DS-PR-IPS122-IPT122-eng
January, 2017

Data Sheet

Brooks® IPS122/IPT122

Pressure

2 Inch Stainless Steel Indicating Pressure Switches/Transmitters

Overview

The Brooks Instrument IPS & IPT122 2 Inch stainless steel Pressure Switches/Transmitters provide a high purity, precision pressure gauge and electronic switch/indicator, with the switches having an adjustable pressure switch setpoint. The IPS122 is a compact unit that has the ability to operate lights or relays up to a maximum of 12 watts. The IPT is accurate within 1% of full scale, and can provide 0-5 Vdc, 1-5 Vdc, or 4-20 mA outputs with pressure ranges up to 4000 psi.

- Compact unit for easy installation into new or existing gas systems
- Local or remote indicaton of switch interlock/system presure against undesirable process pressure conditions to ensure process accuracy and protect product yields
- High purity for use in all application environments

Product Features

IPT122

- Solid-state design with 1 to 5 Vdc, 0 to 5 Vdc or 4 to 20 mA outputs
- Universal output configuration available
- Local and remote pressure monitoring
- Interfaces with automatic purge systems, PLCs or data acquisition systems

IPS122

- Local and remote alarm capability
- Local indication of pressure reading and switch position (normally open or normally closed)
- Solid-state design for hazardous environments
- Switches welded in oxygen-free chambers to meet rigid cleanliness and safety guidelines
- 1 year warranty

Applications

Gas delivery systems and tools used for semiconductor processing, including:

- Bulk gas
- Gas cabinets
- Gas distribution
- Gas panels

Product Specifications - IPS122 / IPT122

Specifications	IPS122 / IPT122
Pressure Ranges	Vacuum to 4,000 PSI (276 bar). Metric also available (See Range Tables)
Accuracy	1% of full scale
Helium Leak Check	4 x 10^{-9} inboard std. cc/sec
Response Time	Less than 200 milliseconds
Proof Pressure	110%
Burst Pressure	400%
Operating Temperature - Ambient	0° to 160°F (-18° to 71°C)
Compensating Temperature	20° to 135°F (-7 to 57°C)
Storage Temperature	-20° to 175°F (-29° to 79°C)
Cleaning	Cleaned for oxygen service to ANSI B40.1 level IV specifications
Materials of Construction:	
Case	300 Series Stainless Steel, electropolished
Bezel and Lens	One-piece polycarbonate, screw-on
Socket	316L Stainless Steel
Movement	300 Series Stainless Steel
Bourdon Tube	316L Stainless Steel
Connections	Face-seal male, face-seal swivel male, face-seal swivel female and 1/4" NPT male
Dial	White with black marking; "Use No Oil" is red.
Approximate Shipping Weight	8.5 lbs (0.39 kg)

Switch Power Input	IPS122
Off-On Switch Type 1	9 to 30 Vdc
Logic Output 8 to 30 Vdc Type 2	9 to 30 Vdc
Logic Output 5 Vdc Type 3	4.8 to 5.2 Vdc

Switch Power Rating	IPS122
Off-On Switch Type 1	12 Watts or 500 mA; 175 mA max. for intrinsically safe applications
Logic Output 8 to 30 Vdc Type 2	60 mA (sink). Open collector NPN
Logic Output 5 Vdc Type 3	60 mA (sink) Open collector NPN

Output Voltage and Current Draw	IPS122
Off-On Switch Type 1	0 to 9-30 Vdc; 30 mA (off), 45 mA (on)
Logic Output 8 to 30 Vdc Type 2	0 to 9-30 Vdc; 30 mA (off), 45 mA (on)
Logic Output 5 Vdc Type 3	0 to 5 Vdc; 3 mA (off), 11 mA (on)
Switch Leads	2 m (6') cable, tinned ends, 0.23" in diameter
Switch Differential	3% of scale: 0.25% of scale repeatability
Trip Position	External adjust. Select to trip on ascending (N.O.) or descending (N.C.) pressure. (Field changeable by internal jumper)

IPT Transmitter	IPT122
Voltage In	11.5 to 30 Vdc (12 Vdc recommended)
Voltage Stability	Filtered power supply with noise <2mV RMS, ripple < 6 mV P-P
Operating Current	40 mA maximum short circuit to ground, 8 mA continuous load, 10 mA maximum intermittent

Output Voltage	IPT122
Type 1	0-5 Vdc
Type 2	1-5 Vdc
Type 3	1-5 Vdc ground referenced
Type 4	4-20 mA sinking
Type 5	0-5 Vdc or 1-5 Vdc, or 4-20 mA current sink
Type 6	1-5 Vdc ground reference, 4-20 mA sinking
Type 8	4-20 mA sourcing, 3-pin Molex connector with 10' cable
Type 9	4-20 mA sourcing, 6' cab/w with tinned ends
Output Current	40 mA max. short circuit to ground, 10 mA continuous load
Transmitter Leads	2 m (6') cable, tinned ends, 0.23" in diameter

Range Tables

Range	Figure Intervals*	Smallest Interval*
30-0-15	10 in Hg-3 psi	2 in Hg-1 psi
30-0-30	10 in Hg-5 psi	2 in Hg-1 psi
30-0-60	30 in Hg-10 psi	5 in Hg-2 psi
30-0-100	30 in Hg-20 psi	5 in Hg-2 psi
30-0-160	10 in Hg-25 psi	10 in Hg-5 psi
30-0-200	30 in Hg-40 psi	10 in Hg-5 psi

Range	Figure Intervals*	Smallest Interval*
0-1000	200	20
0-3000	500	100
0-4000	1000	100

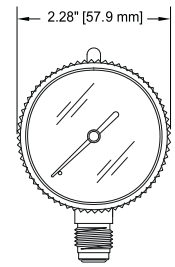
Range	Figure Intervals*	Smallest Interval*
0-30	5	1
0-60	10	2
0-100	20	2
0-160	40	5
0-200	40	5

* All figure intervals and smallest interval depicted in this chart represent typical artwork layout and may not be accurate for all gauges.

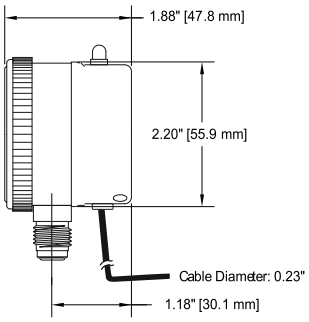
Note: All ranges are in Hg and/or psi. If a scale other than Hg or psi is required, convert the pressure range code to the customer-specified units and use that in the product description code when specifying the product. For dual range specify the range code for the first engineering unit (ex. For a dual range with units of KGC/IKPA the range should be specified in KGC).

Product Dimensions

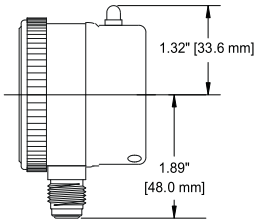
IPS122



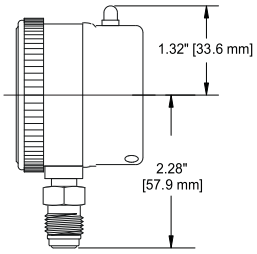
FRONT VIEW



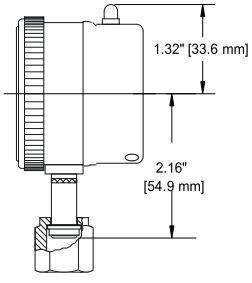
SIDE VIEW



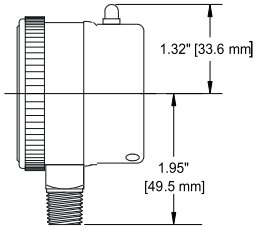
VM
FACE SEAL,
MALE, 1/4”



VSM
FACE SEAL,
SWIVEL, MALE, 1/4”

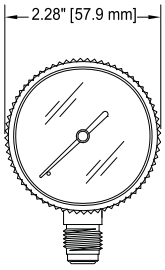


VSF
FACE SEAL,
SWIVEL, FEMALE, 1/4”

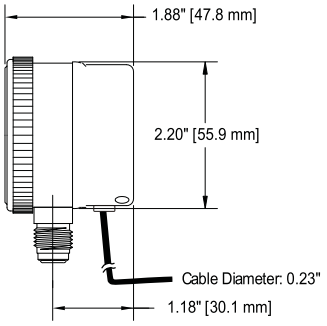


NPT
1/4”

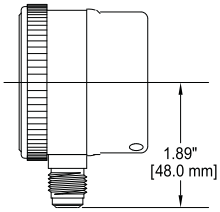
IPT122



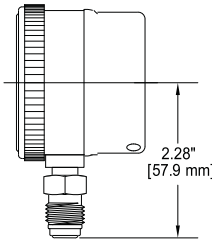
FRONT VIEW



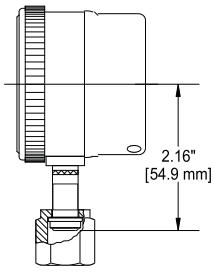
SIDE VIEW



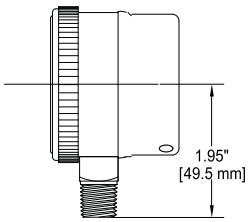
VM
FACE SEAL,
MALE, 1/4”



VSM
FACE SEAL,
SWIVEL, MALE, 1/4”



VSF
FACE SEAL,
SWIVEL, FEMALE, 1/4”



NPT
1/4”

Model Code

Code	Description	Code Option	Option Description
I.	Base Model Number	IPS122	Pressure Switch
II.	Pressure Range		See options in Range Tables
III.	Units	PSI	Pounds per Square Inch
		PSI/Bar	Pounds per Square Inch and Bar
		MPa	Megapascal
		Bar	Bar
		PSI/KGC	Pounds per Square Inch and Kilograms per Square Centimeter
IV.	Pressure Connection	VM	Face seal male
		VSM	Face seal swivel male
		VSF	Face seal swivel female
		NPT	1/4" NPT male
V.	Switch Type*	1	Type 1
		2	Type 2
		3	Type 3
*(Refer to Specifications Table for output voltage and current draw)			
VI.	Trip Position	A	Ascending (normally open)
		D	Decending (normally closed)

Sample Standard Model Code

I	II	III	IV	V	VI
IPS122	---	PSI	VSM	1	A

Code	Description	Code Option	Option Description
I.	Base Model Number	IPT122	Pressure Transmitter
II.	Pressure Range		See options in Range Tables
III.	Units	PSI	Pounds per Square Inch
		PSI/Bar	Pounds per Square Inch and Bar
		MPa	Megapascal
		Bar	Bar
		PSI/KGC	Pounds per Square Inch and Kilograms per Square Centimeter
IV.	Pressure Connection	VM	Face seal male
		VSM	Face seal swivel male
		VSF	Face seal swivel female
		NPT	1/4" NPT male
V.	Transmitter Type	1	0 to 5 Volts floating referenced
		2	1 to 5 Volts floating referenced
		3	2 to 5 Volts groundreferenced
		4	4 to 20 mA sinking
		5	Universal output
		6	4 to 20 mA sinking. 1 to 5 Vdc ground referenced
		8	4 to 20 mA current sourcing. Example: R-250 Ohms 3 pin connector Signal at 4 mA: E = 1 Volt Signal at 20 mA: E = 5 Volt
		9	4 to 20 mA current sourcing. Example: R-250 Ohms 3 wire cable Signal at 4 mA: E = 1 Volt Signal at 20 mA: E = 5 Volt

Sample Standard Model Code

I	II	III	IV	V
IPT122	---	PSI	VSM	1

Brooks Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.
Visit www.BrooksInstrument.com to locate the service location nearest to you.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

CUSTOMER SEMINARS AND TRAINING

Brooks Instrument can provide customer seminars and dedicated training to engineers, end users, and maintenance persons.
Please contact your nearest sales representative for more details.

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.

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