ACCUENERGY

Energy Management with SmartAnalytics Software

Accuenergy Introduction

Manufacturer of Power Meters, Sensors and accessories

HQ in Toronto Canada, additional offices in USA and South Africa

25+ Years Experience

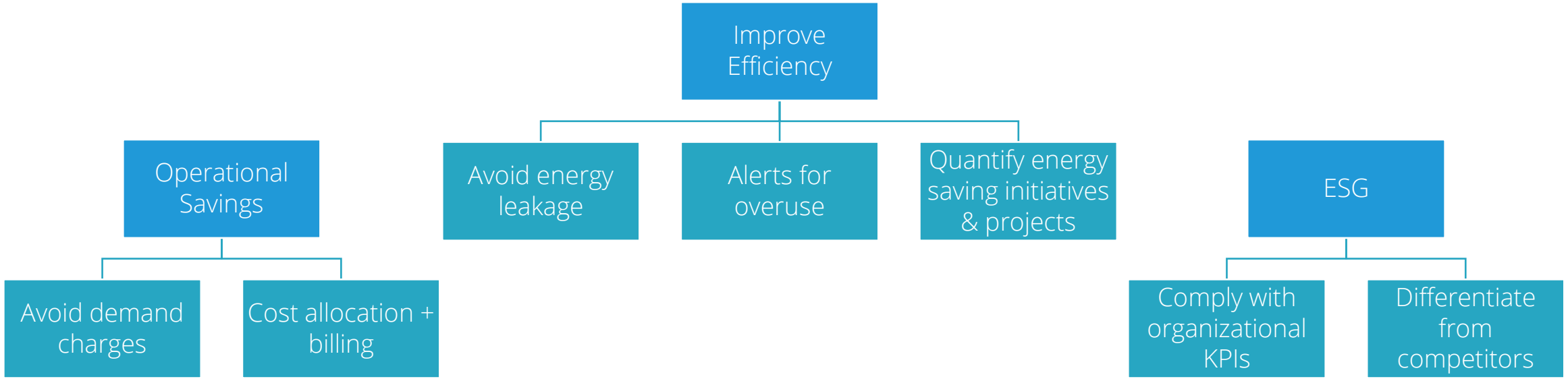
Provide pre- and post-sales support

Hardware provider for SmartAnalytics software

Sectors We Serve

Energy Management

Many reasons to focus on energy management



Energy Monitoring should be a simple and powerful way to reduce energy consumption, optimize operations, and prove the value of energy savings measures or investments.

Overcoming Obstacles

Add metering to the facility, ensure high accuracy with multiple data points

Installation-friendly options; Rogowski coils, panels, clear webserver

Alarms, alerts, data backup, report generation

Open protocols

Insufficient Data

Difficult Installation

Call to action

Closed / Proprietary Systems

Accuenergy Key Differentiators

Why Select Accuenergy meters?

Versatility

- Form Factor
- Open protocols
- Connect with I/O devices

High Accuracy

- Meet and exceed industry standards for billing and metering

User-Friendly

- No API needed
- Clear web interface
- Available in pre-wired enclosures
- Work with Rogowski coils and split CTs

Accuenergy Metering Family






	Acuvim 3	Acuvim II	Acuvim L	AcuRev 2100	AcuRev 1310	AcuDC 240
AC/DC	AC	AC	AC	AC	AC	DC
Circuits	1p/2p/3p	1p/2p/3p	1p/2p/3p	18 channels	1p/2p/3p	1 circuit
Accuracy	0.1	0.1	0.2 / 0.5	0.5	0.5	0.5
Communication	Serial + IP	Serial + IP	Serial + IP	Serial + IP	Serial	Serial
Expandable	Yes	Yes	Yes	No	No	No
Mounting	Panel + DIN	Panel or DIN	Panel or DIN	DIN	DIN	Panel or DIN
Monitoring	✔	✔	✔	✔	✔	✔
Logging	✔	✔	✔	✔		✔
Power Quality	✔	✔	✔	✔		
Fast Refresh	✔	✔				
Advanced PQ	✔					

Meter Positioning

Most used for energy management

Advanced Power Quality Analysis

Acuvim 3 meter for advanced power quality analysis, reporting, waveform capture, event-based logging, disturbance direction detection, Class-A meter, multiple IP-based protocols as standard, and add on I/O modules

Advanced Metering

Acuvim IIv3 series meters for power quality metering and high accuracy revenue grade measurement. Features high-speed monitoring, top level accuracy, expandable protocols and functions

Intermediate Metering & Branch Circuit Monitoring

Acuvim-L and AcuRev 2100 series for energy monitoring with revenue grade accuracy, basic power quality monitoring, and multiple communication protocols available

Basic Monitoring

AcuRev 1310 series meter for basic power and energy monitoring in Modbus or BACnet serial communication systems

Product Spotlight

Acuvim-Lv4 Series

Digital power meter for economical high function power monitoring with expandable I/O, communication, and data logging.

- ANSI C12.20 0.5 / IEC 0.5s or C12.20 0.2 / IEC 0.2s Class Revenue Grade Accuracy
- Snap-on expansion options include; Ethernet, BACnet, IEC 61850, DNP 3, Web server, Profibus, HTTP/HTTPs Push, FTP Post, sFTP, Data Logging
- I/O options to connect with other sensors – RO, DO, DI, AO, AI
- CT input options: 5A/1A, Rogowski Coil/333mV
- Multiple form factors – Panel Mount/DIN Rail/Transducer
- Two models – CL and EL

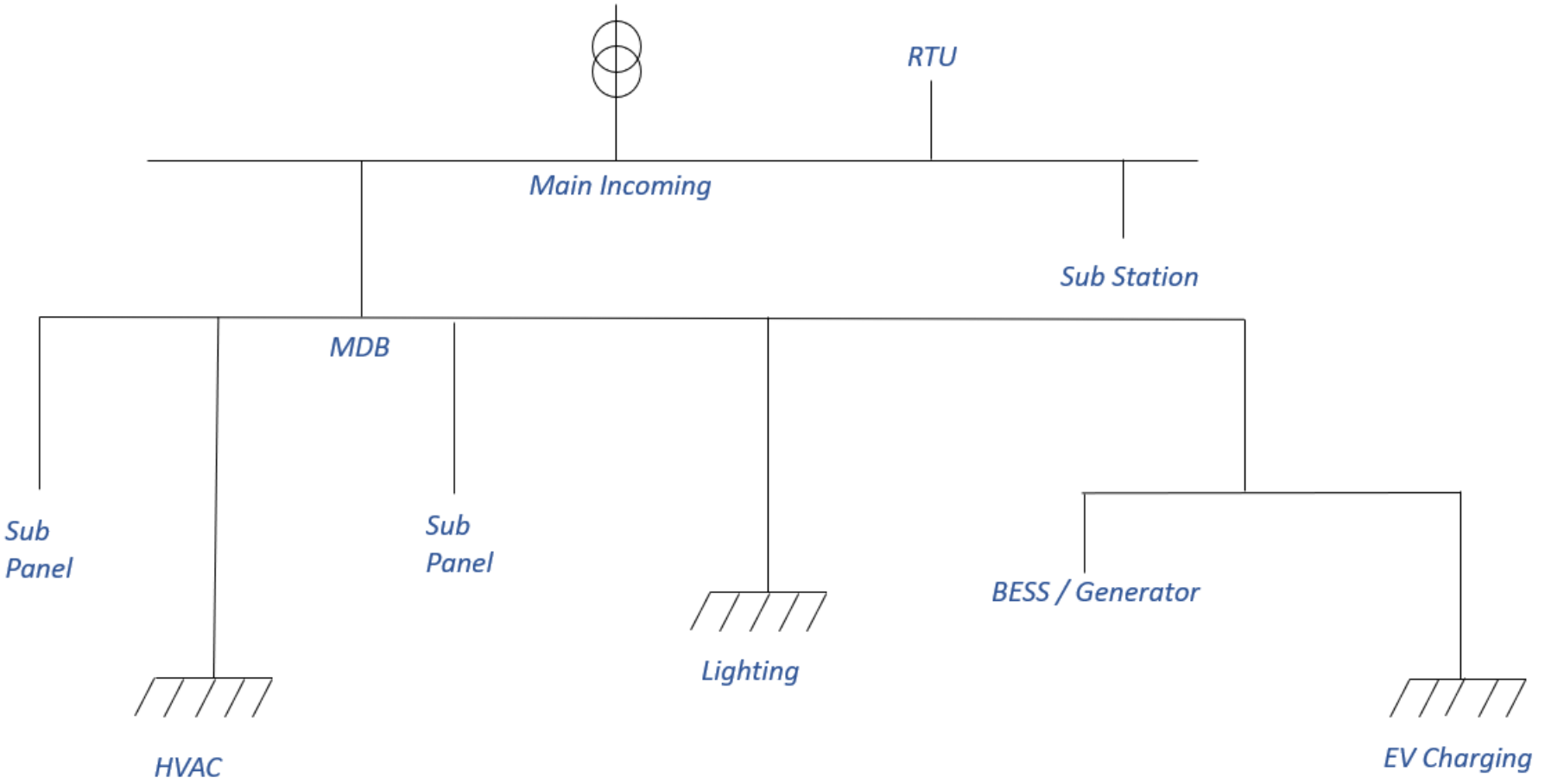
Product Spotlight

AcuRev 2100

Powerful and compact branch/feeder circuit meter; 18 channel monitoring ideal for lighting or individual loads

- ANSI C12.20 0.5/ IEC 0.5s Class Revenue Grade Accuracy
- RS-485, Two independent Ethernet ports + Wi-Fi standard
- 18 DI, 6DO, 2RO – I/O support standard
- CT input options: Rogowski Coil/333mV or 80/100mA
- Compact DIN Rail design
- Snap-On CT connection

Where & What to Use?



Main + Critical Loads

Single Circuits + Panels

Branch / Feeder Circuits

Most Common Installations

Building Main and Sub Panel

- Total Energy consumed by building
- Total energy behaviours and patterns
- Allocate energy between divisions or tenants
- Monitor overall incoming power

Lighting

- M+V for lighting retrofits and behavioural changes
- Isolate saving opportunities
- Maintain overall system health monitoring PF and Harmonics

HVAC / Chiller

- Track Power usage to assess performance
- Preventative maintenance
- Optimize system efficiency by measuring PF
- Track total consumption and run times

Building Main & Sub Panel - PriceSmart

Situation

- Membership warehouse in LATAM region
- Looking to allocate energy costs per club and energy spend vs. club revenue

Task

- Monitor the incoming energy usage
- Compare energy costs across “clubs”
- Integrate with BAS
- Simply view energy consumption and costs

Action

- Implement Metering at HQ on a trial basis
- Grow to more clubs
- Expand meter points to other high consumption areas
- Use insights from comparison

Result

- Roll out to full portfolio of stores
- Able to test energy savings actions such as upgrades to RTUs, lighting, and Chillers before full roll out

Lighting - Soriana

Situation

- 2nd Largest retail chain in Mexico
- Looking to cut overall operational costs without large upfront investment

Task

- Identify cost saving opportunities
- Implement a simple solution which can be easily managed

Action

- Long term M+V studies on lighting across several stores
- Create baseline of 4 weeks
- Use metering as part of continuous energy monitoring
- Generate additional savings by monitoring behaviour and showing financial outcomes for positive reinforcement

Result

- For initial 200 stores saved $1.3 million in first year
- Expanded incrementally to all 800 stores
- Looking for additional saving opportunities

HVAC – Emirates National Oil Company (ENOC)

Situation

- National oil company looking to promote green and energy saving initiatives
- Stations were originally built with end-user convenience in mind but not planned for efficiency

Task

- Independent consultant identified their 160 refueling stations as an opportunity for improvement
- Need to cut energy costs and tighten overall operational costs

Action

- Implemented a pilot project to showcase energy saving opportunities and get wholesale participation
- M+V for lighting and Chiller
- Continuous monitoring for behavioural changes and predictive maintenance
- Integration into new BAS system
- Energy reporting

Result

- 27% improvement in energy performance
- Over $1 million USD in savings
- 4866 Metric Tons Co2 emissions avoided
- First ever LEED Platinum service station, 36 certified sites with LEED 50001

EMaaS using Smart Analytics Software - BEE

Situation

- An engineering consultancy that offer green and smart building services looking to add energy monitoring into their offering

Task

- Forced to offer a more comprehensive solution they needed to either create or add an energy monitoring element to meet client demand

Action

- White-labelled software
- Integrate with existing software for complete monitoring solution
- Focus on luxury brands providing solutions to meet ESG objectives across portfolio of locations

Result

- Revenue increase from software (March ’16–March ‘17): 150%
- Growth in customer base (March ’16–March ‘17): 150%
- Largest deal closed as a result of partnership with EnergyCAP SmartAnalytics: €200,000
- SaaS revenue due to resell (March ‘16 to March ‘18): €320,000

Accuenergy Current Sensor Family

Most used for energy management








Series	AcuCT-Flex	RIK	AcuCT-R	AcuCT-5A	AcuCT-mV	AcuCT-Hinged	AcuCT-S77	AcuCT-S113
Form Factor	Rogowski Coil		Open Core				Solid Core	
Max Input	50,000A		5000A			600A	200A	600A
Output	mV	5A/1A/333 mV/mA/V	5A/1A/333 mV/mA	5A/1A	333mV		80/100mA	5A/1A/333mV
Accuracy	0.5%	1%	0.5%				0.15%	1%

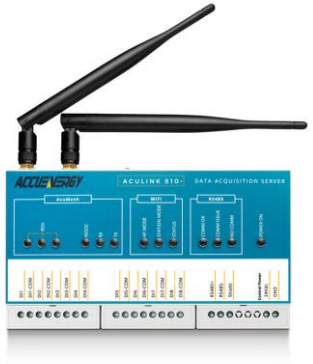
Product Spotlight

Rogowski Coils

Flexible rope-style CT works directly with Accuenergy “MV” input meters; safe, accurate, and simple.

- Flexible design
- Safe and quick installation
- High accuracy across a wide range
  - 5A-1200A, 12.5A-3000A, 25A-6000A, and more
- Safe mV output signal can be installed live
- No grounding or shorting needed
- Multiple sizes available
  - 106mm/178mm/271mm/369mm

Additional Accessories



Data Acquisition Device

- Connect serial devices to a central hub, and post to server via post or poll
- 64 serial, 100+ IP, 8 DI
- 8GB Data Logging
- Multiple open protocols

Pre-Wired Enclosures

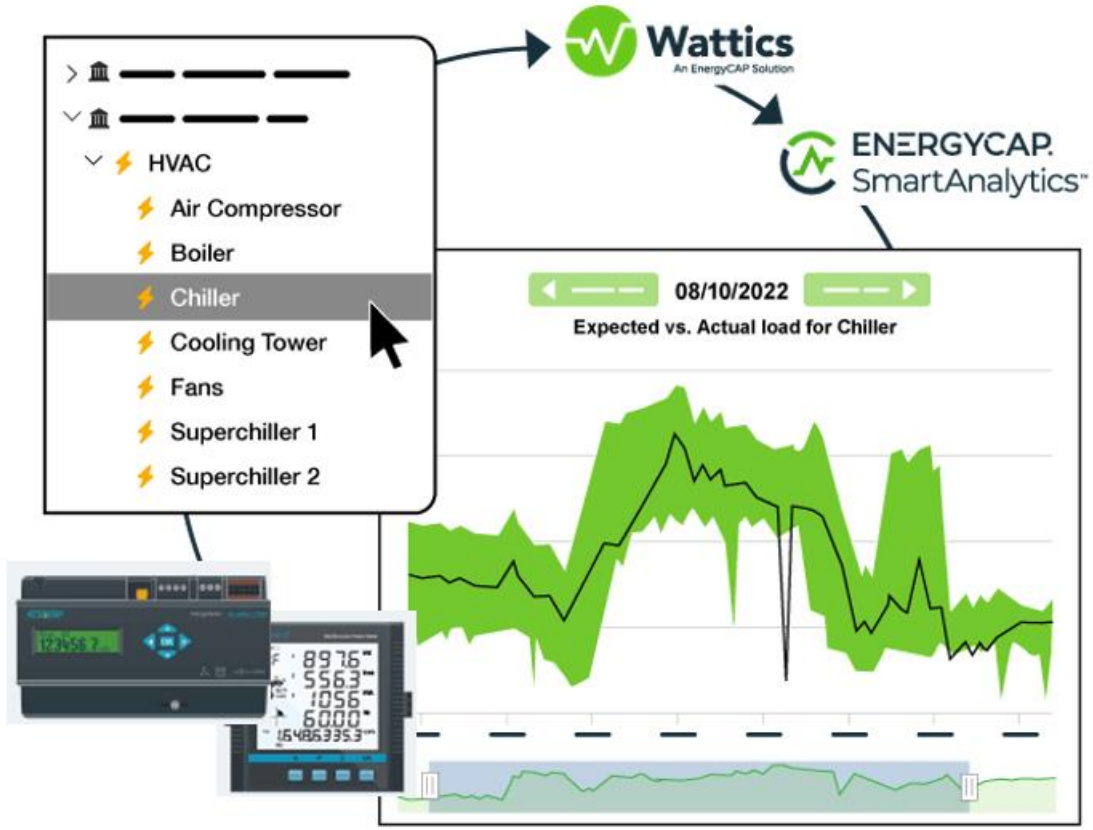
- Factory pre-wired indoor/outdoor enclosures
- Greatly reduces installation time and complexity

Installation Accessories

- Voltage Clips, Fuses, AcuMesh, Modems

Accuenergy Integration with SmartAnalytics

- Devices installed on site + Initial meter configuration
- Connect to SmartAnalytics software (communication integration is already prepared)
- Meter will post data to server via HTTPs post
- Data can be stored locally and/or connect with existing BMS



Thank you

Josh Mears

Sales Analyst

Josh.mears@accuenergy.com

416-497-4100 x234

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