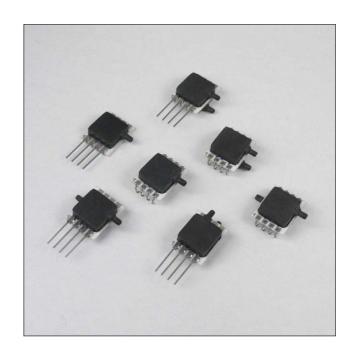




#### **FEATURES**

- 0 ... 2.5 to 0 ... 75 mbar,
   0 ... ±2.5 to 0 ... ±75 mbar,
   differential or gage
- Output: 0.25...4.25 V and I<sup>2</sup>C-bus (SPI and switching outputs optional)
- Precision ASIC conditioning
- Calibrated and temperature compensated
- Matched pressure port volumes
- · Miniature SMT and SIL housings
- · RoHS compliant
- · Sensortechnics PRO services



#### **SPECIFICATIONS**

#### **Maximum ratings**

Supply voltage $V_s$	4.5 V 5.5 V <sub>DC</sub>
	/ti107 001/ \

(optional 2.7 ... 3.3 V<sub>DC</sub>)

Output current

Sink 1 mA Source 1 mA

Lead specifications

Average preheating temperature gradient 2.5 K/s Soak time ca. 3 min Time above 217°C 50 s Time above 230°C 40 s Time above 250°C 15 s Peak temperature 260°C Cooling temperature gradient -3.5 K/s

Temperature ranges

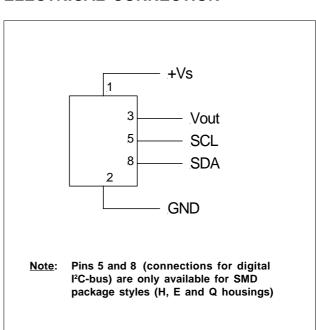
 Compensated
 -25 ... 85°C

 Operating
 -25 ... 85°C

 Storage
 -40 ... 125°C

Humidity limits (non-condensing) 0 ... 95 %RH

#### **ELECTRICAL CONNECTION**



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# **HCLA Series**

### Miniature amplified low pressure sensors

#### PRESSURE SENSOR CHARACTERISTICS

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_s, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_s, \text{ pressure applied to high pressure port)}$ 

Part no.	Operating pressure	Proof pressure <sup>5,7</sup>	Burst pressure <sup>6,7</sup>	Output signal
HCLA02X5B	0±2.5 mbar	250 mbar	500 mbar	
HCLA12X5B	0±12.5 mbar	250 mbar	500 mbar	
HCLA0025B	0±25 mbar	500 mbar	750 mbar	2.25 ±2 V
HCLA0050B	0±50 mbar	750 mbar	1200 mbar	
HCLA0075B	0±75 mbar	1200 mbar	2000 mbar	
HCLA02X5U	02.5 mbar	250 mbar	500 mbar	
HCLA12X5U	012.5 mbar	250 mbar	500 mbar	
HCLA0025U	025 mbar	500 mbar	750 mbar	0.25 - 4.25 V
HCLA0050U	050 mbar	750 mbar	1200 mbar	
HCLA0075U	075 mbar	1200 mbar	2000 mbar	

#### Specification notes:

- 1. Shift is relative to 25°C.
- 2. Shift is within the first hour of excitation applied to the device.
- 3. Non-linearity refers to the Best Straight Line fit, measured for lowest specified pressure, highest specified pressure and 1/2 full scale pressure.
- Full Scale Span (FSS) is the algebraic difference between the output signal for the highest and lowest highest pressure.
- 5. Proof pressure is the maximum pressure which may be applied without causing durable shifts of the electrical parameters of the sensing element.
- **6.** Burst pressure is the maximum pressure which may be applied without causing damage to the sensing element or leaks to the housing.
- 7. The common mode pressure for the HCLA series is 2 bar. Common mode pressure is the maximum pressure that can be applied to both ports of a differential pressure sensor simultaneously without damaging the sensor housing.
- 8. Max. delay time between pressure change at the pressure die and signal change at the output.
- 9. The response time depends on the adjusted internal A/D resolution of the sensor. For 12 bit it is typ. 0.5 ms. Other A/D resolutions and reponse times are available on request. Please contact Sensortechnics for further information.
- 10. Sensors with lower current consumption are available on request. Please contact Sensortechnics for further information.

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#### PERFORMANCE CHARACTERISTICS

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_S, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_S, \text{ pressure applied to high pressure port)}$ 

#### HCLA02X5...

Characteristics		Min.	Тур.	Max.	Unit
Non-linearity and hysteresis (BSL) <sup>3</sup>			±0.05	±0.25	
Thermal effects (-25 to 85°C) <sup>1</sup>	Offset			±1.5	%FSS
	Span			±2.0	
Response delay <sup>8, 9</sup>			0.5		ms
A/D resolution <sup>9</sup>			12		hit
D/A resolution				11 bit	
Current consumption (no load) <sup>10</sup>			5		mA
DIGITAL	PERFORMANCE	CHARACTE	RISTICS		
Offset warm-up shift <sup>2</sup>			±0042		
Offset position sensitivity (±1 g)			±0063		Count Hex
Offset long term drift (one year)			±0042		
ANALOGU	JE PERFORMANC	E CHARAC	TERISTICS		
Offset warm-up shift <sup>2</sup>			±10		
Offset position sensitivity (±1 g)			±15		mV
Offset long term drift (one year)			±10		

#### HCLA02X5...B

Characteri	stics	Min.	Тур.	Max.	Unit
Operating pressure range		-2.5		+2.5	mbar
DI	GITAL PERFORMANCE	CHARACTE	RISTICS		
Zero pressure offset		370A	3999	3C28	
Full scale span (FSS) <sup>4</sup>		63D6	6666	68F5	Carrettlar
Output	at +2.5 mbar		6CCC		Count Hex
	at -2.5 mbar		0666		
ANA	LOGUE PERFORMANC	E CHARAC	TERISTICS		
Zero pressure offset		2.15	2.25	2.35	
Full scale span (FSS) <sup>4</sup>		3.90	4.00	4.10	V
Output	at +2.5 mbar		4.25		\ \ \ \
	at -2.5 mbar		0.25		

#### HCLA02X5...U

Characteristics	Min.	Тур.	Max.	Unit	
Operating pressure range	0		+2.5	mbar	
DIGITAL PERFORMANCE CHARACTERISTICS					
Zero pressure offset	03D7	0666	08F6	Count Hay	
Full scale span (FSS) <sup>4</sup>	63D6	6666	68F5	Count Hex	
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset	0.15	0.25	0.35	V	
Full scale span (FSS) <sup>4</sup>	3.90	4.00	4.10	V	

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## PERFORMANCE CHARACTERISTICS (cont.)

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_s, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_s, \text{ pressure applied to high pressure port)}$ 

#### HCLA12X5...

Characteristics		Min.	Тур.	Max.	Unit
Non-linearity and hysteresis (BSL) <sup>3</sup>			±0.05	±0.25	
Thermal effects (-25 to 85°C) <sup>1</sup>	Offset			±1.0	%FSS
	Span			±1.0	
Response delay <sup>8, 9</sup>			0.5		ms
A/D resolution <sup>9</sup>			12		bit
D/A resolution				11	DIL
Current consumption (no load) <sup>10</sup>			5		mA
DIGITAL	PERFORMANCE	CHARACTE	RISTICS		
Offset warm-up shift <sup>2</sup>			±0021		
Offset position sensitivity (±1 g)			±0021		Count Hex
Offset long term drift (one year)			±0021		
ANALOG	JE PERFORMANC	E CHARAC	TERISTICS		
Offset warm-up shift <sup>2</sup>			±5		
Offset position sensitivity (±1 g)			±5		mV
Offset long term drift (one year)			±5		

#### HCLA12X5...B

Characteristics		Min.	Тур.	Max.	Unit
Operating pressure range		-12.5		+12.5	mbar
DIGITAL	PERFORMANCE	CHARACTE	RISTICS		
Zero pressure offset		370A	3999	3C28	
Full scale span (FSS) <sup>4</sup>		63D6	6666	68F5	Count Hex
Output	at +12.5 mbar		6CCC		Count nex
	at -12.5 mbar		0666		
ANALOGU	JE PERFORMANC	E CHARAC	TERISTICS		
Zero pressure offset		2.15	2.25	2.35	
Full scale span (FSS) <sup>4</sup>		3.90	4.00	4.10	V
Output	at +12.5 mbar		4.25		V
	at -12.5 mbar		0.25		

#### HCLA12X5...U

		_			
Characteristics	Min.	Тур.	Max.	Unit	
Operating pressure range	0		+12.5	mbar	
DIGITAL PERFORMANCE CHARACTERISTICS					
Zero pressure offset	03D7	0666	08F6	Count Hoy	
Full scale span (FSS) <sup>4</sup>	63D6	6666	68F5	Count Hex	
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset	0.15	0.25	0.35	V	
Full scale span (FSS) <sup>4</sup>	3.90	4.00	4.10	V	

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### PERFORMANCE CHARACTERISTICS (cont.)

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_s, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_s, \text{ pressure applied to high pressure port)}$ 

#### HCLA0025...

Characteristics	S	Min.	Тур.	Max.	Unit	
Non-linearity and hysteresis (BSL) <sup>3</sup>			±0.05	±0.25		
Thermal effects (-25 to 85°C) <sup>1</sup>	Offset			±0.5	%FSS	
	Span			±1.0		
Response delay <sup>8, 9</sup>			0.5		ms	
A/D resolution <sup>9</sup>			12		L:4	
D/A resolution				11 bit		
Current consumption (no load) <sup>10</sup>			5		mA	
DIGITA	AL PERFORMANCE	CHARACTE	ERISTICS			
Offset warm-up shift <sup>2</sup>			±0021			
Offset position sensitivity (±1 g)			±0021		Count Hex	
Offset long term drift (one year)			±0021			
ANALOG	GUE PERFORMANC	E CHARAC	TERISTICS			
Offset warm-up shift <sup>2</sup>			±5			
Offset position sensitivity (±1 g)			±5		mV	
Offset long term drift (one year)			±5			

#### HCLA0025...B

Characteristic	S	Min.	Тур.	Max.	Unit
Operating pressure range		-25		+25	mbar
DIGITA	AL PERFORMANCE	CHARACTE	RISTICS		
Zero pressure offset		370A	3999	3C28	
Full scale span (FSS)⁴		63D6	6666	68F5	Count Hex
Output	at +25 mbar		6CCC		Count nex
	at -25 mbar		0666		
ANALOG	GUE PERFORMANC	E CHARAC	TERISTICS		
Zero pressure offset		2.15	2.25	2.35	
Full scale span (FSS)⁴		3.90	4.00	4.10	V
Output	at +25 mbar		4.25		J
	at -25 mbar		0.25		

#### HCLA0025...U

Characteristics	Min.	Тур.	Max.	Unit	
Operating pressure range	0		+25	mbar	
DIGITAL PERFORMANCE CHARACTERISTICS					
Zero pressure offset	03D7	0666	08F6	Count Hoy	
Full scale span (FSS) <sup>4</sup>	63D6	6666	68F5	Count Hex	
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset	0.15	0.25	0.35	V	
Full scale span (FSS) <sup>4</sup>	3.90	4.00	4.10	V	

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# **HCLA Series**

# Miniature amplified low pressure sensors

### PERFORMANCE CHARACTERISTICS (cont.)

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_s, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_s, \text{ pressure applied to high pressure port)}$ 

#### HCLA0050...

Characteristics	3	Min.	Тур.	Max.	Unit
Non-linearity and hysteresis (BSL) <sup>3</sup>			±0.05	±0.25	
Thermal effects (-25 to 85°C) <sup>1</sup>	Offset			±0.5	%FSS
	Span			±1.0	
Response delay <sup>8, 9</sup>			0.5		ms
A/D resolution <sup>9</sup>			12		bit
D/A resolution				11	Dit
Current consumption (no load)10			5		mA
DIGITA	L PERFORMANCE	CHARACTE	ERISTICS		
Offset warm-up shift <sup>2</sup>			±0021		
Offset position sensitivity (±1 g)			±0021		Count Hex
Offset long term drift (one year)			±0021		
ANALOG	GUE PERFORMANC	E CHARAC	TERISTICS		
Offset warm-up shift <sup>2</sup>			±5		
Offset position sensitivity (±1 g)			±5		mV
Offset long term drift (one year)			±5		

#### HCLA0050...B

Characteristics		Min.	Тур.	Max.	Unit
Operating pressure range		-50		+50	mbar
DIGITAL PE	RFORMANCE	CHARACTE	RISTICS		
Zero pressure offset		370A	3999	3C28	
Full scale span (FSS) <sup>4</sup>		63D6	6666	68F5	Count Hex
Output	at +50 mbar		6CCC		Count nex
	at -50 mbar		0666		
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset		2.15	2.25	2.35	
Full scale span (FSS) <sup>4</sup>		3.90	4.00	4.10	V
Output	at +50 mbar		4.25		V
	at -50 mbar		0.25		

#### HCLA0050...U

Characteristics	Min.	Тур.	Max.	Unit	
Operating pressure range	0		+50	mbar	
DIGITAL PERFORMANCE CHARACTERISTICS					
Zero pressure offset	03D7	0666	08F6	Count Hay	
Full scale span (FSS) <sup>4</sup>	63D6	6666	68F5	Count Hex	
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset	0.15	0.25	0.35	V	
Full scale span (FSS) <sup>4</sup>	3.90	4.00	4.10	V	

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#### PERFORMANCE CHARACTERISTICS (cont.)

 $(V_s = 5.0 \text{ V}, T_A = 25 \text{ °C}, \text{ analog output signal is } \underline{\textbf{ratiometric}} \text{ to } V_s, \text{ digital output signal is } \underline{\textbf{not ratiometric}} \text{ to } V_s, \text{ pressure applied to high pressure port)}$ 

#### HCLA0075...

Characteristics	;	Min.	Тур.	Max.	Unit
Non-linearity and hysteresis (BSL) <sup>3</sup>			±0.05	±0.25	
Thermal effects (-25 to 85°C) <sup>1</sup>	Offset			±0.5	%FSS
	Span			±1.0	
Response delay <sup>8, 9</sup>			0.5		ms
A/D resolution <sup>9</sup>			12		bit
D/A resolution				11	Dit
Current consumption (no load) <sup>10</sup>			5		mA
DIGITAL PERFORMANCE CHARACTERISTICS					
Offset warm-up shift <sup>2</sup>			±0021		
Offset position sensitivity (±1 g)			±0021		Count Hex
Offset long term drift (one year)			±0021		
ANALOG	ANALOGUE PERFORMANCE CHARACTERISTICS				
Offset warm-up shift <sup>2</sup>			±5		
Offset position sensitivity (±1 g)			±5		mV
Offset long term drift (one year)			±5		

#### HCLA0075...B

Characteristics		Min.	Тур.	Max.	Unit
Operating pressure range		-75		+75	mbar
DIGITAL PI	ERFORMANCE	CHARACTE	RISTICS		
Zero pressure offset		370A	3999	3C28	
Full scale span (FSS) <sup>4</sup>		63D6	6666	68F5	Count Hex
Output	at +75 mbar		6CCC		Countriex
	at -75 mbar		0666		
ANALOGUE PERFORMANCE CHARACTERISTICS					
Zero pressure offset		2.15	2.25	2.35	
Full scale span (FSS) <sup>4</sup>		3.90	4.00	4.10	V
Output	at +75 mbar		4.25		_ v
	at -75 mbar		0.25		

#### HCLA0075...U

Characteristics	Min.	Тур.	Max.	Unit
Operating pressure range	0		+75	mbar
DIGITAL PERFORMANCE CHARACTERISTICS				
Zero pressure offset	03D7	0666	08F6	Count Hex
Full scale span (FSS) <sup>4</sup>	63D6	6666	68F5	Count Hex
ANALOGUE PERFORMANCE CHARACTERISTICS				
Zero pressure offset	0.15	0.25	0.35	V
Full scale span (FSS) <sup>4</sup>	3.90	4.00	4.10	V

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### Miniature amplified low pressure sensors

#### I<sup>2</sup>C BUS

#### Introduction

The HCLA is capable to generate a digital output signal. The device runs a cyclic program, which will store a corrected pressure value with 12 bit resolution about every 250 µs within the output registers of the internal ASIC. In order to use the sensor for digital signal readout, it should be connected to a bidirectional I<sup>2</sup>C-bus.

According to the I<sup>2</sup>C-bus specification, the bus is controlled by a master device, which generates the clock signal, controls the bus access and generates START and STOP conditions. The HCLA is designed to work as a slave, hence it will only respond to requests from a master device.

#### Digital I<sup>2</sup>C interface

The HCLA complies with the following protocol (Fig. 1):

**Bus not busy**: During idle periods both data line (SDA) and clock line (SCL) remain HIGH.

**START condition (S)**: HIGH to LOW transition of SDA line while clock (SCL) is HIGH is interpreted as START condition. START conditions are always generated by the master. Each initial request for a pressure value has to begin with a START condition.

**STOP condition (P):** LOW to HIGH transition of SDA line while clock (SCL) is HIGH determines STOP condition. STOP conditions are always generated by the master. More than one request for the current pressure value can be transmitted without generation of intermediate STOP condition.

**DATA valid (D)**: State of data line represents valid data when, after START condition, data line is stable for duration of HIGH period of clock signal. Data on line must be changed during LOW period of clock signal. There is one clock pulse per bit of data.

Acknowledge (A): Data is transferred in pieces of 8 bits (1 byte) on serial bus, MSB first. After each byte receiving device — whether master or slave — is obliged to pull data line LOW as acknowledge for reception of data. Master must generate an extra clock pulse for this purpose. When acknowledge is missed, slave transmitter becomes inactive. It is on master either to send last command again or to generate STOP condition in that case.

Slave address: The I<sup>2</sup>C-bus master-slave concept requires a unique address for each device. The HCLA has a preconfigured slave address (1111000xb). By factory programming it is possible to define a secondary slave address additional to the general one. According to I<sup>2</sup>C specification 127 different addresses are available. The sensor will then listen to both slave addresses. After generating a START condition the master sends the address byte containing a 7 bit address followed by a data direction bit (R/W). A "0" indicates a transmission from master to slave (WRITE), a "1" indicates a data request (READ).

**DATA operation**: The sensor starts to send 2 data bytes containing the current pressure value as a 15 bit information placed in the output registers.

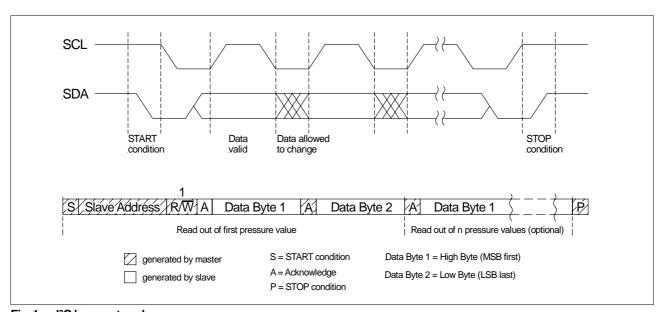


Fig. 1: I<sup>2</sup>C bus protocol

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# Miniature amplified low pressure sensors

#### I<sup>2</sup>C Interface Parameters

Parameter	Symbol	Min.	Тур.	Max.	Unit
Input high level		90		100	
Input low level		0		10	% of Vs
Output low level				10	
Pull-up resistor		500			Ω
Load capacitance @ SDA	C <sub>SDA</sub>			400	
Input capacitance @ SDA/SCL	C <sub>I2C_IN</sub>			10	pF
SCL clock frequency	F <sub>SCL</sub>	100*		400	kHz
Bus free time between STOP and START condition	t <sub>BUF</sub>	1.3			
Hold time (repeated) START condition, to first clock pulse	t <sub>HD.STA</sub>	0.8			1
LOW period of SCL	t <sub>LOW</sub>	1.3			]
HIGH period of SCL	t <sub>HIGH</sub>	0.6			
Setup time repeated START condition	t <sub>SU.STA</sub>	1			]
Data hold time	t <sub>HD.DAT</sub>	0			μs
Data setup time	t <sub>SU.DAT</sub>	0.2			1
Rise time of both SDA and SCL	t <sub>R</sub>			0.3	1
Fall time of both SDA and SCL	t <sub>F</sub>			0.3	1
Setup time for STOP condition	t <sub>su.sto</sub>	0.6			1

<sup>\*</sup> recommended

Note: Sensortechnics recommends communication speeds of at least 100 kHz (max. 400 kHz). Please contact your nearest Sensortechnics sales office for further information.

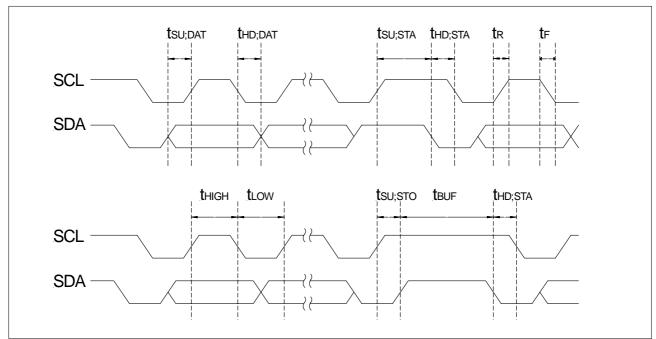


Fig. 2: Timing characteristics

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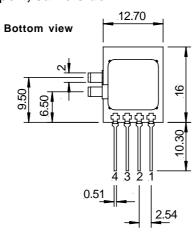


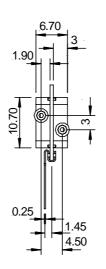
# Miniature amplified low pressure sensors

#### PHYSICAL DIMENSIONS AND ELECTRICAL CONNECTIONS

#### HCLA...D...

Package: dual port, same side

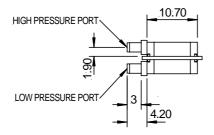


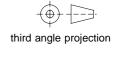


Pin	Connection
1	+Vs
2	GND
3	Vout
4	I / C*

\* Internal connection.

Do not connect for any reason



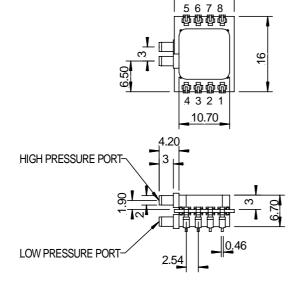


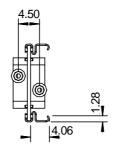
dimensions in mm

#### HCLA...E...

Package: SMD dual port, same side

**Bottom view** 





Pin	Connection
1	+Vs
2	GND
3	Vout
4	I/C *
5	SCL
6	I/C*
7	1/ 0 "
8	SDA

\* Internal connection.

Do not connect for any reason



third angle projection

dimensions in mm

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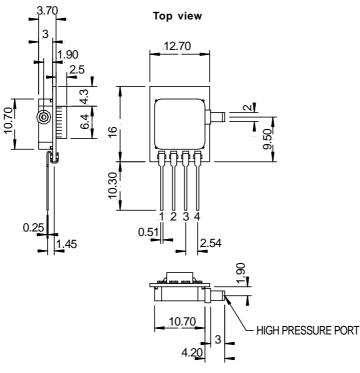




# PHYSICAL DIMENSIONS AND ELECTRICAL CONNECTIONS (cont.)

HCLA...G...

Package: single port



Pin	Connection
1	+Vs
2	GND
3	Vout
4	I / C*

\* Internal connection.

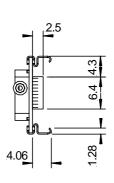
Do not connect for any reason

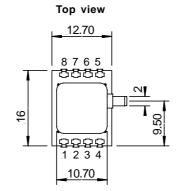


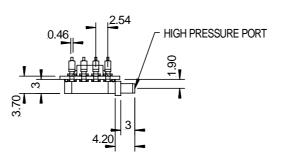
third angle projection

dimensions in mm

# HCLA...H... Package: SMD single port







Pin	Connection
1	+Vs
2	GND
3	Vout
4	I/C*
5	SCL
6	I/C*
7	1/0
8	SDA

\* Internal connection.

Do not connect for any reason



third angle projection

dimensions in mm

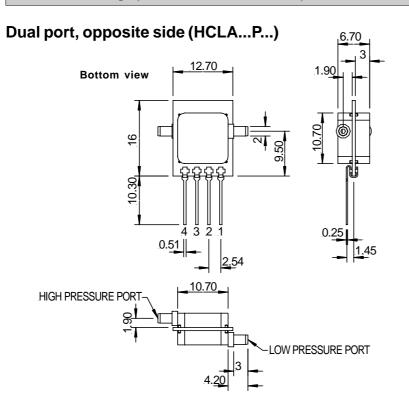
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#### **HOUSING OPTIONS**

#### Different housing options are available on request. Please contact Sensortechnics.



Pin	Connection
1	+Vs
2	GND
3	Vout
4	I / C*

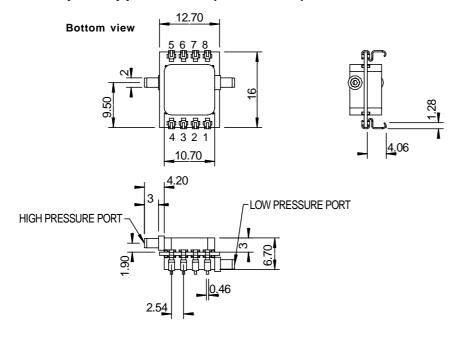
<sup>\*</sup> Internal connection. Do not connect for any reason



third angle projection

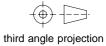
dimensions in mm

#### SMD dual port, opposite side (HCLA...Q...)



Pin	Connection
1	+Vs
2	GND
3	Vout
4	I/C*
5	SCL
6	I/C*
7	1/0"
8	SDA

<sup>\*</sup> Internal connection. Do not connect for any reason



dimensions in mm

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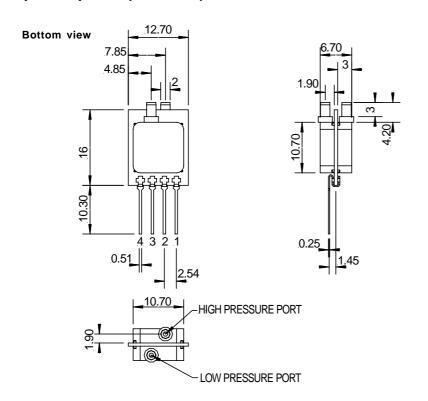




### **HOUSING OPTIONS (cont.)**

Different housing options are available on request. Please contact Sensortechnics.

## Dual port, top side (HCL...T...)



Pin	Connection			
1	+Vs			
2	GND			
3	Vout			
4	I / C*			

<sup>\*</sup> Internal connection.

Do not connect for any reason



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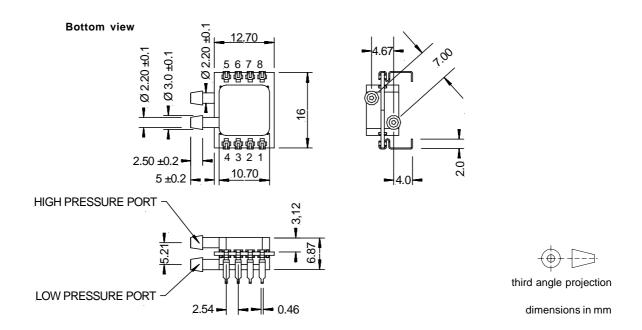


#### **HOUSING OPTIONS (cont.)**

Different housing options are available on request. Please contact Sensortechnics.

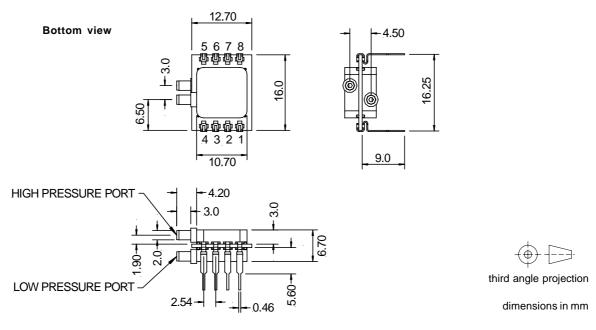
#### **Barbed pressure ports**

(Available for all housing styles. Sample package shown: SMD dual port, same side)



## **Dual Inline Packages (DIP)**

(Available for all housing styles. Sample package shown: DIP dual port, same side)



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#### ORDERING INFORMATION

	Series	Pressure range		Housing		Calibration	
Options	HCLA	02X5	2.5 mbar	D*	Diff SIL same side	В	Bidirectional
		12X5	12.5 mbar	E	Diff SMD same side	U	Unidirectional
		0025	25 mbar	G*	Gage SIL		
		0050	50 mbar	Н	Gage SMD		
		0075	75 mbar	(P)*	Diff SIL opposite side		
				(Q)	Diff SMD opposite side		
				(T)*	Diff SIL same top side		
				Please o	s P, Q, T available on request. contact Sensortechnics. ailable with digital output		
Example:	HCLA	02X5	Е		В		

# Custom specific pressure ranges and mechanical or electronic sensor modifications are widely available:

- · up to 15 bit resolution
- · 3 V power supply
- · SPI, switching and custom specific outputs
- · barbed pressure ports
- · Dual Inline Packages (DIP)
- ... etc

Please contact your nearest Sensortechnics sales office for further information.

#### Sensortechnics PRO services:

- · Extended guarantee period of 2 years
- · Custom product modifications and adaptations even for small quantities
- · Advanced logistics models for supply inventory and short delivery times
- · Technical support through application engineers on the phone or at your site
- · Traceability of each sensor through serial numbers on request
- · No product specification changes without customer notification
- · No product obsolescence without very early prior notice
- · Fastest possible technical response for design and QA engineers
- · Long term product availability for your spares and service needs
- ... plus other services on request

Sensortechnics reserve the right to make changes to any products herein. Sensortechnics do not assume any liability arising out of the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.

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OOO «ЛайфЭлектроникс" "LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 P/C 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 3010181090000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

#### Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



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