



Data Sheet

RISHABH 612...616

Digital Multimeter



Measure



Control



Record



Analyze

Specifications

Meas. Function	Measuring Range	612	613	615	616 TRMS	Resolution	Input Impedance	Digital display Inherent deviation at reference condition + (...%rdg + ...digits)	Overload capacity ¹⁾	
									Overload Values	Overload Duration
V(DC)	660.0mV	●	●	●	●	100μV	>100 MΩ // <40pF	0.7 + 5	1000 V DC AC eff / rms Sine wave	Cont.
	6.600V	●	●	●	●	1mV	11 MΩ // <40pF	0.4 + 5		
	66.00V	●	●	●	●	10mV	10 MΩ // <40pF	0.4 + 5		
	660.0V	●	●	●	●	100mV	10 MΩ // <40pF	0.4 + 5		
	1000.0V	●	●	●	●	1V	10 MΩ // <40pF	0.4 + 5		
V(AC)	660.0mV	●	●	●	●	100μV	>100 MΩ // <40pF	1.2 + 5	1.0 + 3	Cont.
	6.600V	●	●	●	●	1mV	11 MΩ // <40pF			
	66.00V	●	●	●	●	10mV	10 MΩ // <40pF			
	660.0V	●	●	●	●	100mV	10 MΩ // <40pF			
	1000V	●	●	●	●	1V	10 MΩ // <40pF			
A(DC)							Voltage Drop			
	66.00mA	●	●	●	●	10μA	66.00mV	0.8 + 5	0.7A	Cont.
	660.0mA	●	●	●	●	100μA	660.00mV	0.8 + 5		
10.00A		16A	●	●	10mA	350mV	1.5 + 5			
A(AC)	66.0mA	●	●	●	●	10μA	66.00mV	0.8 + 5	0.7A	Cont.
	660.0mA	●	●	●	●	100μA	660.00mV	0.8 + 5		
	10.00A		16A	●	●	10mA	350mV	1.5 + 5		
>C(AC)	66.00A	●				10mA	66.00mV	0.8 + 5	0.7A	Cont.
	660.0A	●				100mA	660.00mV	0.8 + 5		
Ω							No load Voltage			
	660.0Ω	●	●	●	●	100mΩ	-3.3V	0.8 + 5	1000 V DC AC eff / rms Sine wave	10Sec.
	6.600KΩ	●	●	●	●	1Ω	-1.08V	0.8 + 5		
	66.00KΩ	●	●	●	●	10Ω	-1.08V	0.8 + 5		
	660.0KΩ	●	●	●	●	100Ω	-1.08V	0.8 + 5		
	6.600MΩ	●	●	●	●	1KΩ	-1.08V	1.0 + 5		
66.00MΩ	●	●	●	●	10KΩ	-1.08V	2.0 + 5			
BUZZER	660.0Ω	●	●	●	●	100mΩ	-3.3V	0.8 + 5		
DIODE	2.000V	●	●	●	●	1mV	3.3V	2.0 + 10		
F	6.600nF			●	●	1pF	—	3.0+40	1000 V DC AC eff / rms Sine wave	10Sec.
	66.00nF			●	●	10pF		2.0+10		
	660.0nF			●	●	100pF		2.0+10		
	6.600μF			●	●	1nF		2.0+10		
	66.00μF			●	●	10nF		2.0+10		
	660.0μF			●	●	100nF		5.0+10		
	6.600mF			●	●	1μF		5.0+10		
	40.00mF			●	●	10μF		5.0+10		
Hz	66.00Hz			●	●	0.01Hz	10 Hz(Fmin)	0.2 + 2 ²⁾		
	660.0Hz			●	●	0.1Hz				
	6.600KHz			●	●	1Hz				
	66.00KHz			●	●	10Hz	—			
	660.0KHz			●	●	100Hz				
	6.600MHz			●	●	1KHz				
	10.00MHz			●	●	10KHz				
%	1.0...98.90%			●	●	0.01%		10 Hz... 1kHz ± 5 Digit ³⁾ 1 kHz ... 10 kHz; ± 5 Digit / kHz ³⁾		
C / F	0...1300 ⁰ C	●	●	●	●	1 ⁰ C	—	2.0+3 ⁴⁾		
Peak (VAC / A AC)		●	●	●	●			3.0+300	-	-

1) At 0°C ... + 40 °C

3) For <10 KHz ,Square wave, Bipolar inputs

2) At input ≥3.5Vrms ,Square wave, Bipolar inputs, 4) Without sensor



Measure



Control




Record



Analyze

Influence Quantities


Influence Quantity	Range of Influence	Measured Quantity/ Measuring Range	Variation ¹⁾ ± (...% of rdg. +digits)
Temperature	0 °C +21 °C and +25 °C...+40°C	VDC	1 X Intrinsic error / K
		VAC	
		ADC	
		AAC	
		Ω	
		Diode	
		F	
		Hz	
		%	
Frequency of the Measured quantity	20 Hz...< 50 Hz	660mV~	1.0+3
	> 50Hz... 200 Hz		5.0+3
	20 Hz...< 50 Hz	6.6.....1000V~	1.0+3
	> 50Hz... 2 Khz		5.0+7
	20 Hz...< 50 Hz		1.0+3
	> 50Hz... 2 KHz		5.0+7
Waveform of the Measured quantity ²⁾	Crest Factor CF	V~ ³⁾ , A~ ³⁾	± 1 % of rdg
			± 5 % of rdg
Battery Voltage	 ⁴⁾ ... < 2.49 V > 2.49 V ... 3 V	VDC	5 Digit
		V~,ADC	10 Digit
		AAC	6 Digit
		600 Ω	4 Digit
		6.600 kΩ - 66 MΩ	3 Digit
		nF,µF,mF	5 Digit
		Hz	5 Digit
		%	5 Digit
Relative Humidity	75%	V~,VDC	1 x intrinsic error
	3 Days	A~,ADC	
		Ω	
	Meter off	F	
		Hz	
		°C	

1) With temperature: Error data apply per 10 K change in temperature.

With frequency: Error data apply to a display from 300 digits onwards.

2) With unknown waveform (crest factor CF > 2), measure with manual range selection

3) With the exception of sinusoidal waveform.

4) After the "" symbol is displayed.



Measure



Control



Record



Analyze

Influence quantities

Influence Quantity	Range of Influence	Measured Quantity/ Measuring Range	Attenuation
Common Mode interference voltage	Noise quantity max. 1000 V dc	VDC	> 100 dB
		V~	> 100 dB
	Noise quantity max. 1000 V ~ 50 Hz, 60 Hz sinusoidal	VDC	>100 dB
		V~	> 50 dB
Normal Mode interference voltage	Noise quantity V ~ Value of the measuring range at a time Max. 1000V~ ,50Hz, 60Hz Sinusoidal	660mVDC, 6.6VDC, 660VDC,1000VDC	> 43 dB
		66 VDC	> 35 dB
	Noise quantity max. 1000 V dc	V~	> 45 dB

Response time (After manual range selection)

Measured Quantity/ Measured range	Response Time		Attenuation
	Of Analog indication	Of digital indication	
VDC ,VAC, °C	0.1S	1.0S	From 0 to 80 % of upper range limit.
A~, ADC	0.1S	1.0S	From 0 to 50 % of upper range limit.
660Ω...6.6 MΩ	0.1S	1.0S	
66 MΩ	0.2S	2.0S	
Diode	0.1S	1.0S	From 0 to 80 % of upper range limit.
6.6nF... 66μF	0.7S	Max.1S	
660μF...6.6 mF	1.4S	Max.3S	
66 mF	7.0S	Max.15S	
660 Hz, 6.6KHz	2.0S	Max.2S	
66 KHz, 660 Khz, 1MHz	0.5S	Max.1S	
% (10 Hz)	0.7S	Max.2.5S	



Measure



Control



Record



Analyze