

NP06 DIGITAL MULTIMETER

- Direct and alternating voltages from 100 μ V ... 600V
- Direct and alternating currents from 10 μ A ... 10.00A
- Resistance from 1 Ω ... 40.00M Ω with zero correction
- Capacitance from 1pF ... 200.00 μ F with zero correction
- Frequencies from 10.00Hz ... 500kHz
- Diode measurement and continuity testing
- Data Hold.
- Relative measurement
- Duty cycle (%) measurement
- Non Contact Voltage Detection

Application

NP06 is suited for universal, general applications in the electrical and electronics fields, as well as in radio and television service, training and education.

It is of especially pocket size design, and thus fit into pocket. The protective cover, which is provided as standard equipment, can be opened for convenient reading from the workbench, and provides for easy transport.

Hold:

By pressing the HOLD key, the currently displayed measurement value can be held and "HOLD" is simultaneously displayed.

Relative measurement (REL):

By pressing the REL key, the zero correction is made. All functions can do zero correction except Hz/Duty.

Automatic/manual measuring range selection:

The measurement functions are chosen with the rotary selector switch. The measuring range is automatically adjusted to the measurement value. The measuring range can also be manually selected with the AUTO/MAN button.

Note : For Frequency (Hz), Duty cycle (%), and Capacitance (F) measuring range is AUTO . No Manual range selection is possible.

Hz/Duty:

The instrument can measure frequency (Hz) and duty cycle (%) of the AC Voltage by pressing Function (Yellow) key.

Non Contact Voltage Detection:

NP06 allows you to detect the voltage presence in the live circuit without any electrical contact. NCV will be detected above 120V AC without safety cover.

Overload warning :

An acoustic signal occurs when measuring AC voltage >750V, DC Voltage >1000V, AC/DC mA current >400.0mA, AC/DC current >10.00A.

Energy saving circuit (Auto Power Off):

The instrument is switched off automatically, if none of the operating elements have been activated for about 15 minutes.

Protective cover for rough operating conditions:

A protective cover of Rubber Holster with a built-in stand protects the instrument against jolts and falls.

Diode and continuity testing:

This provides for the testing of the polarity of diodes, as well as inspection for short-circuits and circuit interruptions. In addition to the display, resistance of less than approx 60 \pm 5 Ω are indicated with an acoustic signal

Others:

It has provision of mounting clip for hands free operation in awkward situation .

Reference conditions for Accuracy

Reference Temperature	23°C ± 2K
Relative Humidity	45%...55% RH
Waveform of measured quantity	Sinusoidal
Input frequency	50 Hz
Battery Voltage	3 V ± 0.1 V

Applicable regulations and standards

EMC	EN 61326: Class B
Immunity	EN 61000-4-2 : 8 KV atmosphere discharge, 4 KV contact discharge
	EN 61000-4-3 : 3 V/m
Safety	EN 61010-1-2010
IP for water & dust	EN 60529
Pollution degree:	2
High Voltage Test	3.6 kV

Environmental Conditions

Operating temperature	0 to +50°C
Storage temperature	- 25 to +70°C (without battery)
Relative humidity	45%.....75%
Terminal Protection	IP 52 for instrument and IP20 for terminals.
Altitude	Up to 2000 m

Battery

Battery Voltage	2 X 1.5 V Cells
Battery type	Alkaline manganese Dioxide cells.
Battery Life	Alkaline manganese dry cell: approx. 400 hours.
Battery test	Automatic display of symbol when battery voltage drops below 2.4±0.1V

Influence Quantity

Influence Quantity	Range of Influence	Measured Quantity / Measuring Range ¹⁾	Variation ± (...% of rdg. + ...digits)
Temperature	0 °C + 21 °C and +25 °C to 50 °C	V, A, Diode, F, Hz, %, OHM	1.5 × intrinsic error / 10K
Relative humidity	75% 3 Days Meter off		1 × intrinsic error
Frequency of Measured Quantity	20 Hz.....<50 Hz	400mV~, 600V~	3.5 + 3
	>50 Hz500 Hz		
	20 Hz.....<50 Hz	4V~, 40V~, 400V~	
	>50 Hz750 Hz		
Battery Variation	Upto Low Battery 	V, A, Diode, Hz, %, OHM	20D
		F	70D

Specifications

Measurement Function	Model		Measuring Range	Resolution	Input Impedance		Intrinsic Uncertainty under Reference Condition $\pm(\dots\%$ of the rdg.+ ...Digits)		Overload Capacity ¹⁾	
	NP06-1	NP06-2			DC	AC/ACDC	DC	AC	Value	Time
V	•	•	400.0 mV	100 μ V ⁴⁾	>10 M Ω		1 + 9	2 + 9 ⁴⁾	1050 V	Continu ous
	•	•	4.000 V	1 mV			1 + 9	1.5 + 9		
	•	•	40.00 V	10 mV			1 + 9	1.5 + 9		
	•	•	400.0 V	100 mV			1 + 9	1.5 + 9		
	•	•	600 V	1 V			1 + 9	1.5 + 9		
					Voltage Drop. Approx				480 mA	Continu ous
mA	•		40.00 mA	10 μ A	45 mV		1.5 + 9	1.5 + 9		
	•		400.0 mA	100 μ A	450 mV		1.5 + 9	1.5 + 9		
A ⁷⁾	•		4.000 A	1 mA	45 mV		2 + 5	2.5 + 9	12 A: = 30 s	
	•		10.00 A	10 mA	120 mV		2 + 5	2.5 + 9		
				Input	Input Impedance					
Ω	•	•	400 Ω	100 m Ω	approx. 0.45V		1 + 5		500V DC/AC rms	5 min
	•	•	4.000 k Ω	1 Ω			1 + 5			
	•	•	40.00 k Ω	10 Ω			1 + 5			
	•	•	400.0 k Ω	100 Ω			1.5 + 5			
	•	•	4.000 M Ω	1 k Ω			2 + 5			
	•	•	40 M Ω	10 k Ω			2.5 + 5			
Continuity	•	•	400.0 Ω	100 m Ω			1.5 + 5		500V DC/AC rms	5 min
Diode	•	•	1.0V	1 mV	approx. 1V		2.5 + 5			
F	•	•	5.000 nF	1 pF			5 + 40 ²⁾		500V DC/AC rms	5 min
	•	•	50.00 nF	10 pF			3 + 10 ²⁾			
	•	•	500.0 nF	100 pF			1.5 + 10 ²⁾			
	•	•	5.000 μ F	1 nF			2 + 10 ²⁾			
	•	•	50.00 μ F	10 nF			2 + 10 ²⁾			
	•	•	200.0 μ F	100 nF			5 + 40 ³⁾			
Hz ⁵⁾⁶⁾	•	•	9.999 Hz	0.001Hz	f _{min}		0.5 + 5		500V DC/AC rms	5 min
	•	•	99.99 Hz	0.01Hz	9 Hz					
	•	•	999.9 Hz	0.1Hz	9 Hz					
	•	•	9.999 kHz	1Hz	9 Hz					
	•	•	99.99 kHz	10Hz	9 Hz					
	•	•	500.0 kHz	100Hz	9 Hz					
Duty Cycle ⁵⁾⁶⁾	•	•	2....98%	0.10%			10Hz....1kHz \pm 5D 1kHz...10kHz \pm 5D/kHz			

1) At 0°C to 50°C

2) With Zero Adjustment "REL"

3) Time required for Measurement approx. 60 sec

4) Specified Accuracy is valid as of 5% of the measuring range for 400.0mV AC

5) For Hz & Duty Cycle measurement, select proper range for VAC function

6) At input, \pm 5Vrms, Square Wave, Bipolar inputs.

7) 10A Max 5 Minute

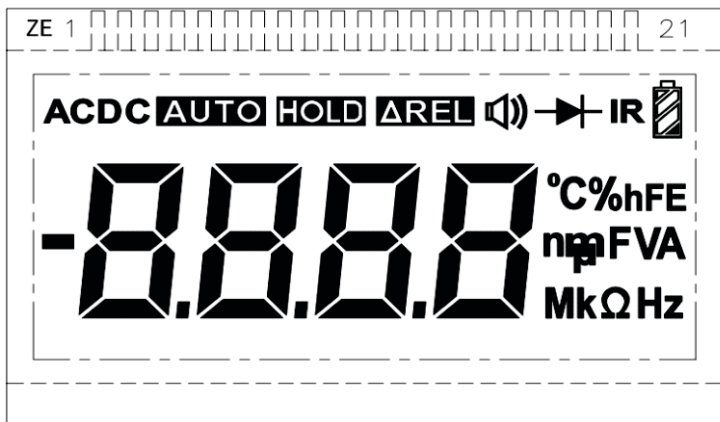
Display

LCD display field (49.7mm x 23.9mm) with digital display & display of unit of measure, current type & various special functions.

Digital

Display	7 segment
Character height	Main Display Character : 12.9 mm
Number of digits/Counts	3 ¾ digits 3999 steps
Overrange display	"OL" is displayed.
Polarity display	"—" sign is displayed when positive pole at "⊥"
Sampling rate	3 measurements/s for V, I, Ω, Capacitance, Frequency and Duty cycle measurement

Analog



1. Digital display with dot and polarity.
2. Low Battery Indication.
3. Display for REL and HOLD.
4. Continuity test display:
Buzzer symbol appears on screen.
5. Display for diode measurement.
6. Measurement unit display.
7. Display for automatic measuring range selection.
8. Display for selected type of Voltage/Current (AC or DC).
9. Display for overload value "OL".

Fuse

Fuse for ranges up to 400 mA	400 mA / 250V; 5 mm x 25 mm
Fuse for 10 A range	12 A / 250V; 5 mm x 25 mm

Standard Scope Of Supply

- 1 Multimeter
- 1 Cable set
- 1 Copy Operating Instructions
- 1 Protective Case (Holster).

Mechanical Design

Protection	Instruments: IP 52 Connector sockets: IP 20
Dimensions	W x H x D:
With Holster	74.3 mm x 154.1 mm x 47.6 mm
Without Holster	68.3 mm x 142.9 mm x 39.3 mm
Weight	Approx. 0.350 Kg with battery

Ordering code

	Digital Multimeter NP06 -	X	XX	X	X
Model*:					
NP06-1		1			
NP06-2		2			
Version:					
standard			00		
Language:					
Polish				P	
English					E
Acceptance tests:					
with an extra quality inspection certificate					1
with test certificate					2

* see table on page 3