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About us

ADD-Bulgaria is a young and dynamic company which focuses on helping utilities achieve better and more effective management of their business by offering them intelligent systems for control of resource usage and consumption.

Our products for data transmission and processing are based on the latest developments in the communications area – PL LV / MV, RF, GPRS / 3G, Ethernet.

The company's main activities are:

Development and implementation of Advanced Metering Infrastructure systems for electricity, water, gas, heating and city lighting.

- Providing high quality services and constant **support**.

- Continuous **improvement** of the technology, while complying with the most advanced and proven **international trends** and open standards.

ADD-Bulgaria is a member of the PRIME alliance, because we see **interoperability** as the only way forward for Smart Metering systems.

In 2013 we opened our state-of-the-art factory with production lines for high technology – SMD line, Plastic injectors, calibration, configuration and metrology equipment for meters.

Our goal is to become a reliable AMI vendor which utilities can always turn to when they need to optimize their businesses with our turn-key system.





Arista MDM

ARISTA Management Centre is designed to collect, store, validate, aggregate, manage, record and report on processed data, as well as to execute connection/disconnection, send/get configurations, remote parameterization of the meters/data concentrators and to interface with other systems – automatically or manually.

- ▣ Client-Server architecture which supports easily further development and scaling of ARISTA Management Centre. The owner of ARISTA Management Centre is able to develop the system step by step without losing or changing the storage information in the data base.
- ▣ Multi OS platforms - Linux/Unix, Windows.
- ▣ Simultaneous multi-users access (as administrator, as user with customized rights) to the information (data base).
- ▣ Graphical Web-based user interface of the client module using all advantages of the common Web browsers.
- ▣ Allows automated data collection and automated data extraction.
- ▣ Allows traceability of all transactions - recording of all actions of the users. Maintaining a journal (Logbook) for all entries and exits in the software system, for unusual events and alarms, etc.
- ▣ All configurations, parametrisation, recordings, transfers, reportings and remote control to the meters and concentrators are centrally managed from ARISTA Management Centre.
- ▣ Manages the processes for collection and sending the data from the concentrators to the Management Centre according to a pre-established interval or upon requests. The interval is set as a parameter in the Centre.
- ▣ Provides synchronization of the clock between the meters/concentrators.
- ▣ Specially designed administration module for authorization and configuration of users at application level.
- ▣ Provides possibility for data archiving according to the best IT practices.

FUNCTIONAL SYSTEM CHARACTERISTICS

MULTI-TARIFF

Possibility to define different tariffs according to the existing market rules for data calculation of different time intervals.

DEVICE REGISTRATION

The discovery of newly installed meters in the data concentrator is started automatically. After registration of each meter to the respective data concentrator, they can be organized by different criteria in device's structures and/or balance structures in ARISTA Management Centre. Data Concentrators are also organized in respective structures.

DATA MANAGEMENT

The collected data is presented in an easily understandable way and can be used for reporting purposes. The system supports the definition of complex sets of rules and criteria (defined by the user) in order to generate the reports in automatic manner.

TASK MANAGEMENT

Auto backup task – makes a copy of a specified database by predefined schedule.
- Configuration task – allows setting parameters and sending configuration to a group of metering devices.
- Switch task – provides connection/disconnection of consumers according to the predefined rules.
- Archive/restore task – saves accumulated consumption data from the database into archive-file and restore archived data from that file back to the database.

USER ACCESS

Define users, access rights and roles on the different modules in ARISTA Management Centre. Each access and activity by the users is logged in the system history. For each role can be defined an access to a specified alarm.

DEMAND MANAGEMENT

ARISTA offers demand control and consumption limitation options during peak load hours. As a result the utility can offer the end customers very flexible electricity rates - for example special discounts for limiting the consumption during the peak periods.

PREPAYMENT

The ARISTA Management Centre supports both credit and STS prepayment solutions.

SELF-CONSUMPTION MONITORING

Possibility for consumption monitoring by the costumers, via external additional module. This module is based on independent hardware, software and uses different database.

LOAD PROFILES

- For active energy
- Integrating time of the Load Curve for the registers of active energy for minimum 15 minutes

BALANCE METERING

The advantage of ARISTA system is the possibility to make balance of the energy which is supplied and consumed. It gives the utility the opportunity to track losses, distribution problems, etc. This has a direct impact on the financial results of our customers and it allows taking quick and correct measures for solving the problems in a specific region.

ALARM MANAGEMENT

The alarms, generated in the System are managed in separate modules, which allows:

- Alarms visualization
- Alarms handling
- Activity configuration for alarm processing
- Create alarms/complex alarms based on different events
- Alarm forwarding
- Review logs from devices generating alarms
- Alarms history
- Defines user's alarm access

NETWORK MANAGEMENT

Monitoring of current network status and provides tools (automatic and semi-automatic) for maintaining the network in working state. Network management is based on the following main functions:

- Detecting network changes
- Identifying type of new devices
- Configuring data routing
- Displaying reports on statistics
- Configuring Router/DCs for transmission of alarms and statistics which is the base of network operation analysis

REPORTING

- On data collected from devices
- On data sent to the equipment

GLOBAL PARAMETERS SETTINGS

Possibility to set global parameters for the system, used in modules and to provide precise system settings. Also it is possible to define templates for easy data processing and reporting.

ELECTRICITY QUALITY CONTROL

For each phase, the following power quality indices can be monitored:

- Instantaneous voltage and current
- Voltage sags and swells
- Outages
- Power factor
- Phase absence etc.



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Arista Router / DC



Arista Router/DC is based on reliable and secure Linux platform. It supports two-way communication to the end point metering devices (PLC-OFDM/PRIME) and to Arista Management Centre via GSM/GPRS and Ethernet with client-server architecture.

FUNCTIONS

DEVICE CONTROL

The DC discovers automatically newly added metering devices in the power supply network. Detects disconnected devices, deletes devices and manages the data exchange.

DEVICE SYNCHRONIZATION

The DC executes periodically meter's clock synchronization via broadcast time synchronization messages to the connected meters.

DATA COLLECTION

The DC collects metering data, alarms and events from the connected devices. They can be requested on schedule or on demand and stored in DC.

DC CONFIGURATION

Arista Management Centre can configure the DC remotely via Ethernet, GSM/GPRS (VPN tunnel). The local configuration can be done by using LAN port.

REMOTE METERING DEVICE UPDATE

Arista Management Centre sends the update information to the Arista DC via Ethernet, GSM/GPRS (VPN tunnel). The DC starts the update process for the specified metering devices independently, based on predefined schedule and sends feedback to the Management Centre for the progress.

REMOTE DC UPDATE

The update of the DC is done remotely from the Management Centre (via GSM/GPRS, Ethernet). The software update of the DC is done by a special integrated self-controller.

DATA STORAGE IN NONVOLATILE MEMORY

Flash 512 MB.

SECURE DATA TRANSMISSION

Security of the communication is guaranteed by using transmission protocol SSL.

WORKING MODES

Router or Data Concentrator.

NUMBER OF SUPPORTED METERING DEVICES

Up to 1000. Arista Router/DC can work with meters from different vendor complied with DLMS standard.

WAREHOUSE MODE

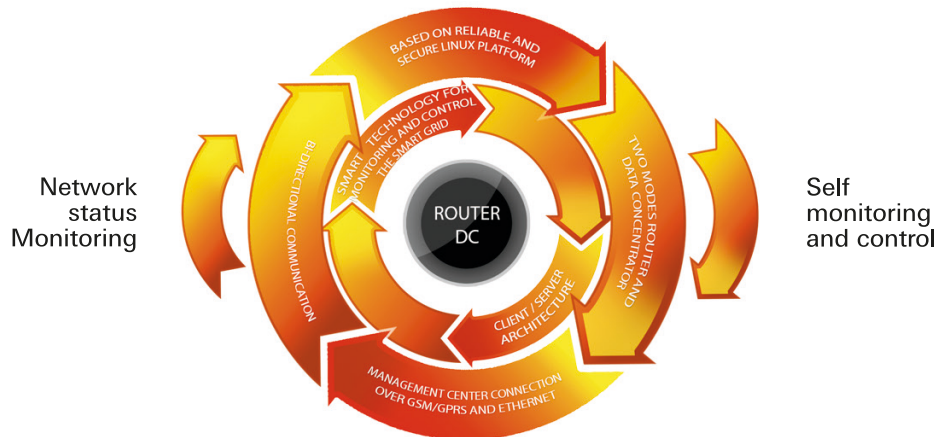
Event detection - Arista DC provides logging on events even when it is switched off. The function is available with internal battery supply. The battery is used also for maintaining internal clock.

EVENTS DETECTION - ARISTA DC PROVIDES

Control and monitoring of the transformer station.

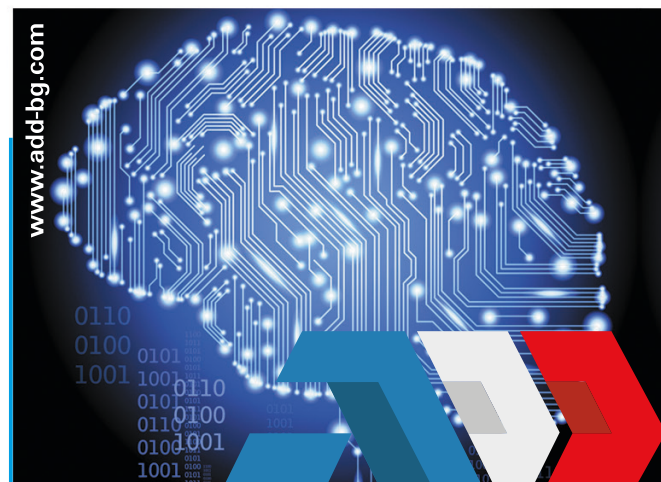
WEB-INTERFACE

Arista DC has web-based interface for configuration and parameters settings.



DC Self - monitoring and Control Add-on

- ▶ **Maximum security** - a complete procedure for prevention of unauthorized manipulation.
- ▶ **Automated Hardware control** of the DC functionalities.
- ▶ **Sound signalization** for the DC condition.
- ▶ **Black box** - events registration in volatile memory.
- ▶ **Remote firmware and application update.**
- ▶ **Automatic Router configuration.**
- ▶ **Embedded System** for Router control and diagnostic procedure.
- ▶ **Integration** with the Management Centre and SNMP manager.
- ▶ **User interface** - reconfigurable.
- ▶ **Real Time Clock.**
- ▶ **Input voltage monitoring** on 3 phases.
- ▶ **Accelerometer** - strengthens physical security of the DC.
- ▶ **Battery status** monitoring.
- ▶ **PL modem** status monitoring.
- ▶ **GPRS modem** status monitoring.
- ▶ **Cover status** monitoring.
- ▶ **Working temperature.**
- ▶ **Unique processor** identification.
- ▶ **Modes** - Operation / Warehouse - different operation mode depending on the work regime.
- ▶ **Display and buttons** - easy to navigate across DC functions.



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PRIME Electricity Meters - Full Range:



SINGLE PHASE

THREE PHASE DIRECT

THREE PHASE WITH CURRENT TRANSFORMER

- Measurement of active energy and reactive energy.
- DLSM/COSEM and OBIS.
- Integrated PL modem with OFDM.
- Import or Import/Export.
- Multi tariffs and tariff management.
- Max load for a period.
- Programmable load profile and Load control.
- Load management via built-in relay.
- Events log.
- Alarms for unauthorized manipulation (magnetic field detection, open terminal cover detection).
- Enhanced anti-tampering system.
- Phase and Neutral measuring.
- Energy quality monitoring.
- LCD display § Battery.
- Disconnection through latching relay.
- Remote status control.
- Remote software upgrade.
- Built-in relays.
- Built-in quartz stabilized RTC.
- Optical port IEC 62056-21.
- RS485 port.
- Local and remote Reading § programming.
- Multi-communication platform.
- Open communication protocol.

PRIME
ALLIANCE®

dlms
™

Solutions for Water and Gas Management

Flexible and customer-oriented approach ensures the outcome you require.

The ARISTA AMI system for water and gas consists of:

ARISTA MDM

Takes care of the huge amount of data collected every day, as well as of the equipment configuration, commands, and parameterizations turning it into valuable information.

ARISTA ROUTER DATA CONCENTRATOR

The communication equipment, necessary to establish a network.

- Wireless mesh network, 6LowPan/IPv6, M-Bus communications
- Full 2-way communication via GSM/GPRS channels
- Automatic detection, registration and support of end-point devices within the network
- Scheduled data connection
- Interchangeable communication modules
- Built-in clock
- Unauthorized access control
- Alarm signalization
- Backup power supply (optional)
- Protection level
- Data storage in non-volatile memory

ARISTA COMMUNICATION MODULE

- Wireless (RF) or M-Bus two-way communication
- Consumption reading and calculation
- Control functions
- Data storage
- Valve control
- Event log
- NFC

The Arista Communication Module can read and control any type of water meter with a pulse output. The Arista water system is flexible and offers two options:

STANDARD SOLUTION

Arista Communication Module is attached to the existing meter with a pulse output - cheap and easy way to make your network a smart one. Moreover, one Communication Module can control up to 4 water and/or gas meters.

TALIOR-MADE SOLUTION

Special design for integration of the Arista Communication Module in the water/gas meter according to the customer requirements and needs.

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Arista City Lighting

Arista City Lighting is the required step towards the next generation city. How?

The Arista City Lighting consists of Arista Management Centre and a Street Lights Management Box (communication equipment). When the customer requires individual control of each street lamp, there is one more level in the system - Individual Light controller.



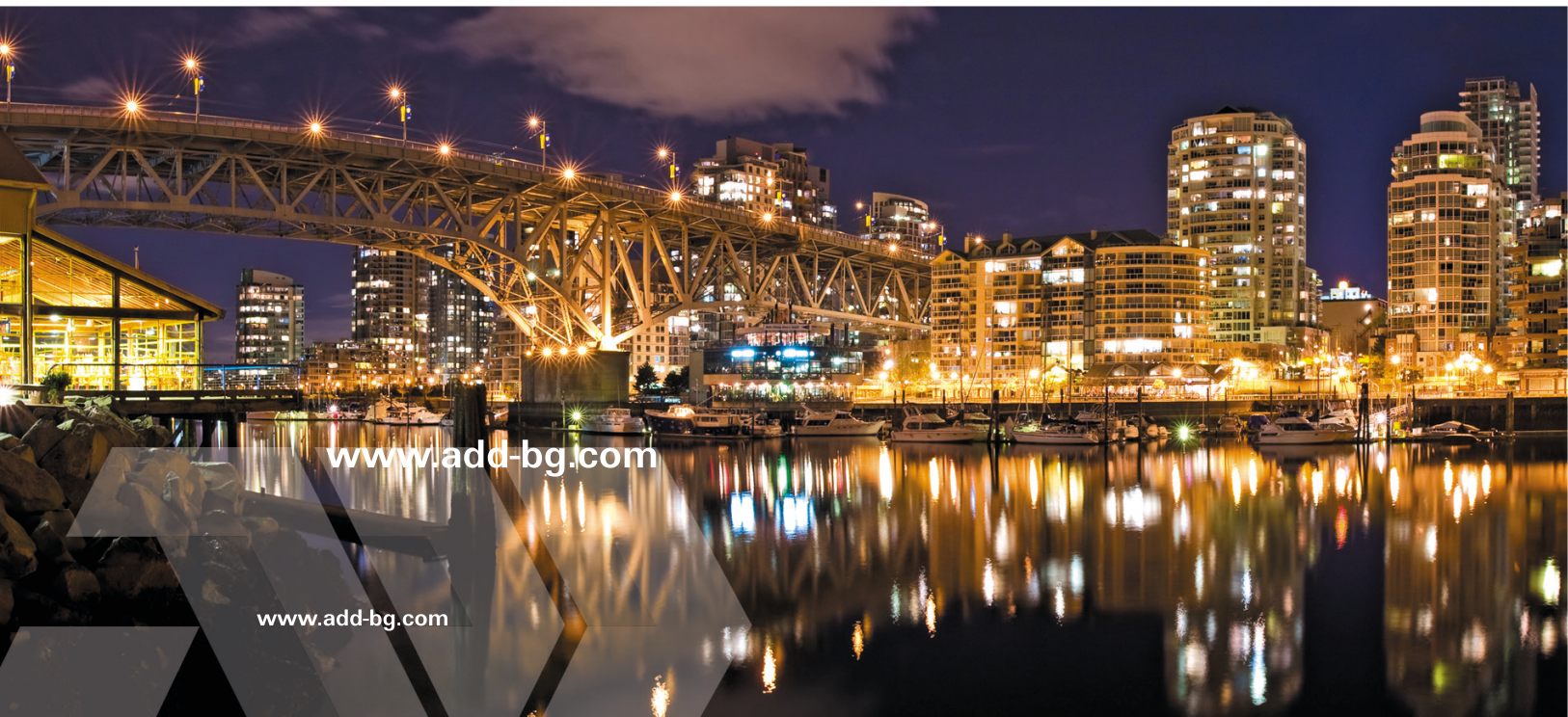
ARISTA CITY LIGHTING ENABLES:

- ▶ Energy saving
- ▶ Street lighting efficiency
- ▶ Group lights management
- ▶ Individual light management
- ▶ Low maintenance costs
- ▶ City lighting



BENEFITS OF ARISTA CITY LIGHTING:

- ▶ **Cost-wise**
 - Reduces power consumption up to 40%
 - Reduces operating cost for maintenance
 - Increases bulb life
 - Low cost wireless control
- ▶ **Environment-wise**
 - Achieves European standards of street lighting
 - Enhances security and safety of people
 - Improves traffic safety
 - Reduces CO2 emissions
- ▶ **Management-wise**
 - Powerful web based software
 - Alarm and fault monitoring
 - Energy monitoring
 - Balance making (distributed-consumed energy)
 - ON/OFF Schedule and dimming based on seasons, sun-set - sun-rise programs and traffic
 - Easy expandable street lights network
- ▶ **Innovation**
 - Expandable infrastructure that supports multiple applications such as traffic management, GIS, garbage collection and other applications, which make your city modern and intelligent
 - System serving data transmit and management from various energy resources such as water, gas and etc.



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