Scope:

This specification outlines the essential characteristics of a professional-grade clamp meter capable of both AC current measurements, intended for versatile field and lab usage.

Specification for Clamp Meter

1. The instrument should have the capability to measure both AC current up to 400 A with a resolution of 0.01 A and accuracy of ±(2.0% of the measured value + 8 digits).
2. The instrument should have the ability to measure AC and DC voltages up to 1000 V with a resolution of 0.001 V and accuracy of ±(1.2% + 5 digits) for AC and ±(1.0% + 3 digits) for DC.
3. The instrument should have the feature to perform accurate measurements downstream of frequency converters using VFD mode.
4. The instrument should have a function for measuring resistance up to 40 MΩ with a resolution of 0.1 Ω and an accuracy of ±(1.0% + 4 digits).
5. The instrument should have the capability to measure frequency for current up to 999.9 Hz and voltage up to 99.99 kHz with an accuracy of ±(1.0% + 5 digits).
6. The instrument should have the function to measure capacitance up to 99.99 mF with a resolution of 0.001 nF and accuracy of ±(3.0% + 5 digits).
7. The instrument should have the ability to measure temperature in the range of -20°C to +1000°C (or -4°F to +1832°F) with a resolution of 0.1°C or 0.1°F.
8. The instrument should have the feature to test diodes and check continuity with an audible buzzer.
9. The instrument should have the ability to measure duty cycle between 20.0% to 80.0% with 0.1% resolution and accuracy of ±(1.2% + 10 digits).
10. The instrument should have an inrush current measurement function.
11. The instrument should have non-contact voltage detection functionality for quick safety checks.
12. The instrument should have Peak MIN and Peak MAX recording features for capturing extremes in signals.
13. The instrument should have relative measurement (REL) mode for differential measurement.
14. The instrument should have a true RMS (TRMS) measurement capability for accurate readings of distorted waveforms.
15. The instrument should have an integrated flashlight to support use in dark environments.
16. The instrument should have an opening of the measurement clamp of 30 mm
17. The instrument should have a segment-based LCD display with manual backlight, capable of showing 4000 counts.

18. The instrument should have auto power-off and low battery indication features.
19. The instrument should have a safety category rating of CAT III 600 V and CAT II 1000 V as per IEC 61010.
20. The instrument should have an IP30 ingress protection rating.
21. The instrument should have an operating temperature range of 5°C to 40°C and a storage range from -20°C to +60°C.
22. The instrument should have a power supply using 3 × AAA (1.5 V) batteries and dimensions approximately 220 × 80 × 39 mm.

Service After Sale:

Bidder will have to submit the documentary evidence of having established a mechanism for prompt services as & when required.