

### Model - KM-CAL-905

This multifunction Process Calibrator has high accuracy of  $\pm 0.02\%$ . It has 5 digits dual display, Volts, RTD & Thermocouples and it works on 4 x1.5AAA alkaline battery. Output range up to 500 about 1mA and 5k about 1. 1mA exciting current (for RTD calibration) and output for calibrating R, S, K, E, J, T, N, B type Thermocouple. It also give RTD, PT -100 & Cu 50



#### GENERAL SPECIFICATIONS

- \* Accuracy :  $\pm 0.02\%$
- \* Display : LCD double displaying :  
68.0 x36.3mm
- \* Backlight : White LED backlight,  
can set Back light ON Time 0-9000 S
- \* Operating Temperature and Humidity :  
0 - 50 °C, 80% RH ; 70% RH < 40 - 50 °C
- \* Altitude : 2000m
- \* Storage Temperature and Humidity :  
-25 to 60°C, 90% RH
- \* Vibration Test : Randomly 2g , 5 - 500Hz
- \* Warm-up time : Testing under one meter boot- strap  
warm-up time is 10 minutes
- \* Power supply : 4 X 1.5V AAA alkaline battery
- \* Dimension : 205 x 95 x 42 mm
- \* Weight : About 500g

#### ACCESSORIES :

Test leads, Fuse, User's Manual, Carrying Case.

#### OPTIONAL ACCESSORIES :

Pressure modules

### ELECTRICAL SPECIFICATIONS - KM-CAL-905

Accuracy :  $\pm$  (% reading + digits)

#### MEASURING FUNCTION

Measuring Function	Range	Measuring Range	Resolution	Accuracy	Remark
DC Voltage	50mV	-5.000mV ~ 55.000mV	1 V	0.02% + 10	Input impedance: about 100M
	500mV	-10.00mV ~ 550.00mV	10 V	0.02% + 2	
	5V	-0.1000V ~ 5.5000V	0.1mV	0.02% + 5	Input impedance:1M
	50V	0.00V ~ 55.00V	10mV	0.03% + 5	
DC Current	50mA	-5.000mA ~ 50.000mA	1	0.02% + 2	Input impedance: 10
Resistance (Ohm)	500 about 1mA exciting	0.00 ~ 550.00	0.01	0.02% + 0.1	Plough voltage : about 2.5V not including the accuracy of down- lead resistance
	5K about 0.1mA exciting	0.0000K ~ 5.5000K	0.1	0.02% + 0.5	
Frequency	100KHz	2 Hz ~ 110.0 Hz	0.1Hz	$\pm 2\%$	Input impedance:100K or more, Square wave at least 1Vp-p, 50% duty cycle
	1KHz	0.100 KHz ~ 1.100 KHz	1 Hz		
	10KHz	0.10 KHz ~ 11.0 KHz	0.1 KHz		
Thermocouple	R	0°C ~ 1767°C	1°C	0~500°C : 1.8°C	Adopt ITS-90 thermometric scale not including the accuracy of inner temperature compensatory error
	S	0°C ~ 1767°C	1°C	500~1767°C : 1.5°C	
	K	-100°C ~ 1372°C	0.1°C	-100~0°C : 1.2°C	
				0~1372°C : 0.8°C	
	E	-50°C ~ 1000°C	0.1°C	-50~0°C : 0.9°C	
				0~1000°C : 1.5°C	
	J	-60°C ~ 1200°C	0.1°C	-60~0°C : 1.0°C	
				0~1200°C : 0.7°C	
	T	-100°C ~ 400°C	0.1°C	-100~0°C : 1.0°C	
				0~400°C : 0.7°C	
N	-200°C ~ 1300°C	1°C	-200~0°C : 1.5°C		
			0~1300°C : 0.9°C		
B	600°C ~ 1820°C	1°C	600~800°C : 2.2°C		
			800~1000°C : 1.8°C		
				1000~1820°C : 1.4°C	

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## ELECTRICAL SPECIFICATIONS - KM-CAL-905

### MEASURING FUNCTION

Measuring Function	Range	Measuring Range	Resolution	Accuracy	Remark
Thermo Resistance	PT 100	-200°C ~ 800°C	0.1°C	-200 ~ 0°C:0.5°C	PT100-385 thermometric scale not including the accuracy of down-lead resistance.
				0 ~ 400°C:0.7°C	
				400 ~ 850°C:0.8°C	
	PT 1000 / PT 200 / PT 500	-200°C ~ 630°C	0.1°C	-200 ~ 100°C:0.22°C	
				100 ~ 300°C:0.3°C	
Cu 10	-100°C ~ 260°C	0.1°C	1.8°C		
			Cu 50	-50°C ~ 150°C	-50 ~ 150°C:0.7°C
Switch meter measure	About 1mA exciting Current	CLOSE / OPEN			
Continuity Test	500 about 1mA exciting Current	50	0.01°C		

### OUTPUT FUNCTION

Output Function	Range	Measuring Range	Resolution	Accuracy	Remark
DC Voltage	100mV	-10.000mV ~ 110.000mV	1 V	0.02% + 10	Max. Output current 5mA Output Resistance 0.1
	1 V	-0.10000V ~ 1.10000V	10 V	0.02% + 10	
	10 V	-1.0000V ~ 11.0000V	0.1mV	0.02% + 10	
DC Current	20mA	0.000mA ~ 22.000mA	1 A	0.02% + 10	Inside power supply 24V 1K resistance when 20mA
Resistance	400	0.00 ~ 400.00	0.01	0.02% + 0.1	±0.1~3mA exciting current not including the accuracy of down-lead resistance
	4 K	0.0000K ~ 4.0000K	0.1	0.05% + 1	±0.05~0.3mA exciting current not including the accuracy of down-lead resistance
	40 K	0.000K ~ 40.000K	1	0.1% + 10	±0.01~0.03mA exciting current not including the accuracy of down-lead resistance
Thermocouple	R	0°C ~ 1767°C	1°C	0~100°C:1.5°C	Adopt ITS-90 thermometric scale not including the accuracy of inner temperature compensatory error
				100~1767°C:1.2°C	
	S	0°C ~ 1767°C	0.1°C	0~100°C:1.5°C	
				100~1767°C:1.2°C	
	K	-200.0°C ~ 1372.0°C	0.1°C	-200~ -100°C:0.6°C	
				-100~400°C:0.5°C	
				400~1200°C:0.7°C	
	E	-200.0°C ~ 1000.0°C	0.1°C	1200~1372°C:0.9°C	
				-200~ -100°C:0.6°C	
				-100~600°C:0.5°C	
J	-200.0°C ~ 1200.0°C	0.1°C	600~1000°C:0.4°C		
			-200~ -100°C:0.6°C		
T	-250.0°C ~ 400.0°C	0.1°C	-100~800°C:0.5°C		
			800~1200°C:0.7°C		
N	-200.0°C ~ 1300.0°C	0.1°C	-250~400°C:0.6°C		
			-200~ -100°C:1.0°C		
B	400°C ~ 1820°C	1°C	-100~900°C:0.7°C		
			900~1300°C:0.8°C		
Thermo Resistance	PT 100	-200.0°C ~ 850.0°C	0.1°C	400~600°C:2.0°C	PT100-385 thermometric scale Pt100, Cu50 ±0.1mA excitation current Accuracy does not include lead resistance.
				600~800°C:1.5°C	
	PT 1000	-200.0°C ~ 630.0°C		-200~0°C:0.3°C	
				0~400°C:0.5°C	
Cu50	-50.0°C ~ 150.0°C	0.1°C	400~850°C:0.8°C		
			-200~100°C:0.22°C		
			100~300°C:0.3°C		
Frequency	100Hz	1.00Hz ~ 110.00Hz	0.1Hz	± 2	1~11 Vp-p square wave Accuracy ± 10% 50% duty cycle load>100K
	1KHz	0.100KHz ~ 1.100KHz	1 Hz		
	10KHz	1.0KHz ~ 11.0KHz	0.1 KHz		
	100KHz	1KHz ~ 110KHz	1KHz		
Pulse	100Hz	10 ~ 100000 Cycles	1 cyc	± 2	1~11 Vp-p square wave Accuracy ± 10% 50% duty cycle load>100K
	1KHz				
	10KHz				
	100KHz				
Switch	100Hz		0.1Hz	± 2	Max. Switch current voltage/current : + 28 V/50mA
	1KHz		1Hz		
	10KHz		0.1KHz		
	100KHz		1KHz		
Loop	24V			± 10%	Max. Output current about 25mA short circuit protection
Pressure	2.49Kpa~70Mpa	5 digits display Resolving power		0.025% range Consult precision 0.05% range whole precision	Using any of 32 pressure modules of AFM series (for detailed specifications refer to pressure modules in options and accessories). Modules available for differential, gage, vacuum, absolute, dual and high pressure

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