

# Model 433S Vacuum Transmitters

## Description

The 433S vacuum transmitter is developed from the BCM absolute pressure sensors of low measuring range (<1bar) and high accuracy, which is based on piezoresistive technology. As a vacuum transmitter, this model is designed to measure the absolute pressures ranging from 0~400 mbar to ~800 mbar.

Wetted parts of the 433S transmitter are made from 316L stainless steel, which employ fully welded structure so as to eliminate an O-ring seal inside the inner cavity and to increase its performance reliability.

Numerous options available for mechanical interface makes this model suitable for many applications found in scientific research, medical equipment, and other vacuum systems. In addition customized process connection and electrical interface are available on request in order to fit customer's needs.



## Features

- measuring ranges: 400mbar, ..., 800mbar
- pressure reference: absolute
- selectable output:  
4~20 mA (standard), 0.5~4.5V ratiometric and others
- customized process connection and electrical interface on request
- protection rating IP65

## Applications

- scientific research
- plant and machine engineering
- pneumatics
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# Model 433S

## Vacuum Transmitters



### Technical Data

Parameter	Units	Specifications	Notes
pressure medium		gases or dilute fluids	1
pressure ranges	mbar	0~400, ~500, ~600, ~800	2
pressure reference		absolute	
overload pressure	%fs	200	3
output signal	mA	4~20 (standard)	
	V	0~5, 1~5, 0.5~4.5 (ratiometric), I2C	
accuracy	%fs	$\leq \pm 0.5$	4
long-term stability	%fs/year	$\leq \pm 0.2$	
power supply (Vs)	Vdc	$12 < V_s \leq 36$ ; 5 (for output = 0.5~4.5 V)	
load resistance for voltage output	k $\Omega$	> 5	
load resistance for current loop	$\Omega$	$\leq (V_s - 12V) / 0.02A$	
insulation resistance	M $\Omega$	500 @100Vdc	
compensated temperature range	$^{\circ}C$	-20 ~ +85	
operating temperature range	$^{\circ}C$	-40 ~ +125	
storage temperature range	$^{\circ}C$	-40 ~ +125	
temperature coefficient of zero	%fso/ $^{\circ}C$	$\leq \pm 0.03$	
temperature coefficient of span	%fso/ $^{\circ}C$	$\leq \pm 0.03$	
vibration resistance (20, ..., 2000 Hz)	g	10	
life time	cycles	$10^8$	
response time	ms	$\leq 1$	5
seal		fully welded	
pressure diaphragm		316L stainless steel	
wetted parts material		316L stainless steel	
mechanical interface		G1/4 male/female, other thread type on request	
electrical interface		DIN43650, other connection on request	
environment protection		IP65	
net weight	gram	~160	

- Notes:
1. The pressure medium should be compatible with wetted parts material and pressure diaphragm.
  2. For customized pressure ranges, consult BCM.
  3. "fs" refers to full scale pressure or rated pressure.
  4. Including non-linearity, hysteresis and repeatability.
  5. Response time for a 0 bar to fs step change, 10% to 90% rise time.

The listed specifications and dimensions are subject to change without prior notice.

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## Ordering Information

<b>position (pos.) 1: model</b>					
433S					
<b>pos. 2: pressure range and reference</b>					
400mbar A A: absolute pressure					
500mbar A					
600mbar A					
800mbar A					
<b>pos. 3: output signal</b>					
4/20 mA (standard) 0.5/4.5 V 0/5 V					
<b>pos. 4: mechanical interface</b>					
G1/4(male) G1/4(female)					
<b>pos. 5: electrical interface</b>					
DIN43650					
<b>pos. 6: customized specifications</b>					
“(*)” is necessary only if any customized parameter is required, otherwise it is neglectable.					
<b>pos.1</b>	<b>pos. 2</b>	<b>pos. 3</b>	<b>pos. 4</b>	<b>pos. 5</b>	<b>pos. 6</b>

## Examples of Ordering Code

- standard transmitter:  
433S-500mbarA-4/20mA-G1/4(male)-DIN43650
- customized transmitter:  
433S-550mbarA-4/20mA-G1/4(female)-DIN43650-(\*)  
(\*): Customized pressure range = 0~550 barA.



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