



**SANDS**



## DCU / GATEWAY SOLUTIONS

The DCU/GATEWAY Solution is an intelligent device with built-in RS232, RS485 and RF modules to acquire data from clusters of energy meters or MFMs using inbuilt Modbus/DLMS Software's. It also equipped with GSM/GPRS module to transmit the data to the remote data acquisition server. DCU is based on an ARM Cortex-A5 processor having 512MB of DDR2 memory and expandable NAND Flash memory up to 2GB. Edge/ Sensor data can be stored locally using the onboard SD card option. The cloud interface is LTE with a 2G/3G fallback.

## FEATURES

- SANDS DCU for AMR-AMI solutions is an optimized concept based on different communication interfaces Like RS232, RS485, RJ45, LPRF (ZigBee), GSM/GPRS
- Simple and compact design for easy installations
- Support for DLMS and Modbus meters
- Inbuilt battery-backed RTC
- 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
- Real-time tampering & outage alerts/notifications to MDAS server / Mobile phones of concern in-charges In the field through SMS
- Automatic GPRS connection (no AT commands required) and watchdog for reliable Communication
- Compatible with all standard 2G/3G/4G SIM cards
- In-built power supply (single-phase/three-phase) with battery backup
- Communication to central server via GSM/GPRS & Ethernet
- Inbuilt SD card for backup data storage
- Supports JSON, text, CSV, ASCII, binary file formats
- Easy web interface for web configuration
- USB over Ethernet interface for wired configuration / debugging
- Remote configuration using SSH client with secured public / static IP address
- Inbuilt data storage to store data on network outage, stores up-to 8GB data - which is approx. 60 days meter data
- Two-way communication, facilitating monitoring, controlling and administration
- Protection against harsh environment, EMI-EMC, Surge
- Simultaneous data access from multiple nodes
- Built-in Encryption for data security
- It can be used as IoT Gateway

### Applications

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



## TECHNICAL SPECIFICATION

### HARDWARE & SOFTWARE

- Operating System: Linux v4.1
- 32bit ARM CORTEX A5 processor, Speed Upto 512Mhz
- 256MB DDR2 RAM, 512MB Flash (optional up to 512MB DDR2 RAM / 2GB FLASH)
- USB: 2.0, Other: Ethernet 10/100 Mbps, RS232
- Time Synchronization - MDAS Server, GPRS network, GPS (optional), SNTP
- LED Indications: Network, Power and RF Data Communication
- Built-in Encryption for data security
- Inbuilt Real Time Clock with battery backup
- Connectivity: 4G fallback to 3G/2G
- External SD storage up to 16GB

### COMMUNICATION INTERFACES

- Communication - Wireless (GPRS)
- TCP/IP based communication over Ethernet
- Protocol for Communication - DCU to MDAS: TCP/IP based socket communication/FTP
- DCU to Meter: MODBUS/DLMS/Legacy protocols

### NETWORK INTERFACES

- 3/1.8VSIM Interface
- Internal SIM card holder
- Accepts standard SIM card/Micro
- TCP/IP Server, TCP/IP Client, UDP, HTTP, FTP, PPP, CURL, DHCP etc

### EMI/EMC SPECIFICATIONS

- Surge Immunity as per IEC 61000-4-5
- Fast Transient Burst as per IEC 61000-4-4
- Electrostatic Discharge as per IEC 61000-4-2

### POWER SUPPLY

- 100 V -270 V (AC/DC)
- Over current protection
- Power reverse polarity protection

### ENVIRONMENTAL

- Temperature: -10 °C to +70 °C
- Operating Humidity < 95%, Non-Condensing

Product development is continuous process- Specification Subject to change  
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