

# DUCT 온도 감지기

## DUCT TEMPERATURE SENSOR



### TTD

TTD221, TTD222, TTD223, TTD224

#### Product Application | 제품 적용 |

공조시스템(HVAC)의 덕트내의 공기흐름 온도를 감지하는 센서입니다.

- ▶ 급기, 환기, 배기덕트내의 온도감지

#### Type | 타입 |

모델 (Model)	감지소자 (DIN) (Sensor Element)	감지범위 (Measuring Range)	정밀도 (Accuracy)
TTD221	Pt100Ω	-30~+130℃	±0.15℃ (at 0℃)
TTD222	Pt1000Ω	-30~+130℃	±0.15℃ (at 0℃)
TTD223	NTC3KΩ	-30~+110℃	±0.2℃ (at 25℃)
TTD224	NTC10KΩ (Ⅱ),(Ⅲ)	-30~+110℃	±0.2℃ (at 25℃)

#### Technical data | 기술 사양 |

	Pt100Ω	Pt1000Ω	NTC10KΩ (Ⅱ),(Ⅲ)	NTC3KΩ
검출소요시간 (Time constant)	약 28초 (at 2m/sec Air)	약 28초 (at 2m/sec Air)	약 28초 (at 2m/sec Air)	약 28초 (at 2m/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

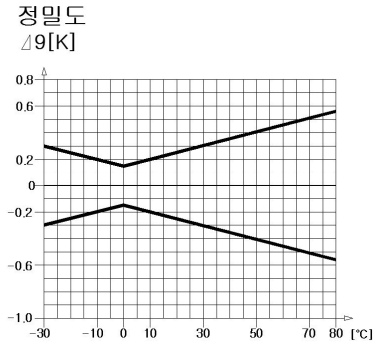
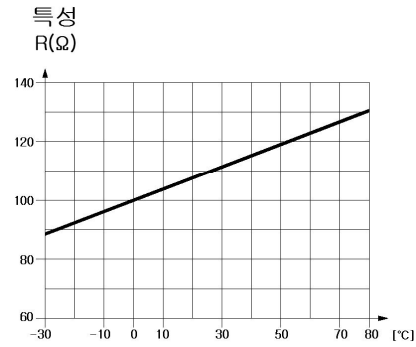
- 연결 사용 : Controller or DDC, PLC System
- 온도 변화 : Table of Reference Value to Pt / NTC (DIN EN60751)
- 허용 주변온도 : 1)작동 시 : -10 ~ +80℃ (Probe : -30~110℃)  
2)저장 시 : -10 ~ +70℃
- 허용 주변습도 : 5 ~ 95%Rh
- 결선 / 케이블 : 3W/1.0 ~ 1.5mm<sup>2</sup>
- 케이블 인입그랜드 : PF1/2"
- 하우징 보호등급 : IP65 to EN60529
- 하우징 재질 : PC
- 하우징 무게 : 194g (브라켓 포함)

# 덕트 온도 감지기

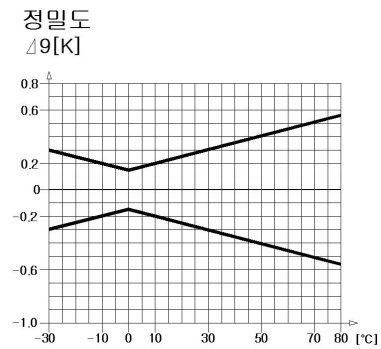
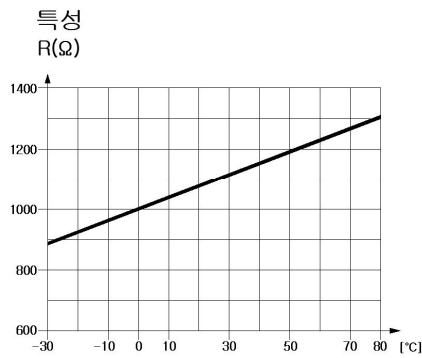
## DUCT TEMPERATURE SENSOR

### Accuracy | 감지소자 정밀도 |

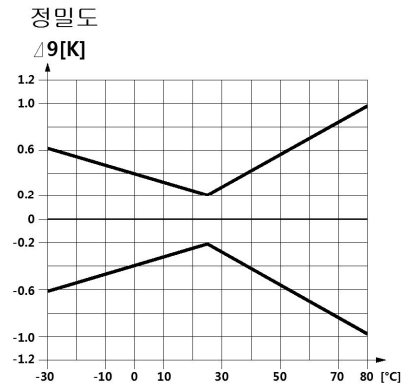
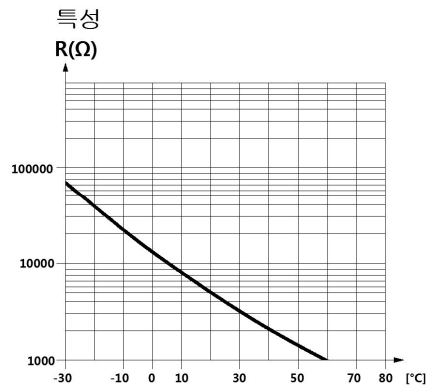
▶ **Pt100Ω (Class A)**



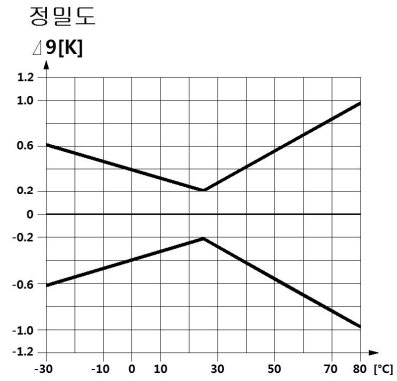
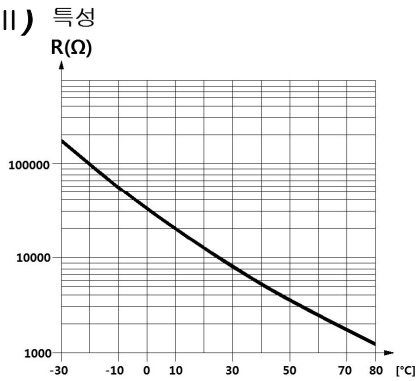
▶ **Pt1000Ω (Class A)**



▶ **NTC 3KΩ**



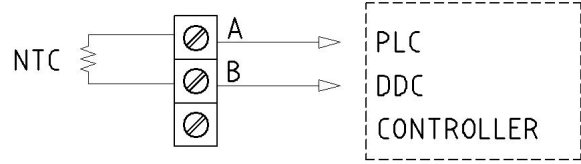
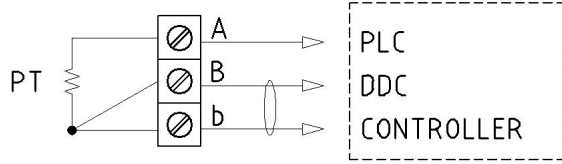
▶ **NTC 10KΩ(II)**



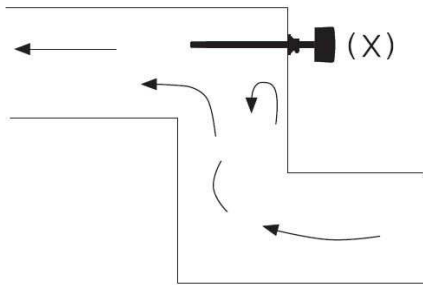
# 덕트 온도 감지기

## DUCT TEMPERATURE SENSOR

### Wiring | 결선도 |

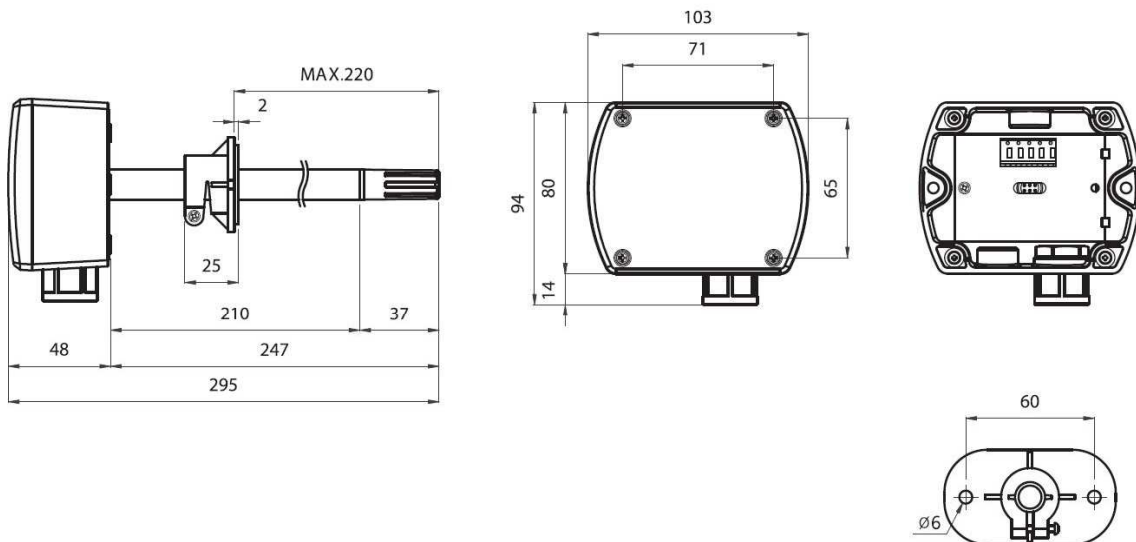


### Installation Method | 설치 방법 |



- ▶ 덕트내에 공기흐름이 적은곳이나 사각지대를 피해서 설치한다.
- ▶ 음압이 발생하는 덕트에 설치시에는 공기가 검출기쪽으로 나올수 있기 때문에 감지봉쪽 구멍을 브라켓으로 잘 밀봉한다.

### Shape Dimension | 외형 치수 |



# 덕트 온도 감지기

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**Resistance Curve Table** | 온도 저항 변화표 |

온도		Pt100	Pt1000	NTC3K (ACI/3K)(22)	NTC10K (Type II)(CP)	NTC10K (Type III)(AN)
Temp ℃	Temp °F	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