

Peregrine
INSTRUMENTATION

PI PT-3120

Differential pressure
transmitter - DP Series



PEREGRINE ADDITIVES & LUBRICANTS CO.

PI PT-3120

DIFFERENTIAL PRESSURE TRANSMITTER

Principle

The PI PT-3120 DP is an intelligent remote differential pressure transmitter using advanced microprocessor technology with digital communication. The PI PT remote pressure transmitter is capable of differential pressure, gauge & absolute pressure, or level measurement. It uses advanced capacitance sensor technology (piezoresistive sensors for absolute pressure models), the PI PT-3120 DP remote pressure transmitter features self-diagnostic, field parameter adjustment, auto-zero and all industrial and standard capabilities with half the price. It is composed of differential pressure/pressure transmitter and the welding installation level flange, which can measure liquid, gas or steam flow as well as fluid density, level and pressure. Output options available include 4-20mA or 1-5VDC with HART protocol, Profibus, or foundation fieldbus. The PI PT-3120 DP smart pressure transmitter offers so many options that it can be configured for any application.

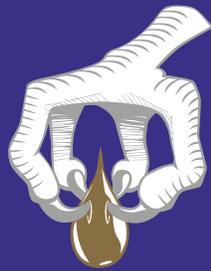
Features

- ▶ High accuracy, little temperature effect ($\pm 0.15\%$ FS/10)
- ▶ 100:1 Turn-down
- ▶ Security lock-parameters
- ▶ Advanced diagnostics capabilities
- ▶ Large measuring range
- ▶ Software compensation
- ▶ Available in 316SS, Tantalum and other exotic materials
- ▶ Available in either Intrinsically Safe ExiallCT4 or Explosion Proof ExdIICT6, ATEX Safety
- ▶ Auto-zero adjustment
- ▶ Analog 4~20 mA DC two wire linear output
- ▶ HART protocol, or foundation fieldbus

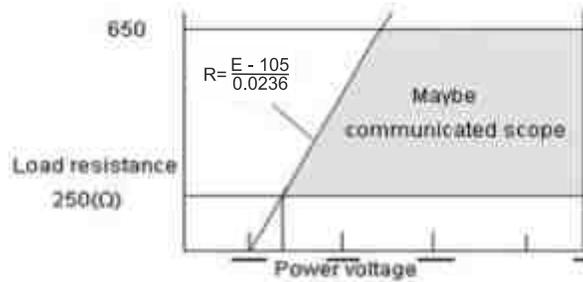


Specifications

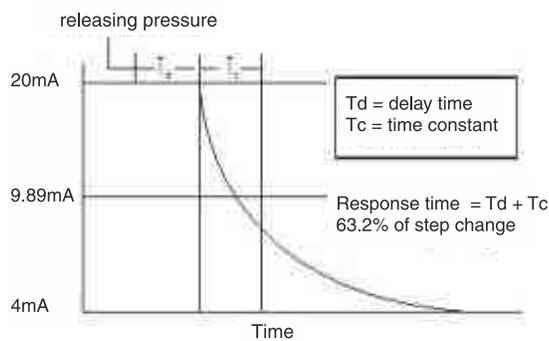
▶ Measuring Range:	0~1kPa(0.15psi)~2MPa(290psi)	▶ Transmitter Housing:	Aluminum with epoxy resin coat
▶ Fluid:	liquid, gas and steam	▶ Approvals:	ExdIICT6 ExiallCT4
▶ Ambient Temperature:	-30°C~85°C (-86°F~185°F/ -20°C~65°C (-68°F~149°F) (Fluorine line)	▶ Output signal:	4 ~ 20 mA DC two wire
Drift (zero):	0.5%FS/50	▶ Working Voltage:	(12 ~ 36) VDC-Blind type (15 ~ 30) VDC-LCDtype
Drift (span):	0.7%FS/50	▶ Communications distance:	2 km when using CEV cable
▶ Accuracy grade:	0.075 grade, 0.2 grade. 0.5 grade	Load capacity:	below 0.22μF
▶ Turn-down:	100:1	Load induction:	below 3.3 mH
▶ Drift (Micro):	0.02% FS/year	Space with power line:	above 15 cm
Standard:	0.025% FS/year	Resolution:	0.05% of range
▶ Relative humidity:	0 100% RH	▶ Field indication:	LCD
▶ Start time:	2 seconds after power up	▶ Effect of environmental temperature	
▶ Storage temperature:	-50°C~85°C (-122°F~185°F) (NO display) -40°C~85°C (-104°F~185°F) (LCD display)	Zero drift:	0.5% FS/50°C
▶ Damping time:	2s	Range drift:	0.7%FS/50°C
▶ Process Flange:	304SS, 316SS-option	▶ Effect of power voltage variation:	$\pm 0.005\%$ FS/V
▶ Filled fluid:	Silicon oil, fluorocarbon oil-option	▶ Protection:	IP67
▶ Nuts and Bolt:	Stainless steel	▶ Weight:	3.3kg~5kg (7.28lb ~ 11.02lb)
▶ Isolating Diaphragm:	316LSS/Hastelloy C. etc.		
▶ O ring material:	Nitrile rubber, Fluorine rubber, PTFE		



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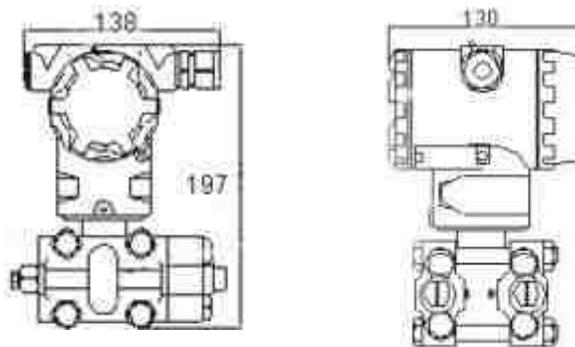
Relation between power voltage and load resistance



Typical responding time of intelligent transmitter

Different pressure transmitter

Outline Dimension



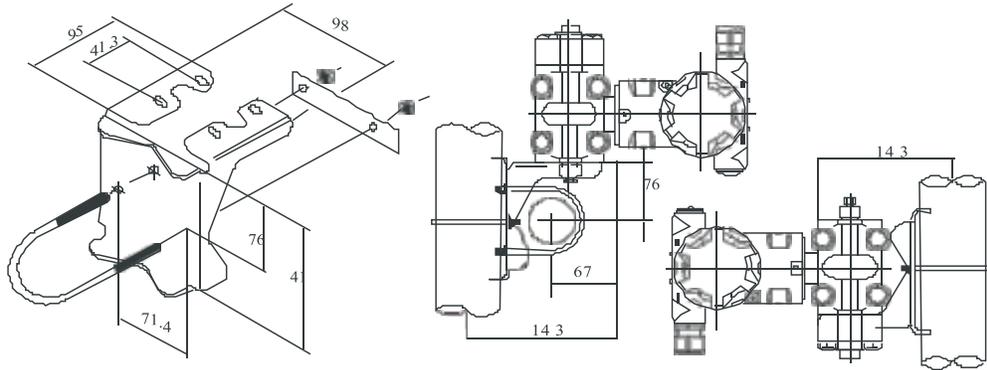
Measuring range (Mpa)	0~0.001 to 0~0.006	0~0.16 to 0~1	0~0.4 to 0~2.5	0~1.6 to 0~10	0~4 to 0~25
	0 ~0.006 to 0~0.04				
	0~0.04 to 0~0.20				
A(mm)	54	55.2	55.6	57.2	57.6
inch	2.16	2.17	2.19	2.25	2.27

PI PT-3120

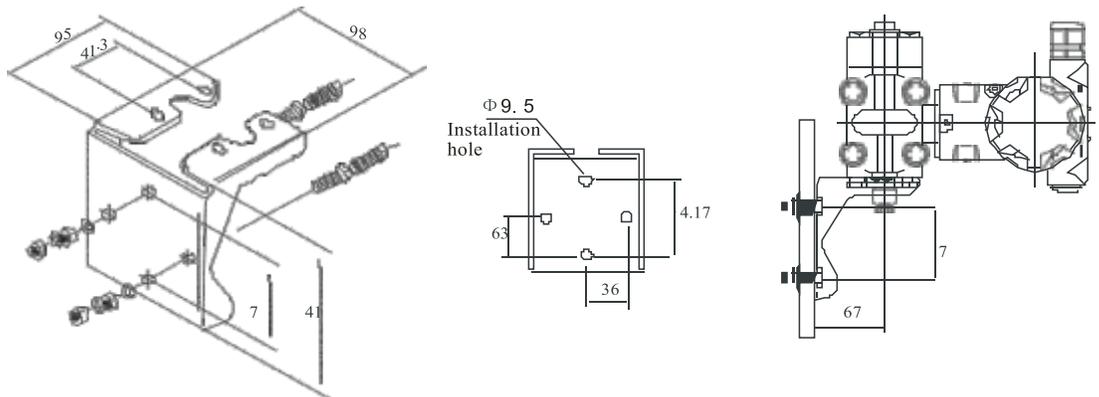
DIFFERENTIAL PRESSURE TRANSMITTER

OTHER ACCESSORY

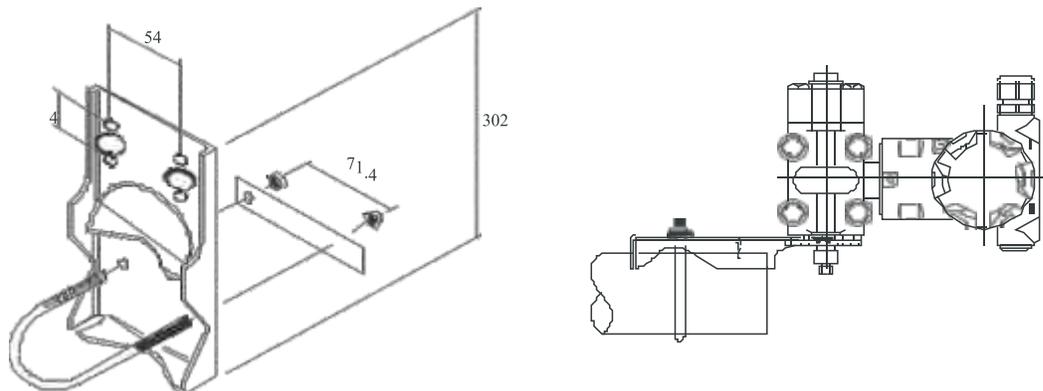
Bending bracket for pipe installation (2" pipe)

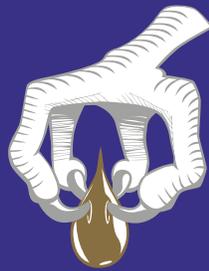


Bending bracket for panel installation



Bending bracket for flat installation





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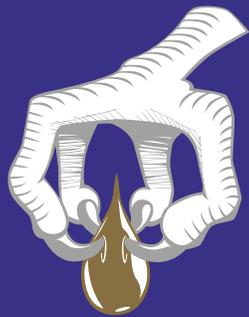
Please contact your Peregrine application engineer

You also need to provide the following information:

Type of fluid	We need the name of your fluid, including operating density and viscosity
Process Pressure & Temperature	Working temperature, pressure measure range and connection
Type of Electronics	Output and communication
Power requirements	We need the name of your pipe material

MODEL SELECTION GUIDE

PI PT- 3120 DP Series														
Example: PI PT-BADP-I-6-A-22-M8-NN-N-N-S-N														
PI PT-	**	**_	**_	**_	**_	**_	**_	**_	**_	**_	**	**	**	Description
Intelligent Δpressure transmitter	DP													Transmitter Type
4~20mA DC with keystroke set up		S												Output signal
Intelligent 4~20mA DC with keystroke and HART		I												
Intelligent 4~20mA DC output is $\sqrt{\Delta P}$ with adjustable damp		J												
0-100Pa~1kPa (0.14 psi = 3.87 inH ² O)/(0-1~10mbar)					3									Measuring range
0-200Pa~6kPa (0.87 psi = 24.1 inH ² O)/(0-2~60mbar)					4									
0-400Pa~40kPa (5.8 psi = 160.7 inH ² O)/(0-20~400mbar)					5									
0-2.5kPa~250kPa (36.259 psi = 1004.6 inH ² O)/(0-25~2500mbar)					6									
0-20kPa~2MPa (290 psi = 8035.2 inH ² O)/(0-0.2~20bar)					7									
Up to 16 Mpa (2,320 psi)						A								Static pressure
Up to 25 Mpa (3,625.94 psi)						B								
Up to 64 Mpa (9,282.42 psi)						C								
Isolation diaphragm	Fill fluid	O-ring												Construction material
316 SST	Silicon oil	NBR or option		22										
Halloy C	Silicon oil	NBR or option		23										
Other material	Other material	NBR or option		**										
No display									M1					Display
LCD display									M7					
Backlight LCD display									M8					
7/16-20 UNF and 1/4- NPT female thread										NN				Install connection
No relief valve											N			Drain/vent valve
Relief valve at end of flanges											B			
Relief valves at the upper part of the flange side											U			
Relief valve at the lower part of the flange side											D			
None												N		Function Options
O2 clear												O		
Standard (without explosion proof)													S	Approval
NEPESI Isolated explosion Ex ia													I	
NEPESI Explosion Ex id													D	
ATEX Intrinsic explosion Ex ia													AI	
ATEX Isolated explosion Ex d													AD	
None													N	Install bracket
304SS - bending bracket for pipe installation (2" pipe)													1	
Carbon steel galvanized - bending bracket for pipe installation (2" pipe)													2	



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