

14.10 THERMISTOR

14.10.1 NAME AND ROLE OF EACH THERMISTOR

Name	Connector no.	Measuring point	role
OH thermistor	CN5	Compressor head	If the temperature of the compressor rises abnormally (118°C), the compressor will be stopped. The temperature is used to decide the operation of the valve
DEF thermistor	CN6	Heat exchanger	The thermistor decide the defrost operation during heating combine the data of the outside temperature and its data
Outdoor temperature thermistor	CN7	Outside temperature	Outdoor temperature is used to decide the various operation of the air conditioner
Electrical Expansion valve thermistor (narrow pipe 1)	CN8	Indoor unit (narrow pipe 1)	The thermistors detect the temperature of the piping to the indoor units. The temperature are used to decide how much the expansion valve is opened
Electrical Expansion valve thermistor (narrow pipe 2)		Indoor unit (narrow pipe 2)	
Electrical Expansion valve thermistor (narrow pipe 3) *		Indoor unit (narrow pipe 3)	
Electrical Expansion valve thermistor (narrow pipe 4) *		Indoor unit (narrow pipe 4)	
Electrical Expansion valve thermistor (wide pipe 1)	CN9	Indoor unit (wide pipe 1)	
Electrical Expansion valve thermistor (wide pipe 2)		Indoor unit (wide pipe 2)	
Electrical Expansion valve thermistor (wide pipe 3) *		Indoor unit (wide pipe 3)	
Electrical Expansion valve thermistor (wide pipe 4) *		Indoor unit (wide pipe 4)	

* ** Starmark is applicable to respective models only

14.10.2 REFERENCE VALUE FOR THERMISTOR'S RESISTANCE AND TEMPERATURE

Electrical expansion valve thermistor	Temperature	Resistance	Microcomputer pin potential
DEF thermistor	-15°C	12.6kΩ	1.0V
	0°C	6.1 kΩ	1.7V
	25°C	2.2 kΩ	3.0V
	50 °C	860 Ω	3.9V
	75°C	400 Ω	4.4V
Outdoor temperature thermistor	-15°C	12.6kΩ	1.0V
	0°C	6.1 kΩ	1.7V
	15°C	3.2 kΩ	2.4V
	30 °C	2 kΩ	3.1V
OH thermistor	25 °C	33.9 kΩ	0.5V
	50 °C	10.8 kΩ	1.3V
	75°C	4.1 kΩ	2.4V
	100 °C	1.7 kΩ	3.4V
	105 °C	1.5 kΩ	3.6V
	118 °C	1 kΩ	3.9V

NOTE:

The table shows the corresponding reference value between thermistor's resistance and the temperature. The value stated in the table might be slightly differ from measured value, depending on the measuring instrument.

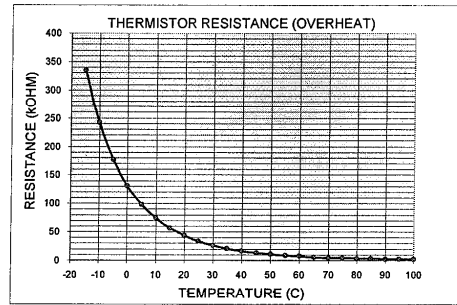
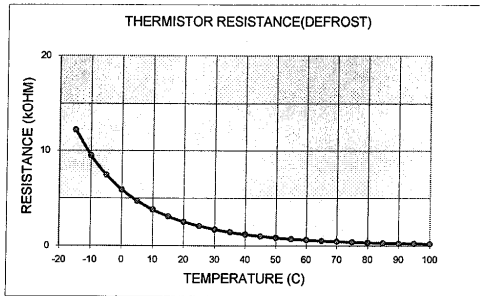
When measuring the resistance, pull out the connector after turning off the power supply to avoid voltage leak.

WARNING:

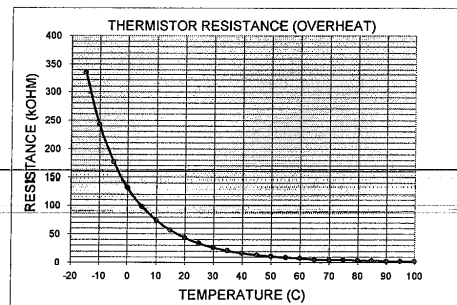
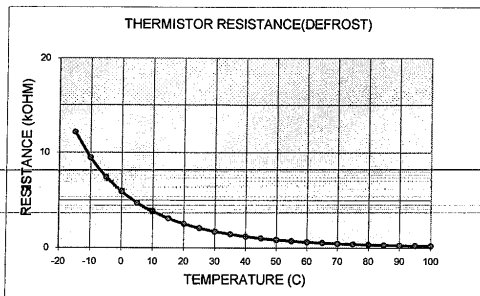
Pulling out the connector while the power supply is turn on will cause electrical shock, leak of current or burn of measuring instrument.

Mono/Multi Indoor

RAC-25NH5, RAC-35NH5, RAC-50NH5, RAC-65NH5

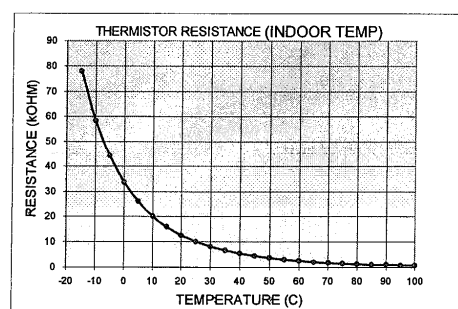
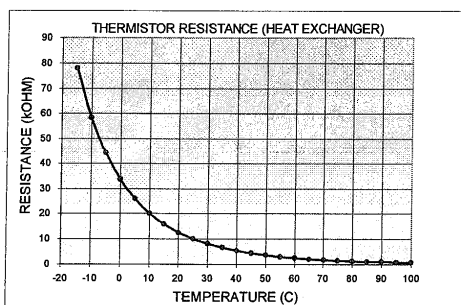


RAM-35QH5, RAM-52QH5, RAM-53QH5, RAM-71QH5, RAM-90QH5, RAM-130QH5

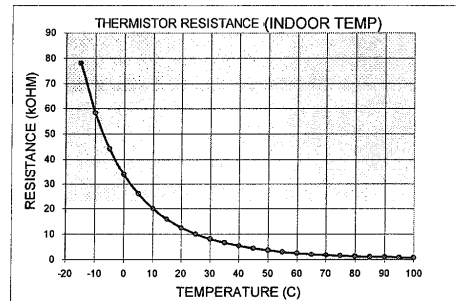
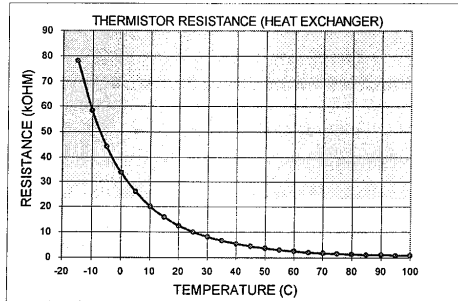


Mono/Multi Indoor

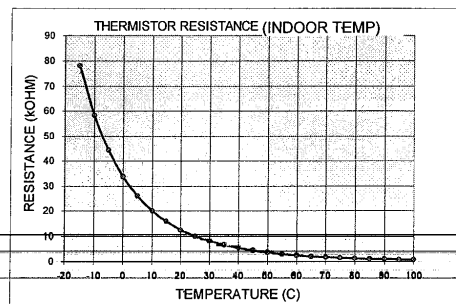
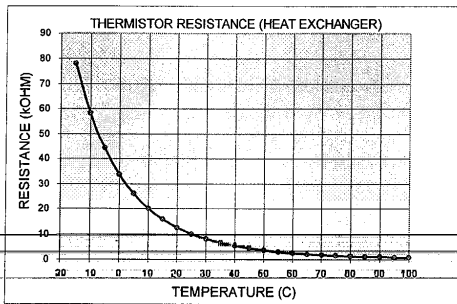
RAK-18NH6A, RAK-25NH6A, RAK-35NH6A, RAK-50NH6A, RAK-65NH5A, RAK-25QH8, RAK-35QH8, RAK-50QH8



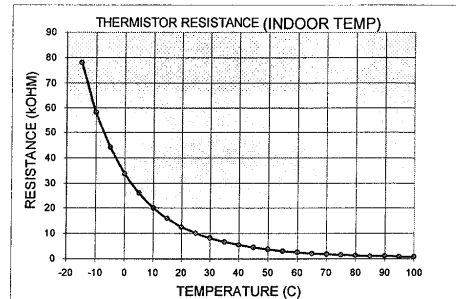
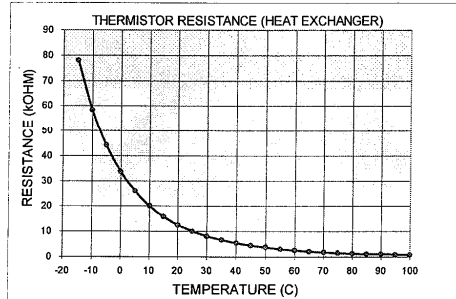
RAI-25NH5A ,RAI-35NH5A ,RAI-50NH5A



RAD-18NH7A ,RAD-25NH7A ,RAD-35NH7A ,RAD-50NH7A

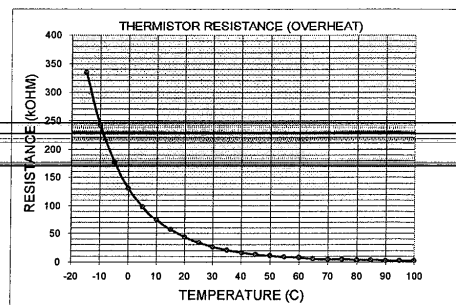
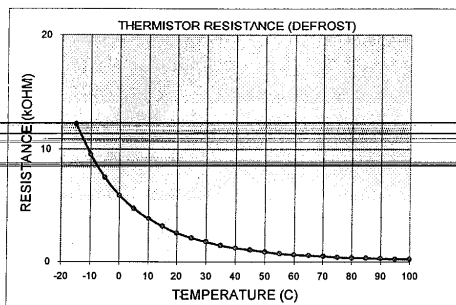


RAF-25QH8, RAF-35QH8, RAF-50QH8, RAF-25NH5, RAF-35NH5, RAF-50NH5

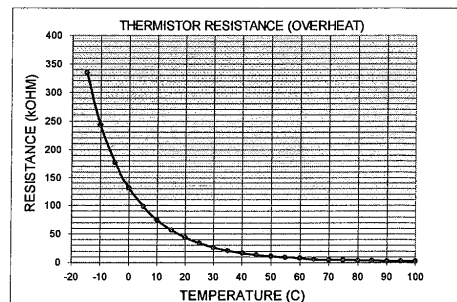
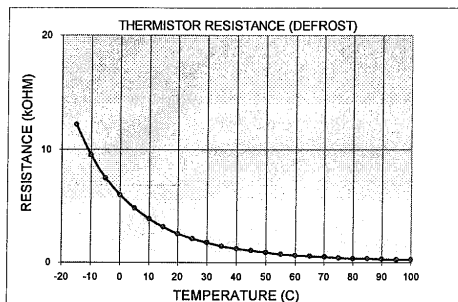


Premium/Summit Outdoor

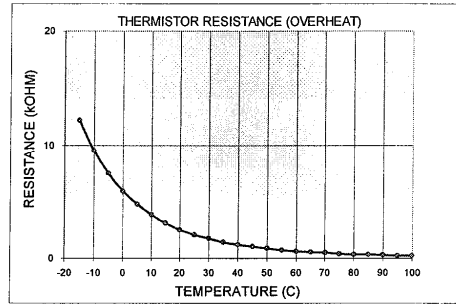
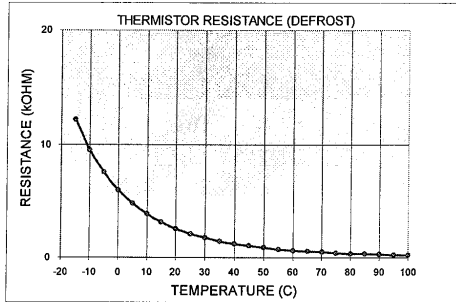
RAC-25YH5, RAC-35YH5, RAC-18YH6, RAC-25YH6, RAC-35YH6



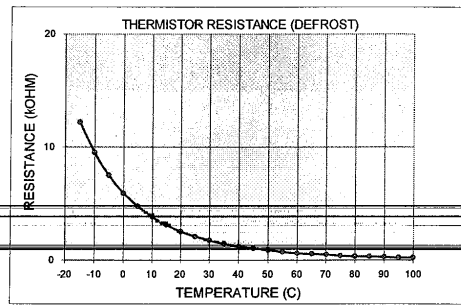
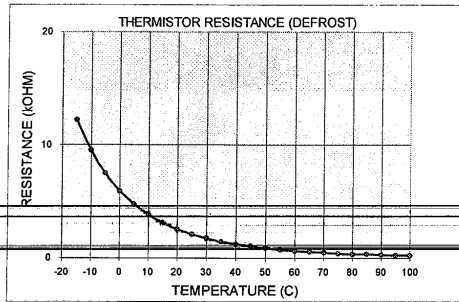
RAC-18SX8, RAC-25SX8, RAC-35SX8, RAC-25WX8, RAC-35WX8, RAC-50WX8, RAC-25FX8, RAC-35FX8, RAC-50FX8



RAC-50YH7, RAC-60YH7, RAC-70YH7, RAC-80YH5

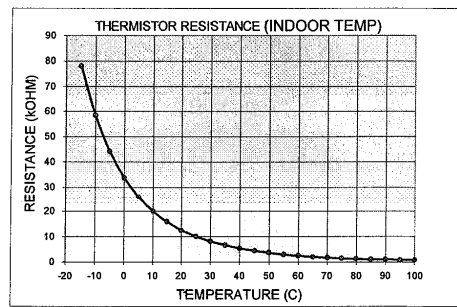
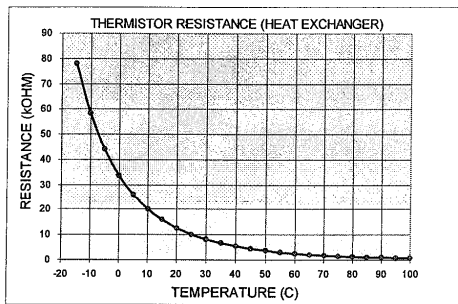


RAC-50DH7, RAC-60DH7, RAC-70DH7

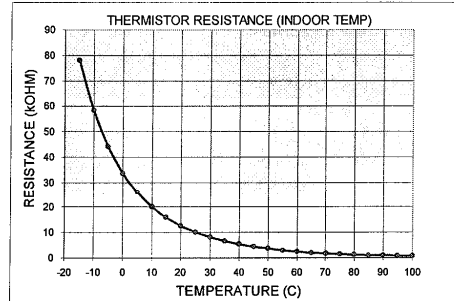
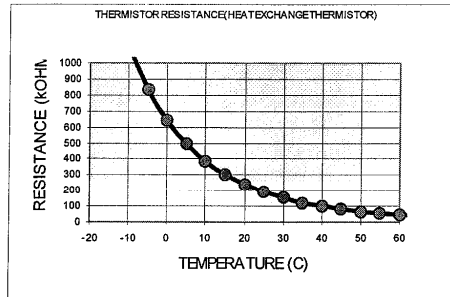


Premium/Summit Indoor

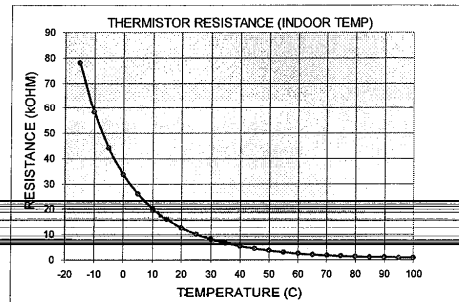
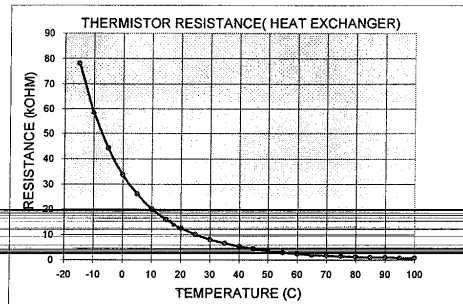
RAS-18SX8, RAS-25SX8, RAS-35SX8



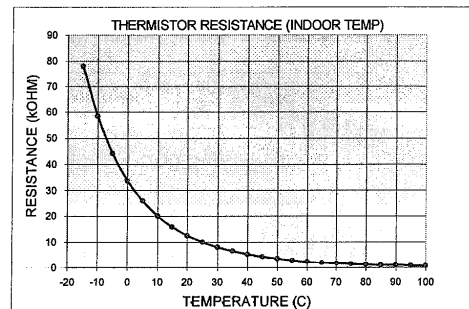
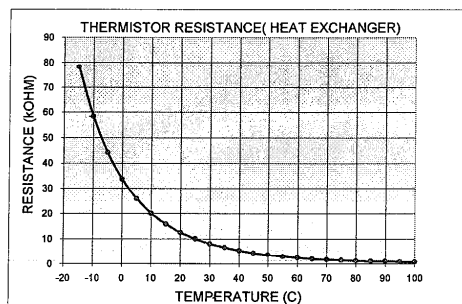
RAS-18YH6 , RAS-25YH6 , RAS-35YH6



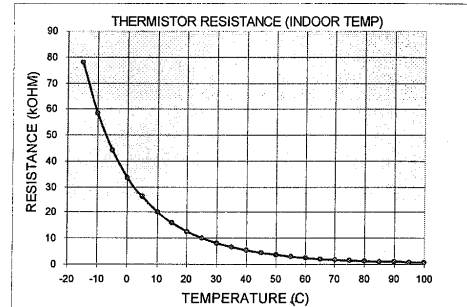
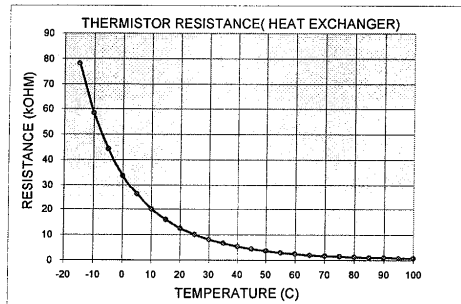
RAS-18FH6 , RAS-25FH6 , RAS-35FH6 , RAS-50FH6 , RAS-25FH5 , RAS-35FH5 , RAS-50YH7 , RAS-60YH7 , RAS-70YH7 , RAS-80YH5 , RAS-25WX8 , RAS-35WX8 , RAS-50WX8



RAD-50DH7A , RAD-60DH7A , RAD-70H7A

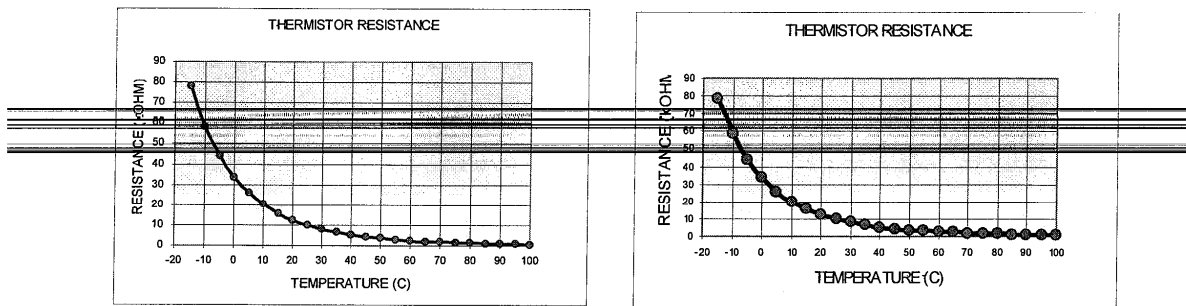


RAF-25FX8 , RAF-35FX8 , RAF-50FX8



Bigflow Indoor

RAS-07G4 , RAS-09G4 , RAS-14G4 , RAS-18G4 , RAS-24G4 , RAS-07GH4 , RAS-09GH4 , RAS-14GH4 , RAS-18GH4 , RAS-24GH4



LED lighting mode		Troubled thermistor	Judgement	
LD301	LD302		Open	Short
light	1 blink	OH thermistor	0.04V or less	4.96V or more
Light	2 blinks	DEF thermistor	0.04V or less	4.94V or more
Light	3 blinks	Outdoor temperature thermistor		
Light	4 blinks	Electrical expansion valve thermistor (thin pipe 1)		
Light	5 blinks	Electrical expansion valve thermistor (thick pipe 1)		
Light	6 blinks	Electrical expansion valve thermistor (thin pipe 2)	0.04 or less	4.94 or more
Light	7 blinks	Electrical expansion valve thermistor (thick pipe 2)		
Light	8 blinks	Electrical expansion valve thermistor (thin pipe 3)		
Light	9 blinks	Electrical expansion valve thermistor (thick pipe 3)		