

# AMRFLEX Automatic Meter Reading System



# **Automatic Meter Reading (AMR) Solution**

A modern advanced meter management tool that supervises and controls real-time reading of electric energy consumption from a smart meter device and transfer that data in a centralized database for industrial, commercial, and grid metering usage.

#### **Specifications**

With our Meter Data Management (MDM) Solutions we can provide optimum support for Smart Metering. The following sectors are covered:

#### **Data Reading**

Individual device drivers enable communication with meters, measuring devices, and recorders independently from manufacturers via individual device drivers. The capability of the system is arbitrarily scalable via hardware extension.

#### **Data Management**

For this purpose different powerful databases (Oracle, MS-SQL-Server, and IBM Informix) in stand-alone mode and in multi-user mode are used. OBIS (Object Identification System) format and customer-, device-, or metering point-oriented. The

user administration enables the limitation of functions and data ranges up to the multi-client capability. The integrated redundant saving of measuring data (meter data / raw data / standardized data) guarantees maximum data security.

## **Data Evaluation**

Flexible evaluation modules are used for the preparation and processing of measuring data for billing, energy data management, energy portfolio management, etc. Detailed statistics with automatic grouping of faulty devices simplify the monitoring of data communication and edit processes. Valid and correct data are guaranteed by automatic plausibility check and generation of substitute values.

#### Reliable data for manifold applications

AMRFLEX enhances the metering information system and provides a point-to-point reading of energy meters as a Head-End System (HES) component. Reading and evaluating meter readings, load profile data, meter reading sequences and measured value series are the core functions of an AMR system.

Status and logbook data from the metering device which are also essential to evaluate events are likewise read and applied for further analyses. Raw data is put into archives and reliably stored; this way you can consult original data any time.

#### **Data Exchange**

The fully automated data exchange to downstream systems is possible via the integrated macro control. The data is exchanged between the systems via flexible, configurable, or standardized Via individually interfaces. configurable reports (Crystal Report) a data output in almost every data format or file format (doc, xls, PDF, XML, HTML...) is possible.

## **Automated Processes**

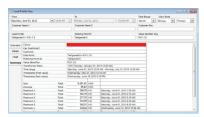
The processes data reading, plausibility check, data evaluation, and data transmission are fully automatable and can be adjusted by the user. In fact, a powerful schedule control tool helps you efficiently manage your meter data processes. The user can set the processes individually.

#### Intrinsic comprehensive features

Synergies are achieved as AMRFLEX

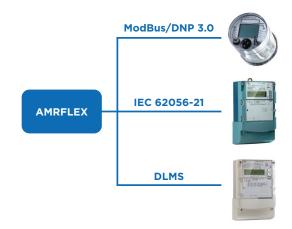
completely integrates as a metering system into the overall system thus providing optimum support standardized interfaces billing systems and jointly used market interfaces. Distributed data management is a thing of the past, simplified administration system and universal processes increase productivity as well as quality, hence significantly contributing to the reduction of costs in the field of energy data management.

Drivers provide protocols, evaluation, and even user interfaces to display device details in AMRFLEX. Due to this combination of functions existing systems can be upgraded with drivers at any time, thus eliminating cost-intensive and time-consuming updates of software versions. Drivers are integrated into the system via a standardized interface.









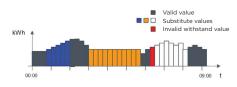
- More than 30 different data transfer protocols
- More than 300 device drivers
- Communication technologies
  - GSM
  - Ethernet
  - GPRS
  - IP-Telemetrie
  - ALL-IP
- Push and Pull Operation
- Reading and evaluation of meter values, load curve data, measured value sequences and power quality data
- Reading of the status logbook data of the meters

## **Numerous data management Modules**

At the moment about 400 functions are implemented

## **Examples:**

- Tariffing
- · Limits / Schedules
- Calculations
- · Automatic balancing
- · Plausibility check Metering code
- Generation of substitute values Manual, Automatic, Metering Code



# Advantage:

- Customized System solution
- · Extendable as desired

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