

# IECQ Certification details

Item	Type	Range	Uncertainty	Traceable	Note
Thermocouple	R	0 °C ~ 400 °C	0.39 °C	NIST , JEMIC	1. For Temperature 600°C and below, the sensor needs to be at least 300 mm long. 2. For Temperature 600°C ~ 1600°C , the sensor needs to be at least 600 mm long.
		>400 °C ~ 650 °C	1.1 °C		
		>650 °C ~ 950 °C	1.4 °C		
		>950 °C ~ 1250 °C	1.8 °C		
		>1250 °C ~ 1554 °C	3.4 °C		
	S	0 °C ~ 400 °C	0.39 °C		
		>400 °C ~ 600 °C	1.1 °C		
		>600 °C ~ 950 °C	1.4 °C		
		>950 °C ~ 1250 °C	1.9 °C		
		>1250 °C ~ 1554 °C	3.5 °C		
	B	450 °C ~ 950 °C	1.7 °C		
		>950 °C ~ 1350 °C	2.0 °C		
		>1350 °C ~ 1554 °C	3.1 °C		
	K	-40 °C ~ 0 °C	0.15 °C		
		>0 °C ~ 400 °C	0.4 °C		
		>400 °C ~ 550 °C	0.68 °C		
		>550 °C ~ 950 °C	1.2 °C		
		>950 °C ~ 1250 °C	1.7 °C		
	N	>1250 °C ~ 1350 °C	2.8 °C		
		-40 °C ~ 0 °C	0.15 °C		
		>0 °C ~ 400 °C	0.40 °C		
		>400 °C ~ 550 °C	0.69 °C		
		>550 °C ~ 950 °C	1.2 °C		
	E	>950 °C ~ 1250 °C	1.6 °C		
		>1250 °C ~ 1300 °C	2.7 °C		
		-40 °C ~ 0 °C	0.29 °C		
		>0 °C ~ 350 °C	0.42 °C		
		>350 °C ~ 550 °C	0.82 °C		
	J	>550 °C ~ 900 °C	1.2 °C		
		>900 °C ~ 1000 °C	1.5 °C		
-40 °C ~ 0 °C		0.29 °C			
>0 °C ~ 350 °C		0.42 °C			
>350 °C ~ 550 °C		0.83 °C			
T	>550 °C ~ 900 °C	1.2 °C			
	>900 °C ~ 1000 °C	1.6 °C			
	-40 °C ~ 0 °C	0.17 °C			
	>0 °C ~ 400 °C	0.40 °C			
RTD	PT-100	-40 °C ~ 0 °C	0.13 °C	NIST , NML	
		>0 °C ~ 100 °C	0.33 °C		
		>100 °C ~ 400 °C	0.42 °C		

Thermocouple with instrument	R	0 °C ~ 400 °C	0.44 °C	Thermocouple : NIST , JEMIC ; Instrument : NIST , MTC	1. For Temperature 600°C and below, the sensor needs to be at least 300 mm long. 2. For Temperature 600°C ~ 1600°C , the sensor needs to be at least 600 mm long.
		>400 °C ~ 650 °C	1.1 °C		
		>650 °C ~ 950 °C	1.4 °C		
		>950 °C ~ 1250 °C	1.8 °C		
		>1250 °C ~ 1554 °C	3.4 °C		
	S	0 °C ~ 400 °C	0.44 °C		
		>400 °C ~ 750 °C	1.2 °C		
		>750 °C ~ 950 °C	1.4 °C		
		>950 °C ~ 1250 °C	1.9 °C		
		>1250 °C ~ 1554 °C	3.5 °C		
	B	450 °C ~ 950 °C	1.7 °C		
		>950 °C ~ 1350 °C	2.0 °C		
		>1350 °C ~ 1554 °C	3.1 °C		
	K、N	-40 °C ~ 0 °C	0.25 °C		
		>0 °C ~ 400 °C	0.44 °C		
		>400 °C ~ 550 °C	0.71 °C		
		>550 °C ~ 950 °C	1.2 °C		
		>950 °C ~ 1250 °C	1.7 °C		
	E、J	-40 °C ~ 0 °C	0.33 °C		
		>0 °C ~ 350 °C	0.46 °C		
>350 °C ~ 550 °C		0.85 °C			
>550 °C ~ 850 °C		1.2 °C			
>850 °C ~ 1000 °C		1.6 °C			
T	-40 °C ~ 0 °C	0.26 °C			
	>0 °C ~ 400 °C	0.45 °C			
Instrument for Thermocouple	R、S	0 °C ~ 250 °C	1.8 °C	NIST , MTC	Instrument with only input function
		>250 °C ~ 1650 °C	1.7 °C		
		>1650 °C ~ 1750 °C	1.8 °C		
	B	600 °C ~ 1750 °C	0.6 °C		
	K	-100 °C ~ 950 °C	0.7 °C		
		>950 °C ~ 1350 °C	0.9 °C		
	N	-100 °C ~ 1300 °C	1.0 °C		
	E	-100 °C ~ -100 °C	1.0 °C		
		>-100 °C ~ 1000 °C	0.6 °C		
	J	-100 °C ~ 1200 °C	0.8 °C		
		-200 °C ~ <-150 °C	1.2 °C		
T	-150 °C ~ 400 °C	0.6 °C			
	PT-100	-100 °C ~ 800 °C	0.46 °C		
Temperature simulator & Temperature calibrator	R、S	0 °C ~ 250 °C	1.7 °C	NIST , MTC	As uncertainty are different for input and output. Therefore uncertainty is shows in range.
		>250 °C ~ 1400 °C	1.6 °C		
		>1400 °C ~ 1750 °C	1.7 °C		
	B	600 °C ~ 1750 °C	0.5 ~ 0.6 °C		
	K	-100 °C ~ 950 °C	0.6 °C		
		>950 °C ~ 1350 °C	0.7 °C		
	N	-100 °C ~ 1300 °C	0.88 ~ 0.9 °C		
	E	-100 °C ~ -100 °C	0.7 °C		
		>-100 °C ~ 1000 °C	0.48 ~ 0.5 °C		
	J	-100 °C ~ 1200 °C	0.68 ~ 0.7 °C		
		-200 °C ~ -150 °C	0.83 ~ 0.9 °C		
T	>-150 °C ~ 400 °C	0.50 °C			
	PT-100	-100 °C ~ 800 °C	0.49 ~ 0.5 °C		

Temperature / Relative humidity meter	10°C	30%	1.9%	ETC	1.Uncertainty for temperature is 0.42°C ( the same as RTD ) 2.The sensor and the display need to be atleast 180mm apart. 3.If the sensor and the display cannot be 180mm apart. The display need to be able to fit in a hole of diameter of 50mm and can only test upto the display operation environment.
		50%	1.5%		
		80%	1.6%		
	20°C	30%	1.4%		
		50%	1.3%		
		80%	1.5%		
	30°C	30%	1.1%		
		50%	1.1%		
		80%	1.3%		
Infrared	Infrared Calibrator	35 °C ~ 300 °C	0.50 °C	NIST , NML	1.Infrared thermometer only 2.We can only test blackbody calibration source with calibration hole on the machine.
Pressure	Atmospheric pressure	0 PSI ~ 250 PSI	0.22 PSI	NIST	1.Air pressure gauge only. 2.Can only test upto 90% of the display value.
		0 Kgf/cm2 ~ 17.5 Kgf/cm2	0.016 Kgf/cm2		
		0 Mpa ~ 1.7 Mpa	0.0015 Mpa		
		0 Bar ~ 17.2 Bar	0.015 Bar		
		0 mBar ~ 17237.5 mBar	15 mBar		
		0 Kpa ~ 1723.7 Kpa	1.5 Kpa		