

# HCX Series

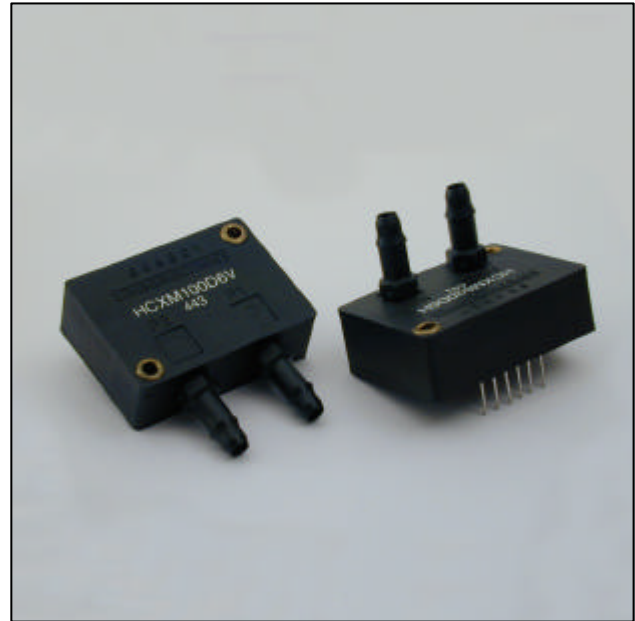
## Fully signal conditioned pressure transducer

### FEATURES

- Pressure ranges from  $\pm 5$  mbar to 5 bar differential, 1 and 2 bar absolute
- TTL power supply
- 0.5 to 4.5 V output
- Inline pinning for easy PCB-mounting
- Externally adjustable offset and span

### SERVICE

Non-corrosive, non-ionic working fluids, such as dry air and dry gases.



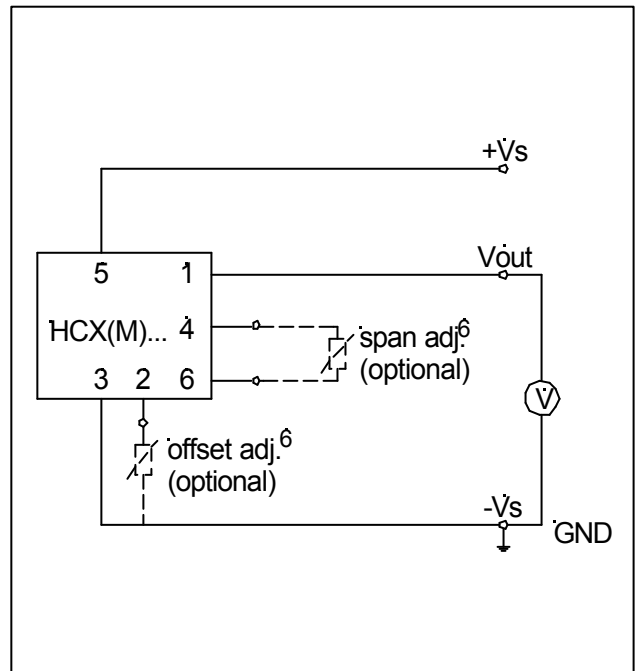
Scale:  $\longleftrightarrow$  1 cm  
 $\longleftrightarrow$  1 inch

### SPECIFICATIONS

#### Maximum ratings

Excitation voltage	4.8 to 15 V
Output current	
Source	5 mA
Sink	5 mA
Temperature limits	
Operating	-20 to 70°C
Storage	-40 to 85°C
Compensated	0 to 50°C
Lead temperature (2...4 sec. soldering)	250°C
Humidity	0 - 95 %RH
Proof pressure <sup>1</sup>	
HCXPM005..., HCXM010... and HCXM020	700 mbar
HCXM050 to HCXM350	1.4 bar
all other devices	2 x rated pressure
Tightening torque (mounting screws M2.5)	10 Ncm

### ELECTRICAL CONNECTION



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### PERFORMANCE CHARACTERISTICS

(unless otherwise noted,  $V_s = 5\text{ V}$ ,  $R_L > 100\text{ kW}$ ,  $t_{\text{amb}} = 25^\circ\text{C}$ )

Characteristics		Min.	Typ.	Max.	Unit
Operating pressure	HCXPM005D6...	-5		5	mbar
	HCXM010D6...	0		10	
	HCXPM010D6...	-10		10	
	HCXM020D6...	0		20	
	HCXM050D6...	0		50	
	HCXM100D6...	0		100	
	HCXM350D6...	0		350	
	HCX001...6...	0		1000	
	HCX002...6...	0		2000	
	HCX005...6...	0		5000	
Zero pressure offset	all HCXPM...	2.40	2.50	2.60	V
	HCXM010D6... / HCXM020D6...	0.40	0.50	0.60	
	all other devices	0.45	0.50	0.55	
Span <sup>5</sup>	HCXPM...	1.95	2.0	2.05	V
	all other devices	3.95	4.0	4.05	
Full scale output			4.5		
Output at lowest specified pressure	HCXPM... only		0.5		
Thermal effects (0°C to 50°C) <sup>4</sup> Combined offset and span	HCXP...M005D6...			0.20	%FSO/°C
	HCXM010D6... to HCXM050D6...			0.12	
	HCXM100D6..., HCXM350D6...			0.10	
	all other devices			0.05	
Non-linearity and hysteresis (BSL) <sup>2</sup>	HCXM020D6...		0.5	1.0	%FSO
	all other devices		0.1	0.5	
Long term stability <sup>3</sup>			±0.2		
Output impedance				50	Ω
Power supply rejection	Offset		0.05		%FSO/V
	Span		0.03		
Power consumption (no load)			50		mW

#### Specification notes:

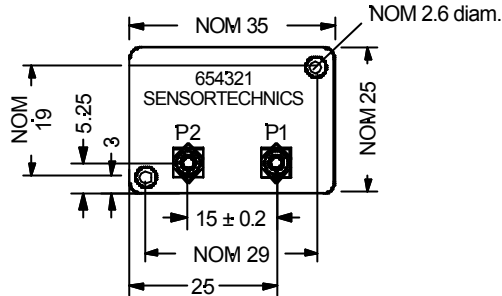
1. Proof pressure is the maximum pressure which may be applied without causing damage to the sensing element.
2. Non-linearity - the maximum deviation of measured output at constant temperature, from "Best Straight Line" through three points (offset pressure, full scale pressure and 1/2 full scale pressure).
3. Change after one year or 1 million pressure cycles.
4. Thermal effects tested and guaranteed from 0°C to 50°C relative to 25°C. All specifications shown are relative to 25°C.
5. Span is the algebraic difference between the output at full scale pressure and offset.
6. Under normal conditions external offset and span calibrations are not needed. In case fine trimming is required, offset adjustments are possible to lower values only. Do not trim for nominal value minus 150 mV. Span adjustments are possible to lower pressure range (higher gain). Do not trim for more than 15 % of full scale pressure.

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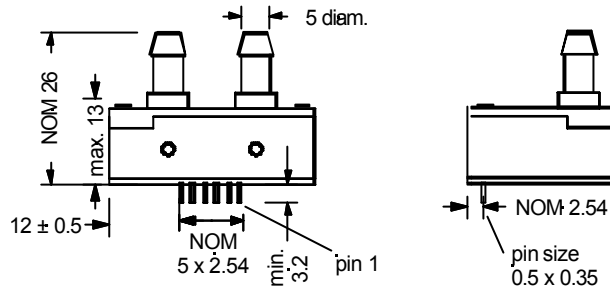
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### OUTLINE DRAWING

HCX(M)...6H, HCXPM...6H



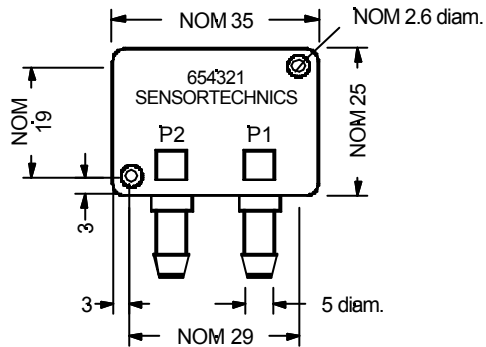
- P1:** High pressure port for 5 mbar and 10 mbar devices
- P2:** High pressure port for all other devices (forward gage)



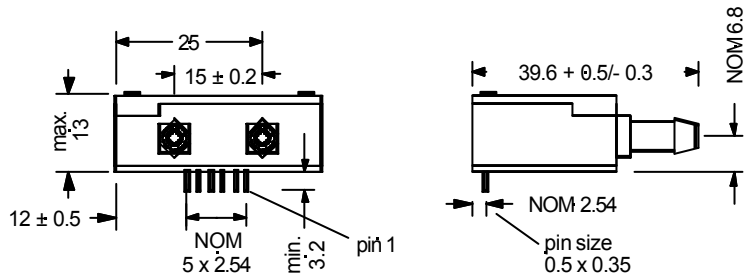
mass: 14g

dimensions in mm

HCX(M)...6V



- P1:** High pressure port for 5 mbar and 10 mbar devices
- P2:** High pressure port for all other devices



mass: 14g

dimensions in mm

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### ORDERING INFORMATION

Pressure range	Part number / Package version	
	Side facing ports	Top facing ports
<b>differential / gage devices</b> 0 to $\pm 5$ mbar 0 to 10 mbar 0 to $\pm 10$ mbar 0 to 20 mbar 0 to 50 mbar 0 to 100 mbar 0 to 350 mbar 0 to 1 bar 0 to 2 bar 0 to 5 bar	HCXPM005D6V HCXM010D6V HCXPM010D6V HCXM020D6V HCXM050D6V HCXM100D6V HCXM350D6V HCX001D6V HCX002D6V HCX005D6V	HCXPM005D6H HCXM010D6H HCXPM010D6H HCXM020D6H HCXM050D6H HCXM100D6H HCXM350D6H HCX001D6H HCX002D6H HCX005D6H
<b>absolute devices</b> 0 to 1 bar 0 to 2 bar	HCX001A6V HCX002A6V	HCX001A6H HCX002A6H

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