PROVA 131 ProcessDMM®

Multifunction Process Calibrator + DMM

CE

Applications:

1. **Calibration of 4~20mA** panel meters.
2. **LED brightness** testing (0~24mA).
3. **Temperature calibration** of panel meters or instruments for 11 types of thermocouples.
4. **Calibration of valve opening** by changing duty cycle of a PWM signal.
5. **Output Frequency** measurement of **Inverter**.

Features:

1. **Source 4~20mA** loop current (1KΩ load, 24V loop supply).
2. **Source 0~100mV, 0~1.000V, 0~12.000V**.
3. **Calibrate/Measure temperature** of 11 types of thermocouples (K, J, E, T, R, S, N, L, U, B and C).
4. 0.1℃ and 0.1℉ Resolution.
5. Detection of thermocouples disconnection.
6. **Source frequency** (1 to 20000Hz).
7. Programmable **duty cycle**.(0~100%) of frequency output.
8. **DMM** 24000 counts.
9. **DMM functions (Measure):** DC/AC mA, DC/AC mV, DC/AC V (AC TRMS); Ω, Frequency (duty cycle %), Diode, Continuity, Temperature (°C, °F).
10. Source and Measure Simultaneously.
11. Selectable **HART 250Ω** resistor to facilitate use with HART communication device.
12. **Auto step** and **auto ramp** for sourcing mA, V and temperature
13. 25% ▲, 25% ▼, or programmable percentage (0~100%) increase and decrease
14. **Warning** for overload, output open (mA) or short (mV, V).
15. **Short circuit protection** for voltage output.
16. **Battery** power indication (%).
17. Clear and easy user interface.

Electrical Specifications: (23+/- 5℃, 10 minutes after turning on the power)

DCmA SOURCE (Max. load 1KΩ, Max. voltage supply 24V)

Range	Resolution	Accuracy
4 - 20mA, 0 - 20mA, 0 - 24 mA	1μA	± 0.05% ±8μA

When output open, the LCD displays “OL”.

DCmV, DCV SOURCE (Max. load 1mA, Short circuit protection＜100mA）

Range	Resolution	Accuracy
0 - 100mV	10μV	± 0.05% ± 30μV
0.1 - 1.0000V	100μV	± 0.05% ± 300μV
1 - 12.000V	1mV	± 0.05% ± 3mV

When output short circuit, the LCD displays “OL”.

ACmA MEASURE (Ture RMS)

Range	Resolution	Accuracy	
		50/60Hz	40-1KHz
24mA	1uA	±1%±5dgts	±2%±5dgts

DCmA MEASURE

Range	Resolution	Accuracy
24mA	1uA	±0.05%±2dgts

DCV MEASURE (Overload protection AC 600V, Input impedance 10MΩ)

Range	Resolution	Accuracy
2.4V	0.1 mV	±1%±3dgts
24V	1 mV	
240V	10 mV	
600V	100mV	±1.5%±3dgts

ACV MEASURE (Ture RMS)

(Overload protection AC 600V, Input impedance 10MΩ)

Range	Resolution	Accuracy	
		50/60Hz	40-1KHz
24V	1 mV	±1%±5dgts	±2%±5dgts
240V	10 mV	±1%±5dgts	
600V	100mV	±1.5%±5dgts	

Frequency SOURCE (TTL, Square wave)

Range (Hz)	Resolution	Accuracy
1.0~1000.0Hz	0.1Hz	0.1Hz
1000~10000Hz	1Hz	1Hz
10000~20000Hz	1Hz	10Hz

Frequency MEASURE (Sensitivity RMS 1V)

Range (Hz)	Resolution	Accuracy
1.000~39.999Hz	0.001Hz	±0.5%±0.003Hz
40.00~399.99Hz	0.01Hz	±0.5%±0.03Hz
0.4000K~3.999KHz	0.1Hz	±0.5%±0.3Hz
4.000K~39.999KHz	1Hz	±0.5%±3Hz
40.00K~399.99KHz	10Hz	±0.5%±30Hz
0.4000M~3.999MHz	1KHz	±0.5%±3KHz
4.000M~39.999MHz	1KHz	±0.5%±3KHz

Duty Cycle SOURCE/MEASURE (1~20KHz）

Range	Resolution	Accuracy
1% to 99%	1%	**±1%±30 μ S**

Temperature Thermocouples

(**SOURCE** and **MEASURE**, 0.1◦C & 0.1◦F Resolution, Internal Cold Junction Compensation, thermocouples accuracy not included, 3 minutes after plugging in thermocouples.)

	°C		°F	
	Range	Accuracy	Range	Accuracy
K	-200 to -150	2.0	-328 to -238	3.6
	-150 to 0	1.2	-238 to 32	2.1
	0 to 1000	0.8	32 to 1832	1.4
	1000 to 1370	1.2	1832 to 2498	2.1
J	-200 to -150	2.0	-328 to -238	3.6
	-150 to 0	1.0	-238 to 32	1.8
	0 to 1050	0.7	32 to 1922	1.2
E	-200 to -150	1.5	-328 to -238	2.7
	-150 to 0	0.9	-238 to 32	1.6
	0 to 850	0.7	32 to 1562	1.2
T	-200 to -150	1.5	-328 to -238	2.7
	-150 to 0	1.2	-238 to 32	2.1
	0 to 400	0.8	32 to 752	1.4
R	0 to 500	1.8	32 to 932	3.2
	500 to 1760	1.5	932 to 3200	2.7
S	0 to 500	1.8	32 to 932	3.2
	500 to 1760	1.5	932 to 3200	2.7
N	-200 to 0	1.5	-328 to 32	2.7
	0 to 1300	0.9	32 to 2372	1.6
L	-200 to 0	0.9	-328 to 32	1.6
	0 to 900	0.7	32 to 1652	1.2
U	-200 to 0	1.1	-328 to 32	1.9
	0 to 600	0.7	32 to 1112	1.2
B	600 to 800	2.2	1112 to 1472	3.9
	800 to 1000	1.8	1472 to 1832	3.2
	1000 to 1820	1.4	1832 to 3308	2.5
C	0 to 1800	1.0	32 to 3272	1.8
	1800 to 2310	1.5	3272 to 4190	2.7

Continuity MEASURE:

Open voltage 2V, Overload protection AC 600V, <10Ω Beep.

Diode MEASURE (Open voltage 2V, Overload protection AC 600V)

Range	Resolution	Accuracy
0~1.9999V	0.0001V	±2.5%±5dgts

Resistance (Ω) MEASURE (Open voltage 0.4V, Overload protection AC 600V)

Range	Resolution	Accuracy
400Ω	0.01Ω	±1%±2dgts
4KΩ	0.1Ω	
40KΩ	1Ω	
400KΩ	10Ω	
4MΩ	100Ω	±1.5%±2dgts
40MΩ	1KΩ	

General Specifications:

Dimension	214.0 (L) x 98.7(W) x 56.0(H) mm 8.4" (L) x 3.9" (W) x 2.2" (H)
Weight	650g / 22.9oz (batteries included)
Operation Environment	0℃ ~ 50℃ < 85% RH
Storage Environment	-20℃ ~ 60℃ < 75% RH
Accessories	Carrying case x 1 User manual x 1 1.5V SUM-3 Battery x 5 K-type thermocouples (dual plugs) x 1 Alligator clips x 2 (black and red) Test leads x 2 (black and red)

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