KONICS

Pressure Transmitter PTF30 SERIES

INSTRUCTION MANUAL





Thank you for choosing our Konics product. Please read the following safety considerations before use.

Safety Considerations

 $\label{eq:power_product} \begin{tabular}{ll} \times Please observe all safety considerations for safe and proper product operation to avoid hazards. \end{tabular}$ ★▲ symbol represents caution due to special circumstances in which hazards may occur.

∆Warning Failure to follow these instructions may result in serious injury or death ▲Caution Failure to follow these instructions may result in personal injury or product damage

⚠ Warning

- I. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)
 Failure to follow this instruction may result in personal injury, fire, or economic loss.

 2. Check explosion-proof standard (Ex d IIC T6) of this unit and do not use it in place where the properties are the light to place.
- where there are flammable or explosive gas, humidity, direct ray the light, radiant heat, vibration and impact etc.
 Failure to follow this instruction may result in fire or explosion.

 3. Do not disassemble the case. Please contact us if it is required.
- Failure to follow this instruction may result in fire

⚠ Caution

- Do not apply beyond rated pressure.
 Failure to follow this instruction may result in product damage.
 Use the unit within the rated specifications.
- Failure to follow this instruction may result in shortening the life cycle of the unit, or fire. Failure to follow this instruction may result in snortening the line cycle of the S. Keep dust and wire residue from flowing into the unit.

 Failure to follow this instruction may result in product damage by a fire.

 4. Check the polarity of the contact before wiring the unit.

 Failure to follow this instruction may result in product damage by a fire.

 5. Please contact our service center if using for the corrosive detergent.

- Failure to follow this instruction may result in shortening the life cycle of the unit and
- product damage.

 6. Do not use water or oil-based detergent when cleaning the unit. Use dry cloth to clean the unit.

 Failure to follow this instruction may result in electric shock or a fire.

 7. The explosion-proof standard of this unit is Ex d IIC T6, protection structure of this
- unit is IP67 and the range of max. surface temperature is below 85°C.

Ordering Information



	Description				
①Item	PTF30	Pressure Transmitter			
②Measurement	G	Gauge pressure, sealed gauge pressure*1			
pressure	Α	Absolute pressure			
		Gauge pressure Absolute pressure			
	1	0 to 35kPa	0 to 35kPa		
	2	0 to 0.1MPa	0 to 0.1MPa		
	3	0 to 0.2MPa	0 to 0.2MPa		
	4	0 to 0.7MPa	0 to 0.7MPa		
	5	0 to 2MPa	0 to 2MPa		
	6	0 to 3.5MPa	0 to 3.5MPa		
	7	0 to 7MPa			
Dated pressure renge	8	0 to 21MPa			
③Rated pressure range	9	0 to 35MPa			
		sealed gauge pressure*1			
	Α	-35 to 0kPa			
	С	-0.1 to 0MPa	_		
	F	-0.1 to 0.2MPa			
	Н	-0.1 to 0.7MPa			
	M	-0.1 to 2MPa			
	0	-0.1 to 3.5MPa			
	Z	Others			
HART communication output	N	None			
Maunting brookst	N	Without bracket			
Mounting bracket	В	With bracket			
Pressure port	F8	3 G3/8 (PF)			
		User pressure range*2			

- It is based on atmospheric pressure 101.3kPa (1.013bar).
- X2: Write the desired pressure range and it is the default of user pressure range. (select "Z" at ③Rated pressure range)

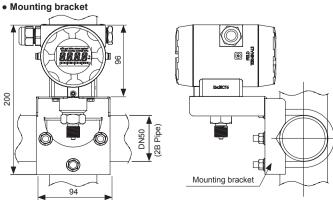
Unit Descriptions



- 1. Display part: Displays detected pressure value,
- several setting value and errors. 2. Unit display part: Displays the currently set input unit.
 3. Output scale bar graph: Displays output DC4-20 mA
- as scale bar graph by 5% unit.

 4. M key: Used to enter parameter mode, move parameters
- and save SV.
- 6 5. €, №, № key: Used to enter parameter set mode, move digits 6. D.IN3: Press the ⊮and ⊗keys at the same time for 3 sec, the set function (display HOLD, zero-point adjustment)

Dimensions (unit: mm) 128 83 96 0 2-1/2-14 (NPT)



XThe above specifications are subject to change without notice

Specifications

Series		PTF30			
Measure	ed materials	Vapor, Liquid, Fluid (except corrosive environment of stainless steel 316			
Power s	upply	15-35VDC==			
Display	method	12-segment 4-digit LCD Display			
Characte	er size	W6.24×H10.73 mm (12-segment) / W1.45×H2.5 mm (unit)			
Output		DC4-20mA 2-wire Low-limit: 3.6 mA (-2.5%), High-limit: 21.6 mA (+10%)			
Accurac	y*1	±0.3% of F.S.			
Temperature characteristics		At 20 °C, ± (0.075% × URL + 0.15% × Span)			
Setting r	method	Setting by front push keys			
Sampling cycle		300 ms			
Dielectri	c resistance	1000 VAC for 1 min (between external terminal and case)			
Vibration		0.75 mm amplitude at frequency of 5 to 55 Hz (for 1 min) in each X, Y, Z direction for 2 hours			
Insulatio	n resistance	Over 100 MΩ (at 500VDC megger)			
Noise in	nmunity	Square shaped noise by noise simulator (pulse width 1 μs) ±240 V			
Memory protection		Approx. 10 years (non-volatile semiconductor memory type)			
Environ-	Ambient temp.	-20 to 70 °C, storage: -20 to 80 °C			
ment	Ambient humi.	0 to 85%RH			
Material Explosion class Protection structure Approval Unit weight		Body: Aluminum (AlDc.8S), Cover O-Ring: Buna N, Diaphragm, connections: Stainless steel 316			
		Ex d IIC T6			
		IP67 (IEC standard)			
		C€			
		1.2 kg			

Functions

© Input unit [UNI E]

You can select input unit. (bar, mbar, Pa, kPa, MPa, gf/cm², kgf/cm², mmH $_2$ O, psi, mmHg, %, OFF)

Environment resistance is rated at no freezing or condensation

© User input range [L - RG, H - RG]

Even though each unit has the range, you can set user input range within the pressure range when input range is limited for actual usage.

Decimal point setting [dP]

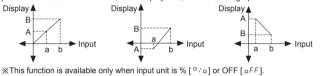
This function is to change decimal point digit for input display value. When input unit is set as % [$^{\circ}/_{\circ}$] or OFF [$_{\circ}FF$], only the display position of decimal point is

Set range: 0 / 0.0 / 0.00 / 0.000

XSet range is different by the pressure range

Display scale [1 - 5[. H-5[]

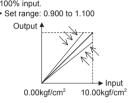
This function is to set (-1999 to 9999) for particular high/low limit value in order to display high/low limit value of measurement input. If measurement inputs are "a" and "b" and particular values are "A" and "B", it will display a=A, b=B as below graphs.



© Zero-point correction [ℤER□]

It corrects the error of display value for 0% Set range: -999 to 999 Output 4

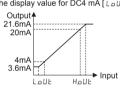
□ Slope correction [5PAN] It corrects the error of display value for 100% input. • Set range: 0.900 to 1.100



© Output scale [L□UL, H□UL]

0.00kgf/cm²

For DC4-20 mA current output, this function is set to display value for current output. Set the display value for DC4 mA [LDUE] and the display value for DC20 mA [HDUE].



10.00kgf/cm²

Output 4 21.6mA 20m/ LoUb HoUL

□ Digital filter [MAV F]

Digital filter is able to display stably and output the noise from input line and irregular signals. This unit applies moving average digital filter and display cycle is same.

• Set range: 01 to 16 %When setting as 01, digital filter function does not run.

Digital input [∃I - K]

By front keys operation (D.IN3: № + 🕾 3sec), one of two functions executes as the below

F	unction	Operation
	HoLd	Temporarily indicated value is stopped in order to confirm indicated value in unstable input.
		It is same function as [ZER_0]. When executing this function, you can check and change correction value at ZER_0 .

Multi-display selection [d5P 1, d5P2]

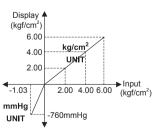
Select one for display 1 and display 2 among P^{ν} , all t, LPE κ , HPE κ . Set d5P I and d5P2 differently and it displays two different values in turn for 2 sec. When selecting LPE κ (HPE κ), the left (or the right) of output scale bar graph flashes for 0.5

This function is to save high/low peak to check the invisible abnormal condition of system Select this function display selection [dSPI, dSPPI] parameter.

When the high/low peak is out of the temperature range, it displays HHH or LLL. To initialize high/low peak, press the \boxtimes , \boxtimes keys at the same time for 3 sec at [HPEK]or [LPEK]. In this case, peak value is the present input value

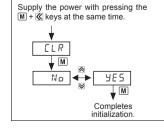
© Two Unit Function [ŁIJF] For compound pressure model, this function displays the input pressure

mmHg unit. It displays the input pressure atmospheric pressure or over atmospheric pressure by the set pressure unit.



○ Parameter initialization [I NI E]

To initialize all parameter as factory default supply the power to the product with time and it enters initialization parameter



○ Lock [Lo[K]

It limits to check parameter set value and to change it.

oFF : Enable to check/set LoC.I ①: Enable to check, disable to set O: Disable to check

Parameter • In Lo[2, only the Lo[K parameter displays

© Error

Display	Descriptions	Troubleshooting	
нннн	Flashes when measured pressure is higher than the 'pressure range'.	Adjust measured pressure within the 'pressure range'.	
LLLL	Flashes when measured pressure is lower than the 'pressure range'.		
ERR	Flashes when there is error to SV	Re-set it after checking the setting conditions	
ERR	Flashes when there is error to SV		

Parameters

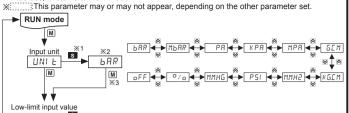
M

- ※1. S: Press any key among the

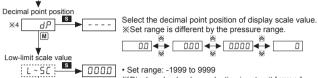
 €,

 Ø,

 Ø
- ※2. 低: Moves digits / 场, 含: Changes SV. ※3. Press the ℍ key after checking/changing SV in each paramete The value flashes twice and is saved. It moves to next parameter.
- **4. Defaults are different by the pressure range by each model.
 **After entering setting group, press the M key for 3 sec or there is no additional key operation in 30 sec. it returns to RUN mode.



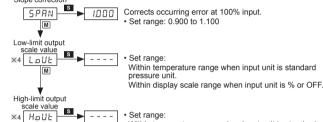




*Displayed only when selecting input unit [UNI E] as

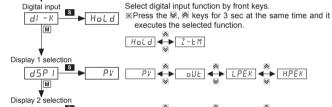


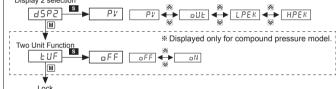


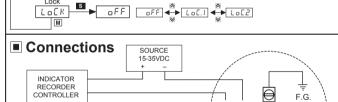




Select digital input function by front keys.







XYou can check DC4-20 mA output by connecting an ampere meter. (impedance: max. 30Ω)

Factory Default

ı								
ı	Parameter	Default	Parameter	Default	Parameter	Default	Parameter	Default
ı	UNI E	ьяк	L-5E	0.000	LoUt	0.000	dSP I	PV
l	L-RG	0.000 *1	H-5E	1000	HoUt	0.350	d5P2	PV
l	H-RG	0.350 ×1	ZERo	000	MAVF	04*1	LUF	oFF
l	dР	0.350*1	SPAN	1,000	dl -K	HoLd*1	LoEK	oFF
١	×1: Defaults are different by the pressure range by each model.							

Cautions during Use

- 1. 15-35VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
- 2. For connecting the power, use a crimp terminal (M3.5, max. 7.2 mm).
- 3. The connection of this unit should be separated from the power line and high voltage line in order to prevent inductive noise.

 4. Install a power switch or a circuit breaker to supply or cut off the power . Switch or circuit breaker should be installed nearby users for convenient control.
- 6. Do not use this unit near the high frequency instruments (high frequency welding machine & sewing machine, large capacity SCR controller).

 When supplying input, if HHHH or LLLL is displayed, measured input may have problem.
- Turn off the power and check the line. 8. Installation environment.
- Ondoor / Outdoor
 Ondoor / Outdoor
 Pollution degree 2
 Ondoor / Outdoor
 On
- (explosion proof standard: over Ex d IIC T6, IP rating: over IP67 protection structure).

 10. Use dedicated external terminal for earth. For connecting earth, use a spring washer and earth cable which is over 4mm².
- *We are not responsible for any damages and claims for careless. Must read the cautions for your safety and using.

 **The explosion-proof unit of KONICS is certified and the same specifications.
- which is reported to Korea Gas Safety Corporation. (This unit is manufactured following by the announcement 2013-54 of Ministry of Employment and Labor of Korea
- XIf there are any problems with the unit, contact the head office or A/S center. ※Failure to follow these instructions may result in product damage.

Major Products

- Recorders
- Indicators Converters
- Controllers
- Thyristor units
- Temperature sensors
- Pressure transmitters

Pressure gauges

- Temperature transmitters ■ Thermometers
- 37, Venture-ro, 36beon-gil, Yeonsu-gu, Incheon, South Korea, 22011 TEL: 82-32-820-2400 / FAX: 82-32-813-9977 Sales Dept.
 7, Venture-ro, 36beon-gil, Yeonsu-gu, Incheon, South Korea, 22011
 TEL: 82-32-820-2300/FAX: 82-32-813-9981/E-mail: konics4@konics.cor
 - A/S center 37, Venture-ro, 36beon-gil, Yeonsu-gu, Incheon, South Korea, 22011 TEL: 82-32-820-2356~7 / FAX: 82-32-813-9979

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