



WebFlex

Photo courtesy ESA

Remote monitoring and data logging system uses standard web browser technology

Leading Process Technology
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HYCONTROL

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Through their web-enabled Webflex remote monitoring and data logging terminal, leading level specialists Hycontrol are bringing a new dimension and transparency to the concept of remote inventory monitoring.

Remote inventory management and vendor managed inventory systems (RIMS and VMIS) have grown in popularity over the past decade, providing security and flexibility for the management of raw materials and finished product. Manufacturing sites rely on raw material availability and optimising stock holding



versus cost is essential for uninterrupted profitable productivity. The accurate measurement of silo and tank contents is a prerequisite of such systems, together with remote accessibility to real time information from the measuring systems. Harnessing the ubiquitous power of the World Wide Web, Webflex is a self contained data hub that makes critical process parameters, such as level and weight, instantly available to suppliers and users anywhere in the world using standard web browser technology. From this information, users can track product usage trends, whilst vendors can anticipate customer product requirements and optimise delivery schedules.

Hycontrol's Webflex product specialist Roger Hicks, who has over 25 years experience in level measurement, is justifiably proud of his company's breakthrough achievement in this area. He is clear about the advantages of the system and as he explains: *"Level measuring systems have improved dramatically over the past decade and offer a high degree of reliability and performance. However the days of site based access to information have moved on and companies now require 'data on demand', irrespective of location and number of sites. Webflex provides a highly cost effective tool to achieve this in a comprehensive self contained unit. Although the system boasts a number of important features, the main advantage is that it does not use custom software or proprietary interfaces. As a result there is no need for costly and tying monthly licence fees. Each terminal has a built-in web server which effectively means it acts as its own web site with an individual IP address. Using the dedicated password information, the system can be accessed on any computer anywhere in the world."*



The remote monitoring of storage vessels and silos brings two main benefits; the first related to inventory control; the second to system set up and status monitoring. Each Webflex unit can take up to six 4-20 mA analogue inputs and six digital inputs. Using the Ethernet ports, multiple Webflex units can be connected

to an Ethernet hub or to an existing local area network (LAN), allowing a maximum of 96 analogue and 96 digital inputs to be monitored via the single GPRS (General Packet Radio Service) connection.

As Hicks continues: *“When we actually explain to clients how simple the whole system is, they think it’s too good to be true. Webflex is designed to work with virtually any industrial component which provides a 4-20 mA output signal, irrespective of manufacturer. As a result, in most applications, there is no need to replace existing instrumentation. Other manufacturers’ systems tie in the user to their equipment and software. This is expensive and inflexible, especially in retrofit applications. We took the decision right at the beginning of the development to provide a secure, yet ‘open to all’, universal system. Although the concept was conceived and has been applied to monitor the level of product in tanks and silos, 4-20 mA signals from pressure, temperature or flow transmitters, load cells or indeed any process transmitter can be monitored using Webflex.”*



System configuration is carried out through a standard web browser. Here the user can set and define parameters including vessel definitions, units of measurement and alarm presets directly on screen. The Webflex allows SMUA (simultaneous multi-user access) with tiered levels of pre-programmed access.



Webflex information can be accessed using a variety of modern connection methods including USB, Ethernet and the World Wide Web. For local monitoring or configuration, the USB port allows direct connection with a laptop or dedicated on-site computer. The optional built-in modem (PSTN, GSM or GPRS) can be configured to communicate using traditional modem to modem communications or to allow access to the internet. The Industrial Ethernet port allows direct connection into local area networks, whilst the WiFi option offers a wireless connection into LANs at distances up to 100 metres. Importantly all of these connection options are available at the same time through SMUA.

Hycontrol’s unique Webcall technology provides the ultimate solution with low cost connectivity via the Internet. Security is assured through a VPN Tunnel, (Virtual Private Network) routed through the Hycontrol Server, whilst the GPRS system maintains an open communication, enabling rapid data transfer at any time. Users, however, are only charged for actual data exchanged, thereby offering a very low cost basis compared with GSM or PSTN connections where customers pay for the connection time irrespective of whether, or how much, data is exchanged.

Webflex features a powerful automated reporting and data logging capability providing two types of report. The first is a system summary report which includes information about the specific site, the variables being monitored and any alarm conditions present at the time of reporting. The second is a delimited data log file in a .csv format, which can be downloaded into a spread sheet for historic trending. These reports can be sent to four different email addresses, either on a scheduled or requested basis. Email and Text Messages to designated mobile phones can also be sent in the event of a preset alarm being triggered: the alarm can then be acknowledged remotely by authorised personnel.



Any of the points being monitored can be data logged and these files downloaded manually or automatically on a scheduled time basis. The sampling frequency is adjustable between two minutes and 24 hours, whilst the frequency for sending the reports can be set between one hour and one month. Separate to the data logging facility, Webflex automatically logs data every 90 seconds to allow the user to view an on-line graphical representation of all monitored signals for periods ranging from one hour to 32 days -

without the need to download it and without having to open a dedicated spreadsheet program.

The Webflex is in a dynamic state of ongoing development and as Roger Hicks concludes: *"We are constantly looking at how the technology can be enhanced and improved. We will be launching an Enterprise Server facility early in 2007 for those customers who have multiple locations and wish to access all their sites through a single address. Multiple Webflex sites will upload data to the eServer on a scheduled basis, allowing all the information to be accessed by authorised users."*

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