CubeIP Metering

Network Enabled Meters for Energy Management

Metering Solutions

Network enabled for easy connection

CubeIP Meters are fitted with a standard RJ45 connector and use proven Network Protocols including Passive FTP & MODBUS TCP. They are designed to automatically configure themselves when connected

Network Communications

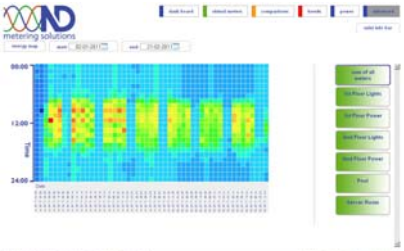
Readings are automatically transmitted to a remote server using secure protocols, making the remotely browsable. Where a network connection is not available, GPRS can be used

Readable with any Web Browser

With an integral web-site, a standard web browser is the only software necessary to access the Meter. The web pages, which can be customised or branded, provide Meter readings & necessary reports

Embedded Software

All the Software needed for Energy Management, as well as configuration & commissioning, is built into the meter.

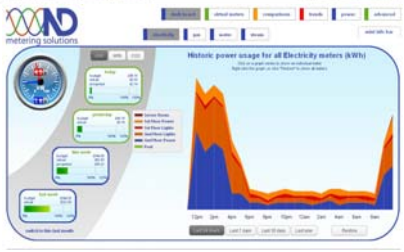


Expandable

Where more than one Meter is required, up to 10 Meters can be linked (and virtual meters generated) using a data concentrator. This provides single point data access to all the Meters

Read Meters across the Internet

IP Meters regularly securely send data to a remote web site, providing not only full remote access to the Meter but also secure data storage. See *www.cubeip.co.uk* for an example of a ***CubeIP Meter.*** With the correct permissions set, any meter can be read from anywhere



Data Retention

Readings are stored within the meter at pre-set intervals. If network communications are lost, readings are saved for later transmission

Read Gas and Water Meters

Pulse Inputs are optionally available. If connected to other meters, their readings are then available on the IP Meter

Multiple access to all meters

With ***CubeIP Meters***, multiple users can access the same Meter, reading different data at different rates

Local Alarms

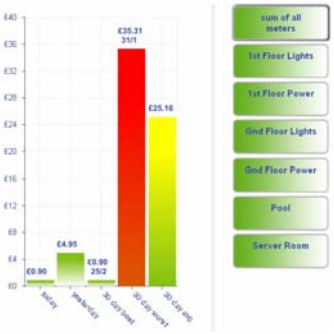
Optional Digital outputs can be used for local control or programmed as alarms — for excessive Demand, high Neutral Current, or any Meter parameter. (2 outputs are available)

Secure Data Backup

Each Meter can regularly transmit selected parameters to a remote server. Parameters, transmission frequency and destination URL are all freely programmable. Secure protocols are used.

Data Export

An 'Excel Web Query' page allows direct import of selected data into any standard desktop application – such as a spreadsheet or word processor. This data can be automatically updated if required.



Easy Installation

With metering and the network interface inside a standard meter, installation is simple:

— The electrician understands the electrical connection

— The IT specialist understands the RJ45 connector

System Integration

Readings can be *pushed* by the Meters — using passive FTP or XML protocols — or *pulled*, using MODBUS® TCP

Easy Retro-fit

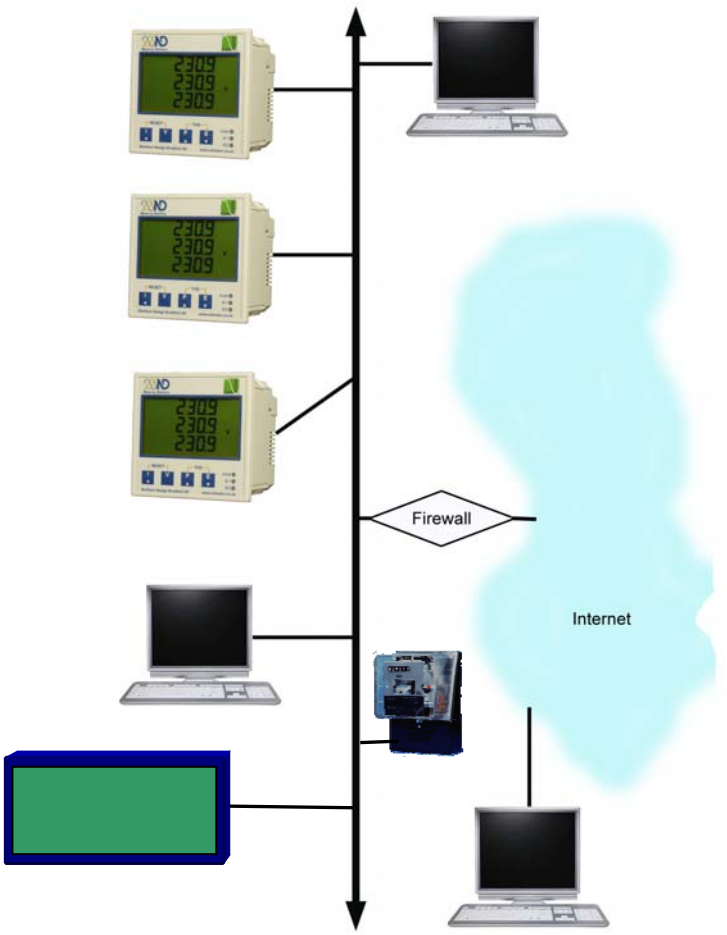
CubeIP Meters are available for interface with special miniature split current sensors

Power Quality

CubeIP Meters are not just intended for Energy Management. THD & the individual voltage and current harmonic are also measured; as is Neutral Current, Current Demand, etc

SCADA and Process Control

With industry standard MODBUS® TCP protocol, ***CubeIP Meters*** can be easily integrated into most Process Control Systems. Individual or multiple Registers can be accessed and read by the software – every second if necessary



Accurate Meter Reading & Billing

CubeIP Meters make Meter Readings available to any PC – on the same network or anywhere over a link that can be as secure as necessary. Individual Energy Registers can be accessed and read by billing software – daily, weekly or monthly as required, The possibility of errors – as can occur where pulses are read and remotely counted – are eliminated.

Brief Specification

Network Interface

RJ45 Connector
10/100BaseT with Cat5 Cabling

IP Protocols

FTP, TFTP HTTPS & SNTP
MODBUS® TCP
Floating or Fixed IP address (User configured)
SNTP in development

Web Server Software

HTTP & HTTPS communications
HTML Format
Dashboard, Period Comparisons, Trending, Driver correlation, etc
Mini "Info Bar" to allow continuous tracking of Energy Consumption
'Excel Web Query' Page
Configuration Pages
Meter, Network & Data Transmission
Additional user-defined pages can be added

Data Storage

365 days of ½ hourly data can be stored

Time

A software clock is integrated, synchronised to local or global time server using the SNTP protocol

CubeIP Meters

CubeIP 350 & CubeIP 350V	
CubeIP 400 & CubeIP 400V	In Production
Rail IP 350 & Rail IP 350V	
MultiCube Modular Meter	In Development

Meter Inputs

Voltage	230/400v Standard. Others available	
Current	Standard Meter	5 Amp (or 1 Amp)
	Retro-fit Meter	To suit Split Sensors
Frequency	Fundamental	45 – 65 Hz
	Harmonics	To 30th at 50Hz
	Individual	To 15th
Aux Supply	Standard	230V ± 15% 50/60Hz
	Optional	110Vac; 24, 48 or 110 Vdc

Meter Options

Digital Inputs & Outputs

2 pulse Inputs for external pulsing devices or status
2 digital Outputs for Alarm or local control

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