TGI Raptor 3

awesense

Intelligence for a truly Smart Grid

- **Find illegal connections**
- **Balance phases**
- **Reduce theft**

The TGI Raptor 3 is a portable sensor for current and power factor measurements with integrated wireless communication. The in-grid data it collects helps utilities:

- Identify and measure power loss from many types of diversions
- Identify commercial and industrial meter malfunctions and installation problems
- Increase efficiency of phase and load balance analysis
- Efficiently verify meter tampering flags and alerts using risk-based metrics

TGI Raptor 3

The **TGI Raptor 3** is designed for easy deployment and re-deployment on live electrical cables to measure and report on live line loading conditions. Its rugged design, re-chargeable battery and power harvesting allows the Raptor 3 to be installed permanently in key locations.

The Raptor 3 patented sensor technology has an accuracy of 1% up to 400 amps, even when in close proximity to adjacent current carrying conductors. This allows the Raptor 3 to be used in many environments from congested areas, such as ground level service boxes, to primary and secondary overhead lines.

Read amperage and power factor in seconds

One person can install and remove the Raptor 3 from the ground without a service disruption using a standard hotstick. Immediately view amperage and power factor readings wirelessly on your laptop or tablet in real time. The Raptor 3 continues to record data at user-defined intervals for periodic cellular transmission or local wireless collection with no need to remove the Raptor 3 from the line.

Flexible Communications and Self-Monitoring

The Raptor 3 can transmit the data it collects via cellular network or RF Mesh radio network. The Raptor 3 has sophisticated power management and temperature monitoring and uses on-board anaytics to optimize battery utilization and communication schedules. The Raptor 3 can be left on low-load lines for extended periods of time.

True Grid Intelligence

The Raptor 3 is part of Awesense's True Grid Intelligence (TGI) platform. The sensor provides the in-grid data that TGI software uses to perform risk analysis on the grid as a whole, identify risky grid segments, and optimize investigations.

TECHNICAL SPECIFICATIONS

- Voltage range: up to 14.4kV to ground (50/60Hz)
- Current range: 0.1A to 400A with 0.1A resolution
- Power factor range: -0.71 to +0.71 (0.01 resolution)
- Current accuracy (at 20°C): 1% ±2 counts from 1A to 400A, 2% ±2 counts under 1A
- Power factor accuracy: ±0.01
- Weight: 1.8 Kg (3.97 lbs.)
- Dimensions (LxWxH): 31.5cm x 7.6cm x 24.8cm (12.4" x 3" x 9.75")
- Conductor: Insulated or non-insulated lines (power factor readings available on non-insulated lines only)
- Operating Temperature: -40°C to 65°C (-40°F to 149°F)
- Data Storage Capacity: 60 days with no communications
- Sample Rate: 1 or 5 minutes (1 min default)
- Battery Life: up to 45 days recording NimH (rechargeable by power harvesting & recharger)
- Addressing: IPv6 ready (IEC 61850 available)
- FCC Part 15.247
- Industry Canada RSS-210

RF Mesh Mode Specifications

- Frequency: 902-928 MHz, 2.4GHz ISM (RF mode)
- Encryption: 128 bit AES
- Data Rate: 250kbit/s max, 40kbit/s standard

Cellular Specifications

- Air Interface: HSDPA/HSUPA (HSPA 850/1900). For other brands, please contact sales@awesense.com.
- Communications Schedule: set by power/battery state (default: 24 hours)
- Regulatory: FCC, IC, PTCRB
- SIM interface 1.8V/3V: Single embedded or regular SIM
- Internet Protocols: TCP+HTTPS
- Location Solution: GPS (GLONASS constellation optional)
- Encryption: 128 bit AES or better

*Specifications are subject to change without notice.

FOR MORE INFORMATION
2300-1075 West Georgia Street. Vancouver BC, Canada. V6E 3C9
1-888-868-4607 | info@awesense.com

www.awesense.com

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