ENERGY MANAGEMENT
SMART CONTROLS AND AUTOMATION
ACOTEL NET ENERGY MANAGEMENT PROCESS

Acotel Net provides an end-to-end solution for smart energy management and automation to meet the requirements of your facility. Measure, monitor, analyze, control and automate your energy performance in real time using energy meters, smart gateways and the intelligent cloud platform from Acotel Net.

WHAT DO WE MEASURE?

- Electricity
- Water
- Gas
- Thermal Energy
- Solar
- Carbon
- Temperature
- Air Quality
- Humidity
- Flow
- Pressure
- Fuel

HOW DO WE MEASURE?

- Third party sensors
- Energy Node by Acotel
- Third party meters

WHO COLLECTS AND TRANSFERS THE DATA?

- Acotel gateways
- Third party gateways

WHO ANALYZES THE DATA?

- ACOTEL NET cloud platform

ENERGY MANAGEMENT

WHERE DO YOU SEE THE DATA?

- MOBILE and INTERNET
- INTERNET

ENERGY CONSULTANCY
ACOTEL NET CLOUD PLATFORM

The cloud platform designed and developed by Acotel Net provides an easily customizable web interface for real time management of your facility. The cloud platform monitors and analyzes the energy data measured by the meters and gateways installed by Acotel Net at your facility.

The data and events collected by the measurement instruments at the client location are processed, aggregated and compared according to the needs of the client to allow in-depth and personalized analysis of the energy performance.

In case you already have the hardware to measure energy data and just need the software, Acotel Net cloud platform is compatible with the most popular industry approved measurement instrument as well.

The Cloud Platform provides an easily customizable web interface for the management of your facility.
Key Features of the Cloud Platform

**ADVANCED AND CONSUMER**
Customized interface for different users profiles

**MULTISERVICE**
Easy navigation between Acotel Net services

**MULTI USER/MULTI LOCATION**
Custom permissions to provide edit or view only access depending on the user type

**CALENDAR AND TIME SLOTS**
Manage the peak and off-peak demand of your systems by creating custom time periods and holidays

**TARIFF MANAGEMENT**
Define and manage tariffs based on demand, time periods, and assign the tariff to each equipment or each location

**ALARMS**
Define custom conditions to identify and get alerted about important KPIs that are being monitored

**TAG**
Create your own tags for grouping, searching and setting rules for similar locations

**VIRTUAL METERS**
Define custom KPIs that cannot be monitored using measuring instruments

**AUTOMATION**
Control and set automatic actions on your meters, sensors, gateways, etc.

Create your custom **Dashboards** using trendlines, stacked areas, bar charts or graphs.
Configure periodic **Reports** that can be accessed on the platform or automatically delivered to emails.

energy@acotel.com  www.acotelnet.com
Acotel Net provides energy management solutions focused on energy efficiency and smart metering to monitor, manage and analyze the consumption of electricity, gas and water.

We offer: Wireless Gateways, Smart Gateways, Power Meters and Acotel Net Cloud Platform.

Wireless Gateways include within them a M2M SIM card allowing them to communicate with the Acotel Net Cloud platform wirelessly.

Smart Gateways need an Internet connection to communicate with Acotel Net Platform.

We provide a comprehensive end-to-end solution to capture granular level data by using industry standard components and materials for our meters and gateways.

Firmware for each of our products is designed and built in-house by the Acotel Net development team.

Our products are designed, engineered and assembled in our Rome headquarters.
ACOTEL NET PRODUCTS

FOR YOUR BUSINESS

Energy Management

SMART GATEWAYS

POWER METERS

WIRELESS GATEWAYS

FOR YOUR HOME

My Energy Meter  My Gas Meter

WIRELESS GATEWAYS
INVEST TODAY TO SAVE TOMORROW

**My Energy Meter** is the bundled solution directed to users who are interested in smart energy management for the purpose of saving money.

The solution includes:

- **Smart MEM gateway**
- **My Energy Meter service**

**My Energy Meter service** offers a simple user interface that can be accessed via web and a mobile app including desktops, tablets and smartphones.

Users can view their energy consumption at their homes or offices using dashboards, charts or graphs that are easy to build.

**Smart MEM** is very easy to set up and takes only 90 seconds to install it directly on the electric meter.

**Smart MEM** sends energy consumption data every 24 hours to the My Energy Meter service via a GPRS connection (included as part of the service).
### SMART MEM - Hardware Features

<table>
<thead>
<tr>
<th>Case</th>
<th>Plastic container in ANSABLEND PC/ABSVO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP54</td>
</tr>
<tr>
<td>Dimensions</td>
<td>95X68X30 mm</td>
</tr>
<tr>
<td>Hardware Architecture</td>
<td>CPU, Microchip PIC24FJ64GA104, 2 CH AD 10bit, 2 INPUT counter, Main Clock 32 MHZ, Secondary Clock 32 KHZ (RTCC), ANTENNA : BUILT IN : TAOGLAS PA25A Power consumption in Sleep mode: 20uA around with sensor</td>
</tr>
<tr>
<td>Supply</td>
<td>Primary battery type LIPO 3.6V 2000mAh Nominal: XK113450 + Micro USB max 500mA</td>
</tr>
<tr>
<td>Power optional accessory</td>
<td>Primary battery type LIPO 3.6V 2000mAh Nominal: XK113450 + AC Adapter Plug Wall p 5,5Vdc-9Vdc</td>
</tr>
<tr>
<td>External connections</td>
<td>Jack 2,5mm (connecting sensors) Coax Jack 3,5mm (optional power connection)</td>
</tr>
<tr>
<td>Variables acquired</td>
<td>Digital input CH!: counter, max freq. 500Hz</td>
</tr>
<tr>
<td>Communication channels</td>
<td>Ublox 2G q-band SARA-G350</td>
</tr>
<tr>
<td>Certification</td>
<td>CE</td>
</tr>
<tr>
<td>Complies with regulations</td>
<td>EMC Emission EN 61326-1; EMC Immunity EN 61010-1 - SAREN 50385</td>
</tr>
</tbody>
</table>
OLD METERS, NEW SOLUTION

My Gas Meter (MGM) is the bundled Acotel Net solution directed to clients who want to have access to real-time information about their Gas consumption from meters without a pulse output.

The solution includes:

- **MGM + Areader product**
- **My Gas Meter service**

**My Gas Meter service** offers a simple interface that can be accessed from the user’s desktop, tablet or smartphone via web or mobile app. Users can view their gas consumption at their homes or offices on a day-to-day basis using dashboards, charts or graphs that are easy to build. The data are sent to the service every 24 hours.

- **MGM** is an IP65 product with a salt battery making it ideal for outdoor installations.

- **Areader** is an Acotel proprietary product which converts non-pulse meter readings into pulse (digital) outputs.
### MGM - Hardware Features

<table>
<thead>
<tr>
<th>Case</th>
<th>Plastic container in ANSABLEND PC/ABSVO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Dimensions</td>
<td>140x108x67 mm</td>
</tr>
</tbody>
</table>
| Hardware Architecture       | - EEPROM Memory 1 Mbit I2C expandable to 2 Mbit  
- Fram Memory 64 kbit I2C  
- Processor PIC32 MZ0512EFK064-I/PT  
- Ublox Module Sara G350 |
| 8pine Connector            | Pin 5 (red wire) -> positive connection power  
Pin 6 (green wire) -> impulse output Ch 1  
Pin 7 (white wire) -> impulse output Ch 2  
Pin 8 (black wire) -> negative connection power |
| Power                       | Internal battery SALT LITHIUM BATTERY TYPE : ER34615M  
Nominal capacity(10mA-2.0v):14500mAh; Nominal voltage: 3.6v;  
Max.constant current: 2000mA; Max.pulse current: 3000mA;  
Workable temperature: -55°C-+85°C |
| Variables acquired         | Two digital inputs D1 e D2 counter      |
| Communication channels     | 2G dual band; 2G quad band (Ublox); 3G (Ublox) |
| Certification              | CE                                     |
| Complies with regulations  | EMC EN 61326-1 - EMC EN 61010-1        |

### AREADER - Hardware Features

<table>
<thead>
<tr>
<th>Case</th>
<th>Plastic container in ANSABLEND PC/ABSVO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of protection</td>
<td>IP65</td>
</tr>
<tr>
<td>Dimensions</td>
<td>122x77x45 mm</td>
</tr>
<tr>
<td>Hardware Architecture</td>
<td>CPU XLP, Main Clock 8.00Mhz, RTCC 32768Khz</td>
</tr>
</tbody>
</table>
| 8pine Connector            | Pin 5 (red wire) -> positive connection power  
Pin 6 (green wire) -> impulse output Ch 1  
Pin 7 (white wire) -> impulse output Ch 2  
Pin 8 (black wire) -> negative connection power |
| Power                       | Auto recharge from MGM product         |
| Energy absorption           | Operating mode: processor and the devices work in scheme making the scans via ADC and processes the signal  
Exposure Phase: processor and the devices working in scheme. This phase works together with the previous and differs for the turn on LED lighting used to illuminate the counter  
Sleep Mode: from one scan to the other, the device goes into sleep, then turn off the internal and external peripherals |
| Consumptions                | Operating Mode consumption: 15mA  
Exposure Phase consumption: 17mA  
Sleep Mode consumption: 15uA  
Avarge consumption: 300uA circa  
Power consumption: 0.9 mW circa |
| Gateway connections         | 2 impulse digital outputs; counter and diagnostics |
| Certification              | CE                                     |
| Complies with regulations  | EMC EN 61326-1 - EMC EN 61010-1        |
A SATISFIED CUSTOMER IS A LOYAL CUSTOMER FOREVER

Acotel Net is the perfect partner to provide energy solutions for your customers.

We offer customized solutions for a variety of customers (consumer or business) based on their own requirements.

Enhancing your energy offerings through the Acotel Net solution can help you in two ways:

- Provide an energy solution to perform controls/automation or manage the energy consumption of your house, retail store or facility.
- Offer a Cloud-based service that helps you manage your energy information and create customized offerings.

Fix your energy offerings for 2 or more years in order to recoup a high value from our services. During this time, you can create your own energy offerings for each specific customer.
Acotel Net provides a Smart Utility account to manage your customers. From that account, you can:

- Manage the orders and shipment process
- Group customer locations together based on the energy consumption patterns of your customers facilities
- Create personalized reports
- Extract and analyze the energy consumption for your customer

We offer a great, powerful and exclusive solution for you and your customers.

Become a partner and we can personalize our products and Cloud solution for you.
ETA is the new Cloud-based tool from Acotel Net to carry out energy audits. This service is an excellent tool for Energy Managers, experts in Energy Management (EGE) and Energy Service Companies.

ETA is divided in 2 services:

**ETA Self-Service**

The data is gathered by the customer which is validated by independent diagnosis. The person responsible for the energy audit (REDE) is the customer.

**ETA Partner Program**

We encourage partnerships with ESCOs who are looking for a tailor made solution to create customized energy audits for their clients.

ETA Energy Track and Audit meets the highest standards of security for information collection, data protection and processed for the purpose of making sure the transmission, processing and storage is done according to best practices.

**Define an energy budget**

**Compare performance with industry benchmark**

**Identifies specific indicators**

**Identifies energy efficiency measures**

**Reduce your energy costs**

energy@acotel.com  www.acotelnet.com
WHY ETA?

ETA is the new cloud based (market disruptive) advanced tool to support ESCOs, EGEs and Energy Managers in the execution of extremely thorough and comprehensive energy audits. ETA helps reduce project times and minimize manual errors.

Cloud tool accessible via web after authentication. Tool is optimized for Internet Explorer, Firefox and Chrome.

Energy Audit made with ETA comply with EN 16247 as well as ISO 50001 and follows the guidelines defined by ENEA.

Choice between different services depending on the needs of customer site that is subject to diagnosis.

Simplified assessment (wizard driven) based on the individual location characteristics with modules (form) managed dynamically, according to entered data.

Energy audit report prepared in accordance with the ENEA guideline. Reports are exportable, can be automatically filled but can also be edited for necessary changes.

Consumption data and estimated production is automatically calculated, but can be edited if needed (user also has an option to import data manually or automatically if user account is already integrated with the Acotel Net services).

Automatic processing of possible energy efficiency measures is available with estimates of the economic and financial parameters of each implementation.

The service is constantly evolving and will be enhanced with new features, addition of new types of facilities and subsequent efficiency measures.

HOW TO MAKE A DIAGNOSIS WITH ETA

Company registry and locations  Installations  Consumption and Production  Diagnosis
Contact us:

- www.acoteln.com
- energy@acoteln.com

Acotel Net is certified:

- UNI EN ISO 9001:2008
- FCC CERTIFIED
- UNI CEI ISO/IEC 27001:2014
- UNI CEI EN ISO 50001:2011
- SOA OS5