



1. ELECTRICAL SPECIFICATIONS

Accuracy is calculated as \pm [% reading + (number of dgt) * resolution] at 23°C \pm 2°C, 45 \div 55%RH, frequency: 45 \div 55Hz, waveform: sinusoidal

DC VOLTAGE

Range	Resolution	Accuracy	Input impedance	Overload protection
30.00mV	0.01mV	$\pm(0.5\% + 3)$ (*)	> 10G Ω // <40pF	1000V DC/ACrms
300.0mV	0.1mV	$\pm(0.5\% + 3)$		
3.000V	0.001V	$\pm(0.25\% + 1)$	> 11M Ω // <40pF	
30.00V	0.01V		> 10M Ω // <40pF	
300.0V	0.1V			
1000V	1V	$\pm(0.35\% + 1)$		

(*) = With zeroing feature . Add 35 dgt without zeroing feature

AC VOLTAGE

Range	Resolution	Accuracy (*)	Input impedance	Overload protection
3.000V	0.001V	$\pm(0.75\% + 2)$ (10 \div 300dgt)	> 11M Ω // <40pF	1000V DC/ACrms
30.00V	0.01V			
300.0V	0.1V	$\pm(0.75\% + 1)$ (> 300dgt)	> 10M Ω // <40pF	
1000V	1V			

(*) Frequency range: 45 \div 65Hz ; For frequency within 65 \div 1kHz the accuracy is $\pm(2.0\% + 3)$ for ranges 3 \div 300V

DC CURRENT

Range	Resolution	Accuracy	Output voltage	Overload protection
300.0 μ A	0.1 μ A	$\pm(1.0\%+5)$ (>10dgt)	15mV	Rapid fuse 1.6A / 1000V
3.000mA	0.001mA	$\pm(1.0\%+2)$	150mV	
30.00mA	0.01mA	$\pm(1.0\%+5)$ (>10dgt)	650mV	
300.0mA	0.1mA	$\pm(1.0\%+2)$	1V	
3.000A	0.001A	$\pm(1.0\%+5)$ (>10dgt)	100mV	Rapid fuse 16A / 1000V
10.00A	0.01A	$\pm(1.0\%+2)$	270mV	

AC CURRENT

Range	Resolution	Accuracy (*)	Output voltage	Overload protection
3.000mA	0.001mA	$\pm(1.5\%+2)$ (>10dgt)	150mV	Rapid fuse 1.6A / 1000V
300.0mA	0.1mA		1V	Rapid fuse 16A / 1000V
10.00A	0.01A		270mV	

(*)Frequency range: 45 \div 65Hz ; For frequency within 65 \div 1kHz the accuracy is $\pm(2.0\% + 3)$

FREQUENCY

Range	Resolution	Accuracy	Sensitivity	Overload protection
300.0Hz	0.1Hz	$\pm(0.5\%+1)$	1.5V \div 100V(3V)	\leq 3kHz (1000V)
3.000kHz	1Hz		15V \div 300V(30V)	\leq 30kHz (300V)
30.00kHz	10Hz		150V \div 1kV(300V)	\leq 100kHz (30V)
100.0kHz	100Hz			



DUTY CYCLE

Range	Resolution	Accuracy	Overload protection
2.0% ÷ 98.0%	0.1%	±5dgt (2Hz÷1kHz) ±5dgt/kHz (1k÷10kHz)	≤3kHz (1000V) ≤30kHz (300V) ≤100kHz (30V)

RESISTANCE

Range	Resolution	Accuracy (*)	Output volatge	Overload protection
30.00Ω	0.01Ω	±(0.5% + 3) (*)	3.2V	1000V DC/ACrms
300.0Ω	0.1Ω	±(0.5% + 3)		
3.000kΩ	0.001kΩ	±(0.4% + 1)	1.25V	
30.00kΩ	0.01kΩ			
300.0 kΩ	0.1kΩ			
3.000MΩ	0.001MΩ	±(0.6% + 1)	3.2V	
30.00MΩ	0.01MΩ	±(2.0% + 1)		

(*) = With zeroing feature . Add 35 dgt without zeroing feature

DIODE TEST

Range	Resolution	Accuracy	Max open voltage	Overload protection
	1mV	±(0.25% + 1)	3.2V	1000VDC/ACrms

TEST CONTINUITY

Range	Buzzer	Overload protection
	R<120Ω	1000VDC/ACrms

CAPACITANCE

Range	Resolution	Accuracy	Overload protection
30.00nF	0.01nF	±(1.0% + 3) (*)	1000VDC/ACrms
300.0nF	0.1nF	±(1.0% + 3)	
3.000μF	0.001μF		
30.00μF	0.01μF	±(3.0% + 3)	

(*) = With zeroing feature . Add 50 dgt without zeroing feature

TEMPERATURE WITH Pt100 AND Pt1000 PROBES

Probe type	Range	Resolution	Accuracy (*)	Overload protection
Pt100	-200.0 ÷ 200°C	0.1°C	±(2°C + 5dgt)	1000VDC/ACrms
	200.0 ÷ 850.0°C		±(1.0 + 5)	
Pt1000	-100.0 ÷ 200°C		±(2°C + 2dgt)	
	200.0 ÷ 850°C		±(1.0 + 2)	

(*) Accuracy of only meter without probes



2. GENERAL SPECIFICATIONS

Electrical characteristics:

Conversion:	mean value
NMRR Normal Mode Rejection Ratio:	> 50dB (DC), >100dB (AC 50/60Hz)
CMRR Common Mode Rejection Ratio:	>120dB (DC) >70dB (AC 3V,30V,300V), >60dB (AC 1000V)


Display:

Characteristics:	3¼ LCD max 3100 points sign, decimal point and bargraph
Sample rate:	2 times/s, 1time/s (Ω and °C) for LCD display 20 times/s, 10 times/s (Ω) for bargraph
Overload indication:	OL or -OL

Fuses:

Type of fuse:	FF 1.6A/1000V, 6.3x32mm, 10kA (300mA) FF 16A/1000V, 10x38mm, 30kA (10A)
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Power supply:

Battery:	1x9V alkaline NEDA1604, JIS006P, IEC6F22
Low battery indication:	"  " symbol at display for battery voltage <7V
Battery life:	approx 220 hours (DCV, DCA), 80 hours (ACV, ACA)
Auto Power OFF:	after 10 minutes of idleness

Mechanical characteristics:

Dimensions (L x W x H):	195 x 84 x 35mm
Weight (included battery):	350g

Environmental conditions of use:

Reference temperature:	23 ± 2°C
Working temperature:	-10 ÷ 50°C
Working humidity:	<75%HR
Storage temperature:	-25 ÷ 70°C
Storage humidity:	<75%%HR

Standard guidelines:

Safety:	IEC/EN 61010-1
Insulation:	double insulation
Pollution degree:	2
Category of measure:	CAT IV 600V, CAT III 1000V
Max height of use:	2000m

This product conforms to the prescriptions of the European directive on low voltage 2006/95/EEC and to EMC directive 2004/108/EEC