
High Precision Indicating Temperature Transmitters

Model : TP100



Advantages

- RTD inputs
- Measuring ranges from -50 to 500 C
- Various choice of electrical connection
- Excellent accuracy and long term stability

Applications

They can be used in applications where low-level RTD signals need to be amplified for long-distance transmission or protected from strong field electrical noise, as well as to accurately measure or verify the temperature in a test room.

The transmitter converts RTD inputs to analog signals to interface directly with indicators, recorders, controllers, PLCs, DCS systems, and can be used in a wide range of applications in process control and environmental control system design.



Descriptions

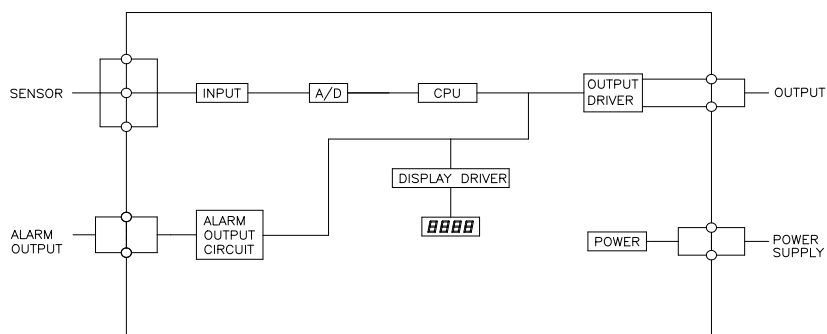
The TP100 series temperature transmitters are designed in an RTD simple case to provide a variety of transmission signals and displays. They offer 4-20 mA or 1-5 volt and 0-10 volt outputs as standard and two contact alarms as an option, as well as a display based on an accurate temperature measurement. They are factory precision calibrated for the required temperature range and output, but can be modified in the field if desired.

The TP100 series uses proven components, technology, and design for use in a variety of media.

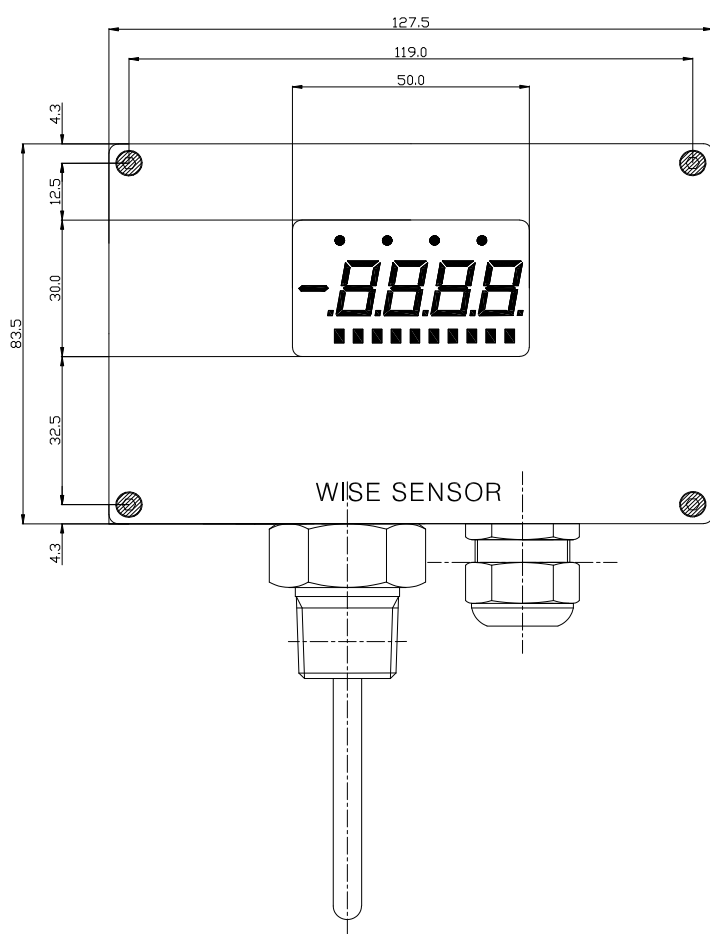
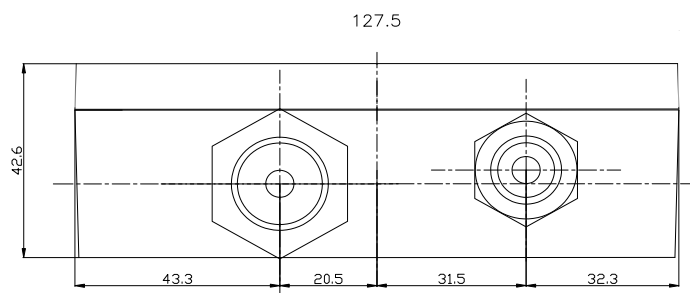
Specification

Input				
Measuring range	RTD (PT100 ohm, JIS-C-1604-1981)			
Thermocouple	-50~500°C			
Output				
	Current output		Voltage output	
Electrical connection type	4-wire technique			
Full scale output signal	20mA	±0.2%	5V	±0.2%
Zero measured output	4mA	±0.03%	1V	±0.03%
	Other signals available on request			
Electrical Specification				
Excitation voltage	24V DC(12~36V DC)			
Load resistance max @ 24V	500Ω at 24V			
Influence of excitation	0.01% FSO/V			
Burnout	Upscale(approx. 23mA DC) or downscale(approx. 3mA DC)			
Reverse polarity	Protected			
Shock resistance	No change in performance after 10Gs for 11ms			
Vibration	5g (10~2000Hz)			
Response time(10~90%)	± 500 mSec.			
Adjustment	See the user guide			
Performance Specification				
Accuracy	≤ ±0.2% FSO			
Non-Linearity	Better Than 0.10% FSO			
Repeatability	Better Than 0.05% FSO			
Long term stability	Better Than 0.05% FSO per month			
Cutoff frequency(-3 d B)	± 2KHz			
Ambient temperature limits	-20~85°C			
Ambient operating humidity	5 to 95 % rH, non-condensing			
Physical Specification				
Process connection	PT1/2" male thread			
	Flange & other connections available on request			
Process media	Gases and liquids compatible with stainless steel 316			
Materials	Temperature connector : stainless steel 316 and others available on request			
	Housing (Body) : Aluminium Die-casting (ALDC)			
	Electrical connector : Standard - NYLON, Option - Brass with nickel plated, SUS304			
Enclosure rating	IP65			
Influence of mounting position	Not critical			
Option	Protection well			

System connection for transmitter & switch



Dimension (mm)



Electrical connection

P : Power supply
S : Output signal

System Pin	24V to 4~20mA Loop	
DC 24V+	P+	
Output +	S+	
Common	P- , S-	
AL1_1	Alarm 1	Alarm 1
AL1_2		
AL2_1	Alarm 2	Alarm 2
AL2_2		

Ordering Information

High Precision Indicating Temperature Transmitters

TP100										High Precision Indicating Temperature Transmitters
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[illegible]

P								PT 100 Ω
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3. Process connection type "1"

[illegible][illegible]

T						PT thread as standard
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J							Frang. per JIS
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A							Frangere per ANSI
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5. Process connection size						
1						1 1/2"

2						1"
3						2"

X					Other size available on request
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6 Thermo-well

S					With protection thermo-well
N					Without protection thermo-well

01				-50~0 °C
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03				-20~80 °C
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05				0~50 °C
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07				0~150 °C
08				0~200 °C

09				0~300 °C
10				0~100 °C

11				0~500 °C
YY				Other calibration ranges available on request

K			Calibration in Celsius scale °C
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A			Calibration in Fahrenheit scale
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9. Output

A1	4~20mA DC,2-wire Loop power
A2	4~20mA DC,2-wire Loop power & 2ALARM

S	PG 11, Available cable sizes 5~10Ø (Standard)
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466
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