Data Concentrator Unit

FEATURES & BENEFITS

Installation

- Easily wall mounted. The design lets utility choose the lowest cost installation point on the low-voltage network, or where WAN signal strength is best

- Plug in modem bay accepts & power standard wired & wireless modems (G3/PRIME/ZIGBEE/GPRS etc.) and includes a weather-tight gland for fitting an antenna or antenna cable (for an external modem antenna).

- Standard RJ45 Interface, it supports 10/100 base-Ethernet

- Remotely upgradable firmware and fault diagnosis enable true zero-maintenance installation

WAN Communication

- Communicates with the HES System Software using any IP-Capable network, whether wired or wireless, public or private, WAN or LAN

- Standard hardware interface uses point to point Protocol to connect with the modem

- Efficiently RAY-Period vector compresses date to reduce WAN Bandwidth use.

- Supports end-to end data encryption to secure metering data and ensure customer privacy.

- Multilayer authentication thwarts potential cyber-attacks.

- Automatically discovers meters and other devices at installation. The meter network can self-manage with self-adaptation.

- Supports multiple international standard meter protocol and can connect with IEC, ANIS & STS meters.

- Collects and reports meter data (including consumption, load profiles and power quality measurements) at regular intervals: Daily, hourly, half hourly & 15 minutes. If the first reading of the meter is not successful, it re-reads the meter as defined in its configuration. Metering data is therefore always reliable. It also stores the read metering data for later retrieval.

- Remotely configured to add new functions, change the configuration or download new software. Thus all changes can be handled cost effectively without needing to visit the site to control or monitor it.

- Downloads tariff labels and configuration data to devices.

- Remotely control the meter such as switch on /off etc.

- Broadcast capability enables time-critical services such as demand response and load shedding.

- Maintains accurate date and time in all devices.

- Monitors and reports theft and tampering.

- Independently initiates connections to the HES System to report urgent events (configurable).

TECHNICAL SPECIFICATIONS

Communication Standards

- IEC 62056 protocol
- ANSI Protocol
- TCP/IP & PPP protocols

Communication on Speed

- G3 PLC up to 9.6 Kbit/s
- ZIGBEE RF up to 250 Kbit/s
- GSM/GPRS: default rate 9.6 Kbit/s
- PSTN: default rate 38.400 Kbit/s
- LAN: 10/100 Mbit/s
- RS485: up to 9.6 Kbit/s

Signal range (without repeater)

- G3 PLC: 500-1000m
- PRIME PLC: 300-500m
- ZIGBEE: inside door, 60-90m; outside door, 1500m

Performance

- Operating temperate: -55° to +85°C
- Storage temperature: -55° to + 85°C
- Operating humidity: 10% -95%
- Operating Voltage: 220V or 3x220/380V
- Frequency: 50Hz
- Clock: Real-time clock accurate: ≤0.5 s/d
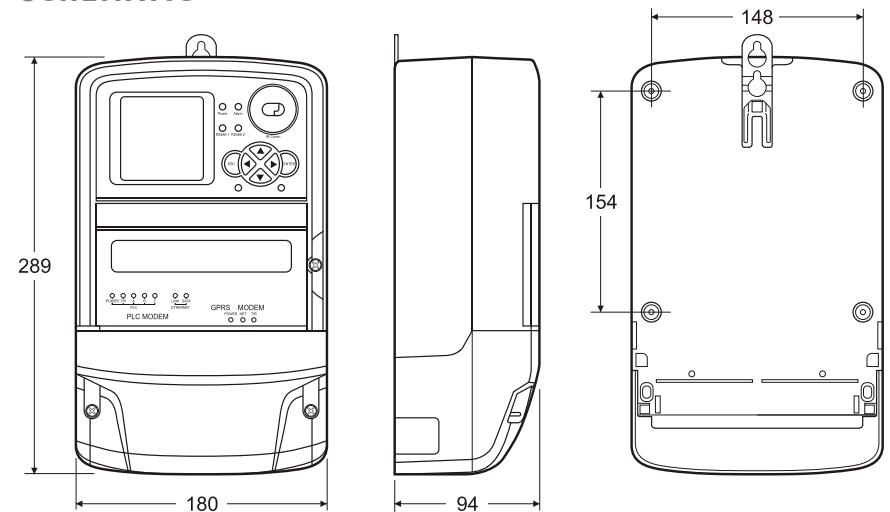- Life Expectancy :   20 Year design

Dimensions

- L*W*H=180mm x 94mm x 289mm
- WAN Modem: 75mm x 65mm x 25mm
- PLC/RF Modem: 75mm x 100mm x 25mm

Memory

- Limitless, circular memory (FIFO). 32M SDRAM, 128M FLASH (on demand)

The DCU communicates with the Management System Software using any IP-Capable network, wired or wireless, public or private, WAN or LAN.

SCHEMATIC

CONNECTION DIAGRAM