SANDS DLMS AMR solution is an optimized concept based on different communication like IR, IrDA, LPRF (Zigbee), 2.4GHz 865Mhz (DLMS), GSM /GPS Modem (DLMS) MADS & edge for Automatic /Remote communication.
### Technical Specification

**GPRS / GSM MODEM**

#### Hardware
- 32Mbit for data logging
- Inbuilt three phase VAC power supply, operates also with single phase.
- Battery for outage notification (Optional)
- 50–440 VAC
- 5W Peak
- Real time clock
- HW watchdog
- Metal casing / ABS casing
- Diagnostic LEDs: Power, Run, Signal, Network, Meter
- Temperature ranges: −25 to +75 °C –40 to +85 °C (storage)
- Humidity 5 to 95 % RH
- RS232, Female DB9 connector.
- Speed 1200-115200 bits/sec Default-57600, hardware flow control OFF

#### Software
- TCP, UDP, HTTP, FTP, MQTT
- Store & Forward with FTP / Transparent real time
- Dial-on-demand & Schedule
- SANDS MDAS real-time data management system with remote configuration GUI.
- DLMS / COSEM compatible meter data input.
- MDAS Compatible with Windows OS

#### Configuration & Management
- Automatic over the air configuration and firmware updates (FOTA).
- Standalone AMR performance & Automatic profile download at specified intervals.
- Compatible with various standard existing meters directly interfaced
- Instantaneous Tampering and Outage alerts.
- Automatic GPRS connection (no AT commands required) and watchdog for reliable Communication
- Compatible with COSEM / DLMS.
- Compatible with all standard 2G / 3G / 4G SIM cards

#### Network Interfaces
- 3/1.8V SIM Interface
- Internal SIM card holder
- Accepts standard SIM card / Micro

**Data Concentrator Unit**

#### Hardware
- Power: 100 V -270 V (AC/DC)
- Over current protection
- Power reverse polarity protection
- RTC with Battery backup.
- Two RDS232 interface
- One - Ethernet, Modbus, USB-Serial

#### Software
- TCP, UDP, HTTP, FTP, MQTT
- Store & Forward with FTP / Transparent real time
- Dial-on-demand & Schedule
- SANDS MDAS real-time data management system with remote configuration GUI.
- DLMS / COSEM compatible meter data input.
- MDAS Compatible with Windows OS

#### Configuration & Management
- Configuration through FOTA
- SMS Configuration as available.

#### Network Interfaces
- 3/1.8V SIM Interface
- Internal SIM card holder
- Accepts standard SIM card / Micro

### Applications
- Automatic Meter readings (Electricity, Gas, Water meters)
- Energy Auditing
- Power Distribution and automatic load control.
- Home automation, Tariff Switching and automatic load control
- Tariff Switching and automatic load control
- Industrial Automation

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*Product development is a continuous process - Specification subject to change.*