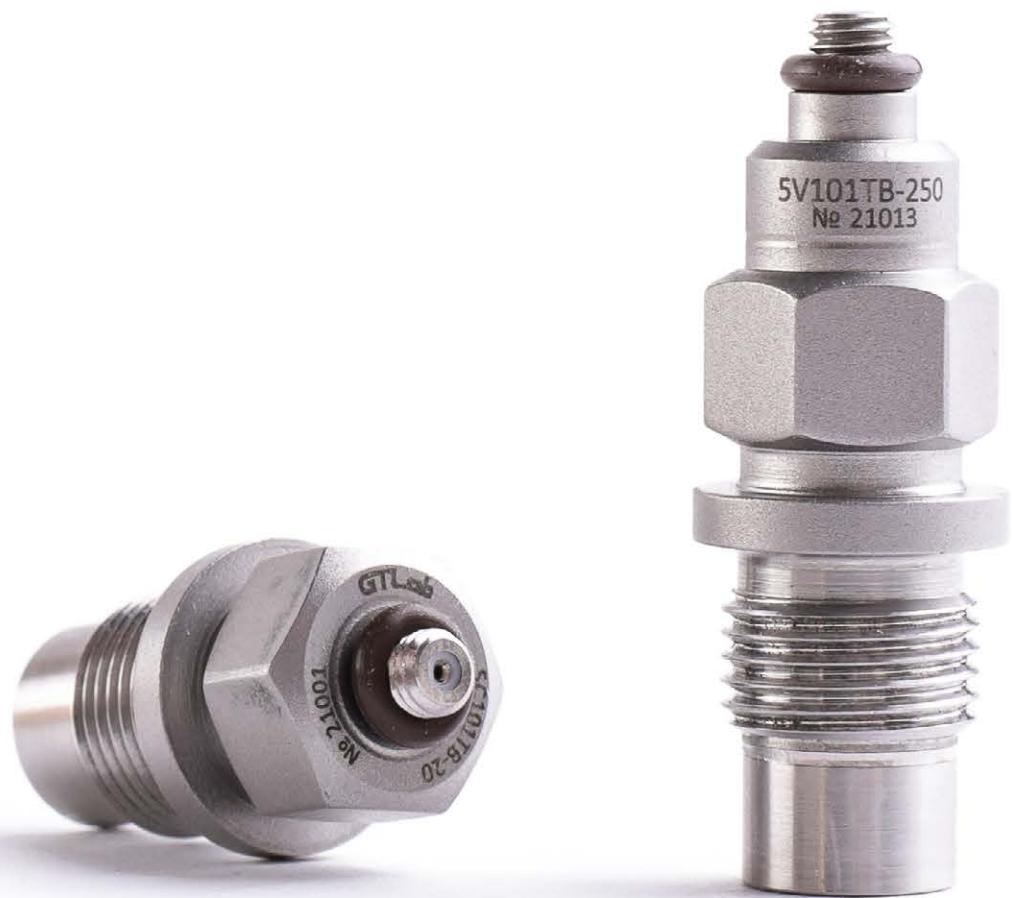
120 g

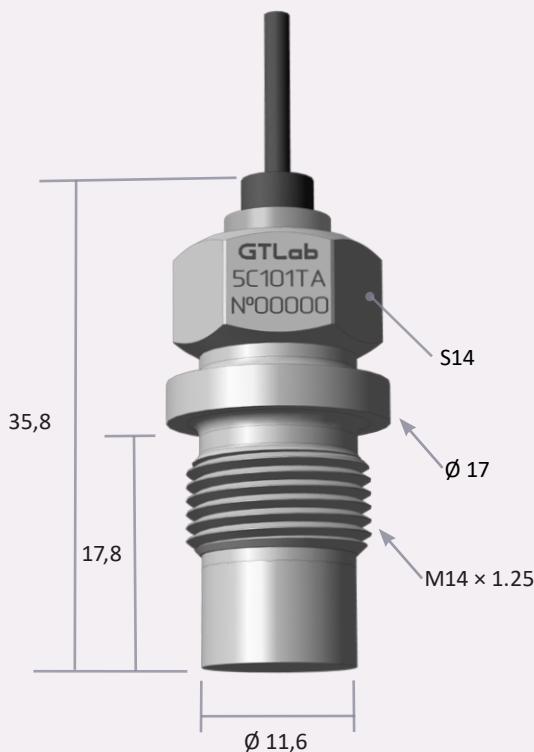
Supplied accessories

cable 32T1AA4 (determined by the customer's request)

3 screws DIN 404 M4 × 14 A2

# DYNAMIC PRESSURE SENSORS

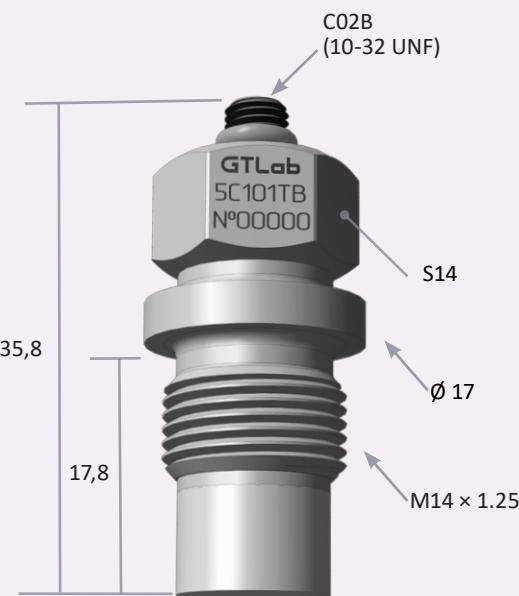




## &gt; General purpose

## &gt; With charge output

Parameter	5C101TA -20	5C101TA -400	5C101TA -60
Upper limit of measurement	25 MPa		
Sensitivity	200 pC/MPa	4 000 pC/MPa	600 pC/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5 %		
Resonant frequency	> 30 kHz		
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g		
Temperature range	- 60 ... + 200 °C		- 60 ... + 400 °C
Electric capacity	180 ... 220 pF	230 ... 270 pF	200 ... 250 pF
Insulation resistance under normal conditions	> 10 000 MOhm		
Material of the sensing element	quartz	lithium niobate	GTL
Housing material	stainless steel		
Membrane material	stainless steel		
Degree of protection from external influences	IP68 Hermetic design (can be used at a depth of up to 50m)		
Weight (without cable and connector)	40 g		
Supplied accessories	sealing ring R01 (2 pieces.)		

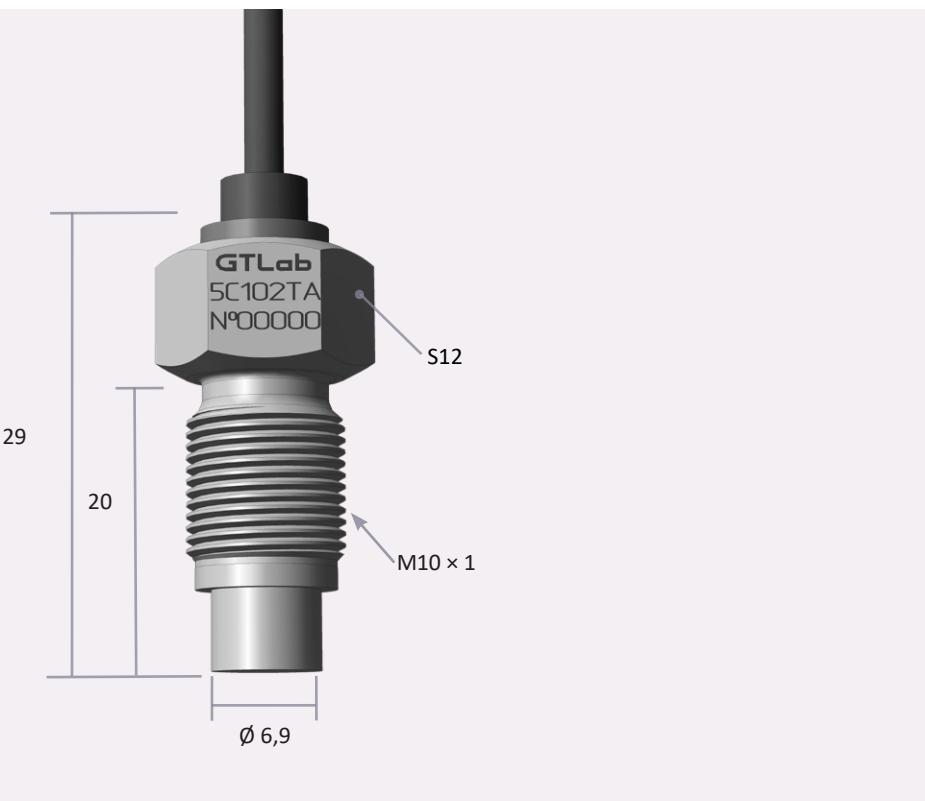


Parameter	5C101TB -20	5C101TB -400	5C101TB -60
Upper limit of measurement	25 MPa		
Sensitivity	200 pC/MPa	4 000 pC/MPa	600 pC/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5 %		
Resonant frequency	> 30 kHz		
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g		
Temperature range	- 60 ... + 200 °C		- 60 ... + 400 °C
Electric capacity	7 ... 12 pF	50 ... 70 pF	20 ... 30 pF
Insulation resistance under normal conditions	> 10 000 MOhm		
Material of the sensing element	quartz	lithium niobate	GTL
Housing material	stainless steel		
Membrane material	stainless steel		
Degree of protection from external influences	IP65		
Weight (without cable and connector)	40 g		
Supplied accessories	cable 03B1B1 (determined by the customer's request), sealing ring R01 (2 pieces.)		

General purpose

With charge output

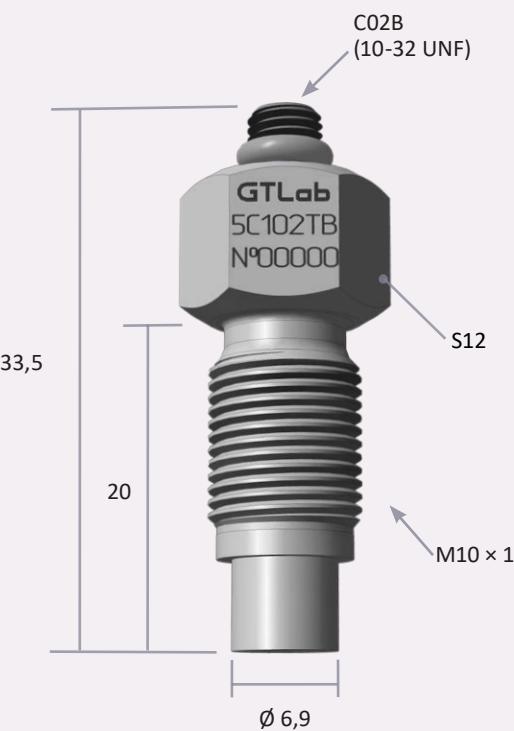
Dynamic pressure sensors



## &gt; General purpose

Parameter	5C102TA-7	5C102TA -140	5C102TA -20
Upper limit of measurement	250 MPa		
Sensitivity	70 pC/MPa	1400 pC/MPa	200 pC/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5 %		
Resonant frequency	> 100 kHz		
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g		
Temperature range	- 60 ... + 200 °C		- 60 ... + 400 °C
Electric capacity	170 ... 230 pF	250 ... 270 pF	200 ... 250 pF
Insulation resistance under normal conditions	> 10 000 MOhm		
Material of the sensing element	quartz	lithium niobate	GTL
Housing material	stainless steel		
Membrane material	stainless steel		
Degree of protection from external influences	IP68 Hermetic design (can be used at a depth of up to 50 m)		
Weight (without cable and connector)	15 g		
Supplied accessories	sealing ring R02 (2 pieces.)		

## &gt; With charge output



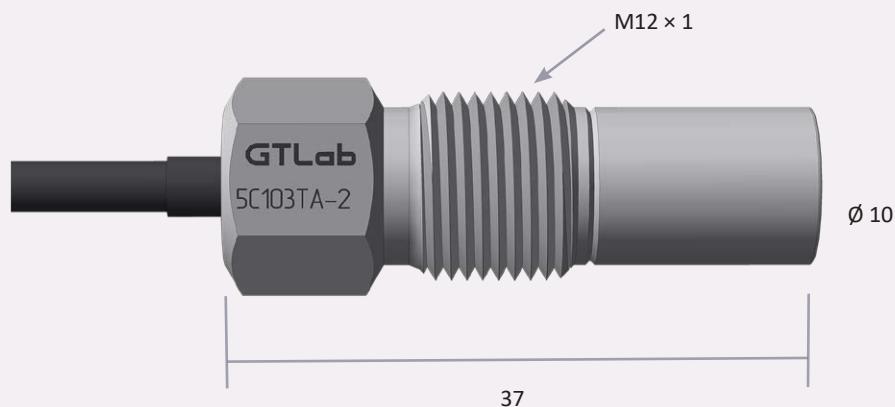
Parameter	5C102TB-7	5C102TB -140	5C102TB -20
Upper limit of measurement	250 MPa		
Sensitivity	70 pC/MPa	1400 pC/MPa	200 pC/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5 %		
Resonant frequency	> 100 kHz		
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g		
Temperature range	- 60 ... + 200 °C		- 60 ... + 400 °C
Electric capacity	7 ... 12 pF	50 ... 70 pF	20 ... 30 pF
Insulation resistance under normal conditions	> 10 000 MOhm		
Material of the sensing element	quartz	lithium niobate	GTL
Housing material	stainless steel		
Membrane material	stainless steel		
Degree of protection from external influences	IP65		
Weight (without cable and connector)	15 g		
Supplied accessories	cable 03B1D1 (determined by the customer's request) sealing ring R02 (2 pieces.)		

General purpose

With charge output

Dynamic pressure sensors

## 5C103TA-2

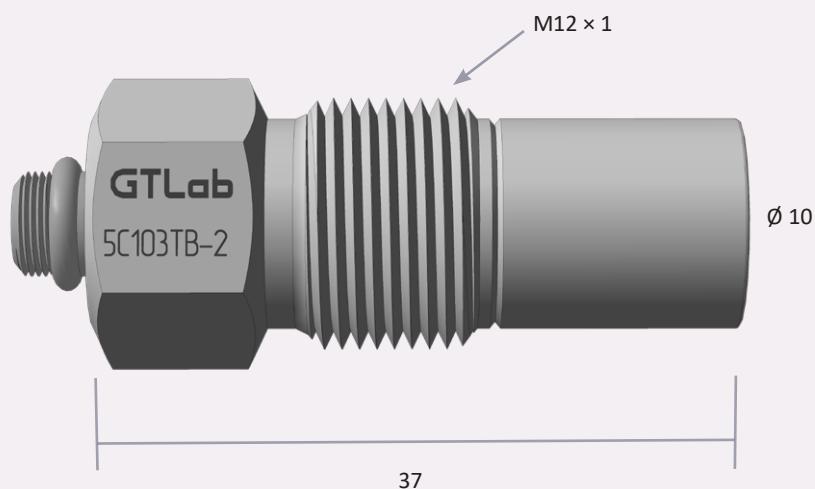


General purpose  
With charge output

Dynamic pressure sensors

PARAMETER	5C103TA-2
Upper limit of measured pressures	600 MPa
Conversion factor	20 pC/MPa
Limits of acceptable basic error reduced to the upper-range value	± 3 %
Self-resonant frequency	> 150 kHz
Acceleration sensitivity	< 0,0001 MPa/g $1g = 9.807 \text{ m}\cdot\text{s}^{-2}$ or $10 \text{ m}\cdot\text{s}^{-2} = 1$
Temperature range	- 60 ... + 200 °C
Electric capacity with a cable length of 2m	180 ... 220 pF
Insulation resistance under normal conditions	> 10 000 MΩ
Sensing element material	quartz
Housing material	stainless steel
Membrane material	stainless steel
Protection against external influences	IP68 Waterproof version (can be used at a depth of up to 50 m)
Weight (without cable and connector)	25 g
Supplied accessories	o-ring R03 (2 pcs)

## 5C103TB-2



## PARAMETER

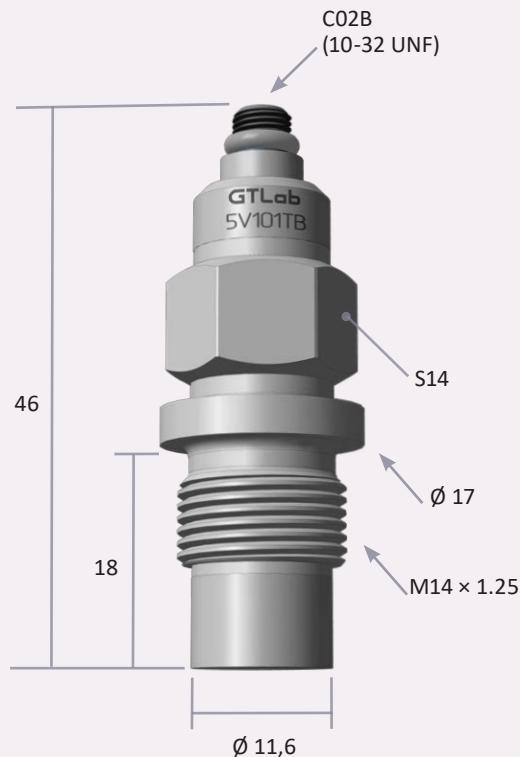
Upper limit of measured pressures	5C103TB-2
Conversion factor	600 MPa
Limits of acceptable basic error reduced to the upper-range value	20 pC/MPa
Self-resonant frequency	± 3 %
Acceleration sensitivity	> 150 kHz
Temperature range	< 0,0001 MPa/g
Electric capacity with a cable length of 2m	1g = 9,807 m·s⁻² or 10 m·s⁻² = 1
Insulation resistance under normal conditions	- 60 ... + 200 °C
Sensing element material	180 ... 220 pF
Housing material	> 10 000 MO $\Omega$
Membrane material	quartz
Protection against external influences	stainless steel
Weight (without cable and connector)	stainless steel
Supplied accessories	IP65 Waterproof version (can be used at a depth of up to 50 m)

## 5C103TB-2

600 MPa
20 pC/MPa
± 3 %
> 150 kHz
< 0,0001 MPa/g
1g = 9,807 m·s⁻² or 10 m·s⁻² = 1
- 60 ... + 200 °C
180 ... 220 pF
> 10 000 MO $\Omega$
quartz
stainless steel
stainless steel
IP65 Waterproof version (can be used at a depth of up to 50 m)
25 g
cable 03B1B1 (determined by the customer's request)
o-ring R03 (2 pcs)

With charge output > General purpose

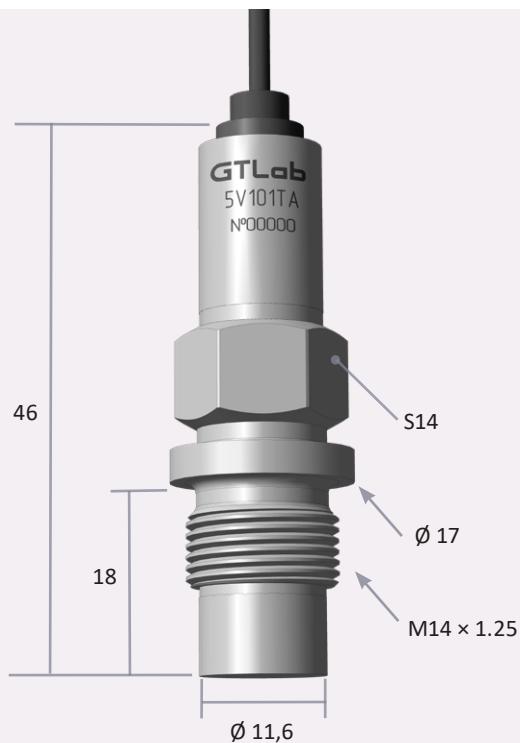
Dynamic pressure sensors



General purpose  
With voltage output

Dynamic pressure sensors

Parameter	5V101TB-6	5V101TB-60	5V101TB-250
Upper limit of measurement	0,6 MPa	6 MPa	25 MPa
Sensitivity	8 000 mV/MPa	800 mV/MPa	200 mV/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5%		
Resonant frequency	> 30 kHz		
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g		
Temperature range	- 40 ... + 125 °C		
Output impedance	< 500 Ohm		
Power:			
- external DC voltage source	+ (15 ... 30) V		
- current	2 ... 20 mA		
Constsnt output votage level	8 ... 11 V		
Material of the sensing element	quartz		
Housing material	stainless steel		
Membrane material	stainless steel		
Degree of protection from external influences	IP65		
Weight (without cable and connector)	38 g		
Supplied accessories	cable 03B1D1 (determined by the customer's request) sealing ring R01		

**Parameter**

Upper limit of measurement

**5V101TA-6**

0,6 MPa

**5V101TA-60**

6 MPa

**5V101TA-250**

25 MPa

Sensitivity

8 000 mV/MPa

800 mV/MPa

200 mV/MPa

Limits of the permissible basic error reduced to the upper limit of measurement

± 2,5 %

Resonant frequency

&gt; 30 kHz

Sensitivity to acceleration

< 0,00005 MPa/g  
1g = 9,807 m·s<sup>-2</sup> или 10 m·s<sup>-2</sup> =  
1,02 g

Temperature range

– 40 ... + 125 °C

Output impedance

&lt; 500 Ohm

Power:

- external DC voltage source  
- current+ (15 ... 30) V  
2 ... 20 mA

Constsnt output votage level

8 ... 11 V

Material of the sensing element

quartz

Housing material

stainless steel

Membrane material

stainless steel

Degree of protection from external influences

IP68 Hermetic design (can be used  
at a depth of up to 50 m)

Weight (without cable and connector)

40 g

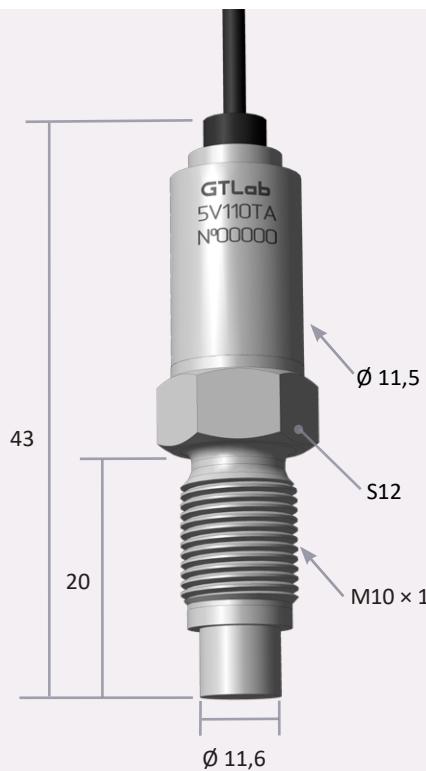
Supplied accessories

sealing ring R01 (2 pieces.)

General purpose

With voltage output

Dynamic pressure sensors

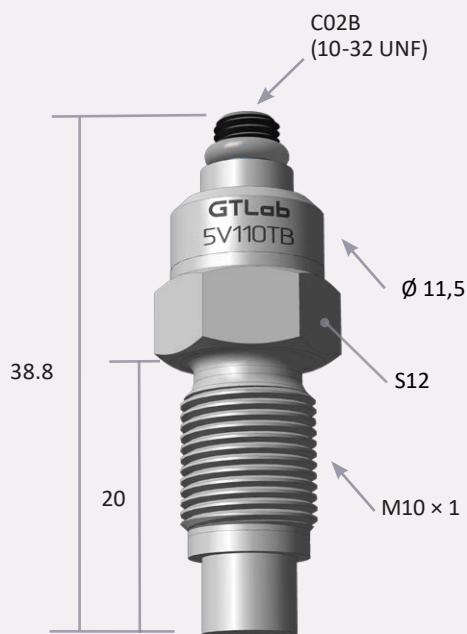


&gt; General purpose

&gt; With voltage output

Dynamic pressure sensors

Parameter	5V110TA-600	5V110TA-1000	5V110TA-1600	5V110TA-2500
Upper limit of measurement	60 MPa	100 MPa	160 MPa	250 MPa
Sensitivity	80 mV/MPa	50 mV/MPa	30 mV/MPa	20 mV/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5%			
Resonant frequency	> 100 kHz			
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g			
Temperature range	- 40 ... + 125 °C			
Output impedance	< 500 Ohm			
Power:				
- external DC voltage source	+ (15 ... 30) V			
- current	2 ... 20 mA			
Constsnt output votage level	8 ... 11 V			
Material of the sensing element	quartz			
Housing material	stainless steel			
Membrane material	stainless steel			
Degree of protection from external influences	IP65			
Weight (without cable and connector)	25 g			
Supplied accessories	cable 03B1D1 (determined by the customer's request) sealing ring R02 (2 pieces.)			



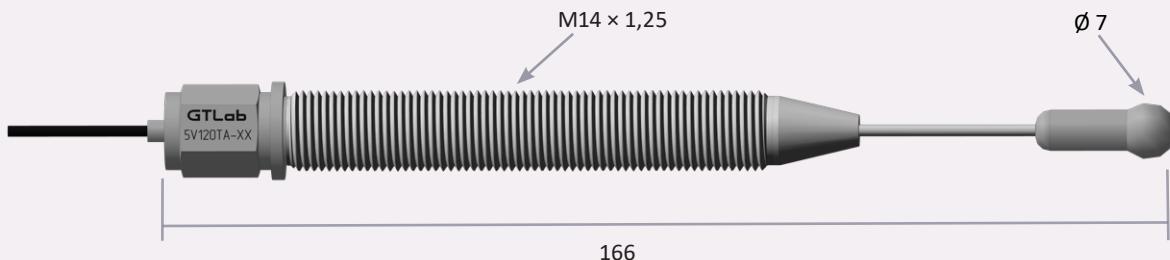
Parameter	5V110TB-600	5V110TB-1000	5V110TB-1600	5V110TB-2500
Upper limit of measurement	60 MPa	100 MPa	160 MPa	250 MPa
Sensitivity	80 mV/MPa	50 mV/MPa	30 mV/MPa	20 mV/MPa
Limits of the permissible basic error reduced to the upper limit of measurement	± 2,5%			
Resonant frequency	> 100 kHz			
Sensitivity to acceleration	< 0,00005 MPa/g 1g = 9,807 m·s⁻² или 10 m·s⁻² = 1,02 g			
Temperature range	- 40 ... + 125 °C			
Output impedance	< 500 Ohm			
Power:				
- external DC voltage source	+ (15 ... 30) V			
- current	2 ... 20 mA			
Constnt output votage level	8 ... 11 V			
Material of the sensing element	quartz			
Housing material	stainless steel			
Membrane material	stainless steel			
Degree of protection from external influences	IP68			
Weight (without cable and connector)	25 g			
Supplied accessories	cable 03B1D1 (determined by the customer's request) sealing ring R02 (2 pieces.)			

General purpose

With voltage output

Dynamic pressure sensors

## 5V120TA-XX

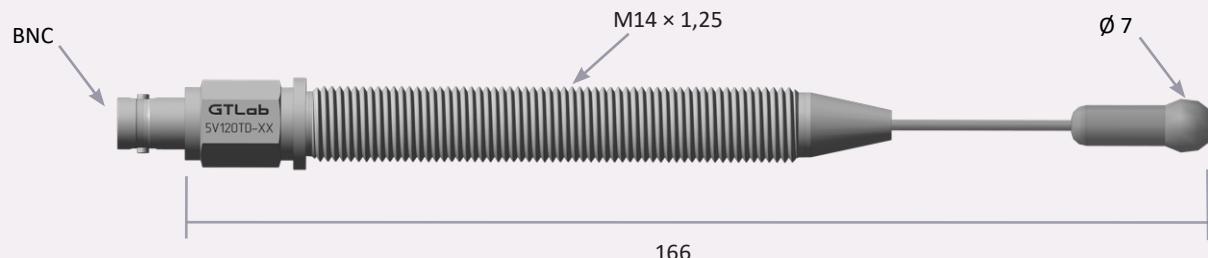


General purpose  
With voltage output

Dynamic pressure sensors

PARAMETER	5V120TA-10	5V120TA-25	5V120TA-60	5V120TA-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	- 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power: ▪ - voltage ▪ - current	+ (15 ... 30) V 2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (PZT-19)			
Housing material	stainless steel			
Case execution	carving M14x1,25			
Protection against external influences	IP68			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14x1,25 - 2 pc			

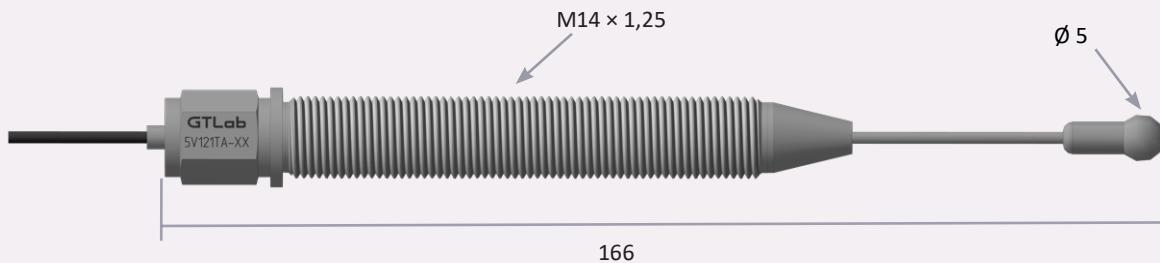
# 5V120TD-XX



PARAMETER	5V120TD-10	5V120TD-25	5V120TD-60	5V120TD-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	- 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power: ▪ - voltage ▪ - current	+ (15 ... 30) V 2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (ЛТС-19)			
Housing material	stainless steel			
Case execution	carving M14x1,25			
Protection against external influences	IP65			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14x1,25 - 2 pc cable 03D1D1 (determined by the customer's request)			

Dynamic pressure sensors      > With voltage Output      > General purpose

## 5V121TA-XX

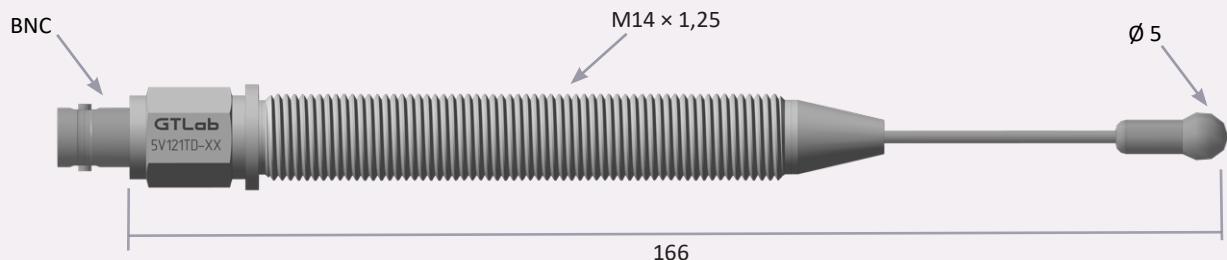


General purpose  
With voltage output

Dynamic pressure sensors

PARAMETER	5V121TA-10	5V121TA-25	5V121TA-60	5V121TA-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	- 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power: ▪ - voltage ▪ - current	+ (15 ... 30) V 2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (PZT-19)			
Housing material	stainless steel			
Case execution	carving M14x1,25			
Protection against external influences	IP68			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14x1,25 - 2 pc			

# 5V121TD-XX



## PARAMETER

Upper limit of measured pressures

Conversion factor

Limits of acceptable basic error reduced to the upper-range value

Upper limit of the operating frequency range

Temperature range

Output impedance

- Power:
- - voltage
- - current

Constant output voltage level

Sensing element material

Housing material

Case execution

Protection against external influences

Weight (without cable and connector)

Supplied accessories

## 5V121TD-10

1 000 kPa

5 mV/kPa

± 2%

> 25 kHz

- 30 ... + 50 °C

< 500 Ohm

+ (15 ... 30) V

2 ... 20 mA

8 ... 11 V

Lead zirconate titanate (ЛТС-19)

stainless steel

carving M14x1,25

IP65

110 g

mounting nut M14x1,25 - 2 pc

cable 03D1D1 (determined by the customer's request)

## 5V121TD-25

2 500 kPa

2 mV/kPa

± 2%

> 25 kHz

- 30 ... + 50 °C

< 500 Ohm

+ (15 ... 30) V

2 ... 20 mA

8 ... 11 V

Lead zirconate titanate (ЛТС-19)

stainless steel

carving M14x1,25

IP65

110 g

mounting nut M14x1,25 - 2 pc

cable 03D1D1 (determined by the customer's request)

## 5V121TD-60

6 000 kPa

0,8 mV/kPa

± 2%

> 25 kHz

- 30 ... + 50 °C

< 500 Ohm

+ (15 ... 30) V

2 ... 20 mA

8 ... 11 V

Lead zirconate titanate (ЛТС-19)

stainless steel

carving M14x1,25

IP65

110 g

mounting nut M14x1,25 - 2 pc

cable 03D1D1 (determined by the customer's request)

## 5V121TD-100

10 000 kPa

0,5 mV/kPa

± 2%

> 25 kHz

- 30 ... + 50 °C

< 500 Ohm

+ (15 ... 30) V

2 ... 20 mA

8 ... 11 V

Lead zirconate titanate (ЛТС-19)

stainless steel

carving M14x1,25

IP65

110 g

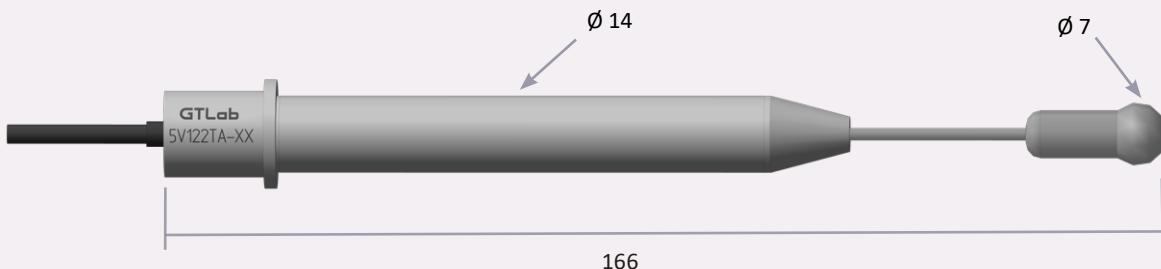
mounting nut M14x1,25 - 2 pc

cable 03D1D1 (determined by the customer's request)

With voltage Output  
General purpose

Dynamic pressure sensors

## 5V122TA-XX

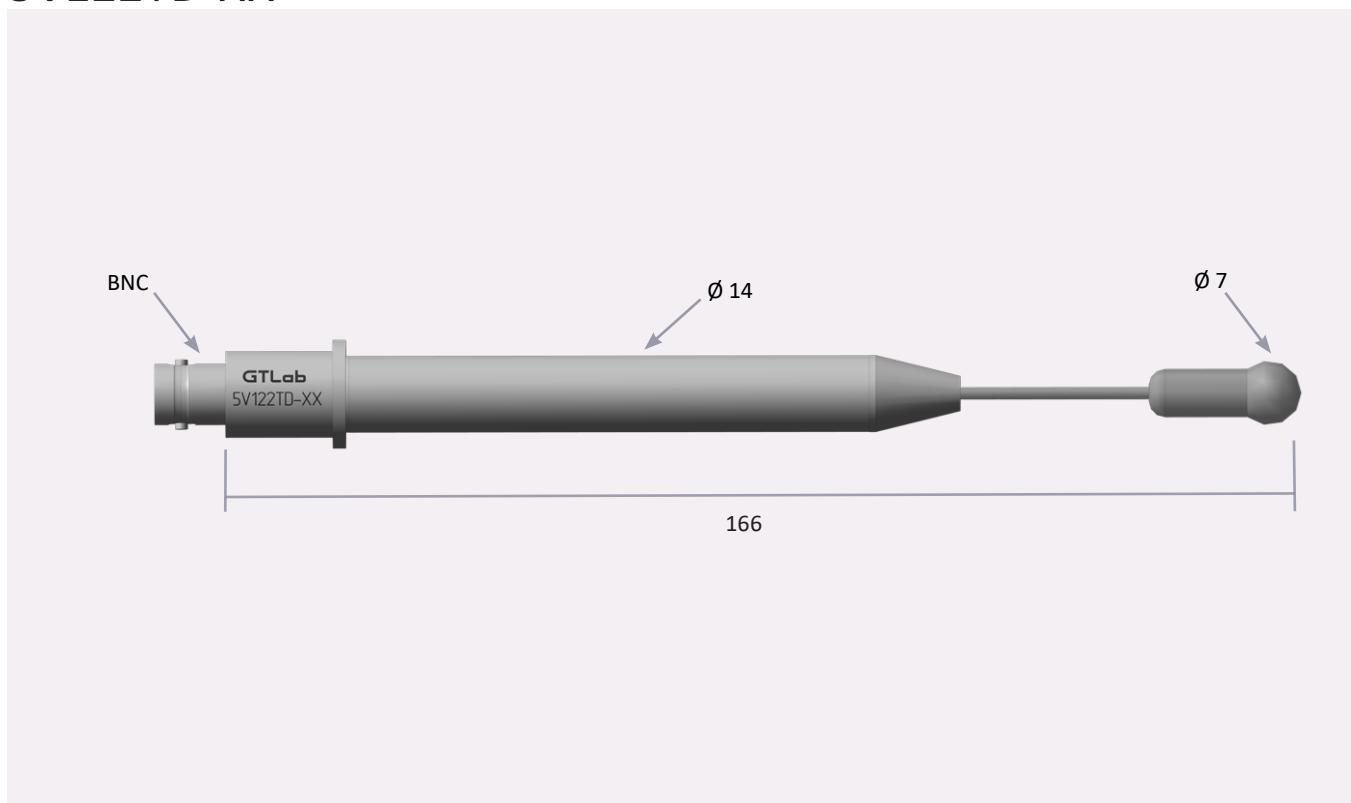


With voltage output  
General purpose

mic pressure sensors

Parameter	5V122TA-10	5V122TA-25	5V122TA-60	5V122TA-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	- 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power:				
▪ - voltage	+ (15 ... 30) V			
▪ - current	2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (ЛТС-19)			
Housing material	stainless steel			
Case execution	smooth			
Protection against external influences	IP68			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14×1,25 - 2 pc			

# 5V122TD-XX


**PARAMETER**

Upper limit of measured pressures

**5V122TD-10**

1 000 kPa

**5V122TD-25**

2 500 kPa

**5V122TA-60**

6 000 kPa

**5V122TD-100**

10 000 kPa

Conversion factor

**5V122TD-XX**

5 mV/kPa

**5V122TD-25**

2 mV/kPa

**5V122TA-60**

0,8 mV/kPa

**5V122TD-100**

0,5 mV/kPa

Limits of acceptable basic error reduced to the upper-range value

± 2%

Upper limit of the operating frequency range

&gt; 25 kHz

Temperature range

- 30 ... + 50 °C

Output impedance

&lt; 500 Ohm

## ▪ Power:

- - voltage
- - current

Constant output voltage level

+ (15 ... 30) V

Sensing element material

2 ... 20 mA

Housing material

Lead zirconate titanate (ЛТС-19)

Case execution

stainless steel

Protection against external influences

smooth

Weight (without cable and connector)

IP65

Supplied accessories

110 g

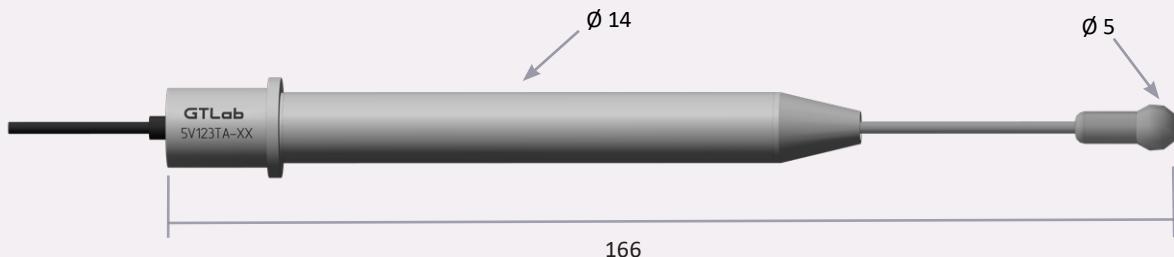
 mounting nut M14×1,25 - 2 pc  
 cable 03D1D1 (determined by the customer's request)

General purpose

With voltage Output

amic pressure sensors

## 5V123TA-XX

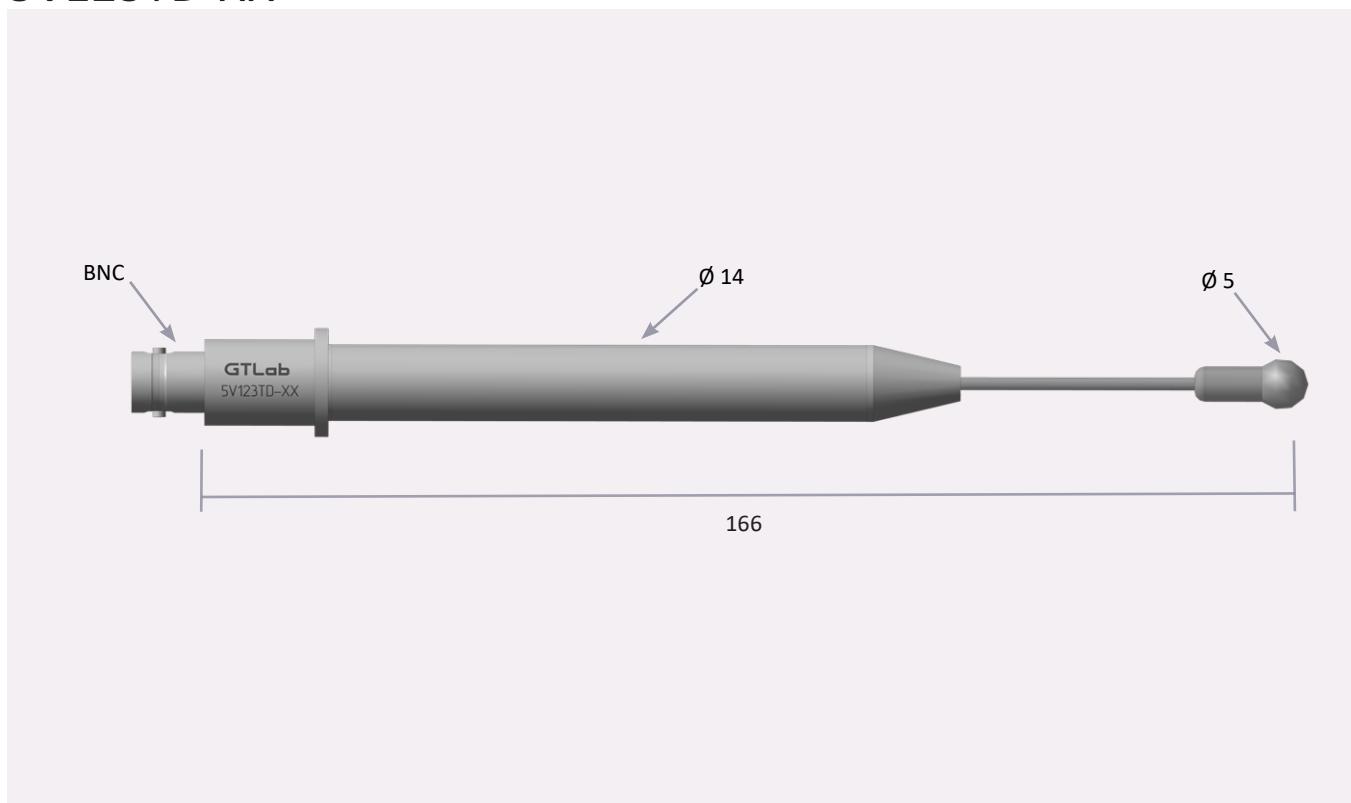


General purpose  
With voltage output

Dynamic pressure sensors

PARAMETER	5V123TA-10	5V123TA-25	5V123TA-60	5V123TA-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	– 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power:				
▪ - voltage	+ (15 ... 30) V			
▪ - current	2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (PZT-19)			
Housing material	stainless steel			
Case execution	smooth			
Protection against external influences	IP68			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14x1,25 - 2 pc			

# 5V123TD-XX



PARAMETER	5V123TD-10	5V123TD-25	5V123TD-60	5V123TD-100
Upper limit of measured pressures	1 000 kPa	2 500 kPa	6 000 kPa	10 000 kPa
Conversion factor	5 mV/kPa	2 mV/kPa	0,8 mV/kPa	0,5 mV/kPa
Limits of acceptable basic error reduced to the upper-range value	± 2%			
Upper limit of the operating frequency range	> 25 kHz			
Temperature range	- 30 ... + 50 °C			
Output impedance	< 500 Ohm			
▪ Power:				
▪ - voltage	+ (15 ... 30) V			
▪ - current	2 ... 20 mA			
Constant output voltage level	8 ... 11 V			
Sensing element material	Lead zirconate titanate (ЛТС-19)			
Housing material	stainless steel			
Case execution	smooth			
Protection against external influences	IP65			
Weight (without cable and connector)	110 g			
Supplied accessories	mounting nut M14×1,25 - 2 pc cable 03D1D1 (determined by the customer's request)			

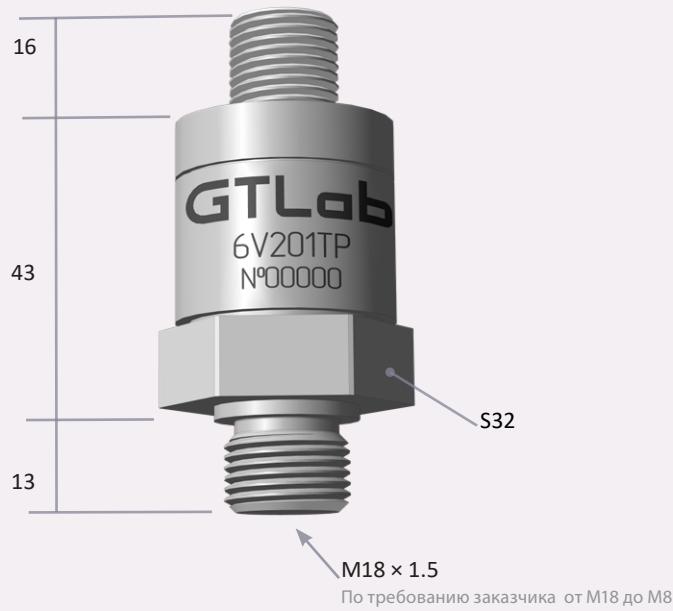
General purpose

With voltage Output

Dynamic pressure sensors

# STATIC-DYNAMIC PRESSURE SENSORS



**Parameter**

Measurement range
Output voltage
Resonant frequency
Constnt output votage level
Sensitivity to acceleration
Ambient temperature
Temperature of the measured medium
Supply voltage
Current consumption
Housing material
Weight (without cable)

**6V201TP-XX**

according to table 1

10 V

according to table 2

400 ... 600 mV

&lt; 0,001 bar/g

– 50...+ 85 °C

– 50...+ 300 °C

+(9 ... 15) V

25 mA

stainless steel

190 g

**6V201TP-XX-5**

5 V

**Parameter**

6V201TP-16, 6V201TP-16-5
6V201TP-25, 6V201TP-25-5
6V201TP-40, 6V201TP-40-5
6V201TP-60, 6V201TP-60-5
6V201TP-100, 6V201TP-100-5
6V201TP-160, 6V201TP-160-5
6V201TP-250, 6V201TP-250-5
6V201TP-400, 6V201TP-400-5
6V201TP-600, 6V201TP-600-5
6V201TP-1000, 6V201TP-1000-5
6V201TP-1600, 6V201TP-1600-5

**Табл. 1**

from -0,1 to 1,6 MPa

from -0,1 to 2,5 MPa

from -0,1 to 4 MPa

from -0,1 to 6 MPa

from -0,1 to 10 MPa

from -0,1 to 16 MPa

from -0,1 to 25 MPa

from -0,1 to 40 MPa

from -0,1 to 60 MPa

from -0,1 to 100 MPa

from -0,1 to 160 MPa

**Табл. 2**

18 kHz

22 kHz

28 kHz

32 kHz

45 kHz

55 kHz

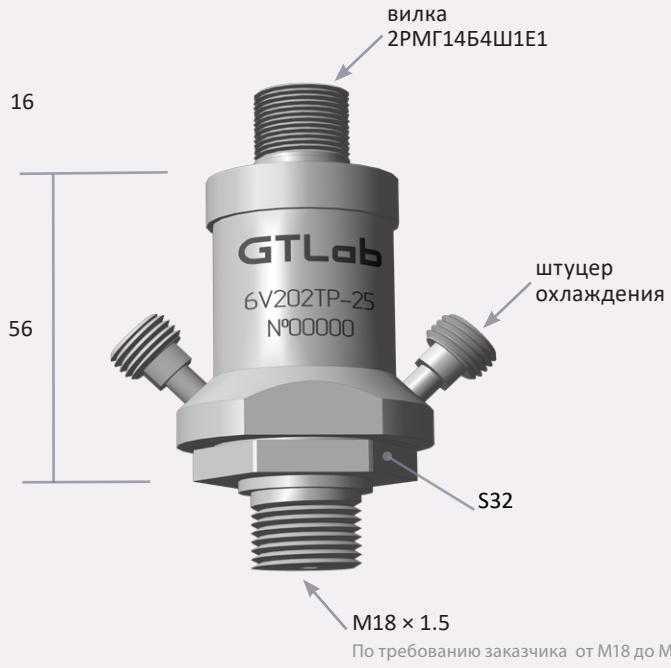
70 kHz

90 kHz

100 kHz

140 kHz

170 kHz

**PARAMETER**

Measurement range

Output voltage

Self-resonant frequency

Acceleration sensitivity

Ambient temperature

Medium temperature

-without cooling

-with cooling

Supply voltage

Consumption current

Housing material

Weight (without cable)

**6V202TP-XX**

according to table 1

10 V

**6V202TP-XX-5**

5 V

according to table 2

&lt; 0,001 bar/g

-50 ... +85 °C

-50 ... +300 °C

+1000 °C

+(11 ... 14) V

30 mA

stainless steel

300 g

**PARAMETER**

6V202TP-16, 6V202TP-16-5

table 1

table 2

from -0,1 to 1,6 MPa

18 kHz

6V202TP-25, 6V202TP-25-5

from -0,1 to 2,5 MPa

22 kHz

6V202TP-60, 6V202TP-60-5

from -0,1 to 6 MPa

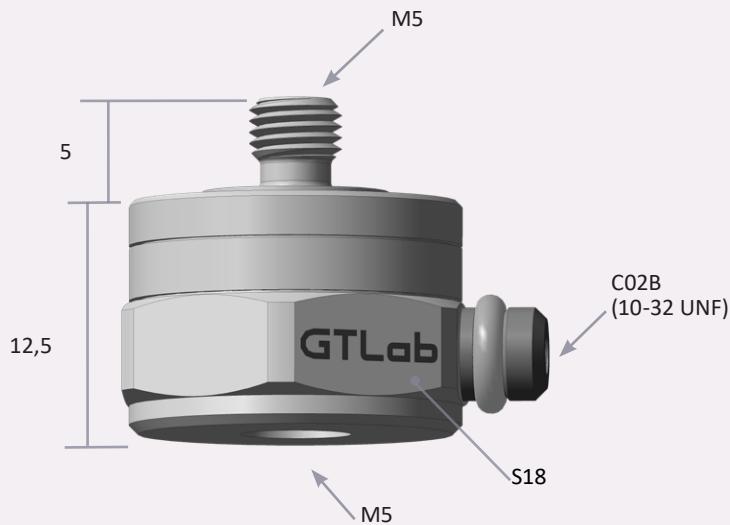
32 kHz

6V202TP-160, 6V202TP-160-5

from -0,1 to 16 MPa

55 kHz

# FORCE SENSORS

**Parameter**

Force measurement range

Sensitivity ( $\pm 20\%$ )  
(nominal value)

Transverse sensitivity

Coefficient of the effect of the ambient temperature

Temperature range

Deformation sensitivity

Electric capacity

Insulation resistance under normal conditions

Resonant frequency

Effective inertial mass

- top of the piezoelectric element
- bottom of the piezoelectric element

Housing material

Supplied accessories

Weight (without cable)

**4C101HB**

- 1 000...+ 5 000 H

4 pC/H

&lt; 5%

&lt; 0,05 %/°C

- 60...+ 200 °C

&lt; 0,03 H·m/μm

10 ... 14 pF

&gt; 1 000 MΩ

&gt; 30 kHz

4 g

15 g

stainless steel

cable 03B1B1 (determined by the customer's request)pin P0505

20 g

# IMPULSE HAMMERS



**Parameter**

Sensitivity

**4V301D**

The peak value of the dynamic force:

1 mV/H

- with a steel head
- with a plastic head
- with a rubber head

5 000 H

1 000 H

700 H

Duration of the shock pulse:

0,1 ... 0,2 ms

- with a steel head

0,15 ... 0,3 ms

- with a steel head and additional mass

0,4 ... 0,6 ms

- with a plastic head

0,5 ... 0,8 ms

- with a plastic head and additional mass

1,2 ... 2,6 ms

- with a rubber head

1,7 ... 3,9 ms

- with a rubber head and additional mass

300 g

Weight of hammer in a set with sensor without additional weight and head

100 g

Additional mass

Weight of head

13 g

- steel

14 g

- plastic

14 g

- rubber

Temperature range

-40 ... +125 °C

Power:

+ (15 ... 30) V

- voltage

2 ... 20 mA

- current

Noise level, root mean square value (1 Hz ÷ 10 kHz)

5 · 10<sup>-3</sup> H

Constsn output votage level

8 ... 10 V

Output impedance

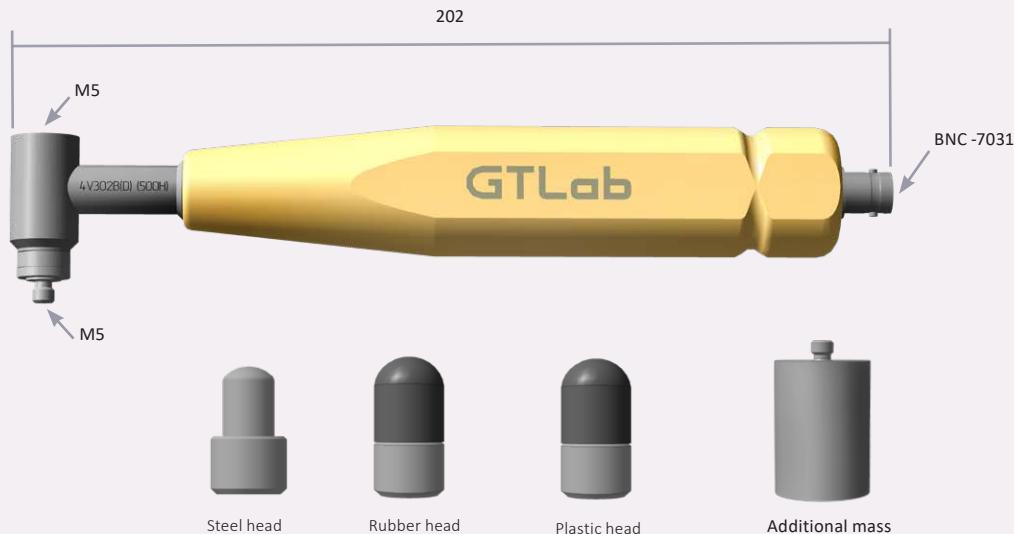
&lt; 500 Ohm

Connector type

BNC

Supplied accessories

hammer,  
additional mass,  
steel head,  
plastic head,  
rubber head,  
cable 03D1D1 (determined by the customer's request)

**Parameter**

Sensitivity

The peak value of the dynamic force:

- with a steel head
- with a plastic head
- with a rubber head

Duration of the shock pulse:

- with a steel head
- with a steel head and additional mass
- with a plastic head
- with a plastic head and additional mass
- with a rubber head
- with a rubber head and additional mass

Weight of hammer in a set with sensor without additional weight and head

Additional mass

Weight of head

- steel
- plastic
- rubber

Temperature range

Power:

- voltage
- current

Noise level, root mean square value (1 Hz ÷ 10 kHz)

Constsnnt output votage level

Output impedance

Connector type

Supplied accessories

**4V302D**

10 mV/H

500 H  
100 H  
70 H0,1 ... 0,2 ms  
0,15 ... 0,3 ms  
0,4 ... 0,6 ms  
0,5 ... 0,8 ms  
1,2 ... 2,6 ms  
1,7 ... 3,9 ms

200 g

30 g

13 g  
14 g  
14 g

-40 ... +125 °C

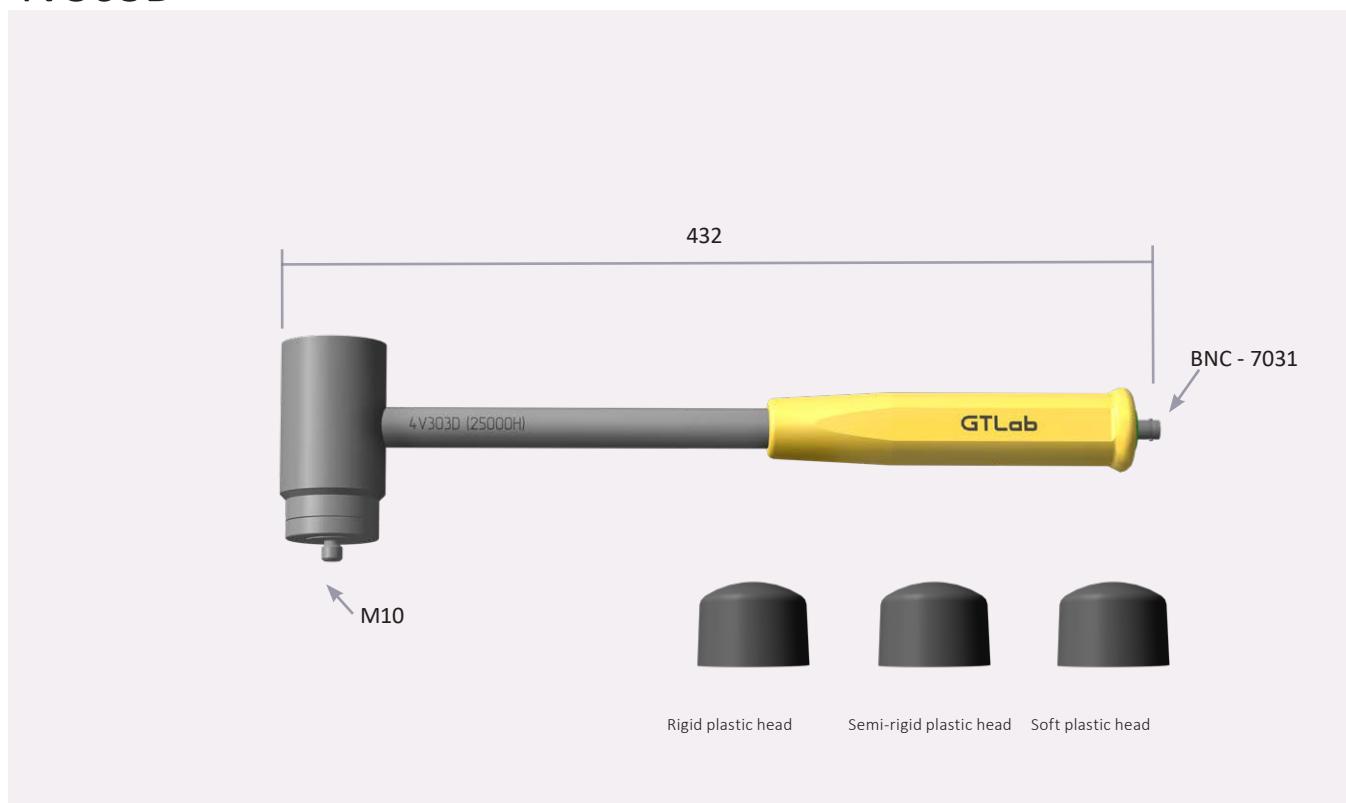
+ (15 ... 30) V  
2 ... 20 mA1 · 10<sup>-3</sup> H

8 ... 10 V

&lt; 500 Ohm

BNC

hammer,  
additional mass,  
steel head,  
plastic head,  
rubber head  
cable 03D1D1 (determined by the customer's request)

**Parameter**

## Sensitivity

The peak value of the dynamic force:

- with a rigid plastic head
- with a semi-rigid plastic head
- with a soft plastic head

Duration of the shock pulse:

- with a rigid plastic head
- with a semi-rigid plastic head
- with a soft plastic head

Weight of hammer in a set with sensor without additional weight and head

Additional mass

Weight of head

- rigid plastic
- semi-rigid plastic
- soft plastic

Temperature range

Power:

- voltage
- current

Noise level, root mean square value (1 Hz ÷ 10 kHz)

Constnt output votage level

Output impedance

Connector type

Supplied accessories

**4V303D**

0,2 mV/H

25 000 H

10 000 H

5 000 H

0,5 ... 1 ms

1,0 ... 2 ms

2 ... 5 ms

2 000 g

30 g

260 g

260 g

260 g

- 40 ... + 125 °C

+ (15 ... 30) V

2 ... 20 mA

3 · 10<sup>-3</sup> H

8 ... 10 V

&lt; 500 Ohm

BNC

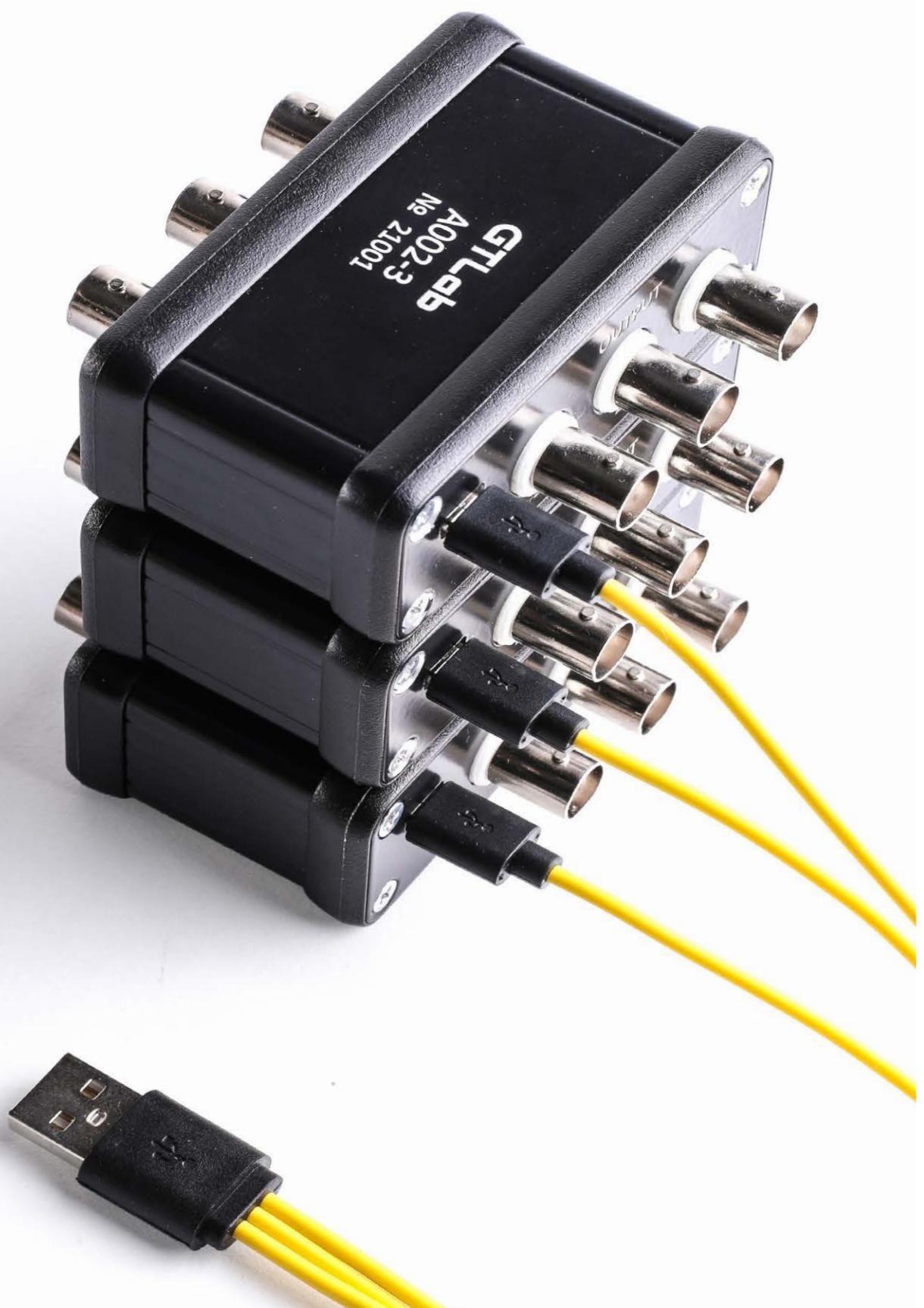
rigid plastic head

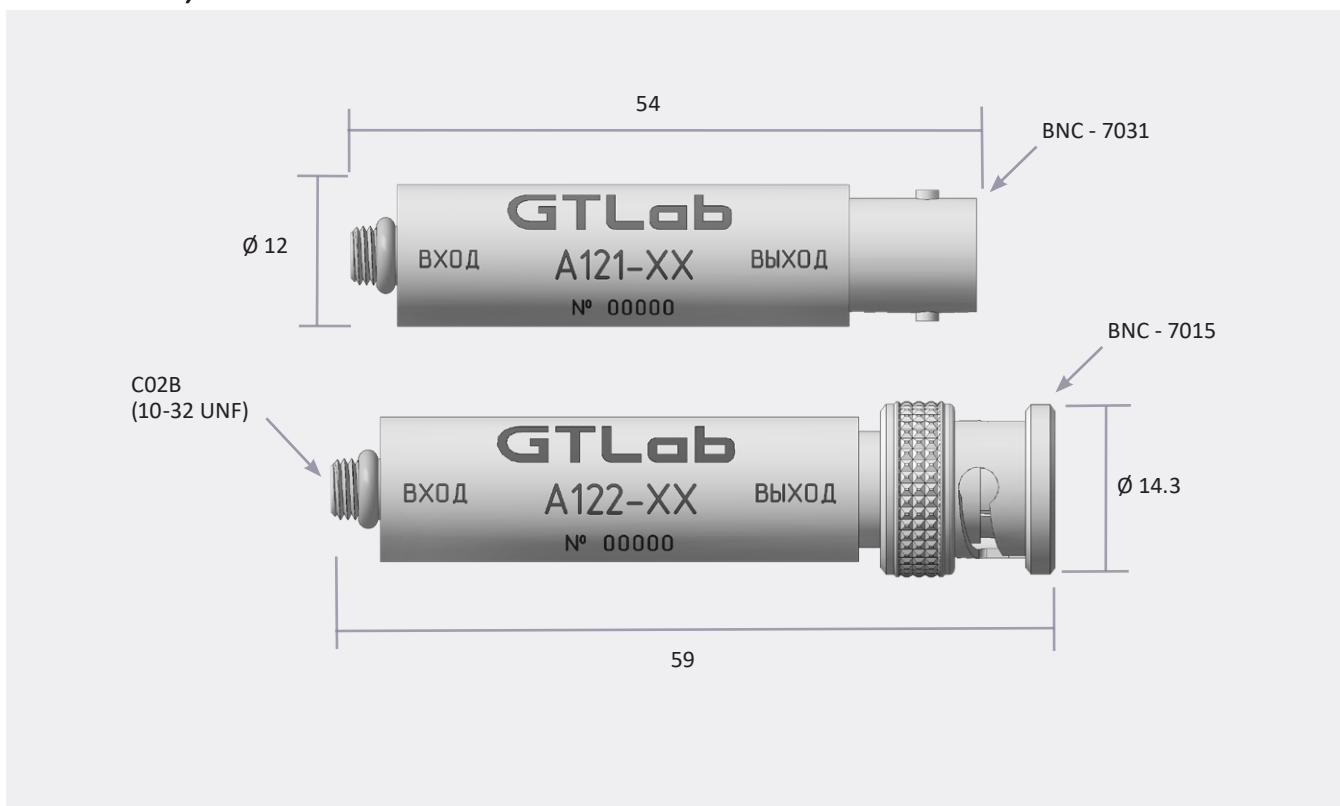
semi-rigid plastic head

soft plastic head

cable 03D1D1 (determined by the customer's request)

# SIGNAL GENERATORS





With voltage output  
Converts

Signal generators

Parameter	A121-0,1 A122-0,1	A121-1 A122-1	A121-10 A122-10
Sensitivity by charge Determined by the customer's request	0,1 mV/pC	1 mV/pC	10 mV/pC
Maximum input charge (peak)	± 50 000 pC	± 5 000 pC	± 500 pC
Limits of the permissible basic relative error of the charge conversion coefficient at a frequency of 1 kHz	± 2 %		
Frequency range at the minus level 1 dB	0,5 ... 50 000Hz		
SCR level of own noise in the range 1 ... 22 000Hz	30·10 <sup>-6</sup> pC/pF	5·10 <sup>-6</sup> pC/pF	2·10 <sup>-6</sup> pC/pF
Output impedance	< 500 Ohm		
Maximum amplitude of the output voltage with a load resistance of 10 kOhm and a coefficient of nonlinear distortion < 5 %	± 5 V		
Limits of permissible additional relative error of the charge conversion coefficient in the Temperature range	± 2 %		
Power mode: - external DC voltage source - current	+ (18 ... 30)V 2 ... 20 mA		
Constsnat output votage level	8 ... 13 V		
Weight	A121 - 32 g A122 - 34 g		
Accessories supplied by additional order	Signal generators A002, A002-3		
Temperature range	-40 ... +85 °C		

**Parameter**

Sensor supply voltage

**A002** $20 \pm 1 \text{ V}$ 

Sensor supply current

 $5,7 \pm 10 \% \text{ mA}$ 

Voltage of the external source

 $5 \pm 10 \% \text{ V}$ 

Current consumption

&lt; 50 mA

Temperature range

-40...+85°C

Input connector

BNC

Output connector

BNC

Connectors for power supply

Micro USB

Housing material

aluminum

Weight

100 g

With voltage output

Matching

Signal generators

**Parameter**

Sensor supply voltage

**A002-3** $20 \pm 1$  V

Sensor supply current

 $5,7 \pm 10\%$  mA

Voltage of the external source

 $5 \pm 10\%$  V

Current consumption

&lt; 50 mA

Temperature range

-40...+85°C

Input connector

BNC

Output connector

BNC

Connectors for power supply

Micro USB

Housing material

aluminum

Weight

180 g

**Parameter**

USB protocol	A181
RS485 specification	EIA/TIA-485
RS485 transmission rate	300 ... 921 600 bit/s
Electrical strength of galvanic isolation	1000 V
Temperature range	- 40 ... + 85 °C
Power	+ 5 B (USB)
Current consumption with load	< 500 mA
Built-in power converter:	
- voltage	+ 5 ± 0,5 V
- current	< 400 mA
Housing material	aluminum
Weight	80 g

**A181**

version 2.0 (full speed)
EIA/TIA-485
300 ... 921 600 bit/s
1000 V
- 40 ... + 85 °C
+ 5 B (USB)
< 500 mA
+ 5 ± 0,5 V
< 400 mA
aluminum
80 g

With digital output  
Converts

Signal generators

# CALIBRATORS



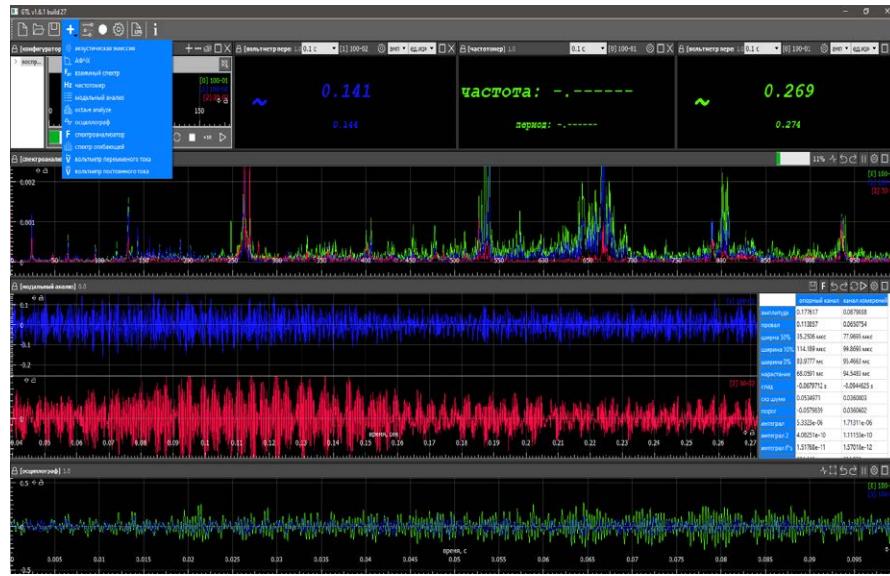
**Parameter**

	<b>S01</b>
Vibration frequency ( $\pm 1\%$ )	159,2 Hz
Acceleration (RMS $\pm 2\%$ )	10 m/s <sup>2</sup>
Velocity (RMS $\pm 2\%$ )	10 mm/s
Displacement (RMS $\pm 2\%$ )	10 $\mu$ m
Transverse vibration amplitude	< 5 %
Nonlinear distortions	< 3 %
Operating mode setting time	< 5 s
Maximum weight of calibration sensor	200 g
Temperature range	-10 ... +50 °C
Maximum mounting torque of calibrated sensor	0,1 N·m (in the absence of a torque tool, it is allowed to attach the calibrated sensors by hand)
Weight	900 g
Power	stand-alone or from USB
Connector for external power supply and battery charging	Micro USB
Supplied accessories	adapter P0005, studs P0505, P0508, P0506, battery charger AA: 4 pc, cable USB, adapter 220 V

# MEASURING DEVICE



# GTL. Software for registration, processing, recording and visualization of signals.



## GTL Software Features:

- oscilloscope
- spectrum analyzer;
- frequency counter;
- modal analysis;
- octave analysis
- AFFC;
- AC voltmeter;
- DC voltmeter;
- filtering, integration, differentiation of signals;
- recording and playback of signals

# GTLD. Program for monitoring and automated vibration diagnostics of industrial machinery



## The development is based on:

- proven methods of experts;
- possibility of multithreaded processing of spectra.

## Defect detection of the following mechanisms:

- Rolling bearings
- Plain bearings
- Ball screws (ball screw pairs of CNC machines)
- Gears
- Planetary gearboxes
- Belt transmission
- Chain transmission
- Pumps
- Compressors
- Electric motors

**Parameter**

Sampling frequency of the ADC  
Type of input connectors  
Interface  
Operating temperature  
Power  
Number of analog inputs  
Frequency range  
Ranges of measured DC and AC voltage  
Number of ADC bits  
Input impedance  
Synchronization of the devices (number)  
Possibility to connect sensors according to the IEPE standard (2 mA, 24V)

**D001**

128 kHz
BNC
USB 2.0 (HighSpeed)
0 ... + 55 °C
USB
4 differential
50 000Hz
± 10 000 mV
24 bit
200 kOhm
8 pieces
exist

**Parameter**

Sampling frequency of the ADC  
Interface  
Operating temperature  
Power  
Number of analog inputs  
Frequency range  
Ranges of measured DC and AC voltage  
Number of ADC bits  
Input impedance

**D002**

2000 kHz
USB 2.0 (HighSpeed)
0 ... + 55 °C
USB
4 differential
600 kHz
± 10 000 mV
16 bit
900 MΩ

**Software features:**

- oscilloscope;
- spectrum analyzer;
- the amplitude-phase frequency characteristic;
- modal analysis;
- ac voltmeter;
- DC voltmeter;
- recording and playback of the signal.
- Flexible digital filters for low-pass, high-pass, band-pass, and notch filters..

# D004


**Parameter**

Sampling frequency of the ADC  
 Type of input connectors  
 Interface  
 Operating temperature  
 Power  
 Number of analog inputs  
 Frequency range  
 Ranges of measured DC and AC voltage  
 Number of ADC bits  
 Input impedance  
 Synchronization of devices (number)  
 Possibility of connecting sensors according to the IEPE standard (2 mA, 24 V)

**D004**

128 kHz
BNC
Ethernet
0 ... +55 °C
6 - 36 В (DC)
4 differential
50 000 Hz
± 10 000 мВ
24 bit
200 kOhm
8 pc
+

# VIBROMETER



**Parameter**

Sampling frequency of the ADC  
Measurement mode  
Virtual instrument  
Frequency range  
Detector  
Input charge (max)  
Input voltage (max)  
Data exchange  
Data storage  
Temperature range  
Weight  
Size  
Battery time  
Housing material

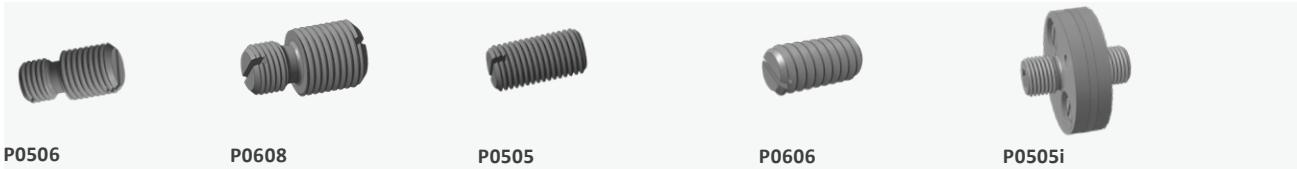
**D141**

51,2 kHz	Vibration Acceleration, Vibration Speed, Vibration Displacement
	spectrum, oscilloscope, vibrometer, signal recording
1Hz ... 20 kHz	
	magnitude, peak, RMS value
$48 \cdot 10^3 \text{ pC}$	
$\pm 4,8 \text{ V}$	
mini USB	
SD card	
$-20 \dots +55^\circ\text{C}$	
260 g	
140x80x25 mm	
at least 8 hours	
aluminum, 2mm	

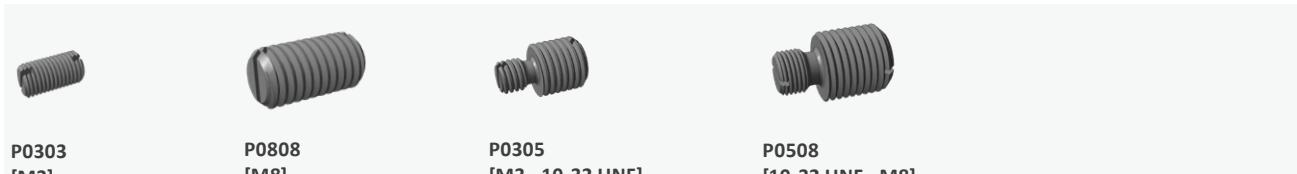
# ACCESSORIES

GTLab

## Шпильки



P0506 [10-32UNF- M6] P0608 [M6- M8] P0505 [10-32 UNF] P0606 [M6] P0505i [10-32 UNF, изолирующая]



P0303 [M3] P0808 [M8] P0305 [M3 - 10-32 UNF] P0508 [10-32 UNF - M8]

## Сабельные переходники



Z1010 [10-32UNF\_f] Z0010 [10-32UNF\_f] Z1001 [10-32UNF\_f - BNC\_m] Z0501 [SMA\_f - BNC\_m] Z0503 [SMA\_f - TNC\_m]



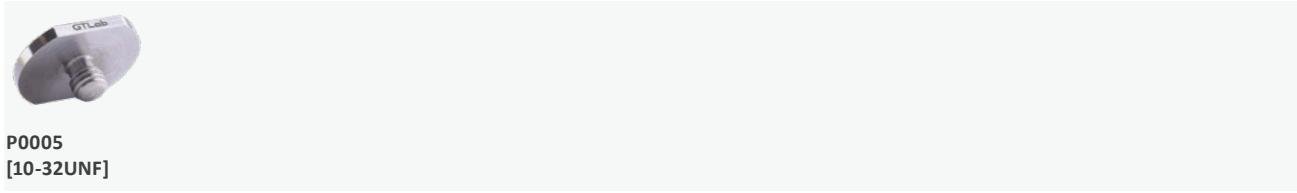
Z0203 [BNC\_f - TNC\_m] Z0202 [BNC\_f - BNC\_f] Z0204 [BNC\_f - TNC\_f] Z0404 [TNC\_f - TNC\_f]

## Магниты



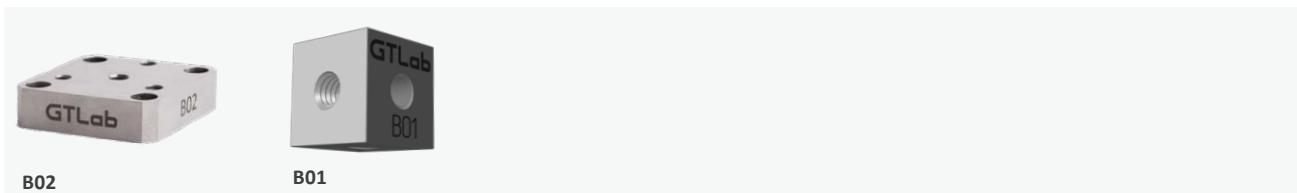
M01 [d24 x19] M01i [d24 x19 изолирующий] M02 [d29 x21,6] M02i [d29 x21,6 изолирующий]

## Резьбовые переходники



P0005 [10-32UNF]

## Адаптеры



B02

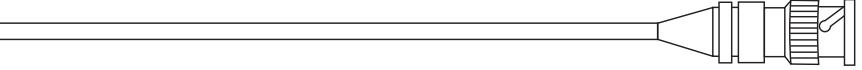
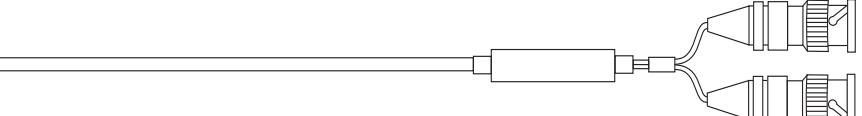
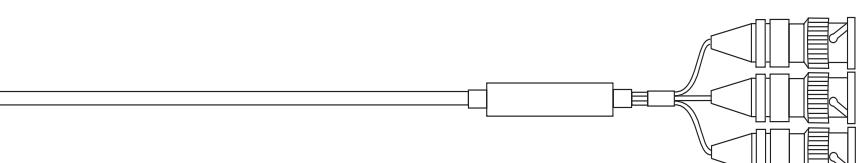
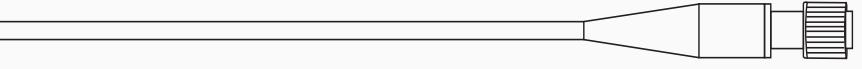
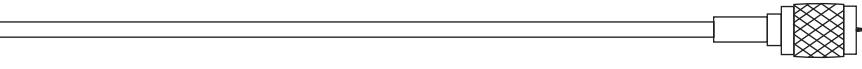
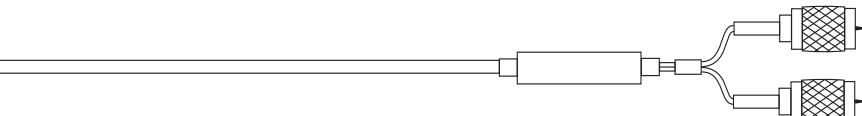
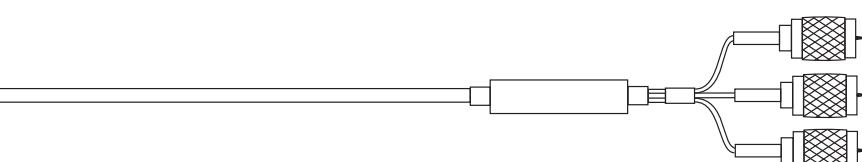
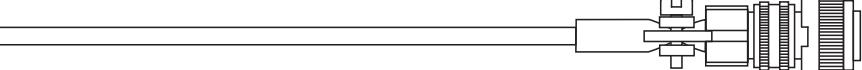
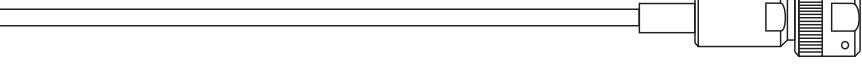
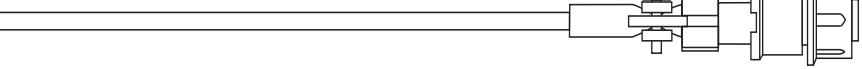
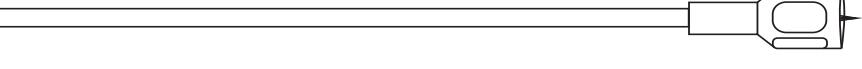
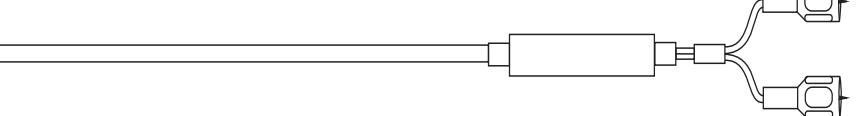
B01

**Cable product****1**Cable code  
(according to table 1).**2**Input connector code  
(according to table 2).**3**Output connector code  
(according to table 2).**Table 1.**

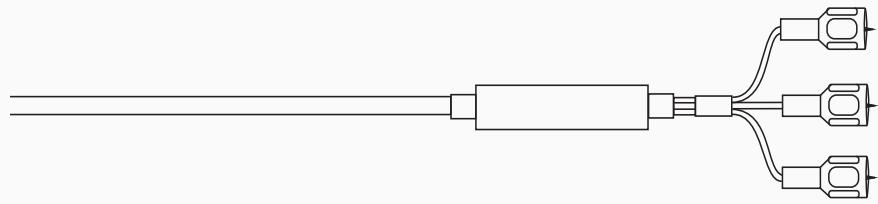
Cable		Code	Characteristic	View
One-core	anti-vibration	01	d 0,7 mm.	
		02	d 1,1 ( $\pm 0,1$ ) mm.	
		03	d 2 mm.	
		04	d 2,5 mm., underwater version	
Three-core	anti-vibration	41	d 2,5 mm.	

**Table 2.**

Code	Connector	View
A2	2*Mechanical clamp terminal	
A3	3*Mechanical clamp terminal	
AA2	2*Soldering leads	
AA3	3*Soldering leads	
B1	C02 [10-32UNF]	
B2	2*C02 [10-32UNF]	
B3	3*C02 [10-32UNF]	
C1	C03 [4-pin. 1/4-28UNF]	

D1	BNC	
D2	2*BNC	
D3	3*BNC	
E1	C04 [3-pin. M6 × 0.5]	
F1	TNC	
F2	2*TNC	
F3	3*TNC	
H1	C05 [2-pin. 5/8-24UNF]	
K1	CP50-276ΦV	
P1	2PM14КПН4G	
S1	SMA	
S2	2*SMA	

S3      3 × SMA



Example: 41C1B3 – three-core anti-vibration cable (CO3 [4-pin. 1/4-28UNF] - 3\*C02 [10-32UNF]).

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