

외기 온도 감지기

OUTSIDE AIR TEMPERATURE SENSOR



TTO

TTO221, TTO222, TTO223, TTO224

Product Application | 제품 적용 |

외기의 온도를 감지하며 태양의 복사열을 감지하는 센서입니다.

- ▶ 백엽상, 집 또는 빌딩 외부 벽면에 설치 온도감지
- ▶ 내부에 설치 온도감지

Type | 타입 |

모델 (Model)	감지소자 (DIN) (Sensor Element)	감지범위 (Measuring Range)	정밀도 (Accuracy)
TTO221	Pt100Ω	-35~+80℃	±0.15℃ (at 0℃)
TTO222	Pt1000Ω	-35~+80℃	±0.15℃ (at 0℃)
TTO223	NTC3KΩ	-35~+80℃	±0.2℃ (at 25℃)
TTO224	NTC10KΩ (Ⅱ),(Ⅲ)	-35~+80℃	±0.2℃ (at 25℃)

Technical data | 기술 사양 |

	Pt100Ω	Pt1000Ω	NTC10KΩ (Ⅱ),(Ⅲ)	NTC3KΩ
검출소요시간 (Time constant)	약 3분 (at 0.15m/sec Air)	약 3분 (at 0.15m/sec Air)	약 3분 (at 0.15m/sec Air)	약 3분 (at 0.15m/sec Air)
자기발열 (Self-heating)	2.5mW/℃ (in Air, 1m/sec)	2.0mW/℃ (in Air, 1m/sec)	2.7mW/℃ (in Air, 1m/sec)	2.0mW/℃ (in Air, 1m/sec)
최대 허용 전류 (Max. Applied Current)	1mA	0.3mA	-	-
온도계수(TCR)	3850 PPM/K	3850 PPM/K	-	-
적용 (Application)	-	-	ACI/CP, AN PRECON TYPE II,III ANDOVER	ACI/3K MODEL22

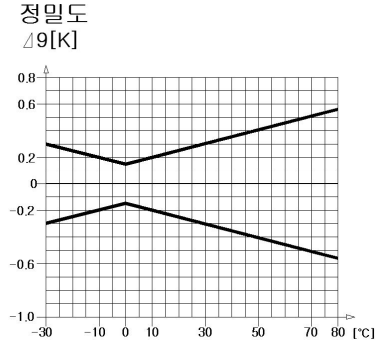
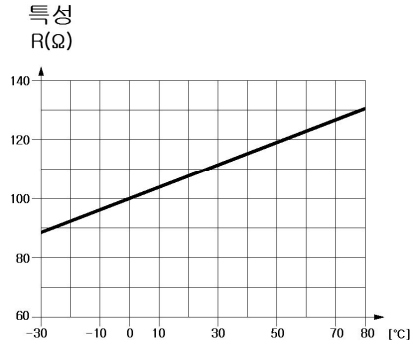
- 연결 사용 : Controller or DDC, PLC System
- 온도 변화 : Table of Reference Value to Pt / NTC (DIN EN60751)
- 허용 주변온도 : 1)작동 시 : -25 ~ +80℃ (Probe : -35 ~ +80℃)
2)저장 시 : -10 ~ +65℃
- 허용 주변습도 : 5 ~ 95%Rh
- 결선 / 케이블 : 3W/1.0 ~ 1.5mm²
- 케이블 인입그랜드 : PF1/2"
- 하우징 보호등급 : IP65 to EN60529
- 하우징 재질 : PC
- 하우징 무게 : 150g

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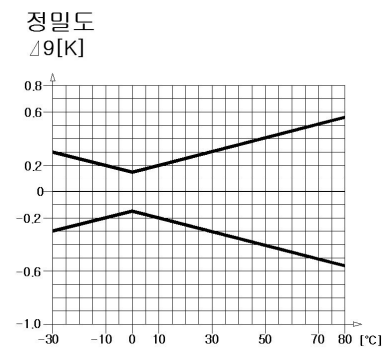
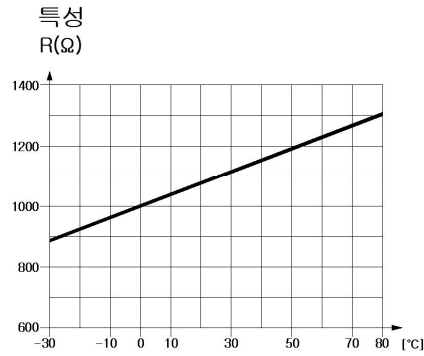
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Accuracy | 감지소자 정밀도 |

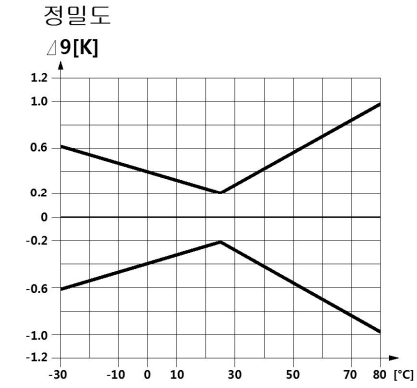
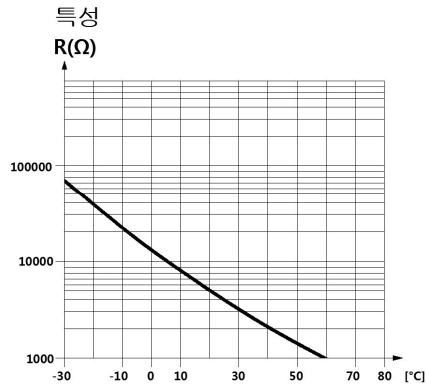
▶ Pt100Ω (Class A)



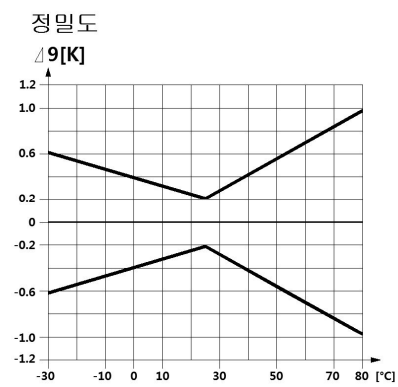
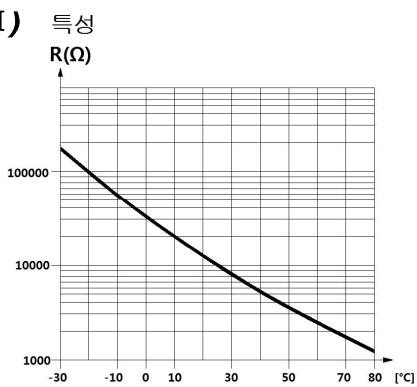
▶ Pt1000Ω (Class A)



▶ NTC 3KΩ



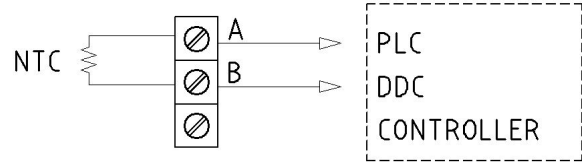
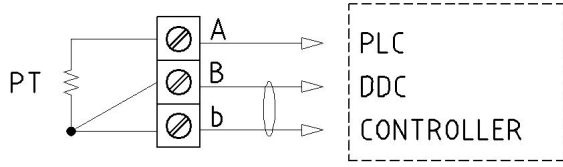
▶ NTC 10KΩ(II)



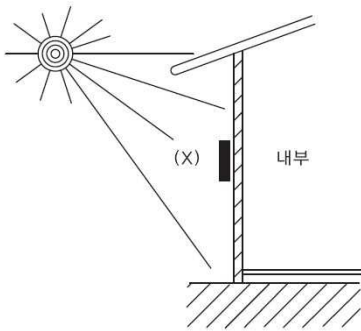
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Wiring | 결선도 |

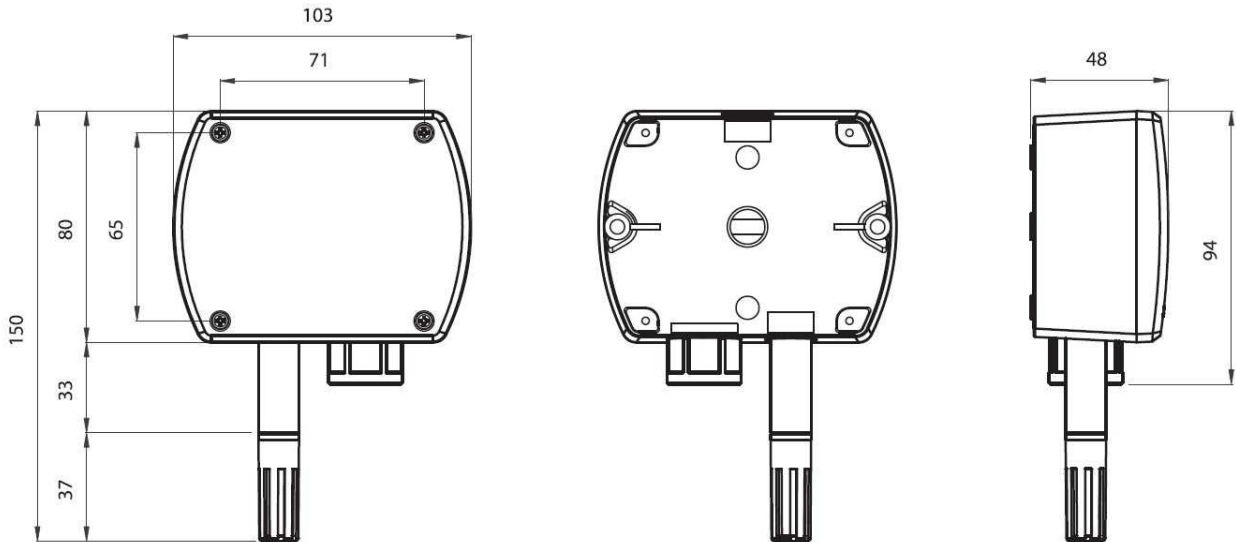


Installation Method | 설치 방법 |



- ▶ 외부벽면에 설치시 직사광선에 노출되지 않는 곳에 설치한다.
- ▶ 굴뚝 또는 굴뚝이 연결된 벽에 설치하지 않는다
- ▶ 환기구나 창문위에 설치하지 않는다
- ▶ 검출기에 공기순환을 방해하는 페인트칠을 하지 않는다.

Shape Dimension | 외형 치수 |



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Resistance Curve Table | 온도 저항 변화표 |

온도		Pt100	Pt1000	NTC3K (ACI/3K)(22)	NTC10K (TypeII)(CP)	NTC10K (TypeIII)(AN)
Temp ℃	Temp ℉	Resistance Ω	Resistance Ω	Resistance Ω	Resistance Ω	Resistance Ω
-40	-40	84.3	843	100.701	335.60	239.78
-35	-31	86.2	862	72.658	242.12	179.25
-30	-22	88.2	882	53.196	173.34	135.23
-25	-13	90.2	902	39.190	129.40	102.51
-20	-4	92.2	922	29.162	96.46	79.01
-15	5	94.1	941	21.909	71.55	61.02
-10	14	96.1	961	16.611	55.07	47.55
-5	23	98.0	980	12.705	42.17	37.55
0	32	100	1000	9.800	32.56	29.99
5	41	102.0	1020	7.620	25.34	23.90
10	50	103.9	1039	5.971	19.87	19.03
15	59	105.8	1058	4.713	15.93	15.26
20	68	107.8	1078	3.747	12.49	12.31
25	77	109.7	1097	3.000	10.00	10.00
30	86	111.7	1117	2.416	8.06	8.17
35	95	113.6	1136	1.959	6.53	6.71
40	104	115.5	1155	1.597	5.33	5.55
45	113	117.5	1175	1.310	4.37	4.61
50	122	119.4	1194	1.081	3.60	3.85
55	131	121.3	1213	896	2.99	3.23
60	140	123.2	1232	747	2.49	2.72
65	149	125.2	1252	625	2.08	2.30
70	158	127.1	1271	526	1.75	1.96
75	167	129.0	1290	445	1.48	1.70
80	176	130.9	1309	378	1.26	1.43
85	185	132.8	1328	322	1.07	1.23
90	194	134.7	1347	275	0.92	1.08
95	203	136.6	1366	237	0.79	0.94
100	212	138.5	1385	204	0.68	0.81
105	221	140.4	1404	177	0.59	0.72
110	230	142.3	1423	153	0.51	0.62
115	239	144.2	1442	134	0.45	0.54
120	248	146.1	1461	117	0.39	0.48
125	257	148.0	1480	103	0.34	0.42
130	266	149.8	1498	90	0.30	0.37
135	275	151.7	1517	80	0.26	0.33
140	284	153.6	1536	71	0.23	0.29