## vPad-ES<sup>™</sup> Rugged

## Designed for the Toughest Environments

Built on the Vision Pad Platform, the vPad-ES Rugged is the ideal Electrical Safety Analyzer for Field Service Engineers.

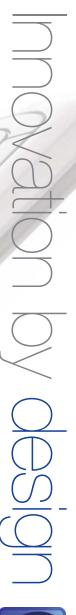
Housed in an Extreme Duty case, the vPad-ES Rugged offers the functionality and scalability that you have come to expect from Vision Pad Technology products plus the added assurance of knowing your system will be protected in the harshest of environments.

**Key Features:** 

- Built into a Crush Proof case that complies with ATA 300 Impact Test Standard
- Padlockable Powerclaw<sup>TM</sup> latching system with soft grip foldable handle
- Hi-resolution Graphical User Interface
- Built in Wireless communication enables transfer of data from remote sites to corporate CMMS systems
- Bluetooth connectivity for transfer of data to and from local devices
- Testing carried out to:
  - ANSI / AAMI ES1
  - IEC60601-1
  - NFPA 99-2012
  - IEC62353
- Can be upgraded from a basic manual tester to full automation with CMMS connectivity by purchasing Apps
- Can be configured to retrieve test data from non-Datrend Devices









## **⊘** vPad-ES<sup>™</sup> Rugged - Performance Specifications

Display:	10.1" colour LCD (1280 x 800)	Equipment Current:			
		Ranges: 0 to 1.999 A ac rms			
User Controls:	Capacitive touchscreen		2.00 to 19.99 A ac a	rms	
		Accuracy: $\pm (2 \% \text{ reading} + 0.2\text{A})$			
Wired Connectivity:	Micro USB 2.0 Type B	Duty cycle:	0 A to 10 A, continuous 10 A to 15 A, 7 min. on/3 min. off 15A to 20 A, 5 min. on/5 min. off		
	(shareable with base unit)				
	XBUS Port (RJ11-6)				
	USB 2.0 Type A (host) - optional				
		Equipment Po	ower:		
Wireless Connectivity:	802.11 b/g/n	Range:	0 to 2400 watts ±(5 % reading + 5W)		
	Bluetooth 2.1+ EDR	Accuracy:			
Modes of Operation:	Manual (standard)	Chassis and L	s and Lead Leakage Current:		
_	Automatic (accessory option)	Modes:	AC+DC (True-rms)		
Power:			AC only	1	
120 Volt power outlet:	90 to 132 V ac rms,		DC only		
F F	47 to 63 Hz, 20 A max.	Patient Load			
230 Volt power outlet:	180 to 264 V ac rms,		IEC 60	601	
1	47 to 63 Hz, 16 A max.	Crest factor:	<=3		
		Ranges:	0.0 to 199.9 µA		
Weight:	7.0 lb (3.2 kg)		200 to 1,999 μA		
123			2000 to 19,999 μA		
Size:		Accuracy:	///		
Case:	14.3 x 11.1 x 4.7 in.		DC to 1 kHz	$\pm(1 \% \text{ of reading} + 1\mu\text{A})$	
	(36 x 28 x 12 cm)		1 to 100 kHz	$\pm$ (2 % of reading + 1µA)	
Tablet PC (detachable):	10.5 x 6.7 x 0.5 in.			$\pm(5 \% \text{ of reading} + 1\mu\text{A})$	
2221	(27 x 17 x 1.3 cm)	Isolation tes	t voltage: 100 %	±5 % of AC supply	
Test Standard Selections: ANSI/AAMI ES-1		Calibration To	est Points:		
	IEC60601-1	Resistance:			
	NFPA99-21012	Current:	$100 \pm 1  \mu A$		
	IEC 62353		111		
Voltage:		ECG Performance Waveforms:			
Mains voltage:		Output:			
Range:	90 to 264 V rms		Amplitude	1 mV QRS into Lead II	
Accuracy:	±(2 % of reading + 0.2 V)		Impedance	500 ohms	
External (point-to-point) voltage:		Accuracy:			
Range:		i i couracy.			
ituiise.	0 to 300 V rms		Frequency	±1 %	
Accuracy:	0 to 300 V rms ±(1 % FS + 0.2 V)		Frequency Amplitude	±1 % ±2%	
Accuracy: External (point-to-point	±(1 % FS + 0.2 V)	Waveforms:	Amplitude		
Accuracy:	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms		Amplitude		
Accuracy: External (point-to-point	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms		Amplitude ECG Complex	±2% 30, 60, 120, 180, 240 and 300 BPM	
Accuracy: External (point-to-point	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms		Amplitude ECG Complex Square wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz	
Accuracy: External (point-to-point	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms		Amplitude ECG Complex	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and	
Accuracy: External (point-to-point Ranges: Accuracy:	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms		Amplitude ECG Complex Square wave Pulse wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance:	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms ±(1 % of reading + 1 mV)		Amplitude ECG Complex Square wave Pulse wave Triangle wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance: Method: Four-termi	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms ±(1 % of reading + 1 mV) nal, fully isolated		Amplitude ECG Complex Square wave Pulse wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz 0.5, 10, 40, 50, 60	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance: Method: Four-termi Test Current: 1A pulsed,	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms ±(1 % of reading + 1 mV) nal, fully isolated 0.2A rms		Amplitude ECG Complex Square wave Pulse wave Triangle wave Sine wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz 0.5, 10, 40, 50, 60 and 100 Hz	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance: Method: Four-termi Test Current: 1A pulsed, Range: 0.000 to 2.	$\pm$ (1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms $\pm$ (1 % of reading + 1 mV) nal, fully isolated 0.2A rms 000 Ω		Amplitude ECG Complex Square wave Pulse wave Triangle wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz 0.5, 10, 40, 50, 60 and 100 Hz SQR 2Hz & 1KHz, PUL 4s,	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance: Method: Four-termi Test Current: 1A pulsed, Range: 0.000 to 2.	±(1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms ±(1 % of reading + 1 mV) nal, fully isolated 0.2A rms		Amplitude ECG Complex Square wave Pulse wave Triangle wave Sine wave CMRR tests	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz 0.5, 10, 40, 50, 60 and 100 Hz SQR 2Hz & 1KHz, PUL 4s, SIN 0.5, 50 & 60Hz	
Accuracy: External (point-to-point Ranges: Accuracy: Ground Resistance: Method: Four-termi Test Current: 1A pulsed, Range: 0.000 to 2.	$\pm$ (1 % FS + 0.2 V) ) micropotential: 0 to 199.9 mV rms 200 to 1,999 mV rms 2000 to 19,999 mV rms $\pm$ (1 % of reading + 1 mV) nal, fully isolated 0.2A rms 000 Ω reading + 0.02 Ω)		Amplitude ECG Complex Square wave Pulse wave Triangle wave Sine wave	±2% 30, 60, 120, 180, 240 and 300 BPM 0.125 Hz, 2 Hz and 1 kHz 63 msec, 30PPM and 60PPM 2 Hz 0.5, 10, 40, 50, 60 and 100 Hz SQR 2Hz & 1KHz, PUL 4s,	



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