***GENERIC SPECIFICATION FOR HIGH PERFORMANCE REVENUE POWER METER WITH POWER QUALITY RECORDING FUNCTIONALITY, NEXUS® 1272 METER***

1. PRODUCT

2.1 POWER METER WITH PROGRAMMABLE DISPLAY

1. Meter shall be UL listed and CE marked. Meter shall have third party lab testing or certification for the following standards:
   * + 1. IEC 62053-22 0.2S Certified
       2. IEC 62053-23 Certified
       3. IEC 62053-11
       4. IS 14697
       5. Measurement Canada approval
2. Meter shall be designed for multifunction electrical measurement on 3 phase power systems. .
   * + 1. Voltage, both phase to neutral and phase to phase, for all three phases; phase angles for each voltage relative to each other. One cycle, 200 milliseconds and one second readings shall be available simultaneously.
       2. Current, phase A, B, C, and N-calculated; phase angles for each current relative to voltages. One cycle, 200 milliseconds and one second readings shall be available simultaneously.
       3. Watts (total and per phase), VARs (total and per phase), VA (total and per phase), Power Factor (total and per phase) and Frequency. 200 milliseconds and one second readings shall be available simultaneously.
       4. Accumulated Wh, VAh, and VARh; Wh received; Wh delivered. VARh and VAh reading shall be accumulated and stored for each of the 4 quadrants of power.
       5. Power demand shall be simultaneously calculated using five (5) different averaging methods: Fixed Window (Block) Average, Sliding Window (Rolling Block) Average, Thermal Average, Predicted Average, and Cumulative Demand. Values for all averaging intervals must be available simultaneously.
3. Meter’s power and energy accuracy shall be from 0.15 A to full load. Guaranteed accuracy shall be 0.6% at Unity PF and 0.1% at 5 PF from 0.15 A to full load. Meter shall meet accuracy requirements of IEC 62053-22 (Class 0.2S) and ANSI C12.20 (Class 0.2 CL). Meter shall have a Frequency accuracy measurement of 0.001 Hz or better.
   * + 1. Meter’s accuracy technology shall auto-calibrate over time and perform automatic temperature drift adjustments.
4. Meter shall be a traceable revenue meter, containing a utility-grade test pulse for accuracy verification.
   * + 1. Transformer and line loss compensation shall be supported.
       2. CT/PT compensation shall be supported.
       3. Time-of-use with a 20-year calendar shall be supported.
5. Meter shall offer advanced power quality analysis with the following features:
   * + 1. Harmonic recording to the 128th order, and harmonic analysis of stored waveforms to the 255th order.
       2. Waveform recording at up to 512 samples per cycle for a voltage sag or swell or a current fault event.
       3. Waveform scope via manufacturer software shall allow viewing of voltage and current real time waveforms.
       4. Independent CBEMA or SEMI F47 log shall be available.
       5. Meter shall be programmable for limits and control applications.
6. Meter shall have a fully programmable display.
   * + 1. Display shall have pre-programmed and customized displays.
       2. Meter shall have three display modes for up to 75 pre-programmed and customized displays.
       3. Screens shall be assignable to any display mode.
       4. Screens shall display water, gas, and other types of usage as well as electrical data,
       5. Pre-programmed diagnostic screens shall include voltage, phase angles, harmonic magnitudes, phasor diagram, meter status, firmware versions, Watts/VARs.
7. Meter shall have multiple communication ports.
   * + 1. Standard ports shall include optical port and two RS485 serial ports. Modbus RTU/ASCII and DNP3 level 2 shall be supported.
       2. Optional shall be a 10/100BaseT Ethernet port. Ethernet port shall support Modbus TCP/IP and DNP2 level 2 communication. Ethernet port shall have an embedded web server.
8. Meter shall have datalogging memory and shall support:
   * + 1. Two independent, programmable, historical logs of up to 64 parameters per log.
       2. ITIC/CBEMA power quality log.
       3. Limit/alarms log of out of limit conditions.
       4. Input status log of change in status of the internal or external inputs.
       5. Control output log of triggered control outputs. Outputs can be triggered through programmable logic.
       6. Anti-tampering system events log.
       7. Waveform log of event triggered waveform records.
9. Meter shall provide extended security with nine levels of passwords, an anti-tampering system event s log, and physical seals and sealing switch which require actions at the physical meter.
10. Meter shall be programmable by software supplied by unit manufacturer. Unit’s data shall integrate with energy usage analysis and billing module and with cloud-based energy management system for Enterprise-wide power quality and usage analysis, predicted usage and demand, reporting, and email alarms
11. Meter shall support meter form factors 9S, 36S, 45S, 9A, and SWB3 (switchboard form).
    * + 1. SWB3 switchboard case shall have a draw-out cradle, an easy-to-remove paddles design, a one button cover release, and shall have identical dimensions as GE’s S1 relay case.
12. Meter shall have a 4-year warranty.
13. The following options shall be available for ordering:

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| Model | | **Memory** | **Form** | **Class** | Frequency | | Power Supply | Optional Communication |
| Nexus® 1272 | | A Advanced | 9S | -2 1 A Nominal CT Secondary | -50  50 Hz system | | -S Std Blade Powered | -X No Expansion Port |
| 36S | -10 5 A Nominal CT Secondary | -60  60 Hz system | | -SE Std Ext (102-270) V AC @ 50/60 Hz or DC | -INP200 Total Web Solutions |
| 45S | -20 5 A Nominal CT Secondary | DE DC Ext (18-60) V DC |  |
| SWB3 (Switchboard) |  | LV 69 V AC Blade Powered |
| 9A (A Base) |
|  | | |  |  | |
|  | |  |

1. Acceptable product is Electro Industries/GaugeTech, Model 1272-A-SWB3-10-60-SE-INP200.

For specification information, contact:

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