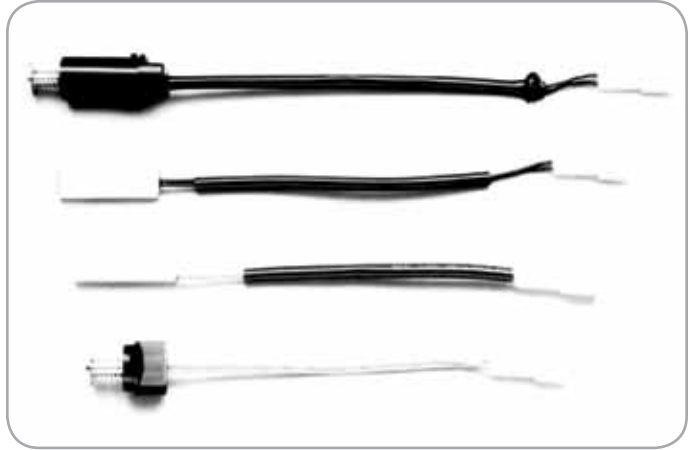


T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

NTC Automotive Series

Sensor Assembly



Applications

- Automatic temperature control for automobile air conditioning
- Semi auto temperature control for automobile air conditioning
- For electronic engine control system
- For engine system temperature measurement
- For engine oil pressure warning system
- Air conditioner sensor
- Refrigerator sensor

Features

- Low cost
- Accurate
- The solar sensor measures the intensity of the sun for controlling the air conditioning system.
- The evaporator temperature sensor measures the temperature of the air-flow behind the evaporator.
- The thermocon controls the temperature of the evaporator in a car air conditioning system.
- The incar temperature sensor measures the temperature of the inside air in an automobile air conditioner system.
- The water temperature sensor measures the temperature of the engine coolant .
- The gauge water temperature sensor measures the temperature of the engine coolant .
- The oil pressure switch senses engine oil pressure.
- The temperature sensor controls air conditioner temperature.
- The temperature sensor controls refrigerator temperature

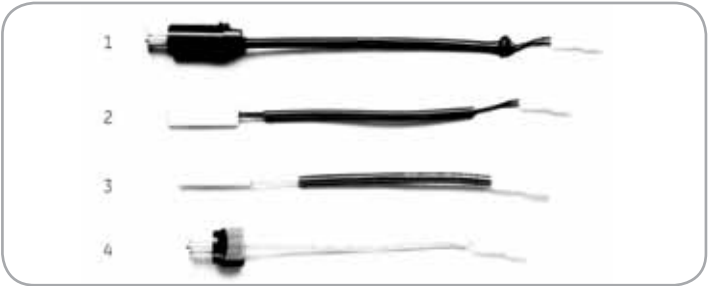
Amphenol
Advanced Sensors

Automotive Series Specifications

Rating

Water Temperature Sensor

Fig. No.	Part Number	Operating Temp. Range	Resistance	β -constant
1	A-1405	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 K Ω ±3%	β (0/50) = 3330K±2%
2	A-1406	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 K Ω ±3%	β (0/50) = 3330K±2%
3	A-1407	-40°F to 203°F (-40°C to 95°C)	R(50) = 0.5 K Ω ±3%	β (0/50) = 3523K±2%
4	A-1408	-40°F to 203°F (-40°C to 95°C)	R(25) = 10.0 K Ω ±3%	β (0/50) = 3880K±2%



Ambient Temperature Sensor

Fig. No.	Part Number	Operating Temp. Range	Resistance	β -constant
1	A-1409	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.0 K Ω ±3%	β (0/50) = 3230K±2%
2	A-1410	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.186 K Ω ±3%	β (0/50) = 3390K±2%
3	A-1411	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.5 K Ω ±3%	β (0/50) = 3880K±2%
4	A-1412	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 K Ω ±3%	β (0/50) = 3330K±2%
5	A-1413	-40°F to 203°F (-40°C to 95°C)	R(25) = 11.36 K Ω ±3%	β (0/50) = 3400K±2%
6	A-1414	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 K Ω ±3%	β (0/50) = 3330K±2%
7	A-1415	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 K Ω ±3%	β (0/50) = 3330K±2%



Solar Sensor

Fig. No.	Part Number	Operating Temp. Range	Output Characteristics	
			Measuring Condition	Output Signal
1	A-1416	-40°F to 230°F (-40°C to 110°C)	At 660 kcal/m2h	0.5 mA±15%
2	A-1417	-40°F to 230°F (-40°C to 110°C)	At 660 kcal/m2h	0.5 mA±15%
3	A-1418	-40°F to 230°F (-40°C to 110°C)	At 1000 Lux	61 uA±15%
4	A-1419	-40°F to 230°F (-40°C to 110°C)	At 660 kcal/m2h	0.32 mA±15%
5	A-1420	-40°F to 230°F (-40°C to 110°C)	At 40000 Lux	58.8 mV±15%
6	A-1421	-40°F to 230°F (-40°C to 110°C)	At 40000 Lux	58.8 mV±15%
7	A-1422	-40°F to 203°F (-40°C to 95°C)	At 660 kcal/m2h	0.32 mA±15%
8	A-1423	-40°F to 203°F (-40°C to 95°C)	At 660 kcal/m2h	0.5 mA±15%



Evaporator Temperature Sensor

Fig. No.	Part Number	Operating Temp. Range	Resistance	β -constant
1	A-1424	-40°F to 203°F (-40°C to 95°C)	R(25) = 11.94 K Ω ±3%	β (0/50) = 3400K±2%
2	A-1425	-40°F to 203°F (-40°C to 95°C)	R(25) = 8 K Ω ±3%	β (0/50) = 3880K±2%
3	A-1426	-40°F to 203°F (-40°C to 95°C)	R(25) = 8 K Ω ±1%	β (0/50) = 3880K±1%
4	A-1427	-40°F to 203°F (-40°C to 95°C)	R(25) = 2 K Ω ±3%	β (25/50) = 3980K±2%
5	A-1428	-40°F to 203°F (-40°C to 95°C)	R(25) = 10 K Ω ±1%	β (25/50) = 3933K±1%



Automotive Series Specifications

Thermocon Evaporator Temperature sensor Controller

Fig. No.	Part Number	Operating Temp. Range	Temp. Characteristics		Time Constant
			OFF Temp.	DIFF. Value	
1	A-1429	-40°F to 203°F (-40°C to 95°C)	0.5 ±0.5°C	2.5 ±0.5°C	Maximum 10 seconds
2	A-1430	-40°F to 203°F (-40°C to 95°C)	0.5 ±0.5°C	2.5 ±0.5°C	Maximum 10 seconds
3	A-1431	-40°F to 203°F (-40°C to 95°C)	3.5 ±0.5°C	1.5 ±0.5°C	4 ±1.5 seconds
4	A-1432	-40°F to 203°F (-40°C to 95°C)	0.5 ±0.5°C	1.5 ±0.5°C	Maximum 8 seconds
5	A-1433	-40°F to 203°F (-40°C to 95°C)	0.5 ±0.5°C	2.5 ±0.5°C	Maximum 8 seconds
6	A-1434	-40°F to 203°F (-40°C to 95°C)	1.5 ±0.5°C	3.5 ±0.5°C	Maximum 12 seconds



Incar Temperature Sensor

Fig. No.	Part Number	Operating Temp. Range	Resistance	β-constant
1	A-1435	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.5 KΩ±3%	β(0/50) = 3880k±2%
2	A-1436	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.5 KΩ±3%	β(0/50) = 3880k±2%
3	A-1437	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 KΩ±3%	β(0/50) = 3330k±2%
4	A-1438	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.18 KΩ±3%	β(0/50) = 3330k±2%
5	A-1439	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.5 KΩ±3%	β(0/50) = 3880k±2%
6	A-1440	-40°F to 203°F (-40°C to 95°C)	R(25) = 2.186 KΩ±3%	β(0/50) = 3390k±2%



Water Temperature Sensor for "ECU"

Fig. No.	Part Num.	Operating Temp. Range	Resistance	Time Constant	Remarks
1	A-1441	-40°F to 266°F (-40°C to 130°C)	R(80) = 321.4±4%	Maximum 10 seconds (25->85 Ω)	Dual Sensor
2	A-1442	-40°F to 266°F (-40°C to 130°C)	R(120) = 200.5 Ω±2%	Maximum 10 seconds (25->85 Ω)	Dual Sensor



Gauge Water Temperature Sensor

Fig. No.	Part Num.	Operating Temp. Range	Resistance	β-constant	Remarks
1	A-1443	-40°F to 266°F (-40°C to 130°C)	R(25) = 2.5 KΩ±3%	β(0/50)= 3850k±2%	
2	A-1444	-40°F to 266°F (-40°C to 130°C)	R(25) = 870 KΩ±5%	β(50/120)= 4130k±3%	13.5
3	A-1445	-40°F to 266°F (-40°C to 130°C)	R(100) = 42.21 KΩ±5%	β(25/150)= 3926k±2%	7V



Oil Pressure Switch

Fig. No.	Part Number	Operating Temp. Range	Operating Pressure	Contact Resistance
1	A-1446	-40°F to 284°F (-40°C to 140°C)	18 to 23 psi 0.2 to 0.55 bar	Maximum 0.75 Ω



Automotive Series Specifications

Temperature Sensor For Air Conditioner

Fig. No.	Part Number	Resistance	β -constant	Remarks (Head Type)
1	A-1447	R(100) = 3.7 K Ω ±2.5%	B(0/100) = 3979 K Ω ±1%	Cu case (4 to 15)
2	A-1448	R(0) = 15 K Ω ±2%	B(0/100) = 3450 K Ω ±2%	PVC Cap (3 to 30)
3	A-1449	R(50) = 2.09 K Ω ±3%	B(0/50) = 3877 K Ω ±2%	Epoxy
	A-1450	R(25) = 5.0 K Ω ±3%	B(25/50) = 3950 K Ω ±2%	Cu case (4.5 to 24)
4	A-1451	R(25) = 10 K Ω ±5%	B(25/50) = 3933 K Ω ±2%	Epoxy
5	A-1452	R(25) = 10 K Ω ±5%	B(25/50) = 3933 K Ω ±2%	Cu case (6 to 24)



Temperature Sensor For Refrigerator

Fig. No.	Part Number	Resistance	β -constant	Remarks (Head Type)
1	A-1453	R(-1) = 31.36 K Ω ±1.5%	B(25/50) = 3434K±2%	ABS Cap (8 to 26.5)
2	A-1454	R(-1) = 31.36 K Ω ±2.7%	B(25/50) = 3434K±2%	ABS Cap (8 to 26)
3	A-1455	R(25) = 10 K Ω ±5%	B(25/50) = 3933K±2%	Cu Case (6 to 25)
4	A-1456	R(25) = 10 K Ω ±5%	B(25/50) = 3933K±2%	Epoxy

