

I .电冰箱(Refrigerator)

1.电冰箱用 Sensor



技能说明

▶ Thermistor Sensor

冰箱用传感器的用途是区分冷藏室及冷冻室的传感器用和控制用.

使用在冷冻室里去除霜花的除霜传感器, 抗低温的低温传感器; 冷化器控制用温度传感器, 在冷冻室各个独立的空间测定温度, 采用适合各个空间使用环境的多种温度传感器.

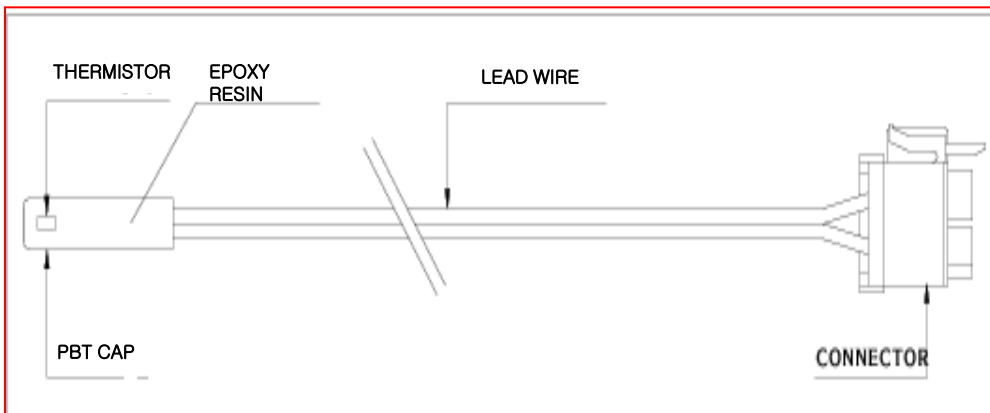
保护管按使用环境采用PBT, ABS, Silicone, PVC CAP等.

最近经常使用冷藏和冷冻效果兼备的泡菜冰箱专用的传感器, 采用适合化妆品冰箱, 制冰机等各种产品特性的传感器.

▶ Humidity Sensor

利用冷化器传感器维持冰箱内部温度, 保持新鲜度和调节冰箱内部湿度, 采用可以维持最佳效果的传感器, 因受频繁开关门影响而使用除霜用保温控制可以达到Energy saving效果.

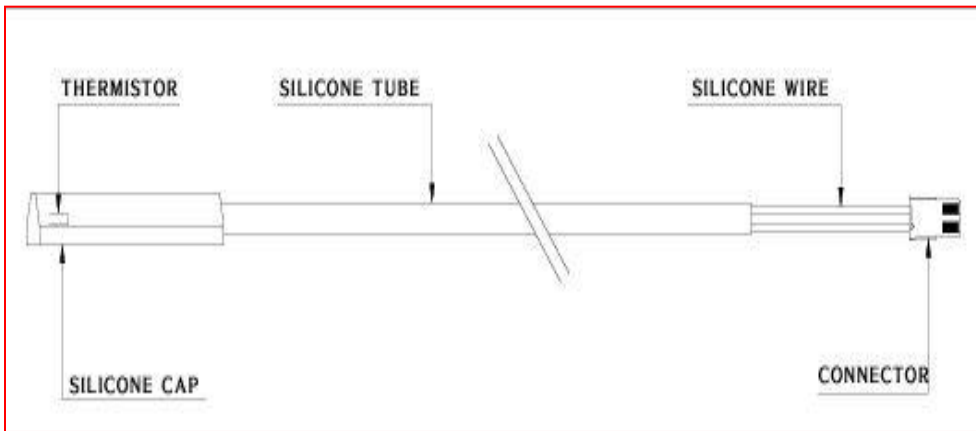
PBT 管适用于冰箱传感器, 用耐热材质的PBT管再经过粘合力好的环氧填充, 可以预防分线时弯曲, 同时也是耐湿性强的产品. 可以用于冷冻室和冷藏室.



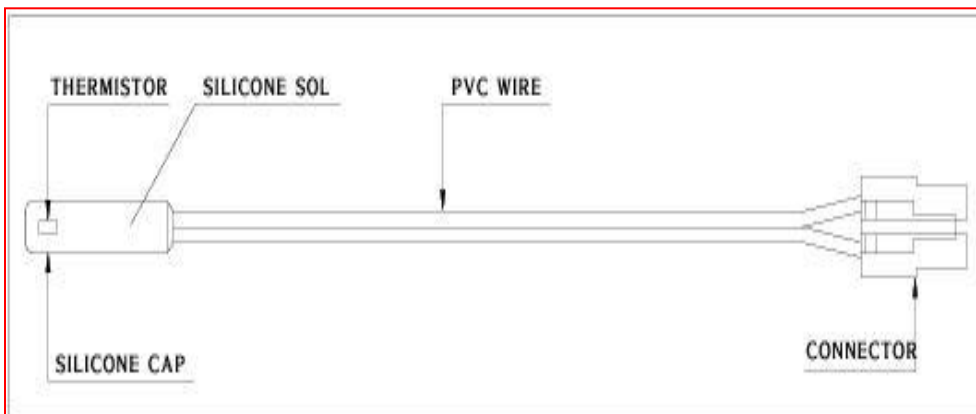
Resistance	$R(0^{\circ}\text{C}) = 13.29\text{k}\Omega \pm 2\%$
B constant	$B(0^{\circ}\text{C}/50^{\circ}\text{C}) = 3222\text{K} \pm 1\%$
Insulation resistance	Over 100M Ω at 500V DC (heat sensing portion in water, between water and lead wires)
Dielectric strength	1500V AC for one minute or 1800V AC for one second, without failure (heat sensing section in water, between water and lead wires; cut-off current 1mA.)
Thermal time constant	$\tau =$ less than 20 seconds (in agitated water)
Thermal dissipation constant	$\sigma =$ approximately 2.5mW/ $^{\circ}\text{C}$ (in still air)
Operating temperature range	-40 to +105 $^{\circ}\text{C}$

I . 电冰箱 (Refrigerator)

制冰机用传感器是利用硅胶自身的物质安全性, 低温安全性, 耐湿性. 用Silicone Cap进行硅胶填充和低温干燥方式做成的产品 具有很高的延性且无分线弯曲现象, 是装备领先和耐湿性强的产品. 主要用于冰箱和制冰机.



Silicone Cap type传感器是利用硅胶自身的物质安全性, 低温安全性, 耐湿性. 进行硅胶填充和低温干燥方式做成的产品, 具有很高的延性且无分线弯曲现象, 是装备领先和耐湿性强的产品. 主要用于冰箱和制冰机.

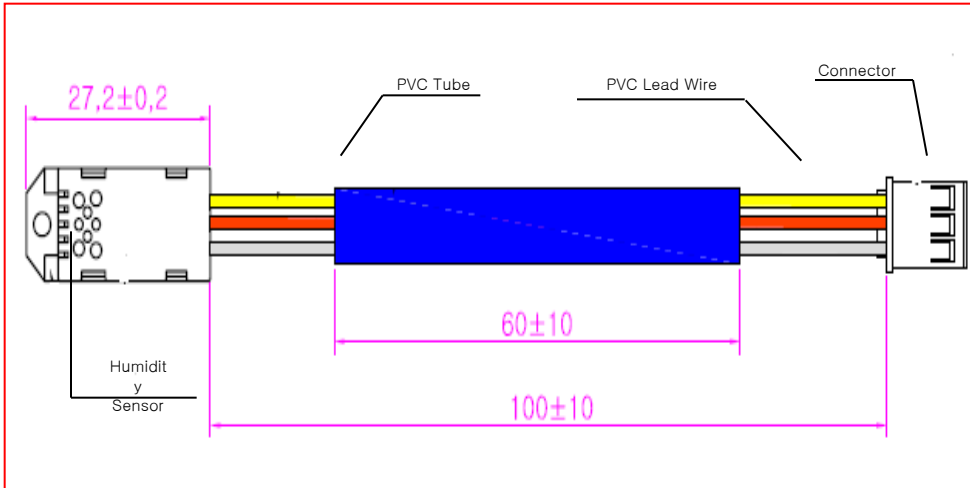


Resistance	$R(0^{\circ}\text{C}) = 13.29\text{k}\Omega \pm 2\%$
B constant	$B(0^{\circ}\text{C}/50^{\circ}\text{C}) = 3222\text{K} \pm 1\%$
Insulation resistance	Over $100\text{M}\Omega$ at 500V DC (heat sensing portion in water, between water and lead wires)
Dielectric strength	1500V AC for one minute or 1800V AC for one second, without failure (heat sensing section in water, between water and lead wires; cut-off current 1mA.)
Thermal time constant	$\tau =$ less than 25 seconds (in agitated water)
Thermal dissipation constant	$\sigma =$ approximately $3.1\text{mW}/^{\circ}\text{C}$ (in still air)
Operating temperature range	-40 to $+80^{\circ}\text{C}$

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I . 电冰箱 (Refrigerator)

Humidity Sensor是利用冷却器传感器维持冰箱内部湿度.保持新鲜度和调节冰箱内部湿度维持最适的保管状态及因受频繁开关门影响而使用除霜用保温控制可以达到Energy saving效果.



Sensor model no	SHT-20P
Analog output	PWM interface
Humidity Operating Range	0 ~ 100% RH
Humidity accuracy	+/- 4.5% RH
Hysteresis	$\pm 1\%$ RH
Humidity Response time	$\tau(63\%) < 8$ sec
Operating Temperature Range	-40°C ~ 105°C
Storage Temperature Range	-40°C ~ 125°C

II. 空调 (Airconditioner)

2. 空调用 Sensor



技能说明

► Thermistor Sensor

用于空调的温度传感器的主要特征是快速温度反应,装备简便,为控制室内温度还应提高正确的温度感知力和制冷力.

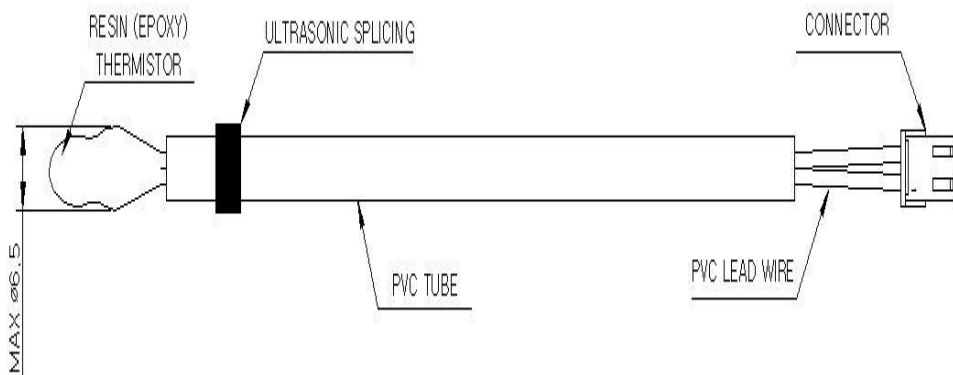
空调用温度传感器是由保护管式样的冷却板温度感知用传感器和 无保护管采用2次环氧涂装的室内温度感知传感器构成.保护管式样的温度传感器是使用金属Housing, 附着及制冷等被广泛运用, 具有良好的防水性, 主要适用于冷却板温度感知用传感器.

► Level Sensor

System A/C 室内机的冷气运转中所发生的凝缩水, 投入到Level sensor来感应水位, 再把它投入到排水板的凝缩水强制排水机能来使用. 变更趋势是现在REED S/W TYPE里定点容量方式. 室内机的冷房运作中发生的凝缩采用Level Sensor感知水位,

经过环氧涂装的温度传感器具有很强的温度感知力, 装备简便, 主要适用于室内机

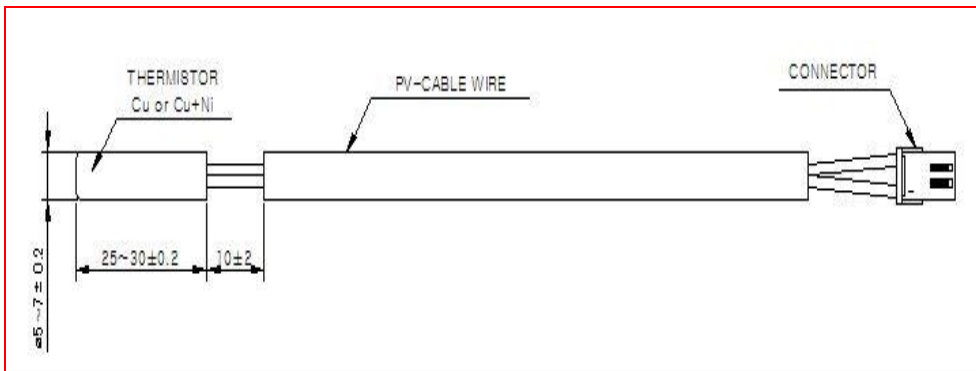
Room air及Remote controller Sensor.



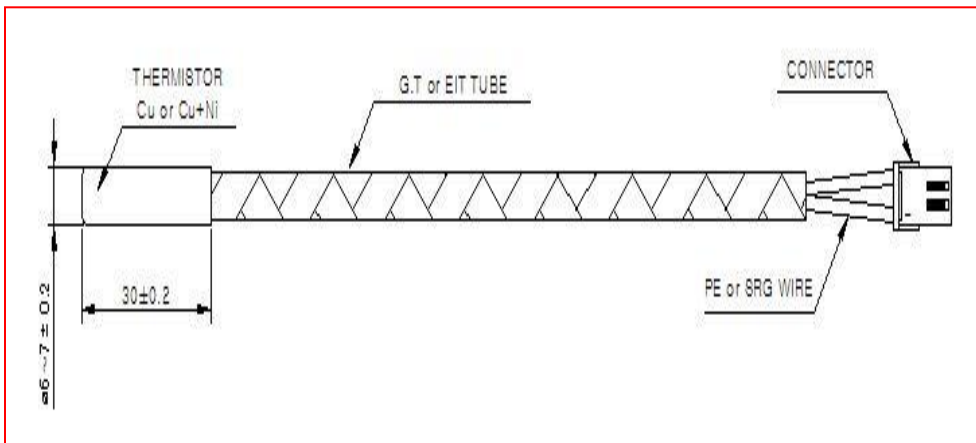
Resistance	$R(25^{\circ}\text{C}) = 10\text{k}\Omega \pm 3\%$
B constant	$B(25^{\circ}\text{C}/85^{\circ}\text{C}) = 3435\text{K} \pm 2\%$ or $3970\text{K} \pm 2\%$
Insulation resistance	Over $100\text{M}\Omega$ at 500V DC (heat sensing portion in water, between water and lead wires)
Dielectric strength	1500V AC for one minute or 1800V AC for one second, without failure (heat sensing section in water, between water and lead wires; cut-off current 1mA.)
Thermal time constant	$\tau =$ less than 7 seconds (in agitated water)
Thermal dissipation constant	$\sigma =$ approximately $7\text{mW}/^{\circ}\text{C}$ (in still air)
Operating temperature range	-20 to $+80^{\circ}\text{C}$

II. 空调(Airconditioner)

最基本形态的产品使用在金属保护管类型的Pipe Sensor Ø5~Ø7 Cu or Cu+Ni 材质上, 室内外机制御型传感器构成, 粘贴以及耐湿优质的Epoxy来填充, Multi A/C适合的传感器。还有PV2-CABLE WIRE使用时工程简单化以及成本节省的产品以及把PVC管L/W里超声波融合, 使得耐湿和安装的方便性还有芯线保护也兼备的产品。



室外机的压缩机(Compressor)安装在预注排管侧面, 使预注过热温度检查, 一般70℃~120℃的目的为使用, Discharge Sensor来表现。

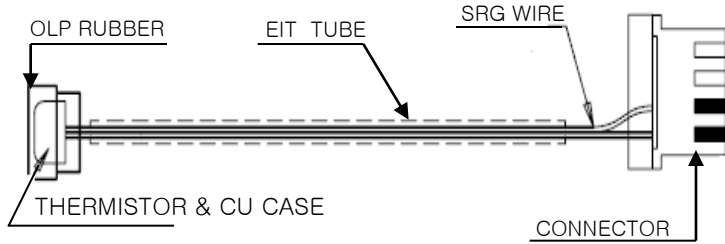


Resistance	$R(25^{\circ}\text{C}) = 10\text{k}\Omega \pm 3\%$ or $R(25^{\circ}\text{C}) = 5\text{k}\Omega \pm 3\%$
B constant	$B(25^{\circ}\text{C}/85^{\circ}\text{C}) = 3435\text{K} \pm 2\%$ or $3970\text{K} \pm 2\%$
Insulation resistance	Over 100M Ω at 500V DC (heat sensing portion in water, between water and lead wires)
Dielectric strength	1500V AC for one minute or 1800V AC for one second, without failure (heat sensing section in water, between water and lead wires: cut-off current 1mA.)
Thermal time constant	$\tau =$ less than 10~20 seconds (in agitated water)
Thermal dissipation constant	$\sigma =$ approximately 8mW/°C (in still air)
Operating temperature range	-40 to +105°C

Resistance	$R(25^{\circ}\text{C}) = 200\text{k}\Omega \pm 5\%$
B constant	$B(25^{\circ}\text{C}/85^{\circ}\text{C}) = 3500\text{K} \pm 2\%$
Insulation resistance	Over 100M Ω at 500V DC (heat sensing portion in water, between water and lead wires)
Dielectric strength	1500V AC for one minute or 1800V AC for one second, without failure (heat sensing section in water, between water and lead wires: cut-off current 1mA.)
Thermal time constant	$\tau =$ less than 25 seconds (in agitated water)
Thermal dissipation constant	$\sigma =$ approximately 8mW/°C (in still air)
Operating temperature range	-40 to +150°C

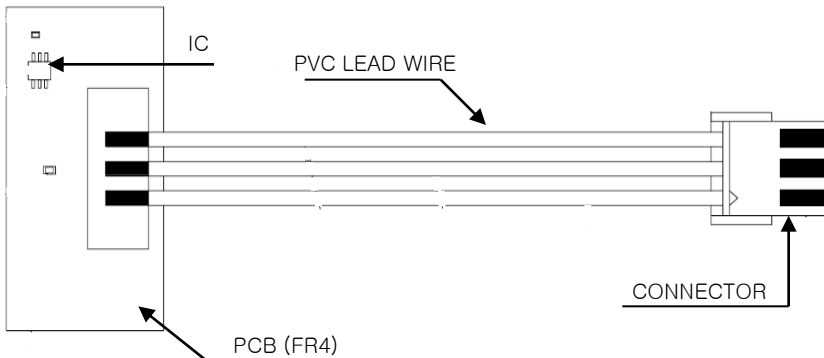
II. 空调 (Airconditioner)

附着在Compressor外壁，控制温度。防止过热。



Resistance	$R(25^{\circ}\text{C}) = 200\text{k}\Omega \pm 5\%$
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Operating temperature range	-40 to $+150^{\circ}\text{C}$

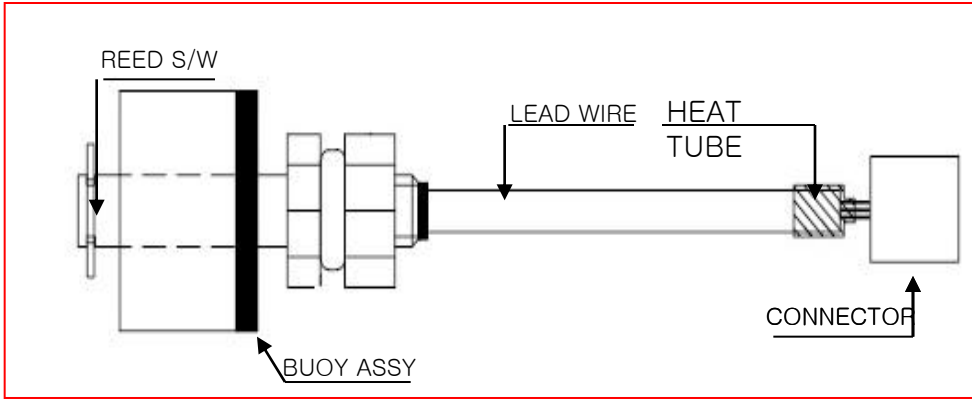
非接触式定点容量方式的水位传感器。利用感知定点容量传感器信号的装备，能感知水位和接触时发出信号式传感器。



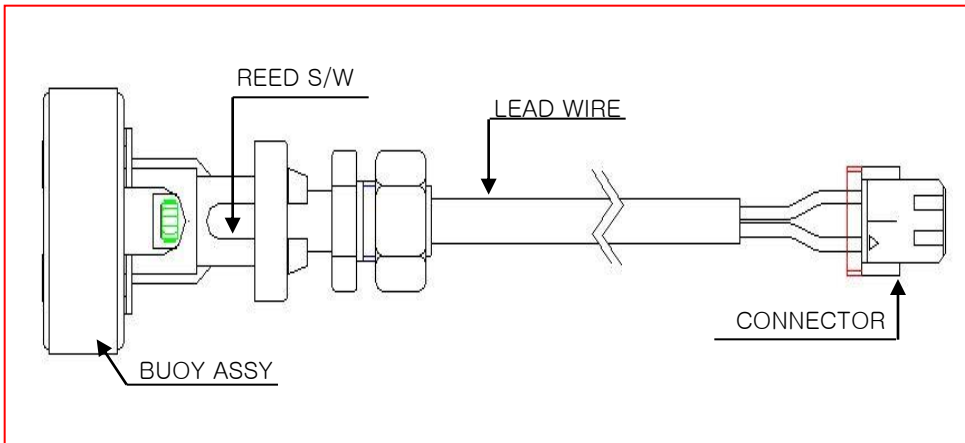
★VDD=3.3V (Unless otherwise noted), Ta=25°C						
Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
operating supply voltage	VDD		2.5	3.3	5	V
Current consumption	IDD	VDD=3.3V	—	230	—	uA
		VDD=5.0V		285		
Output maximum sink current	IOUT	TA=25°C	—	—	4.0	mA
ternal reset VDD voltage	VDD_RST	TA=25°C	—	1.9	2.1	V
Sense input capacitance range	CS		—	10	100	pF
[Note2]						
Reference input capacitance range	CR		—	12	100	
Sense input resistance range	RS		—	200	1000	Ω
Minmum dedetectable capacitance variation	ΔCS	CS=10pF	0.2	—	—	pF
Output impedance (open drain)	ZO	$\Delta\text{CS}>0.2\text{pF}$	—	12	—	Ω
		$\Delta\text{CS}<0.2\text{pF}$	—	30M	—	
aximum supply voltage rising time	TR_VDD		—	—	100	ms

II. 空调 (Airconditioner)

System A/C室内机的冷却运转中所发生的排水泵的凝缩水，再把凝缩水Level Sensor来水位感知然后外部排出机能。Float body里Reed S/W进入Ass'y, 水位升高的话Buoy在水里飘使Reed S/W反应动作原理。



现在Level Sensor里以物质沾染使Float防止误操作。Float下段步来构成，使sensing body里没必要接触水的构造。(FLOAT下段位置使水位感知高度限制低。)



REED S/W	25~30AT
PCB	FR-4
MAGNET	RING TYPE (550±30G)
BUOY ASSY	PP (3.5±0.2G)
FLOAT / STOPPER / NUT	PP / POM / PP
RESIN	SILICONE / EPOXY
Operating Range	8.5±1.2mm
Storage Temperature Range	-20℃ ~ 85℃

REED S/W	40~45AT
PCB	FR-4
MAGNET	RING TYPE
BUOY ASSY	PP발포
SHAFT/CAP/STEM/NUT	PP / PP / POM / POM
RESIN	SILICONE / EPOXY
Operating Range	Full On (~1.5mm) On-Off (1.5~3.5mm) Full Off (3.5mm이상)
Storage Temperature Range	-20℃ ~ 85℃