



Network enabled for easy connection

CubelP Meters are fitted with a standard RJ45 connector and use proven Network Protocols including Passive FTP & MODBUS TCP

Network Communications

Readings are automatically transmitted to a remote server at preset intervals using passive FTP or SNMP protocols

Readable with any Web Browser

With an integral web-site, a standard web browser is the only software necessary to access the Meter. 8 web pages, all customisable, provide Meter readings & graphs; further pages can be added

Embedded Software

Software needed for configuration & commissioning is built into the meter. With SVG graphics, graphs & screens can be scaled and panned at will

Real-time graphics

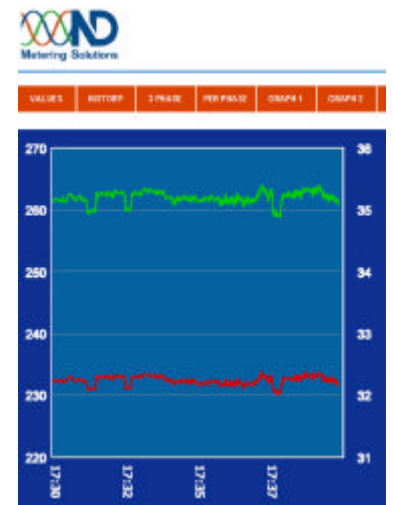
Using Java applets and SVG graphics, graph data can be easily scaled to any screen size and is constantly updated

Read Meters across the Internet

See www.cubeip.co.uk, where a *CubelP Meter* is measuring the energy consumption for part of our site. 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 retained locally for later transmission



Read Gas and Water Meters

Digital Inputs are available as an option. If connected to the pulse outputs of other meters, their readings are then available for transmission.

Multiple access to all meters

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

Local Alarms

Digital outputs, available as an option, can be programmed as alarms – for excessive Demand, high Neutral Current, ... ; any Meter parameter can be used. These outputs can also be used for local control. (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. Standard FTP protocol is used, thus ensuring free passage through firewalls

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 SNMT protocols – or *pulled*, using MODBUS[®] TCP

Easy Retro-fit

CubelP Meters are available for interface with the special miniature split current sensors

Power Quality

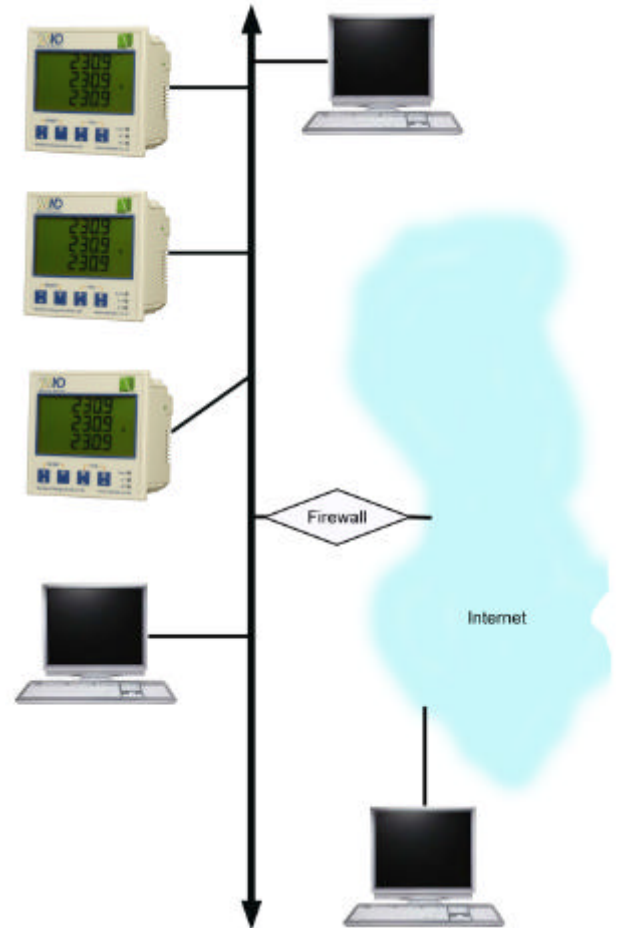
CubelP Meters are not just intended for Energy Management. THD & the individual voltage and current harmonic are also measured; as is Neutral Current, Current Demand, etc

SCADA and Process Control

With industry standard MODBUS[®] TCP protocol, **CubelP 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

CubelP 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
- 10BaseT
- Cat5 Cabling

IP Protocols

- FTP, TFTP & SNTP
- MODBUS[®] TCP
- Fixed IP address (User configured)
- DHCP & SNMP in development

Web Server

- HTTP
- HTML Format, SVG for dynamic graphics
- 8 split Direct Display Pages
- Additional user-configured pages can be added
- 'Excel Web Query' Page
- Network Configuration Page
- Meter & FTP Data Transmission Configuration Page

Time

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

CubelP Meters

CubelP 350 & CubelP 350V
CubelP 400 & CubelP 400V In Production

Rail Ip 350 & Rail Ip 350V In Development

Meter Inputs

Voltage 230/400v Standard
63/110, 120/208 & 277/480v Optional

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