

Temperature sensors

Pt 1000 ohm / 0°C

AKS 11, AKS 12, AKS 21, AK-HS 1000

Application

These sensors are recommended for accurate temperature measurement in applications such as superheating, food safety logs, and other important temperature measurement applications.

Functional description

The sensor unit consists of a platinum element the resistance value of which changes proportionally with the temperature.

Pt 1000 ohm sensor (1000 ohm at 0°C).

The sensors are adjusted and meet the tolerance requirements of EN 60751 Class B.



Type	Description	Temperature range °C	Sensor/sensor body	Connection/cable	Enclosure	Time constant [s]	Cable length m	Qty	Code
AKS 11 *)	Surface and duct sensor for control and monitoring	-50 to +100	Top: PPO (Noryl) Bottom: stainless steel	PVC cable, 2 x 0.2 mm ²	IP 67	3 ¹⁾ 10 ²⁾ 35 ³⁾	3.5 m	1	084N0003
							3.5 m + AMP	110	084N0050
							5.5 m	1	084N0005
							5.5 m + AMP	70	084N0051
							8.5 m	1	084N0008
							8.5 m + AMP	50	084N0052
AKS 12	Air temperature sensor for monitoring	-40 to 100	18/8 stainless steel	PVC cable 2 x 0.22 mm ²	IP 67	15 ²⁾	1.5 m	1	084N0036
								30	084N0035
							3.5 m	30	084N0039
							5.5 m	30	084N0038
AKS 21A **)	Surface sensor with clip	-70 to +180	18/8 stainless steel	Fire-resistant silicone rubber cable, 2 x 0.2 mm ²	IP 67	6 ¹⁾ 14 ²⁾ 35 ³⁾	2.5 m	1	084N2007
	Surface sensor with shielded cable and clip	-70 to +180					5.0 m	1	084N2008
							2.0 m	1	084N2024
AKS 21M	Multipurpose sensor	-70 to +180					2.5 m	1	084N2003
AKS 21W	Immersion sensor with cable and sensor pocket, welded version	-70 to +180	Immersion sensor, 18/8 stainless steel tube	Fire-resistant silicone rubber cable, 2 x 0.2 mm ²	IP 56	18 ¹⁾	2.5 m	1	084N2017
			Weld nipple: free cutting steel						
			Thread nipple: free cutting steel						
AK-HS 1000	Product sensor for HACCP logging	-30 to +50	ABS and PC	PVC cable	IP 54	180-900 ³⁾	5.5 m	1	084N1007

*) Recommended for measuring superheat

**) Recommended for hot gas systems

¹⁾ Agitated liquid.

²⁾ Clamped to pipe.

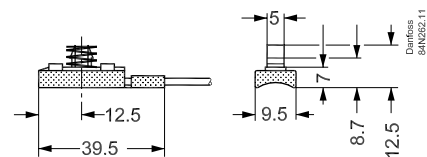
³⁾ Air 4 m/s.

AKS 11, AKS 12, AKS 21

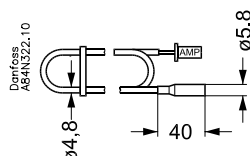
°C	ohm	°C	ohm
0	1000.0		1000.0
1	1003.9	-1	996.1
2	1007.8	-2	992.2
3	1011.7	-3	988.3
4	1015.6	-4	984.4
5	1019.5	-5	980.4
6	1023.4	-6	976.5
7	1027.3	-7	972.6
8	1031.2	-8	968.7
9	1035.1	-9	964.8
10	1039.0	-10	960.9
11	1042.9	-11	956.9
12	1046.8	-12	953.0
13	1050.7	-13	949.1
14	1054.6	-14	945.2
15	1058.5	-15	941.2
16	1062.4	-16	937.3
17	1066.3	-17	933.4
18	1070.2	-18	929.5
19	1074.0	-19	925.5
20	1077.9	-20	921.6
21	1081.8	-21	917.7
22	1085.7	-22	913.7
23	1089.6	-23	909.8
24	1093.5	-24	905.9
25	1097.3	-25	901.9
26	1101.2	-26	898.0
27	1105.1	-27	894.0
28	1109.0	-28	890.1
29	1112.8	-29	886.2
30	1116.7	-30	882.2
31	1120.6	-31	878.3
32	1124.5	-32	874.3
33	1128.3	-33	870.4
34	1132.2	-34	866.4
35	1136.1	-35	862.5
36	1139.9	-36	858.5
37	1143.8	-37	854.6
38	1147.7	-38	850.6
39	1151.5	-39	846.7
40	1155.4	-40	842.7
41	1159.3	-41	838.8
42	1163.1	-42	835.0
43	1167.0	-43	830.8
44	1170.8	-44	826.9
45	1174.7	-45	822.9
46	1178.5	-46	818.9
47	1182.4	-47	815.0
48	1186.3	-48	811.0
49	1190.1	-49	807.0
50	1194.0	-50	803.1

approx. 3.9 ohm/K

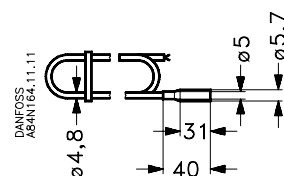
AKS 11



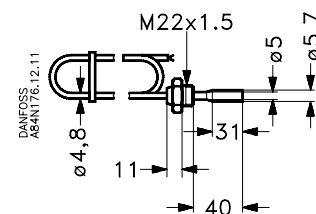
AKS 12



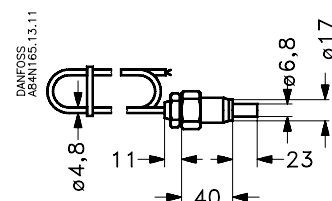
AKS 21A,
AKS 21M



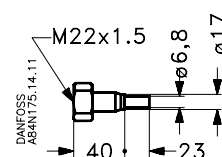
AKS 21W



AKS 21W
welded version

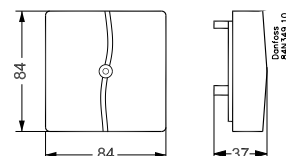


Pocket in welded version
for AKS 21W



The tolerance of a Pt1000 sensor is less than $\pm(0.3 + 0.005 T)$.
This translates into a temperature error of less than 0.5 degree for refrigeration control.

Product sensor
for HACCP



Sensors with AMP plug:
connector type AMP ital mod 2, housing 280 358,
crimp contacts type 280 708-2