

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 |
| | 5.5 m + AMP | 30 | 084N0037 | | | | | | |
| 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 |
| AKS 21M | Multipurpose sensor | -70 to +180 | | | | | 2.0 m | 1 | 084N2024 |
| | | | | | | | 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 2 x 0.25 mm ² | 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.

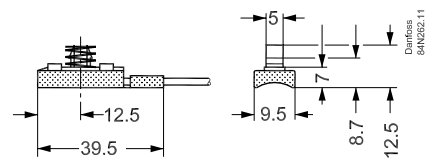
³⁾ Air 4 m/s.

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

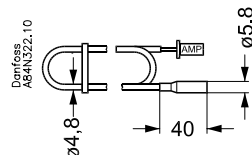
| °C | ohm | °C | ohm |
|----|--------|-----|--------|
| 0 | 1000.0 | | 1000.0 |
| 1 | 1003.9 | -1 | 996.1 |
| 2 | 1007.8 | -2 | 992.2 |
| 3 | 1011.7 | -3 | 988.3 |
| 4 | 1015.6 | -4 | 984.4 |
| 5 | 1019.5 | -5 | 980.4 |
| 6 | 1023.4 | -6 | 976.5 |
| 7 | 1027.3 | -7 | 972.6 |
| 8 | 1031.2 | -8 | 968.7 |
| 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

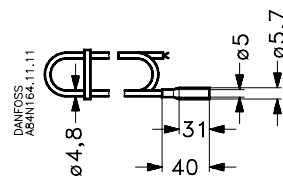
AKS 11



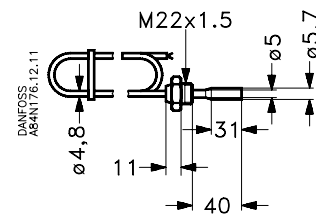
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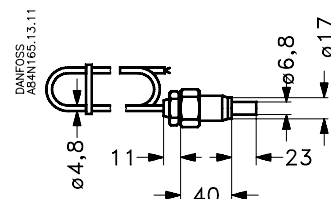
AKS 21A, AKS 21M



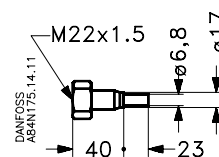
AKS 21W



AKS 21W welded version

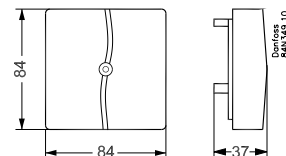


Pocket in welded version for AKS 21W



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 AK-HS 1000



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