IDEAL INDUSTRIES, INC.

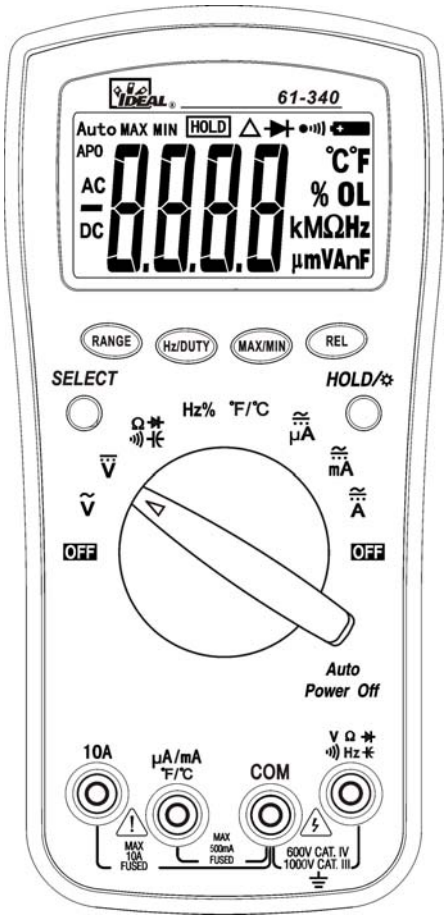
TECHNICAL MANUAL

MODEL: 61-340
MODEL: 61-342

Multimeter Service Information

The Service Information provides the following information:

- Precautions and safety information
- Specifications
- Basic maintenance (cleaning, replacing the battery and fuses)
- Performance test procedures
- Calibration and calibration adjustment procedures



Form Number: TM61340-2

Revision: 3. Date: January 2008

SPECIFICATIONS

All specifications are warranted unless noted typical and apply to the 61-340 & 61-342
Stated accuracies are at 23°C±5°C at less than 75% relative humidity and without the battery indicator displayed.

General specifications

Characteristics	Description
Display count	3 3/4 digit liquid crystal display, max count 3999
Numeric update rate	2.5 times / sec
Polarity display	Automatic
Over range display	“OL” is displayed
Low battery indicator	is indicated
Automatic power-off time	Automatic power off ≈ 10minutes
Power source	9.0V battery: types- NEDA 1604, JIS006P, IEC6F22 for both 61-340 and 61-342
Maximum input voltage	1000Vrms CAT III between V and COM
Maximum floating voltage	1000Vrms CAT III between any terminal and earth ground
Maximum input current	400mA between µA /mA and COM
Overload protection mA connector	500mA (500V) fast blow fuse.
Overload protection 10A connector	10A (500V) fast blow fuse.
V connector	V~, V⎓, Ω, •))), ⊣▶, ⊣◀, Hz
µA /mA connector	µA, mA, Temp
Temperature Coefficient	0.1×(Spec. Accuracy) per °C, <18°C or >28°C
Battery Life	Alkaline 9V, ≈ 200 hours for 61-340 Alkaline 9V, ≈ 150 hours for 61-342

Measurement Characteristics

Accuracy is ±(% reading + number of digits) at 23°C ± 5°C, less than 75% R.H.

(1) DC Volts (for 61-340 / 61-342)

Range	Resolution	Accuracy	Over voltage protection
400.0mV	0.1mV	±(0.5% reading + 5 digits)	900VDC or 750VAC
4.000V	1mV		
40.00V	10mV		
400.0V	100mV		
600V	1V	±(1.0% reading + 3 digits)	

Input Impedance: 10MΩ

(2) AC Volts (61-340/61-342)

Range	Resolution	Accuracy	Over voltage protection
400.0mV	0.1mV	±(1.5% + 5)	900VDC or 750VAC
4.000V	1mV		
40.00V	10mV		
400.0V	100mV		
600V	1V		

Input Impedance: 10MΩ

AC Conversion Type: 61-340: Average sensing rms indication calibrated to the sine wave input.

61-342: AC conversion is True RMS responding, calibrated to a sinusoidal waveform

Crest Factor: C.F. = Peak/RMS

For non-sinusoidal waveform, C.F. > 2 add ±1% to accuracy,

Frequency response: 40～400Hz

(3a) DC micro-amp and milli-amps (for 61-340 / 61-342)

Range	Resolution	Accuracy	Input Protection
400.0μA	0.1μA	±(0.5% reading + 5 digits)	500mA, 600V Fast Blow Fuse
4000μA	1μA		
40.00mA	10μA		
400.0mA	0.1mA		

Overload Protection: mA Input: 500mA, 600V Fast Blow fuse. (61-340 / 61-342)

Physical and Environmental Characteristics

Characteristics	Description
Dimensions (H×W×D)	180mm(H) ×91mm (W) ×43mm(D) (with holster) 7.1" (H) x 3.6"(W) x1.7"(D)
Weight (with battery& holster)	0.379Kg (13.4 oz.)
Environmental characteristics	**Description**
Temperature operating	0 to +40°C
Non-Operating	-20 to +60°C <75% R.H.
Humidity (operating)	<70% R.H.
Altitude	6561.7 Ft. (2000m)
Indoor Use	Indoor Use

Certifications and compliances

Safety	Complies with UL 61010B-1
Input Safety Rating	V / Ω: , UL 61010B-1, UL 61010-B-2-031, EU 61010-1 EN61010-2-031, Cat IV 600Volts, Cat III 1000V
	CAT IV: Service drop to service entrance,
	CAT III: Distribution level mains, fixed installation.
	CAT II: Local level mains, appliances, portable equipment
	CAT I: Signal level, special equipment or parts of equipment, telecommunication, electronics.
Pollution Degree 2	Do not operate in environments where conductive pollutants may be present.
EC Declaration of Conformity	Meets the intent of Directive 89/336/EEC for Electromagnetic Compatibility and Low Voltage Directive 73/23/EEC for product safety. Compliance was demonstrated to the following specifications as listed in the official Journal of the European Communities: En 55011 Class A: Radiated and Conducted Emissions. En 50082-1 Immunity: IEC 801-2 Electrostatic Discharge IEC 801-3 RF Radiated En 61010-1 Safety requirements for electrical equipment for measurement, control, and laboratory use.