OCCUPATIONAL SAFETY DEVICES

1) LUX METER/ LIGHT METER

- Measuring unit in lux or foot-candles, selectable unit display switching
- Measuring range up to 20,000 lux or foot candles
- Data hold/ freeze reading
- Min/max reading display
- Auto power off
- Includes protective sensor cap

Range: 20, 200, 2000, 20000, 200000 Lux
          20, 200, 2000, 20000FC (footcandle)
Precision: ±3% (at 2854°K – calibrated by the common incandescent lamp)
                   ±6% other visible light sources
                    Cosine error
                    30°±2%
                    60 °±6 %
                    80 °±25 %
                    Cosine angle corrected

Sampling rate: 2.5 times/second
Display: 3.5 digit 1999-point LCD screen
Sensor: Silicon photoelectric diode and optical filter
Power supply: 9V DC Battery
Battery life: 200 hours
Warranty period: 1 year

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2) CLAMP MULTI-TESTER

Electrical Certification of Safety   IEC 61010-1 600 V CAT IV, double or reinforced insulation, pollution degree 2 Protection IP40; EN60529 or ANY EQUIVALENT (provide corresponding approved certificate)

EMC (Electromagnetic Compatibility)
Emission IEC/EN 61326-1:1997 class B ; Immunity IEC/EN 61326-1:1997 or ANY EQUIVALENT (provide corresponding approved certificate)

AC/DC current (A)   1400Aac/ 2000Aac (or higher as compatible) ± (1.5%+5)
AC voltage (V)   600Vac (or higher as compatible) ± (1.2%+5)
DC voltage (V)   600V (or higher as compatible)± (0.8%+1)
Resistance (Ω)   40MΩ (or Higher as compatible)± (1%+2)
Frequency (Hz)   10Hz~10MHz   ± (0.1%+3)
Temperature (°C)   -40 °C~1000°C   ± (2%+8)
Display count   4000 units
Jaw opening   40mm to 60mm
Input impedance for DCV- Around 10MΩ
Auto range, **Diode test**, **Auto power off** , **Continuity buzzer**, **Low battery indication**, **Data hold**, **Relative mode**, **LCD backlight**, **Full icon display**
Power: 9V battery (min. 12 Hrs. Capacity)
Standard accessories (Industrial Type, Heavy Duty)
Battery, test leads, carrying bag, point contact temperature probe

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3) **INFRARED CAMERA (ELECTRICAL SYSTEM MONITORING)**

Infrared Resolution 640 x 480 (307,200 pixels) or higher
IFOV with standard lens (spatial resolution) 0.93 mRad, D: S 1065:1 or higher as compatible
Minimum focus distance 15 cm (approx. 6 in)
Auto Focus- For consistently in-focus images.
Laser distance meter, Advanced manual focus
Wireless connectivity - to PC, iOS, Android, and WiFi to LAN
Pistol-grip design
Thermal sensitivity (NETD≤ 0.05 °C at 30 °C target temp (50 mK) or equivalent
Fast auto toggle between manual and auto modes, auto-rescale in manual mode
Built-in digital camera (visible light) 5MP or higher
Frame rate 60 Hz or 9 Hz versions
Laser pointer
LED light (torch)
Digital Zoom 2x and 4x or higher
Extensive memory options Removable 4 GB micro SD memory card or higher, 4 GB internal flash memory or higher, save to USB flash drive capability, Image capture, review, and save mechanism
Image file formats bmp, jpeg, is2, is3, AVI

Full analysis and reporting software
Video recording and formats- Standard and radiometric
Batteries (field-replaceable, rechargeable) Minimum of Two lithium ion smart battery packs with segmented LED display to show charge level, 2 or more hours per battery life (actual life varies depending on settings and usage)
AC operation with included power supply (100 V AC to 240 V AC, 50/60 Hz)
Temperature measurement range (not calibrated below -10 °C) -20 °C to +1,000 °C (-4 °F to 1,832 °F)
Accuracy ± 2 °C or 2 % (at 25 °C nominal, whichever is greater)
On-screen reflected background temperature compensation
On-screen transmission correction
Line temperature graph
Standard Color palettes (9): Rainbow, Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
Ultra Contrast palettes 9: Rainbow, Ironbow, Blue-Red, High Contrast, Amber, Amber Inverted, Hot Metal, Grayscale, Grayscale Inverted
Color alarms (temperature alarms)- High temperature, low temperature, and isotherms (within range)
Infrared spectral band 7.5 µm to 14 µm (long wave)
Center-point temperature measurement
Spot temperature- Hot and cold spot markers, User-definable spot markers
Hard Case- Rugged, IP67 rated, airtight hard case with custom foam inserts (or equivalent)
Safety IEC 61010-1: Overvoltage category II, Pollution Degree 2 (or approved equivalent if not higher) Engineered to withstand 2 meter (6.5 feet) drop with standard lens
Enclosure rating IEC 60529: IP54 (protected against dust, limited ingress; protection against water spray from all directions) - (or approved equivalent if not higher)
Warranty Two-years
RoHS compliant

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4) **VANE ANEMOMETER**

Wind speed measurement	Range	Resolution
	0.40 to 25.00 m/s	0.01 m/s
	80 to 4900 ft/m	1 ft/m

Air flow measurement **CMS**	Range	Resolution
(cubic meter/second)	0.01 to 99.99 m3/s	0.01
CFM		
(cubic foot/minute)	1 to 9999 ft3/m	1

	Range	Resolution
Wind temperature	0°C to 50°C	0.1°C

Display	Dual-screen 4-digit (9999 points) LCD screen
Measurement unit	Wind speed: ft/m; m/s Air flow: CMS (m3/s) and CFM (ft3/m) (cubic foot/minute) Wind temperature: °C and °F
Data holding	
Sensor	Wind speed/air flow sensor: conventional angular vane arm, lubricating ball bearing Wind temperature sensor: precision thermistor Minimum/maximum value storage, recording and viewing the minimum reading and maximum reading
Auto power-off	
Power supply	9V battery (heavy duty alkaline battery)
Battery life	100 hours (Minimum)
Sensor head diameter	70 mm (Minimum)
Warranty period	2 years

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5) **SONIC INDUSTRIAL IMAGER**

Sensors	
# Of microphones	64 digital MEMS microphones (or higher)
Frequency band	2 kHz to 52 kHz
Sound pressure sensitivity	Detects a 0.005 CFM leak at 100PSI from up to 32.8 feet (or higher) (Detects a 2.5 cm3/sec leak at 7 bar from up to 10 meters)- (or higher)
Operation distance range	0.5 to > 50 meters (1.6 to > 164 feet)
Field of View	63 ° ± 5 °

Minimum Frame Rate   12.5 FPS
*Depending on ambient conditions

Built-in digital camera (visible light)

Field of View (FOV)   63 ° ± 5 °
Focus   Fixed lens
Display   7" LCD with backlight, under-sunlight readable (Minimum)
Resolution   1280 x 800 (1,024,000 pixels) (Minimum)
Touchscreen   Capacitive
Storage capacity   20 GB or higher

Image Storage

Image format   .JPG or .PNG
Video format   .MP4
Video length   5 minutes maximum

Acoustic Measurements

Measurement range   29.3 dB to 119.6 dB SPL (±2 dB) at 2 kHz
                        21.9 dB to 112.3 db SPL (±2 dB) at 19 kHz
                        36.6 db to 126.9 dB SPL (±2 dB) at 52 kHz
Auto max/min dB gain Auto or manual, user selectable

Spot markers   dB level reading at center point of the image

Batteries (field-replaceable)   Rechargeable Li-ion, 4800mAh High Capacity 9V (or Higher)

Battery life   6 hours or higher **(include spare battery)**
Standard palettes   3: Grayscale, Ironbow, Blue-Red
Operating Temperature   0 °C to 40 °C (32 °F to 104 °F)
Storage Temperature   -20 °C to 70 °C (-4 °F to 158 °F) Without batteries
Relative humidity   10 % to 95 % non-condensing
Main unit rating   IP40 protection against particles 1mm or greater and dripping
                              water
Sensor head rating   IP51
Warranty   2 year

RoHS compliant

General Safety IEC 61010-1 (or approved Equivalent with certification)

Electromagnetic Compatibility (EMC) International   IEC 61326-1: Portable Electromagnetic
                                                           Environment IEC 61326-2-2
                                                           CISPR 11: Group 1, Class A
                                                           (Or approved Equivalent with
                                                           certification)

*WITH PRODUCT DEMONSTRATION AND ORIENTATION

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6) **TEMPERATURE HUMIDITY METER**

Key features
- Min/Max/Avg. Data hold
- Low battery indicator

Temperature	-20°C to 60°C (-4°F to 140°F)
Temperature accuracy	0°C to 45°C (±0.5°C)
	-20°C to 0°C & 45°C to 60°C (±1.0°C)
	32°F to 113°F (±1.0°F)
	-4°F to 32°F and 113°F to 140°F (±2.0°F)
Resolution	0.1°C / 0.1°F
Temperature update rate	500 ms
Temperature sensor type	NTC
Relative humidity range	5% to 95% RH
Relative humidity accuracy	10% to 90% RH @ 23°C (73.4°F) (±2.5% RH)
	(< 10%, > 90%RH @ 23°C (73.4°F) (±5.0% RH)
Humidity sensor	Electronic capacitance polymer film sensor.
Response time (humidity)	For 90% of total range - 60 s with 1 m/s air movement
Operating temperature	Temperature: -20°C to 60°C
	Humidity: 0°C to 55°C
Battery type	4 AAA alkaline batteries (or approved equivalent)

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8) AIRBORNE PARTICLE COUNTER

Channels	0.3 μm, 0.5 μm, 1.0 μm, 2.0 μm, 5.0 μm, 10.0 μm

Flow rate	0.1 cfm (2.83 L/min)
Light source	775 nm to 795 nm, 90 mW class 3B laser
Count modes	Raw counts, #/m3, #/ft3, #/liter in Cumulative or Differential mode
Counting efficiency	50% @ 0.3 μm; 100% for particles > 0.45 μm (per ISO 21501)
Zero count	1 count / 5 minute (JIS B9921)
Concentration limits	10% at 4,000,000 particles per ft3 (per ISO 21501)
Data storage	10,000 records (rotating buffer)
Alarms	Counts, low battery, sensor fail
Delay time	0 to 24 hours
Sample inlet	Isokinetic probe
Security	Administrator password control (optional)
Communication mode	USB or Ethernet
Power adapter	100 V AC to 240 V AC, 12 V DC, 2.5 A (or compatible equivalent)
Rechargeable battery	Li-ion 7.4 V 2600 mAh; 10 hours typical use (or compatible equivalent)
Calibration	PSL particles in air (NIST traceable)
Warranty	One-year

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9) AIR FLOW METER/ MICROMANOMETER

Rubber Labeled Contact Buttons

Air pressure	Range / Resolution / Accuracy	±4000 Pascals / 1 Pascal / ±1% + 1 Pascal
		±16 inH2O / 0.001 inH2O / ±1% + 0.01 inH2O
		±400 mmH2O / 0.1 mmH2O / ±1% + 0.1mmH2O
		±40 mbar / 0.01 mbar / ±1% + 0.01 mbar
		±0.6 psi / 0.0001 psi / ±1% + 0.0001 psi
Air velocity	Range / Resolution / Accuracy	250 to 16,000 fpm / 1 fpm / ±2.5% of reading at 2000 fpm (10.00 m/s)
		1 to 80 m/s / 0.001 m/s / ±2.5% of reading at 2000 fpm (10.00 m/s)

Air flow (volume)	Range / Resolution / Accuracy	0 to 99,999 cfm / 1 cfm / Accuracy is a function of velocity and duct size
		0 to 99,999 / 1 m3/hr / Accuracy is a function of velocity and duct size
		0 to 99,999 l/s / 1 l/s / Accuracy is a function of velocity and duct size
Temperature	Range / Resolution / Accuracy	0°C to 50°C / ±1% + 2°C / 0.1°C
		32°F to 122°F / ±1% + 4°F / 0.1°F
Relative humidity	0% to 90%, non-condensing	
IP rating	IP40	
EMI, RFI, EMC	Meets requirements for EN61326-1 (or equivalent)	
Vibration	MIL-PREF-28800F, Class 3 (or equivalent)	
Max pressure at each port	10 psi	
Data storage capacity	99 readings (or higher)	
Warranty	2 years	
Power, battery life	Four AA batteries (or compatible equivalent)	

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10) **GEIGER COUNTER: Alpha, Beta, Gamma, X-ray Radiation Dosimeter**

Display 3.5 digits, bright LCD with maximum reading 1999
Display units in uSv/h, uRem/h and mRem/h
Sampling time 20 second/times
Accuracy ±15% of reading
Built-in GM tube
Quick response to radiation strength of Alpha (A) Beta(B), Gamma(y) and X-ray
Auto-ranging
Automatic detection, easy setting
Beeper chirp with each radiation count
Audio alarm setting function
Operating environment 0 ~ 50 ºC, below 80% RH
Battery life at least 50 hours
Battery 9Volts (Rechargeable) (Or any compatible equivalent)
English Language Interface, Software, and Manual.

International Certificate of Safe Environmental and Health Compliance
Computer Interactive data transferring mode

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