Digital Multimeter Selection Guide

	Advanced Meters				Wireless Meters		Industrial Maintenance and Field Service Meters				Compact Meter					Automotive Meters	Insulation Testers		Specialty Meters			
Models	**87 V**	**87 V MAX**	**287**	**289**	**233**	**3000 FC**	**175**	**177**	**179**	**110**	**113**	**114**	**115**	**116 HVAC**	**117**	**88V**	**1577**	**1587 FC**	**27 II**	**28 II**	**28IIEX**	**279 FC**
Basic features																						
Counts	20000	20000	50000	50000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	20000	6000	6000	6000	20000	20000	6000
True-RMS readings	AC	AC	AC+DC	AC+DC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC		AC	AC	AC
Basic DC accuracy	0.05 %	0.05 %	0.02 %	0.02 %	0.25 %	0.09 %	0.15 %	0.09 %	0.09 %	0.5 %	0.5 %	0.5 %	0.5 %	0.5%	0.5 %	0.1 %	0.2 %	0.09 %	0.1 %	0.05 %	0.05 %	0.09 %
AC bandwidth	20 kHz	20 kHz	100 kHz	100 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	1 kHz	5 kHz	60 Hz	5 kHz	30 kHz	20 kHz	20kHz	500 Hz
Auto/manual ranging	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•			•/•	•/•	•/•	•/•
Class 1 Zone 1 AEx ia IIC T4 Class 1 Division 1, Groups ABCD																					•	
Measurements																						
Voltage AC/DC	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V	600 V	600 V	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Current AC/DC	10 A	10 A	10 A	10 A	10 A	400 mA	10 A	10 A	10 A				10 A	600 µA	10 A	10 A	400 mA	400 mA	10 A	10 A	10 A	2500 A AC (w/iFlex™)
Resistance	50 MΩ	50 MΩ	500 MΩ	500 MΩ	40 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	40 MΩ	60 kΩ	40 MΩ	40 MΩ	40 MΩ	40 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ	50 MΩ
Frequency	200 kHz	200 kHz	1 MHz	1 MHz	50 kHz	100 kHz	100 kHz	100 kHz	100 kHz				100 kHz	100 kHz	100 kHz	200 kHz		100 kHz	200 kHz	200 kHz	200 kHz	100 kHz
Capacitance	9999 µF	9999 µF	1 pF to 100 mF	1 pF to 100 mF	9999 µF	9999 µF	9999 µF	9999 µF	9999 µF		9999 µF		9999 µF	9999 µF	9999 µF	9999 µF		9999 µF	9999 µF	9999 µF	9999 µF	9999 µF
Temperature	1090° C (1994° F)	1090° C (1994° F)	+1350° C (+2462° F)	1350° C (2462° F)	400° C (752° F)				400° C (752° F)					400° C (752° F)				500° C (932° F)		+1090° C (+1994° F)	1090° C (1994° F)	
dB			60 dB	60 dB																		
Conductance	50 nS	60 nS	50 nS	50 nS												60 nS			60 nS	60 nS	60 nS	
Duty cycle/pulse width	•/–	•/–	•/•	•/•												•/•			•/–	•/–	•/–	
Continuity/diode test	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Motor Drive (ASD) Measurements	•	•		•														•		•	•	•
VoltAlert™, non-contact voltage detection															•							
VCHEK™											•											
LoZ: low input impedance				•								•		•	•							
Microamps	•	•	•	•										•					•	•	•	
Insulation Test																	•	•				
Number of insulation test ranges																	2	5				
Display																						
Removable wireless display					•																	
Dot matrix display			•	•		•																
Dual display			•	•		•																
Analog bargraph	•	•	•	•			•	•	•	•	•	•	•	•	•	•			•	•	•	
Backlight	Two level	Two level	Two level	Two level	•	•		•	•	•	•	•	•	•	•	•	•	•	Two level	Two level	Two level	•
Graphical trend display			•	•																		
Diagnostics and data																						
Min/Max recording with time stamp	•/–	•/–	•/•	•/•	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–		•/–	•/–	•/–	•/–	•/–
Fast Min/Max	250 µs	250 µs	250 µs	250 µs												250 µs				250 µs	250 µs	
Display Hold/Auto (Touch) Hold	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/–	•/–	•/–	•/–	•/–	•/–	•/•		•/•	•/•	•/•	•/•	•/•
Relative reference	•	•	•	•															•	•	•	
Stand alone logging			•	•		(with app)																(with app)
Trend Capture			•	•		(with app)																(with app)
Readings memories			10000	10000		(with app)																(with app)
USB interface			•	•																		
Other features																						
Real time clock			•	•																		
Automatic selection, AC/DC volts											•	•		•	•							
Closed case calibration	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Separate battery/fuse access	•/–	•/•	•/•	•/•	•	•	•/•	•/•	•	•	•	•	•	•	•	•	•/•	•/•	•	•/•	•/–	•
Operating temperature range	-120° C, 55° C (-4° F, 131° F)	-40° C, 55° C (-40° F, 131° F)	-20° C, 55° C (-4° F, 131° F)		-10° C, 50° C (14° F, 122° F)														-40° C, 55° C (-40° F, 131° F)		-15° C, 50° C (5° F, 122° F)	
Warranty and electrical safety																						
Input alert	•	•	•	•												•			•	•	•	
IP Rating	IP30	IP67				IP54				IP42	IP42	IP42	IP42	IP42	IP42				IP67	IP67	IP67	IP40
Safety rating (IEC 61010) CAT III	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	600 V		600 V	600 V	600 V	600 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V	1000 V
Safety rating (IEC 61010) CAT IV	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V		600 V					600 V			600 V	600 V	600 V	600 V

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