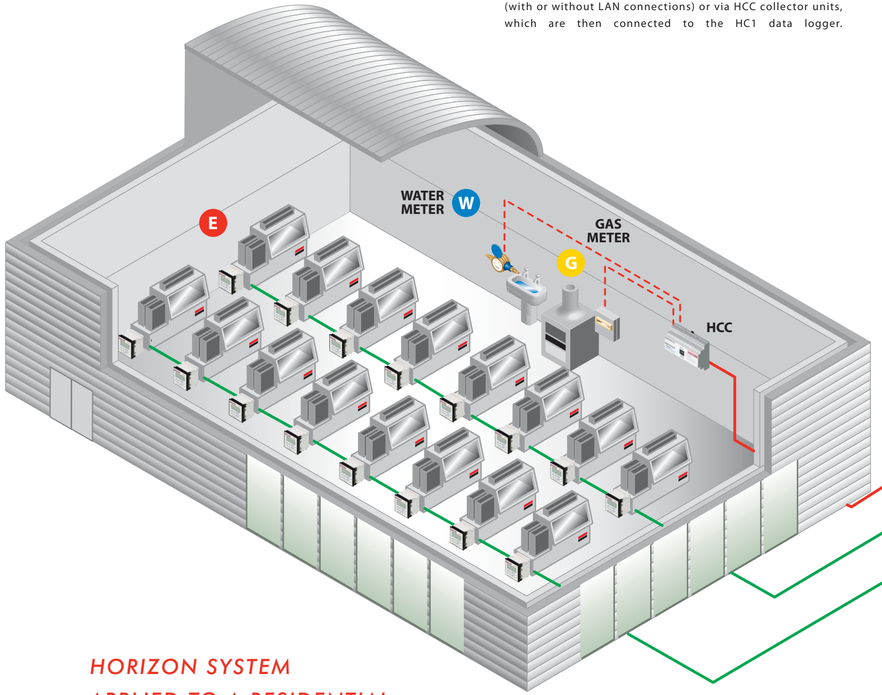
HORIZON SYSTEM APPLIED TO AN INDUSTRIAL SITUATION

When applied to an industrial situation such as that illustrated below, it is most likely to be a collection of multifunction meters linked via one or two Modbus protocol local area networks connected directly to an HC1 data logger.

Pulse output meters may also be used and, depending on the number, may be connected directly to the HC1 data logger (with or without LAN connections) or via HCC collector units, which are then connected to the HC1 data logger.



HORIZON SYSTEM APPLIED TO A RESIDENTIAL COMPLEX

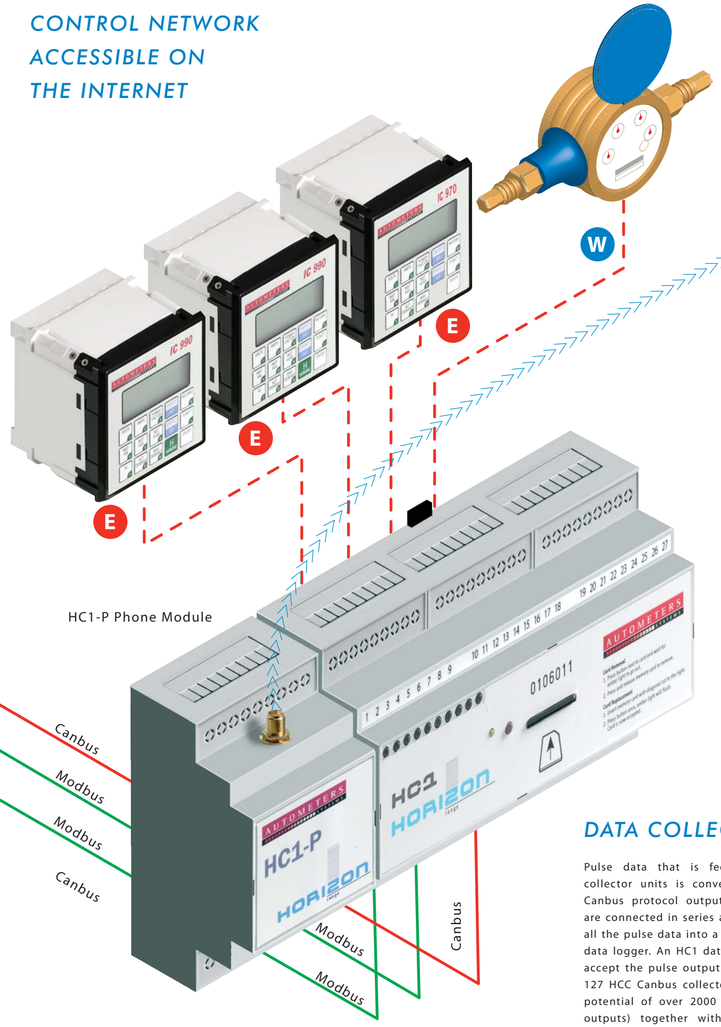
The Horizon system can be applied to a residential complex as per the illustration above to measure, collect and transmit simple pulse information from electricity, gas and water meters via a series of HCC collector units via a Canbus network into an HC1 data logger.

The illustration shows how the utilities from each residential flat are passed into HCC collector units that are linked together to form the Canbus network.

The network is connected to an HC1 data logger for data viewing via an HC1-P phone module linked to the internet, or by downloading the flash memory card into a PC or laptop.

Multifunction meters required to monitor and measure more complex electrical parameters can be used in conjunction with pulse meters but are connected via a Modbus protocol local area network directly into an HC1 data logger through the RS485 connections.

CONTROL NETWORK ACCESSIBLE ON THE INTERNET



DATA COLLECTION

Pulse data that is fed into HCC collector units is converted into a Canbus protocol output. HCC units are connected in series and will pass all the pulse data into a Horizon HC1 data logger. An HC1 data logger can accept the pulse outputs from up to 127 HCC Canbus collectors (giving a potential of over 2000 pulse meter outputs) together with the RS485 (Modbus protocol) output from up to 2 local area networks, a potential total of 254 individual meters.

TRANSMITTING DATA TO A SECURE WEBSITE

In applications where collected data is required to be remotely monitored a HC1-P module is fitted. This is a GPRS mobile communications device that enables all logged data to be transmitted to a secure website without the requirement for a fixed telephone line. Data collected is transmitted on a "real time" basis (as a continuous stream). The data will be continually up dated and will be displayed on the web site for viewing or downloading at any time.

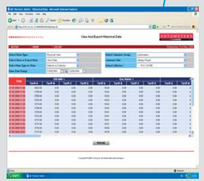
Downloading the data is a simple, straightforward operation and the data may be viewed, sorted or manipulated as a fully functional Excel spreadsheet or where volumes are large as an Access database.

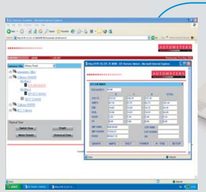
When downloaded the data may be manipulated as required.

Data may be viewed on the web site through a logical tree system (as the collectors and meters are physically connected) or as a series of functional groupings specified by the end user. Each meter has a clear, customer-specified identification, enabling all the measured parameters of each individual meter to be read easily and clearly identified.

Data so collected may be viewed and manipulated so as to form the basis of an independent billing system or be used to monitor and control energy usage.

The figures below show a variety of illustrations of the way in which data may be presented.





DATA TRANSMISSION

The HC1 data logger is provided with a flash-card memory that will store the collected data and make this available for directly downloading into a PC. Data so downloaded will be presented as a fully-functional Excel spreadsheet making it easy to view and manipulate. The HC1 also contains a limited amount of buffer storage ensuring that data continues to be collected even when the flash-card has been removed from the HC1 unit.

The HC1 can also be fitted with a mobile telephone unit (designated HC1-P) enabling the stored data to be continually transmitted to a secure web-site where it can be viewed by anyone with a web-enabled computer and the requisite password. The web-site also presents the data as a series of Excel spreadsheets, which can be viewed and manipulated to present graphs etc.

The data can also be downloaded from the Internet as Excel spreadsheets or Access databases for local viewing, manipulation or archiving.

CONCLUSION

From the above it can be seen that the Horizon system offers a number of alternative routes to gathering, storing and viewing energy usage data thus enabling efficient energy utilization across an individual site or any number of geographically separate sites, with all data capable of being viewed from a remote station.

If the web-site system is chosen there is also the possibility of customizing the site to meet the client's presentational requirements.

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